



# South Coast Air Quality Management District

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



---

## A G E N D A

---

### MEETING, APRIL 3, 2015

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](http://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.

---

*Cleaning the air that we breathe...™*

**CALL TO ORDER**

- Pledge of Allegiance
- Opening Comments: William A. Burke, Ed.D., Chair  
Other Board Members  
Barry R. Wallerstein, D. Env., Executive Officer
- Presentation of Retirement Awards to Peter Greenwald, Bing Ocampo, Shashi Singeetham, Susan Snyder **Burke**
- Children's Health Study Update: Did Cleaner Air Lead to Better Health? **Burke**

---

Staff/Phone (909) 396-

**CONSENT CALENDAR (Items 1 through 18)**

Note: Consent Calendar items held for discussion will be moved to Item No. 19

1. Approve Minutes of March 6, 2015 Board Meeting **McDaniel/2500**
  
2. Set Public Hearings May 1, 2015 to Consider Amendments and/or Adoption to SCAQMD Rules and Regulations **Wallerstein/3131**
  - (A) Adopt Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects **Hogo/3184**

The Los Angeles Department of Water and Power and Southern California Edison submitted an application under Rule 2202(f)(6) to generate emissions credits from the use of electric vehicle charging stations located at non-residential locations. The emissions credits would be used for compliance purposes under Rule 2202. At this time, there is no protocol that can be readily used to approve the application request. Under Rule 2202(f)(6), an emissions reduction quantification protocol must be developed and approved by the SCAQMD prior to approval of the application. Staff developed a quantification protocol that underwent a public process including an environmental review for the SCAQMD Board's consideration. (Reviewed: Mobile Source Committee, October 17, 2014 and March 20, 2015)

- (B) Amend Rule 2202 Employee Commute Reduction Program Guidelines **Chang/3186**

The Employee Commute Reduction Program Guidelines to Rule 2202 will be amended to streamline the annual reporting process and to incentivize better program performance. The proposal also provides administrative clarifications to address issues raised by stakeholders. (Reviewed: Mobile Source Committee, March 20, 2015)

- (C) Amend Rules 212, 1401, 1401.1 and 1402 **Chang/3186**

In March 2015, the Office of Environmental Health Hazard Assessment (OEHHA) approved revisions to their Air Toxics Hot Spots Program Risk Assessment Guidelines. Rule 212 – Standards for Approving Permits and Issuing Public Notice, Rule 1401 – New Source Review of Toxic Air Contaminants, Rule 1401.1 – Requirements for New and Relocated Facilities Near Schools, and Rule 1402 – Control of Toxic Air Contaminants from Existing Sources currently rely on the prior OEHHA Risk Assessment Guidelines to calculate health risks. Amendments are proposed to reference the Revised OEHHA Guidelines and to amend specific provisions to harmonize with the Revised OEHHA Guidelines. Proposed Amended Rule 1401 may include provisions for specific source categories or situations that cannot meet the Rule 1401 risk thresholds using the Revised OEHHA Guidelines. (Review: Stationary Source Committee, April 17, 2015)


**Budget/Fiscal Impact**

3. Recognize and Transfer Funds and Execute Contracts to Develop and Demonstrate Warehouse Rooftop Solar Systems, Energy Storage and EV Charging **Miyasato/3249**

The SCAQMD applied for and anticipates receiving a \$500,000 award from U.S. EPA under Section 105 of the Clean Air Act to sponsor Clean Air Technology Initiative projects. Staff proposes to utilize these funds to cosponsor the development and demonstration of advanced warehouse rooftop solar systems with storage and chargers for electric drayage truck operations. This action is to recognize \$500,000 from U.S. EPA and transfer \$598,908 from the Clean Fuels Fund (31), which includes SCAQMD's cost-share of \$98,908 and \$500,000 as a temporary loan, into the Advanced Technology, Outreach and Education Fund (17). This action is also to execute contracts from the Advanced Technology, Outreach and Education Fund (17) with the University of California San Diego to develop and demonstrate warehouse rooftop solar systems in an amount not to exceed \$498,908 and with Transportation Power, Inc. to develop and demonstrate EV charging infrastructure for electric drayage trucks at a cost not to exceed \$100,000. (Reviewed: Technology Committee, March 20, 2015; Recommended for Approval)

4. **Cosponsor Regional Universities for U.S. DOE EcoCAR 3 Competition and Solar Decathlon ** **Miyasato/3249**

EcoCAR 3 is an advanced plug-in hybrid passenger vehicle design-and-build competition sponsored by U.S. DOE and General Motors and managed by Argonne National Laboratory. California State University Los Angeles (CSULA) is the only competitor in California of 16 North American universities chosen to redesign a stock 2016 gasoline Chevrolet Camaro into a hybrid vehicle. The 2015 U.S. DOE Solar Decathlon challenges 17 U.S. and international university teams to create solar-powered houses that are cost-effective, energy efficient, attractive and incorporate EV charging into their energy use profile. This year's event will be held at the Great Park in Irvine and Team OC is the only Southern California competitor consisting of students from University of California Irvine (UCI) plus three local colleges. These actions are to execute agreements from the Clean Fuels Fund (31) with CSULA to enter the DOE EcoCAR 3 competition in an amount not to exceed \$100,000 over four years and UCI to compete in the 2015 DOE Solar Decathlon in an amount not to exceed \$50,000. (Reviewed: Technology Committee, March 20, 2015; Recommended for Approval)

5. **Recognize Funds and Issue Program Announcement for Heavy-Duty Vehicle and Transport Refrigeration Unit Engine Replacement Projects ** **Miyasato/3249**

In October 2014, U.S. EPA notified SCAQMD that an award had been approved under a Fiscal Year 14 Diesel Emissions Reduction Act (DERA) solicitation in the amount of \$753,476 for on-road heavy-duty vehicle and school bus replacement projects. In addition, in a prior U.S. EPA award, \$480,833 remains unspent. Staff is proposing that the unspent funds be used to solicit projects to replace transport refrigeration units (TRUs). These actions are to recognize \$753,476 from the U.S. EPA DERA award and issue a Program Announcement to solicit proposals for on-road heavy-duty vehicle and TRU engine replacement projects with funding of up to \$920,833. This action is also to reimburse the General Fund for administrative costs of up to \$38,476 necessary to implement the U.S. EPA DERA grant. School bus replacement awards using the remaining \$275,000 will be considered by the Board separately at a later date. (Reviewed: Technology Committee, March 20, 2015; Recommended for Approval)

6. **Adopt Resolution Recognizing Funds and Accepting Terms and Conditions for FY 2013-14 Carl Moyer Multidistrict Program Award and Issue Program Announcement for Carl Moyer Multidistrict Program** **Miyasato/3249**

As agreed in a Memorandum of Understanding signed between CAPCOA and CARB on May 1, 2013, the Carl Moyer Multidistrict Program funds will be alternatively designated between the Bay Area and the South Coast AQMDs from FY 2012-13 (Year 15) through FY 2015-16 (Year 18). As such, the SCAQMD is to implement the FY 2013-14 Multidistrict Program. These actions are to adopt a resolution recognizing \$3 million in Carl Moyer Multidistrict Program grant awards from CARB with its terms and conditions for FY 2013-14 and to approve the release of a Program Announcement for the FY 2013-14 Carl Moyer Multidistrict Program. (Reviewed: Technology Committee, March 20, 2015; Recommended for Approval)



7. **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 add additional funding of \$464,500 for needed development and maintenance work. (Reviewed: Administrative Committee, March 13, 2015; Recommended for Approval)

8. **Issue RFP for Purchase of Audio Visual Enhancements for Conference Room GB and Hearing Board Room** **Marlia/3148**

Conference Room GB is a large multipurpose room requiring audio visual upgrades to make it a viable resource with the ability to support a wide variety of functions, similar to the Auditorium. The Hearing Board Room houses a quasi-judicial panel authorized to hear certain cases from individuals or companies that have compliance issues with SCAQMD rules and regulations. The audio visual upgrade project for these rooms will add the functionality of multiple cameras, video recording, webcasting, an upgrade to wireless microphones, a sophisticated sound processing system, installation of a video wall, and user-controlled wireless Crestron touch panel. This action is to issue an RFP to solicit proposals from qualified firms to upgrade the audio visual systems in Conference Room GB and Hearing Board Room. Funds for this project are included in the Proposed FY 2015-16 Budget. (Reviewed: Administrative Committee, March 13, 2015, Recommended for Approval)

9. **Execute Replacement Contract for Refurbishment of Elevator Cab Interiors at Diamond Bar Headquarters** **Johnson/3018**

Following bid evaluations for proposals submitted in response to RFP #P2014-11 - Elevator Cab Interior Refurbishment, the selected, highest-ranked contractor did not complete the contracted work, ceased communication with SCAQMD staff, and was unresponsive to further efforts to resolve the matter. Therefore, a letter to cancel the contract was sent to West Coast Elevator Interiors, Inc., in November 2014. This action is to request Board authorization to proceed with the second-ranked responsive bidder and to execute a contract with ThyssenKrupp Elevator at a cost not to exceed \$75,778. (Reviewed: Administrative Committee, March 13, 2015; Recommended for Approval)

10. Execute Contract for Independent Audit Services for FYs Ending June 30, 2015 and 2016 **O'Kelly/2828**

On November 7, 2014, the Board approved release of an RFP for independent financial audit services. An evaluation panel composed of outside and SCAQMD Legal and Finance staff evaluated the proposals. Three proposals were submitted to the Administrative Committee for consideration at its March 13, 2015 meeting. After the Committee interviewed representatives of each of the firms, Simpson & Simpson, CPAs was selected to be recommended to the full Board. (Reviewed: Administrative Committee, March 13, 2015; Recommended for Approval)

11. Remove Various Fixed Assets from SCAQMD Inventory **O'Kelly/2828**

SCAQMD Administrative Policies and Procedures No. 20 requires each organizational unit to review fixed assets for obsolescence and disposal every six months. This action is to approve removal of surplus equipment and motor vehicles determined to be obsolete, non-operational and not worth repairing. (Reviewed: Administrative Committee, March 13, 2015; Recommended for Approval)

12. Approve Compensation Adjustments for Board Member Assistants/Consultants and Revisions to Board Member Assistant and Board Member Consultant Policy **O'Kelly/2828**

The Executive Officer recommends the Board Member Assistants/Consultants receive the same compensation adjustments as those recently provided to date to Teamsters Local 911 and unrepresented employees. Funds for these increases are available in the FY 2014-15 Budget. (Reviewed: Administrative Committee, March 13, 2015; Recommended for Approval)

**Items 13 through 18 - Information Only/Receive and File**

13. Legislative and Public Affairs Report **Smith/3242**

This report highlights the February 2015 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)

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

This reports the actions taken by the Hearing Board during the period of February 1 through February 28, 2015. (No Committee Review)

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

This reports the monthly penalties from February 1 through February 28, 2015, and legal actions filed by the General Counsel's Office from February 1 through February 28, 2015. An Index of District Rules is attached with the penalty report. (No Committee Review)

16. 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 February 1, 2015 and February 28, 2015 and those projects for which the SCAQMD is acting as lead agency pursuant to CEQA. (Reviewed: Mobile Source Committee, March 20, 2015)

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

This report highlights SCAQMD rulemaking activities and public workshops potentially scheduled for the year 2015. (No Committee Review)

18. Status Report on Major Projects for Information Management Scheduled to Start During Last Six Months of FY 2014-15 **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 2014-15. (No Committee Review)

19. Items Deferred from Consent Calendar

**BOARD CALENDAR**

*Note: The March 20, 2015 Stationary Source Committee meeting was cancelled; the next Stationary Source Committee meeting is scheduled for April 17, 2015. The March 19, 2015 CARB meeting was cancelled; the next CARB meeting is scheduled for April 23, 2015.*

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

21. Legislative Committee (Receive & File) **Chair: Mitchell** **Smith/3242**

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

<b>Agenda Item</b>	<b>Recommendation</b>
AB 335 (Patterson) Air Quality: Minor Violations	Oppose
AB 678 (O'Donnell) Greenhouse Gases: Energy Efficient Ports Program	Support with Amendments

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

23. Technology Committee (Receive & File) **Chair: J. Benoit** **Miyasato/3249**

24. Mobile Source Air Pollution Reduction Review Committee (Receive & File) **Board Liaison: Antonovich** **Hogo/3184**

**Staff Presentation/Board Discussion**

25. Annual Meeting of Brain & Lung Tumor and Air Pollution Foundation **Wiese/3460**

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

## **PUBLIC HEARINGS**

26. Approve and Adopt Technology Advancement Office Clean Fuels Program Annual Report and Plan Update and Resolution and Receive and File Revised Membership of Technology Advancement Advisory Group **E** *(Continued from March 6, 2015 Board Meeting)* **Miyasato/3249**

Each year, the Technology Advancement Office must submit to the California Legislative Analyst an approved Annual Report for the past year and a Plan Update for the current calendar year. Staff has reviewed the Clean Fuels Program with the Clean Fuels Advisory Group, the Technology Advancement Advisory Group and other technical experts. Additionally, the 2015 Clean Fuels Program Draft Plan Update was presented to the Board for review and comment at its December 5, 2014 meeting. This action is to approve and adopt the final Technology Advancement Clean Fuels Program Annual Report for 2014 and 2015 Plan Update as well as the resolution finding that proposed projects do not duplicate any past or present programs and to receive and file the revised membership of the Technology Advancement Advisory Group. (Reviewed: Technology Committee, February 20, 2015; Recommended for Approval)

27. Amend Regulation IX - Standards of Performance for New Stationary Sources and Regulation X - National Emission Standards for Hazardous Air Pollutants **Fine/2239**

Amendments to Regulations IX and X are periodically made to incorporate new or amended federal performance standards that have been enacted by U.S. EPA for stationary sources. These standards are currently in effect and enforceable by SCAQMD pursuant to the federal Clean Air Act, regardless of whether SCAQMD incorporates them into Regulations IX and X. The Board has historically adopted NSPS (40 CFR 60) and NESHAPS (40 CFR 61) into Regulations IX and X, by reference, thus providing stationary sources with a single source of information for determining which federal and local requirements apply to their specific operations. The NSPS and NESHAPS actions by U.S. EPA, primarily from July 1, 2011 to December 31, 2014, are proposed for incorporation into Regulations IX and X, respectively, including new performance standards for certain oil and gas operations not covered by previous EPA regulation. The actions also include amendments to previous provisions of twelve NSPS standards and two NESHAPS standards. This action is to adopt the resolution: 1) Determining that the proposed amendments to Regulations IX and X are exempt from the California Environmental Quality Act; and 2) Amending Proposed Regulation IX – Standards of Performances for New Stationary Sources and Regulation X – National Emission Standards for Hazardous Air Pollutants. (Reviewed: Stationary Source Committee, February 20, 2015)

28. Receive Public Input on Executive Officer's Draft Goals and Priority Objectives for FY 2015-16

Wallerstein/3131

A set of goals and priority objectives for FY 2015-16 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. (Reviewed: Administrative Committee, March 13, 2015)

**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.

**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 SCAQMD is a party. The actions are:

- California Nozzle Specialists, Inc. v. SCAQMD, Los Angeles County Superior Court Case No. BS152037 (Public Records Act);
- CBE, CCAT v. EPA, U.S. Court of Appeals, Ninth Circuit, Case No. 12-72358 (1315);
- 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);
- People of the State of California, ex rel SCAQMD v. Exide Technologies, Inc., Los Angeles Superior Court Case No. BC533528;
- In the Matter of SCAQMD v. Exide Technologies, Inc., SCAQMD Hearing Board Case No. 3151-29 (Order for Abatement);
- Exide Technologies, Inc., Petition for Variance, SCAQMD Hearing Board Case No. 3151-31;
- In re: Exide Technologies, Inc., U.S. Bankruptcy Court for the District of Delaware Case No. 13-11482 (KJC) (Bankruptcy case);
- Fast Lane Transportation, Inc. et al. v. City of Los Angeles, et al., Contra Costa County Superior Court Case No. MSN14-0300 (formerly South Coast Air Quality Management District v. City of Los Angeles, et al., Los Angeles Superior Court Case No. BS 143381) (SCIG);

- Friends of the Eel River v. North Coast Railway Authority, California Supreme Court Case No. S222472 (amicus brief);
- Friends of the Fire Rings v. SCAQMD, San Diego Superior Court, North County, Case No. 37-2014-00008860-CU-WM-NC (Nov. 26, 2013; transferred March 20, 2014);
- NRDC v. U.S. EPA, U.S. Court of Appeals, Ninth Circuit, Case No. 13-70544 (Rule 317);
- Petition for Declaratory Order by U.S. Environmental Protection Agency, Surface Transportation Board Docket No. FD 35803 (Railroad Rules) and SCAQMD v. STB, et al., U.S. Court of Appeals, Ninth Circuit, Case No. 15-70609 (appeal of STB Decision);
- Physicians for Social Responsibility, et al. v. U.S. EPA, U.S. Court of Appeals, Ninth Circuit, Case No. 12-70079 (PM2.5);
- Physicians for Social Responsibility, et al. v. U.S. EPA, U.S. Court of Appeals, Ninth Circuit, Case No. 14-73362 (1-Hour ozone);
- SCAQMD v. U.S. EPA, U.S. Court of Appeals, Ninth Circuit, Case No. 13-73936 (Morongo Redesignation);
- Sierra Club v. County of Fresno, California Supreme Court Case No. S219783 (amicus brief);
- Sierra Club, et al. v. U.S. EPA, U.S. District Court for Northern District of California Case No. 3:14-CV-04596 (PM2.5 designation to serious); and
- WildEarth Guardians v. U.S. EPA, D.C. Circuit Court Case No. 14-1145 (PM2.5 moderate designation).

It is also necessary for the Board to recess to closed session pursuant to Government Code section 54956.9(a) and 54956.9(d)(4) to consider initiation of litigation (three cases) and pursuant to Government Code section 54956.9(b) due to significant exposure to litigation (one case).

In addition, it is necessary for the Board to recess to closed session pursuant to Government Code section 54957.6 to confer regarding upcoming labor negotiations with:

- designated representatives regarding represented employee salaries and benefits or other mandatory subjects within the scope of representation [Negotiator: William Johnson; Represented Employees: SCAQMD Professional Employees Association].

## **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](mailto: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	NESHAPS = National Emission Standards for Hazardous Air Pollutants
AVR = Average Vehicle Ridership	NGV = Natural Gas Vehicle
BACT = Best Available Control Technology	NO <sub>x</sub> = Oxides of Nitrogen
Cal/EPA = California Environmental Protection Agency	NSPS = New Source Performance Standards
CARB = California Air Resources Board	NSR = New Source Review
CEMS = Continuous Emissions Monitoring Systems	PAMS = Photochemical Assessment Monitoring Stations
CEC = California Energy Commission	PAR = Proposed Amended Rule
CEQA = California Environmental Quality Act	PHEV = Plug-In Hybrid Electric Vehicle
CE-CERT =College of Engineering-Center for Environmental Research and Technology	PM <sub>10</sub> = Particulate Matter ≤ 10 microns
CNG = Compressed Natural Gas	PM <sub>2.5</sub> = Particulate Matter ≤ 2.5 microns
CO = Carbon Monoxide	PON = Public Opportunity Notice
CTG = Control Techniques Guideline	PR = Proposed Rule
DOE = Department of Energy	RFP = Request for Proposals
EV = Electric Vehicle	RFQ = Request for Quotations
FY = Fiscal Year	SCAG = Southern California Association of Governments
GHG = Greenhouse Gas	SIP = State Implementation Plan
HRA = Health Risk Assessment	SO <sub>x</sub> = Oxides of Sulfur
IAIC = Interagency AQMP Implementation Committee	SOON = Surplus Off-Road Opt-In for NO <sub>x</sub>
LEV = Low Emission Vehicle	SULEV = Super Ultra Low Emission Vehicle
LNG = Liquefied Natural Gas	TCM = Transportation Control Measure
MATES = Multiple Air Toxics Exposure Study	ULEV = Ultra Low Emission Vehicle
MOU = Memorandum of Understanding	U.S. EPA = United States Environmental Protection Agency
MSERCs = Mobile Source Emission Reduction Credits	VOC = Volatile Organic Compound
MSRC = Mobile Source (Air Pollution Reduction) Review Committee	VMT = Vehicle Miles Traveled
NATTS =National Air Toxics Trends Station	ZEV = Zero Emission Vehicle



[↑ Back to Agenda](#)

BOARD MEETING DATE: April 3, 2015

AGENDA NO. 1

MINUTES: Governing Board Monthly Meeting

SYNOPSIS: Attached are the Minutes of the March 6, 2015 meeting.

**RECOMMENDED ACTION:**

Approve Minutes of the March 6, 2015 Board Meeting.

Saundra McDaniel,  
Clerk of the Boards

SM:dg

---

**FRIDAY, MARCH 6, 2015**

Notice having been duly given, the special meeting of the South Coast Air Quality Management District Board was held at the Council Chambers at Long Beach City Hall, 333 West Ocean Blvd, Long Beach, 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

Mayor Michael D. Antonovich (arrived at 10:35 a.m.)  
County of Los Angeles

Mayor 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

Dr. Joseph K. Lyou  
Governor's Appointee

Councilmember 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 (arrived at 9:45 a.m. and left at 11:30 a.m.)  
Cities of Orange County

Supervisor Janice Rutherford  
County of San Bernardino

**CALL TO ORDER**: Chairman Burke called the meeting to order at 9:00 a.m.

- Pledge of Allegiance: Led by Chairman Burke.
- Opening Comments

Dr. Lyou. Noted that he attended the Environmental Justice Conference organized by SCAQMD on February 27, 2015 and enjoyed participating in a panel regarding land use.

Councilmember Cacciotti. Noted that South Pasadena was recently honored as the first city in the nation to utilize an all-electric commercial lawn equipment fleet for maintenance of their municipal parks; expressed a concern with the cost of replacing hybrid vehicle batteries and noted that there are vehicle repair shops that are repairing cells within the batteries as an alternative to replacing the entire battery; and suggested the addition of an award category for the annual Clean Air Awards that would recognize achievement by legal advocates that work to protect the public.

Chairman Burke asked staff to investigate developments in the area of hybrid battery repair.

- Overview of Efforts by Port of Long Beach to Develop an Enhanced Energy Sustainability Program with Associated Air Quality Benefits

Jon W. Slangerup, Chief Executive of the Port of Long Beach, presented a background of efforts the Port has engaged in to achieve cleaner air. He highlighted various projects including streamlined rail operations, electric truck projects for distributing goods throughout the region, AMECS systems to treat exhaust, and the creation of an Energy Island to meet a two-fold increase in energy needs by 2030.

Councilmember Buscaino expressed optimism for the efforts at the Port of Long Beach to continue to reduce emissions, address goods movement issues, and the partnerships that will be formed to meet future goals.

Mayor Yates stressed the importance of sharing this information with state legislators in an effort to spur action on their part in regards to goods movement concerns.

Mr. Slangerup explained that they understand that these advancements will require a comprehensive effort and, as such, he has met with representatives in Sacramento and will be traveling to Washington D.C. to discuss the issues surrounding their innovations as well.

In response to Councilman Cacciotti's questioning about the use of railways, Mr. Slangerup noted the plan to move to a more direct to rail system to reduce the truck traffic and resulting pollution, adding that they are also focusing on short haul rail systems that will eliminate the transition from truck to rail and instead involve rail to rail transportation to the inland ports.

In response to Mayor Yates' inquiry about the reaction of the trucking industry to the rail system enhancements, Mr. Slangerup noted that they are supportive of the effort as it reduces congestion and allows for multiple trips to be made resulting in an opportunity for increased earnings.

In response to Dr. Lyou's inquiry regarding how the District can assist in these efforts, Mr. Slangerup noted the importance of participation by all stakeholder agencies on the Steering Committee.

Jesse Marquez, Coalition for a Safe Environment, addressed the Board, expressing appreciation for the Port of Long Beach's leadership in supporting innovative technologies and ideas; urged the Ports to invest in the AMECS technology that has been tested and proven to be beneficial; and stressed the importance of continuing to make improvements in the way goods are handled and transported, in order to see coordinating air quality benefits.



(Mayor Pulido arrived at 9:45 a.m.)

## **CONSENT CALENDAR**

1. Approve Minutes of February 6, 2015 Board Meeting
2. Set Public Hearings April 3, 2015 to Consider Amendments and/or Adoption to SCAQMD Rules and Regulations
  - A. Amend Regulation IX - Standards of Performance for New Stationary Sources, and Regulation X - National Emission Standards for Hazardous Air Pollutants
  - B. Receive Public Input on Executive Officer's Draft Goals and Priority Objectives for FY 2015-16

### **Budget/Fiscal Impact**

3. Adopt Resolution Recognizing Funds and Accepting Terms and Conditions for FY 2014-15 Carl Moyer Program Award, Issue Program Announcements for Carl Moyer Program and SOON Provision, and Execute and Amend Contracts

4. Execute and Modify Contracts for Hydrogen Station Upgrades and Related Work 
5. Issue Program Announcement for School Bus Replacements and Retrofits 
6. Support Utility Electric Vehicle Charging Program
7. Approve SCAQMD Annual Investment Policy, Delegation of Authority to Appointed Treasurer to Invest SCAQMD Funds, Delegation of Authority to Appoint Acting Treasurer and Revised Treasury Operations Contingency Plan and Procedures
8. Appropriate Funds from Designation for Litigation and Enforcement and Authorize Amending/Initiating Contracts with Outside Counsel and Specialized Legal Services
9. Approve Salary Adjustments for Executive Officer and General Counsel and Revisions to Employment Contracts

**Items 10 through 17 - Information Only/Receive and File**

10. Legislative and Public Affairs Report
11. Hearing Board Report
12. Civil Filings and Civil Penalties Report
13. Lead Agency Projects and Environmental Documents Received by SCAQMD
14. Rule and Control Measure Forecast
15. Report of RFQs Scheduled for Release in March
16. FY 2014-15 Contract Activity
17. Status Report on Major Projects for Information Management Scheduled to Start During Last Six Months of FY 2014-15

Dr. Lyou and Mayor Pulido announced their abstentions on Item No. 6 because Southern California Edison is a potential source of income to them.

Agenda Item Nos. 3 and 9 were withheld for discussion and comment.

MOVED BY PULIDO, SECONDED BY NELSON, AGENDA ITEMS 1, 2, 4 THROUGH 8 AND 10 THROUGH 17 APPROVED AS RECOMMENDED, ADOPTING RESOLUTION NO. 15-5 DELEGATING AUTHORITY TO THE TREASURER OF THE COUNTY OF LOS ANGELES TO INVEST AND REINVEST FUNDS OF THE SCAQMD, AND RESOLUTION NO. 15-7 DELEGATING AUTHORITY TO APPOINT EITHER THE CHIEF FINANCIAL OFFICER OR CONTROLLER AS ACTING TREASURER OF THE SCAQMD, BY THE FOLLOWING VOTE:

AYES: B. Benoit, J. Benoit, Burke, Buscaino, Cacciotti, Lyou (*except Item #6*), Mitchell, Nelson, Parker, Pulido (*except Item #6*), Rutherford and Yates.

NOES: None.

ABSTAIN: Lyou (*Item #6 only*) and Pulido (*Item #6 only*).

ABSENT: Antonovich.

18. Items Deferred from Consent Calendar -

3. Adopt Resolution Recognizing Funds and Accepting Terms and Conditions for FY 2014-15 Carl Moyer Program Award, Issue Program Announcements for Carl Moyer Program and SOON Provision, and Execute and Amend Contracts

A member of the public mistakenly submitted a request to speak on this item.

MOVED BY B. BENOIT, SECONDED BY CACCIOTTI, AGENDA ITEM 3 APPROVED AS RECOMMENDED, ADOPTING RESOLUTION NO. 15-4 RECOGNIZING FUNDS AND ACCEPTING THE TERMS AND CONDITIONS OF THE FY 2014-15 CARL MOYER GRANT AWARD, BY THE FOLLOWING VOTE:

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

NOES: None.

ABSENT: Antonovich.

9. Approve Salary Adjustments for Executive Officer and General Counsel and Revisions to Employment Contracts

Dr. Lyou noted that the salaries for these positions are available on the State Controller's website, which can be accessed through the SCAQMD webpage.

MOVED BY LYOU, SECONDED BY CACCIOTTI, AGENDA ITEM 9 APPROVED AS RECOMMENDED, BY THE FOLLOWING VOTE:

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

NOES: None.

ABSENT: Antonovich.

### **BOARD CALENDAR**

19. Administrative Committee
20. Investment Oversight Committee

- 21. Legislative Committee
- 22. Mobile Source Committee
- 23. Stationary Source Committee
- 24. Technology Committee
- 25. California Air Resources Board Monthly Report

MOVED BY MITCHELL, SECONDED BY CACCIOTTI, AGENDA ITEMS 19 THROUGH 25 APPROVED AS RECOMMENDED, RECEIVING AND FILING THE COMMITTEE, AND CARB REPORTS, AND ADOPTING THE POSITIONS ON LEGISLATION AS SET FORTH BELOW BY THE FOLLOWING VOTE:

AYES: B. Benoit, J. Benoit, Burke, Buscaino, Cacciotti, Lyou, Mitchell, Nelson, Parker, Pulido, Rutherford (*except as to SB 32 and AB 156 for Item #21*) and Yates.

NOES: Rutherford (*as to SB 32 and AB 156 for Item #21 only*).

ABSENT: Antonovich.

<b>Agenda Item</b>	<b>Recommendation</b>
2015 Legislative Goals and Objectives	Approve
SB 32 (Pavley) California Global Warming Solutions Act of 2006: Emissions Limit	Support with Amendments
AB 156 (Perea) California Global Warming Solutions Act of 2006: Investment Plan	Support



*Staff Presentation/Board Discussion*

26. Proposed Work Plan for Implementing Office of Environmental Health Hazard Assessment's Revised Air Toxics Hot Spots Program Risk Assessment Guidelines

Susan Nakamura, Director of Strategic Initiatives, gave the staff presentation.

In response to Mayor Yates comment regarding the large volume of material presented to the Board, Dr. Wallerstein noted that matter previously has been presented to the Board at its annual retreat and a Board meeting where general guidance was given to staff. He added that now that the final guidelines have been released, the work plan will undergo stakeholder workshops and review by the Stationary Source Committee.

Supervisor Benoit highlighted a concern in a letter received from the Construction Industry Air Quality Coalition regarding the importance of not adversely impacting small businesses by requiring high expenditures to meet the health risk assessment guidelines, and suggested that a forum be held in Riverside County.

Dr. Wallerstein confirmed that a workshop will be held in each of the four counties.

Dr. Lyou noted a recent report issued by the USC Keck School of Medicine which indicates the air quality improvements over the last 20 years which have resulted in better health of lungs of children and stressed the importance of providing equal protection for all.

The following individuals addressed the Board on Agenda Item 26:

Bill LaMarr, California Small Business Alliance

Noted that the results of the MATES IV study showed a reduction in toxic emissions by businesses; expressed his concern regarding the economic burden that will potentially be placed on small businesses in order to comply with the new guidelines for health risk; and urged for the business community to be included in the outreach effort.

(Supervisor Antonovich arrived at 10:35 a.m.)

Clayton Miller, Construction Industry Air Quality Coalition

Stressed the importance of working with stakeholders including the construction and homebuilding industry, to fully vet the effects of the plan. (Submitted Written Comments)

Written Comments Submitted by:  
Pierre Cinar, California Cleaners Association

In response to Chairman Burke's request for clarification regarding the discussions occurring statewide, Dr. Wallerstein noted the need for consistency for businesses that operate in multiple air districts.

Councilman Cacciotti expressed the need to provide the public with accurate and scientifically sound information regarding air quality and health risks.

MOVED BY CACCIOTTI, SECONDED BY  
J. BENOIT, AGENDA ITEM 26 APPROVED  
AS RECOMMENDED BY STAFF, BY THE  
FOLLOWING VOTE:

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

NOES: None.

ABSENT: None.

27. Proposed Comments on U.S. EPA's Proposed Ozone Standard

Dr. Philip Fine, Assistant DEO/Planning, Rules Development and Area Sources, gave the staff presentation.

Mayor Yates suggested that the need for assistance with mobile pollution sources be emphasized in the letter to U.S. EPA.

Dr. Wallerstein indicated that he would work with Mayor Yates to ensure the language in the letter clearly conveys the Board's position.

Supervisor Nelson noted the importance of the District being proactive, but expressed doubt that additional control over mobile sources to meet these standards would be granted.

Dr. Parker proposed attempting to develop a formula to calculate what reductions would be if SCAQMD controlled mobile sources; and suggested alerting legislators to the concerns over this lack of control that will greatly impact the ability to meet the standard.

Supervisor Benoit suggested focusing on lobbying at the state and federal level to further bring light to this issue.

Dr. Burke noted his willingness to work with staff on this effort and invited fellow Board members to participate.

Mayor Pulido requested that the item be agendaized for discussion at an upcoming Board retreat and that staff conduct an analysis of what the impact of others contributing their fair share would be; and suggested forming an Adhoc committee to address these issues.

The following individual addressed the Board on Agenda Item 27:

Jesse Marquez, Coalition for a Safe Environment,

Expressed support for a limit of 60 ppb; and urged the Board to require oil refineries to do more to reduce their emissions.

MOVED BY PULIDO, SECONDED BY  
B. BENOIT, AGENDA ITEM 27 APPROVED  
AS RECOMMENDED BY STAFF, BY THE  
FOLLOWING VOTE:

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

NOES: None.

ABSENT: Rutherford.

## **PUBLIC HEARINGS**

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

Susan Nakamura, Director of Strategic Initiatives, gave the staff presentation.

(Mayor Pulido left at 11:30 a.m.)

The public hearing was opened and the following individuals addressed the Board on Agenda Item 28.

JAVIER ZAVALA, Quemetco employee

RUDY RAMOS, Quemetco employee

JAMES TORRES, Quemetco employee

Explained the efforts they have witnessed by their employer throughout their years of employment, including instituting safety procedures and the use of air pollution control equipment.

FELIPE AGUIRRE, Former Maywood City Councilman  
CECELIA MANCIA, South Gate Resident  
MIRNA SANCHEZ, South Gate Resident  
\*RAMYA SIVASUBRAMANIAN, NRDC  
MARIA MARTINEZ  
\*ROBERTO CABRALES, Communities for a Better Environment  
TERESA MARQUEZ, MELA  
MARTIN SCHLAGETER, Representative for Los Angeles Councilman Jose Huizar  
REBECCA OVERMYER-VELAZQUEZ, Clean Air Coalition of North Whittier and Avocado Heights  
MARK LOPEZ, East Yard Communities for Environmental Justice  
\*JANE WILLIAMS, California Communities Against Toxics  
JAEL ARZOLA, Maywood Wellness Center  
CARLOS JIMENEZ, Maywood Chamber of Commerce

Expressed concern for the exposure to harmful lead emissions in communities surrounding Exide Technologies and Quemetco; detailed instances of asthma and cancer amongst their loved ones; and urged the Board to enact stricter regulations to eliminate all lead emissions. \*(Submitted Written Comments)

THOMAS STRANG, Exide Technologies

Noted that Exide is in the process of implementing equipment upgrades to meet the standards that have been set; expressed support for the current proposal for stack and ambient emission reductions; and expressed concern for setting a future limit of 0.003 pound per hour limit for lead. (Submitted Written Comments)

MICHAEL BUCKANTZ, Quemetco, Inc.

Detailed Quemetco's cooperation with past rule implementations; and expressed a commitment to continue to work with staff and provide additional increments of progress for achieving future emission reductions.

Written Comments Submitted by:  
Duncan McKee

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

Mayor Yates commented on the claims made in Exide's comment letter that the WESP technology used by Quemetco is not feasible for Exide to utilize, noting that Exide may have to invest in new equipment to meet the 0.003 pounds per hour of lead emissions standard if that standard is adopted at a later date.

Councilmember Mitchell noted that the staff report indicates a relationship between stack emissions and the ambient concentrations and requested that future proposals include analysis of attainment of ambient levels.

In response to concerns by Dr. Lyou and Supervisor Nelson that the standard should be based on public health and not on equipment, Dr. Wallerstein noted that a 0.003 standard is technology neutral and explained that a full analysis will be completed and the resulting staff proposal will contain a range of appropriate options.

In response to Councilmember Cacciotti's question regarding the new guidelines imposed by OEHHA regarding health risk assessment, Dr. Ospital explained that the new guidelines will not affect the lead standard but will affect the cancer risk calculations for lead emissions.

In response to Supervisor Rutherford's inquiries regarding when Exide expects to start operating and why the Board is considering amending the Rule today and again in six months once more data becomes available, Dr. Wallerstein explained that results showing high levels of lead in the soil in communities surrounding Exide have prompted immediate action to further reduce ambient emissions and provide additional environmental protection. Dr. Wallerstein explained that in regards to Exide resuming operations, based on Exide's weekly status reports, that is projected to occur in May or early June; however, they are also subject to comply with requirements from the Department of Toxic Substance Control before operations can begin.

Dr. Lyou proposed an amendment to a section of the Rule that requires the posting of signs to caution against digging before contacting an appropriate representative, to require that those signs be posted in both English and Spanish.

MOVED BY CACCIOTTI, SECONDED BY YATES, AGENDA ITEM NO. 28 APPROVED AS RECOMMENDED BY STAFF, ADOPTING RESOLUTION NO. 15-6 CERTIFYING THE FINAL SUBSEQUENT ENVIRONMENTAL ASSESSMENT FOR PROPOSED AMENDED RULE 1420.1, AND AMENDING RULE 1420.1, WITH THE MODIFICATION TO SUBPARAGRAPH (n)(2)(l)(v) NOTED BELOW, BY THE FOLLOWING VOTE:

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

NOES: Rutherford.

ABSENT: Pulido.

Modify subparagraph (n)(2)(I)(v) as follows:

*“In addition to the phone number, the sign shall also display, in English and Spanish, the following information:...”*

29. Annual RECLAIM Audit Report for 2013 Compliance Year

Staff waived the oral presentation on Agenda Item 29.


The public hearing was opened, and there being no requests to speak, the public hearing was closed.

MOVED BY LYOU, SECONDED BY YATES, AGENDA ITEM NO. 29 APPROVED AS RECOMMENDED BY STAFF, BY THE FOLLOWING VOTE:

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

NOES: None.

ABSENT: Pulido.

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

Staff recommended that the public hearing on this item be continued to the April 3, 2015 Board Meeting.

MOVED BY CACCIOTTI, SECONDED BY J. BENOIT, AND UNANIMOUSLY CARRIED (Absent: Pulido) THE PUBLIC HEARING ON THE TECHNOLOGY ADVANCEMENT OFFICE ANNUAL REPORT WAS CONTINUED TO THE APRIL 3, 2015 BOARD MEETING.

**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**

The Board recessed to closed session at 12:25 p.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 SCAQMD is a party. The action is:

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

In the Matter of SCAQMD v. Exide Technologies, Inc., SCAQMD Hearing Board Case No. 3151-29 (Order for Abatement);

Exide Technologies, Inc., Petition for Variance, SCAQMD Hearing Board Case No. 3151-31;

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

Fast Lane Transportation, Inc. et al. v. City of Los Angeles, et al., Contra Costa County Superior Court Case No. MSN14-0300 (formerly South Coast Air Quality Management District v. City of Los Angeles, et al., Los Angeles Superior Court Case No. BS 143381) (SCIG); and

Petition for Declaratory Order by U.S. Environmental Protection Agency, Surface Transportation Board Docket No. FD 35803 (Railroad Rules) and SCAQMD v STB, et al., U.S. Court of Appeals, Ninth Circuit, Case No. 15-70609 (appeal of STB Decision).

- 54956.9(a) and 54956.9(d)(4) to consider initiation of litigation (one case).

Following Closed Session, 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.

**ADJOURNMENT**

There being no further business, the meeting was adjourned by Kurt Wiese at 12:55 p.m.

The foregoing is a true statement of the proceedings held by the South Coast Air Quality Management District Board on March 6, 2015.

Respectfully Submitted,

Rosalinda Diaz  
Deputy Clerk Transcriber

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

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

**ACRONYMS**

AMECS = Advanced Maritime Emissions Control System  
CARB = California Air Resources Board  
CEQA = California Environmental Quality Act  
CNG = Compressed Natural Gas  
FY = Fiscal Year  
OEHHA = Office of Environmental Health Hazard Assessment  
PPB = Parts per billion  
U.S. EPA = United States Environmental Protection Agency  
WESP = Wet Electrostatic Precipitator



BOARD MEETING DATE: April 3, 2015

AGENDA NO. 2

PROPOSAL: Set Public Hearings May 1, 2015 to Consider Amendments and/or Adoption to SCAQMD Rules and Regulations:

- (A) Adopt Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects. The Los Angeles Department of Water and Power and Southern California Edison submitted an application under Rule 2202(f)(6) to generate emissions credits from the use of electric vehicle charging stations located at non-residential locations. The emissions credits would be used for compliance purposes under Rule 2202. At this time, there is no protocol that can be readily used to approve the application request. Under Rule 2202(f)(6), an emissions reduction quantification protocol must be developed and approved by the SCAQMD prior to approval of the application. Staff developed a quantification protocol that underwent a public process including an environmental review for the SCAQMD Board's consideration. (Reviewed: Mobile Source Committee, October 17, 2014 and March 20, 2015)
- (B) Amend Rule 2202 Employee Commute Reduction Program Guidelines. The Employee Commute Reduction Program Guidelines to Rule 2202 will be amended to streamline the annual reporting process and to incentivize better program performance. The proposal also provides administrative clarifications to address issues raised by stakeholders. (Reviewed: Mobile Source Committee, March 20, 2015)
- (C) Amend Rules 212, 1401, 1401.1 and 1402. In March 2015, the Office of Environmental Health Hazard Assessment (OEHHA) approved revisions to their Air Toxics Hot Spots Program Risk Assessment Guidelines. Rule 212 – Standards for Approving Permits and Issuing Public Notice, Rule 1401 – New Source Review of Toxic Air Contaminants, Rule 1401.1 – Requirements for New and Relocated Facilities Near Schools, and Rule 1402 – Control of Toxic Air Contaminants from Existing Sources currently

rely on the prior OEHHA Risk Assessment Guidelines to calculate health risks. Amendments are proposed to reference the Revised OEHHA Guidelines and to amend specific provisions to harmonize with the Revised OEHHA Guidelines. Proposed Amended Rule 1401 may include provisions for specific source categories or situations that cannot meet the Rule 1401 risk thresholds using the Revised OEHHA Guidelines. (Review: Stationary Source Committee, April 17, 2015)

The complete text of the proposed amendments, staff reports and other supporting documents will be available from the District's Public Information Center, (909) 396-2550 and on the Internet ([www.aqmd.gov](http://www.aqmd.gov)) as of April 1, 2015.

**RECOMMENDED ACTION:**

Set public hearings May 1, 2015 to adopt Rule 2202 emission reduction quantification protocol for electric vehicle charging station projects, amend Rule 2202 employee commute reduction program guidelines, and amend Rules 212, 1401, 1401.1, and 1402.

Barry R. Wallerstein, D.Env.  
Executive Officer

sm

---

BOARD MEETING DATE: April 3, 2015

AGENDA NO. 3

**PROPOSAL:** Recognize and Transfer Funds and Execute Contracts to Develop and Demonstrate Warehouse Rooftop Solar Systems, Energy Storage and EV Charging 

**SYNOPSIS:** The SCAQMD applied for and anticipates receiving a \$500,000 award from U.S. EPA under Section 105 of the Clean Air Act to sponsor Clean Air Technology Initiative projects. Staff proposes to utilize these funds to cosponsor the development and demonstration of advanced warehouse rooftop solar systems with storage and chargers for electric drayage truck operations. This action is to recognize \$500,000 from U.S. EPA and transfer \$598,908 from the Clean Fuels Fund (31), which includes SCAQMD's cost-share of \$98,908 and \$500,000 as a temporary loan, into the Advanced Technology, Outreach and Education Fund (17). This action is also to execute contracts from the Advanced Technology, Outreach and Education Fund (17) with the University of California San Diego to develop and demonstrate warehouse rooftop solar systems in an amount not to exceed \$498,908 and with Transportation Power, Inc. to develop and demonstrate EV charging infrastructure for electric drayage trucks at a cost not to exceed \$100,000.

**COMMITTEE:** Technology, March 20, 2015; Recommended for Approval

**RECOMMENDED ACTIONS:**

1. Recognize \$500,000, upon receipt, from the U.S. EPA into the Advanced Technology, Outreach and Education Fund (17);
2. Transfer \$500,000 as a temporary loan and \$98,908 for SCAQMD's cost-share from the Clean Fuels Fund (31) into the Advanced Technology, Outreach and Education Fund (17); and
3. Authorize the Chairman to execute contracts from the Advanced Technology, Outreach and Education Fund (17) with the following:
  - a. University of California San Diego (UCSD) to cosponsor development and demonstration of warehouse rooftop solar systems incorporating storage and EV charging in an amount not to exceed \$498,908; and

- b. Transportation Power, Inc. (TransPower) to cosponsor development and demonstration of EV charging infrastructure to support Class 8 electric drayage trucks in an amount not to exceed \$100,000.

Barry R. Wallerstein, D.Env.  
Executive Officer

MMM:FM:AK:BC:DRC

---

### **Background**

SCAQMD staff anticipates receiving a \$500,000 award from U.S. EPA under Section 105 of the Clean Air Act for Clean Air Technology Initiative (CATI) projects. CATI was established by the U.S. EPA, CARB, San Joaquin Valley Air Pollution Control District and SCAQMD to identify and implement emission reduction projects in San Bernardino and Boyle Heights where residents are disproportionately affected by emissions of diesel exhaust from the goods movement corridors and from diesel activities at the Ports, warehouses and rail yards. Staff proposes to cosponsor development and demonstration of warehouse rooftop solar systems incorporating storage and EV charging as well as EV charging infrastructure to support Class 8 electric drayage trucks.

### *Warehouse Rooftop Solar Systems*

The number of large warehouses, often built as strategic distribution centers for companies that ship and receive goods from the Ports of Long Beach and Los Angeles, has been rapidly increasing in the South Coast Air Basin (Basin), and it is estimated that over a 800 million square feet of warehouse space now exists in this region. Utilizing the rooftops of these warehouses for large solar panel installations can provide new generation capacity within Southern California. However, implementing large solar photovoltaic (PV) systems can create instability on electrical grids by providing intermittent power. This instability is currently addressed by coupling large variable renewable systems with flexible generating resources such as peaker plants. However, by coupling storage, solar forecasting, load managed EV charging and other smart grid technologies, the instability created by large PV systems is mitigated. Combining these technologies with large warehouse rooftop PV systems can create a zero-emission renewable flexible resource that provides utility scale grid services such as added generation capacity, voltage support, load shifting and relief to localized distribution constraints. Additionally, these systems can lower energy costs for warehouse operators along with providing EV workplace charging and electric truck charging opportunities.

### EV Charging Infrastructure for Class 8 Electric Drayage Trucks

Since 2013, TransPower has been developing Class 8 electric trucks under two SCAQMD-supported projects. One project is to develop seven battery electric drayage trucks as part of a DOE-funded Zero Emission Cargo Transport (ZECT) program; and the other project, two catenary trucks for a zero-emission goods movement system demonstration using Siemens overhead catenary technology. Four of the seven ZECT trucks have been already manufactured while the remaining three ZECT as well as the two catenary trucks will be completed by summer 2015. For demonstration purposes, the ZECT trucks will be deployed in real-world drayage operations at locations with partnering fleets at the Ports of Los Angeles and Long Beach along with warehouse locations to evaluate their performance and reliability. To support the additional trucks and demonstrations additional charging infrastructure is needed.

### **Proposal**

This action is to recognize CATI funds from U.S. EPA and transfer funds from the Clean Fuels Fund (31) into the Advanced Technology, Outreach and Education Fund (17) to execute contracts for the following projects:

### Warehouse Rooftop Solar Systems

The University of California San Diego (UCSD), in conjunction with the University of California Los Angeles (UCLA), will develop and demonstrate a detailed technology and economics-based assessment that can lead to the commercialization and further implementation of warehouse rooftop solar systems. Major tasks under this project will be completed in two phases, which include:

#### Phase 1:

- Identify size, location, age and spatial clustering of warehouses in the Basin while also considering locations with disadvantaged communities;
- Review the heavy-duty diesel locations and trip lengths serving the warehouses in the Basin and identify trucking patterns that would be suited for electrification and charging at warehouses;
- Design warehouse systems with rooftop PV, storage, electric vehicle chargers, truck chargers, and other warehouse loads;
- Understand emission benefit potential from reduced power plant and transportation emissions from implementation of these systems;
- Deploy nine solar forecasters at nearby warehouse clusters to monitor solar variability and understand stationary storage needs;

#### Phase 2:

- Develop and test scenarios based on various grid service needs, warehouse loads, and electric transportation charging requirements;

- Demonstrate the warehouse system with storage, PV, and electric truck charging on an inland warehouse;
- Quantify value generated from rooftop solar systems as a flexible grid resource and for ratepayer benefits for warehouse operators;
- Review the cost effectiveness of these systems as both a stationary and transportation energy source.

#### *EV Charging Infrastructure for Class 8 Electric Drayage Trucks*

Deployment of the ZECT trucks requires high-powered EV chargers to adequately meet the operational needs of drayage fleets. Two of the four ZECT trucks already manufactured have been deployed with partnering drayage fleets, SA Recycling and Total Transportation Services, Inc. (TTSI), using temporary charging infrastructure that may be able to support up to three trucks. However, the temporary infrastructure has 70-100 amp capacity which is insufficient to maximize the benefits of TransPower's onboard Inverter-Charger Unit (ICU) which can fully charge one of the trucks in three to four hours with a dedicated 200-amp circuit. To provide adequate charging for these trucks, TransPower plans to build more robust EV charging infrastructure with higher capacity at both SA Recycling and TTSI facilities to help facilitate a successful demonstration of their electric trucks. Major tasks to be completed include:

- Develop and manufacture custom electric vehicle supply equipment (EVSE) consoles used for safe control of electrical power flow between the grid and onboard ICU;
- Procure transformers, cables, connectors and other required components;
- Upgrade electrical service and install EV charging infrastructure at demonstrating fleet operator sites; and
- Develop and demonstrate a mobile charging pallet that can be utilized to charge electric demonstration trucks on a temporary basis when a permanent charging infrastructure is not practical or is pending completion.

#### **Sole Source Justification**

Section VIII.B.3 of the Procurement Policy identifies four provisions under which a sole source award may be justified for contracts funded in whole or in part with federal funds. This request for a sole source award is made under provisions B.3a: The item is available from a single source. 1) The solar forecasting systems being deployed by UCSD in this project are proprietary to UCSD. Additionally, this project has been competitively awarded by CEC under PON-13-303 – Advancing Utility-Scale Clean Energy Generation and staff is proposing to cost-share the project with the CEC and CPUC. 2) Development of the proposed EV charging infrastructure for Class 8 electric drayage trucks requires knowledge and access to TransPower's proprietary technology.

### **Benefits to SCAQMD**

Both projects support implementation of CATI and promote development of zero-emission goods movement equipment, specifically involving ports, warehouses, distribution centers and railyards in the Basin. Zero-emission transportation and goods movement along with low-emission energy generation technologies with storage are included within SCAQMD's FY 2014-15 Goals and Objectives.

Development and demonstration of warehouse solar PV installations coupled with storage and EV charging will move these systems towards commercialization and wider scale deployment. Demonstration and commercial deployment of these systems will provide emission reductions of criteria, toxic and greenhouse gases from both fossil-powered power plants along with light- and heavy-duty transportation.

Furthermore, development of adequate EV charging infrastructure is essential to facilitate a successful demonstration of electric drayage trucks. This will help advance commercialization of these technologies which will lead to wide-scale market deployment and move the region closer to attainment of federal ambient air quality standards by reducing diesel particulate matter and NO<sub>x</sub> emissions from goods movement operations. Also, deployment of zero-emission electric trucks will provide significant benefits in air quality and public health for the surrounding communities around the ports and next to major freeways that are disproportionately impacted by goods movement operations.

Both projects are included in the *Technology Advancement Office Clean Fuels Program 2015 Plan Update* under the category of "Electric/Hybrid Technologies and Infrastructure."

### **Resource Impacts**

The total SCAQMD cost-share for both projects shall not exceed \$598,908 from the Advanced Technology, Outreach and Education Fund (17), comprised of \$98,908 transferred from the Clean Fuels Fund (31) and \$500,000 in anticipated revenue from the U.S. EPA, both to be recognized into the Advanced Technology, Outreach and Education Fund (17). A transfer of \$500,000 as a temporary loan from the Clean Fuels Fund (31) to the Advanced Technology, Outreach and Education Fund (17) will be made pending receipt of U.S. EPA funds. Project costs and funding are summarized in the tables below:

<b>Proposed Project</b>	<b>Funding Partners</b>	<b>Funding Amount</b>
Warehouse Rooftop Solar Systems	U.S. EPA	\$400,000
	SCAQMD ( <i>requested</i> )	\$98,908
	CEC	\$999,984
	CPUC	\$156,386
	Total:	\$1,655,278

<b>Proposed Project</b>	<b>Funding Partners</b>	<b>Funding Amount</b>
EV Charging Infrastructure for Class 8 Trucks	U.S. EPA	\$100,000
	TransPower	\$200,000
	Total:	\$300,000

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



BOARD MEETING DATE: April 3, 2015

AGENDA NO. 4

PROPOSAL: Cosponsor Regional Universities for U.S. DOE EcoCAR 3 Competition and Solar Decathlon 

SYNOPSIS: EcoCAR 3 is an advanced plug-in hybrid passenger vehicle design-and-build competition sponsored by U.S. DOE and General Motors and managed by Argonne National Laboratory. California State University Los Angeles (CSULA) is the only competitor in California of 16 North American universities chosen to redesign a stock 2016 gasoline Chevrolet Camaro into a hybrid vehicle. The 2015 U.S. DOE Solar Decathlon challenges 17 U.S. and international university teams to create solar-powered houses that are cost-effective, energy efficient, attractive and incorporate EV charging into their energy use profile. This year's event will be held at the Great Park in Irvine and Team OC is the only Southern California competitor consisting of students from University of California Irvine (UCI) plus three local colleges. These actions are to execute agreements from the Clean Fuels Fund (31) with CSULA to enter the DOE EcoCAR 3 competition in an amount not to exceed \$100,000 over four years and UCI to compete in the 2015 DOE Solar Decathlon in an amount not to exceed \$50,000.

COMMITTEE: Technology, March 20, 2015; Recommended for Approval

RECOMMENDED ACTION:

1. Authorize the Executive Officer to execute the following agreements from the Clean Fuels Fund (31):
  - a. A Memorandum of Agreement with California State University Los Angeles (CSULA) to cofund the DOE EcoCAR 3 development and demonstration project in an amount not to exceed \$100,000 (\$25,000 annually); and

- b. A Memorandum of Agreement with University of California Irvine (UCI) Foundation to cofund the development and demonstration of a solar-powered house at the 2015 DOE Solar Decathlon in an amount not to exceed \$50,000.

Barry R. Wallerstein, D.Env.  
Executive Officer

MMM:FM:LM:AK

---

## **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 and strategies, and advanced education and training.

### *DOE EcoCAR 3 Competition*

The EcoCAR series of programs are advanced design-and-build vehicle competitions sponsored by the DOE and General Motors (GM) and managed by Argonne National Laboratory. The cornerstone goal is the preparation of the next generation of engineers who gain real-world research experience in the development of extremely complex advanced vehicle technologies. For the 2011-2014 EcoCAR 2 competition, CSULA students designed and built a modified 2013 Chevrolet Malibu that burns E85 fuel and gets up to 35 miles in the EV-mode. Five of the team members are now engineers at GM and several more are also working in the industry. The team achieved second place overall in the 2013 competition and the Green Leadership Award by Los Angeles County the same year.

DOE EcoCAR 3 is a four-year advanced plug-in hybrid vehicle design-and-build competition which began in fall 2014. EcoCAR 3 challenges 16 North American universities to redesign a stock 2016 gasoline Chevrolet Camaro into a hybrid vehicle that will reduce the environmental impact of vehicles, minimize fuel consumption, retain performance, safety and consumer appeal, and provide research and innovation opportunities to students.

### *DOE Solar Decathlon Competition*

The DOE Solar Decathlon is held biennially and brings together university teams from the U.S. and internationally to design, construct and build solar-powered houses. Each university solar-powered home must compete against measures that include energy and water efficiency, livability, attractiveness, and cost. Additionally, each house entering the competition must produce more energy than it consumes. The overall goal of the competition is to prepare the next generation of engineers, architects, computer scientists, scientists and graphic designers by affording them an opportunity to gain real-world experience in building design, function and sustainability. A new requirement for this

year's competition (the seventh one since its inception in 2002) is for each house to generate enough energy to charge and operate an electric vehicle. This year's event will be held in October at the Great Park in Irvine with 17 university teams expected to participate in the competition with an expected attendance of 100,000 visitors.

## **Proposal**

### *DOE EcoCAR 3 Competition*

Plug-in hybrid vehicles utilize advanced power plant architectures that combine internal combustion engines, electric motors and batteries that enable vehicles to drive on sustainable electricity and clean alternative fuels. For EcoCAR 3, the CSULA team has selected a police theme with pursuit capability. Switching to alternative fuels, enabling electric air conditioning, powering energy intensive loads from the battery pack and EV patrol modes will allow CSULA's vehicle to provide appreciable fuel economy along with substantial pollution and GHG reductions.

In addition to vehicles provided by GM, sponsorship training is provided by MathWorks, Siemens NX and Autonomie. Teams also have a chance to learn about the components being offered for EcoCAR 3, including components and software provided by GM, MathWorks, Freescale, BOSCH, ETAS, Siemens, GKN Driveline, Woodward, EnerDel, Ricardo, New Eagle and A123 Systems.

Each year the EcoCAR competition builds on the previous years' activities, resulting in an operational vehicle competition. Besides the engineering effort, EcoCAR includes communications/outreach and business students to mirror a real-world company model in which many disciplines collaborate to form a successful business. The communications-related deliverables include youth outreach, community engagement, public relations and marketing. Currently, the multidisciplinary team consists of 80 students representing mechanical engineering, electrical engineering, computer science, technology, communications, business, accounting and marketing. The team is open to participating in SCAQMD events.

This action would be to execute a \$100,000 contract with CSULA (\$25,000 annually, renewable for three additional years) to support team training, software, hardware, outreach, travel to competition, student stipends, taxes and overhead. Future renewals are conditional, based on continued team participation and Executive Officer approval. At this level, team sponsors are recognized on the team website, on the vehicle body, in their outreach materials and provided direct access for recruitment.

### *DOE Solar Decathlon Competition*

For the 2015 Solar Decathlon, the participating Southern California team is entitled TeamOC and is comprised of over a hundred students from UCI, Chapman College, Irvine Valley College and Saddleback College. Their house design entitled Casa Del Sol will be a net zero energy home that incorporates design inspiration from the California

Poppy. The house will be just under a 1,000 sq. ft. and will regulate the interior space temperature through radiant heating and cooling that is coupled with rooftop solar thermal. To maximize the output of the solar photovoltaic system, the house will incorporate the use of both alternating current (AC) and direct current (DC) to minimize electrical losses through inverters. Part of the competitive edge Team OC claims they have for this year is incorporating the electric vehicle's energy usage through a DC only charging system.

Some sponsors for Team OC include the City of Irvine, Southern California Edison (SCE), Irvine Company, Fivepoint Communities and LPA, Inc. Additionally, professional mentors from over 14 companies are helping Team OC students with resources and expertise in the design and construction of their house.

This action is to execute a contract with UCI Foundation for \$50,000 to support the development of their house and integration of an electric vehicle into the building's energy management. At this level, team sponsors are recognized on the team website, their outreach materials and on their house during the competition.

### **Sole Source Justification**

Section VIII.B.2 of the Procurement Policy and Procedure identifies four major provisions under which a sole source award may be justified. This request for a sole source award is made under provision B.2.d.: Other circumstances exist which in the determination of the Executive Officer require such waiver in the best interest of the SCAQMD. Specifically, these circumstances are: B.2.d.(8) Research and development efforts with educational institutions or nonprofit organizations. The EcoCAR 3 project will be conducted and managed by CSULA staff and students. TeamOC is being jointly managed by UCI, Chapman College, Irvine Valley College and Saddleback College. UCI Foundation is managing the fundraising for Team OC.

### **Benefits to SCAQMD**

The proposed projects are included in the *Technology Advancement Office Clean Fuels Program 2015 Plan Update* under "Assessment and Technical Support of Advanced Technologies and Information Dissemination." The AQMP relies upon the expedited implementation of advanced technologies in Southern California across all economic sectors to achieve air quality standards and to continue reductions in air toxic exposure.

### **Resource Impacts**

#### DOE EcoCAR 3 Competition

In addition to headline sponsors DOE and GM, multiple in-kind partners will provide training and components to all participating teams. SCAQMD's proposed cofunding shall not exceed \$100,000 from the Clean Fuels Fund (31) to provide additional assistance to CSULA. The \$100,000 is to provide \$25,000 annually, renewable for three additional years, contingent upon continued team participation and upon the Executive Officer's approval.


DOE Solar Decathlon Competition

In addition to headline sponsors City of Irvine, SCE, Irvine Company, Fivepoint Communities and LPA, Inc., currently over 14 in-kind partners are providing training and components to all participating teams. SCAQMD's proposed cofunding shall not exceed \$50,000 from the Clean Fuels Fund (31) to UCI Foundation for additional assistance to Team OC to support their efforts and help with the integration of an electric vehicle in their home's energy design.

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

BOARD MEETING DATE: April 3, 2015

AGENDA NO. 5

**PROPOSAL:** Recognize Funds and Issue Program Announcement for Heavy-Duty Vehicle and Transport Refrigeration Unit Engine Replacement Projects 

**SYNOPSIS:** In October 2014, U.S. EPA notified SCAQMD that an award had been approved under a Fiscal Year 14 Diesel Emissions Reduction Act (DERA) solicitation in the amount of \$753,476 for on-road heavy-duty vehicle and school bus replacement projects. In addition, in a prior U.S. EPA award, \$480,833 remains unspent. Staff is proposing that the unspent funds be used to solicit projects to replace transport refrigeration units (TRUs). These actions are to recognize \$753,476 from the U.S. EPA DERA award and issue a Program Announcement to solicit proposals for on-road heavy-duty vehicle and TRU engine replacement projects with funding of up to \$920,833. This action is also to reimburse the General Fund for administrative costs of up to \$38,476 necessary to implement the U.S. EPA DERA grant. School bus replacement awards using the remaining \$275,000 will be considered by the Board separately at a later date.

**COMMITTEE:** Technology, March 20, 2015; Recommended for Approval

**RECOMMENDED ACTIONS:**

1. Recognize upon receipt \$753,476 in Fiscal Year (FY) 14 DERA funds from U.S. EPA, with \$478,476 to be placed into the Advanced Technology, Outreach and Education Fund (17) for on-road heavy-duty vehicle replacement projects and \$275,000 to be placed into the Carl Moyer Program AB 923 Fund (80) for school bus replacement projects;
2. Approve issuance of Program Announcement #PA2015-09 to solicit proposals for on-road heavy-duty vehicle and TRU engine replacement projects at a cost not to exceed \$920,833; and

3. Authorize reimbursement to the SCAQMD General Fund of up to \$38,476 from the Advanced Technology, Outreach and Education Fund (17) for administrative costs necessary to implement the U.S. EPA FY 14 DERA grant.

Barry R. Wallerstein, D.Env.  
Executive Officer

MMM:HH/FM:RP:AAO

---

### **Background**

On-road heavy-duty diesel vehicles and school buses are a significant source of diesel PM and NO<sub>x</sub> emissions causing adverse health effects that disproportionately target children, elderly and sick individuals in the South Coast Air Basin. Replacement of older heavy-duty diesel vehicles with new vehicles powered by advanced alternative fuel engine technologies reduces diesel emissions and the associated public health risks significantly.

On June 17, 2014, staff applied for funding under the FY 14 U.S. EPA DERA Program for on-road heavy-duty vehicle and school bus replacement projects. In October 2014, U.S. EPA notified SCAQMD that its proposal was approved for an award of \$753,476 under the FY 14 DERA Program.

In addition, on June 4, 2010, the Board recognized a \$5 million grant from the U.S. EPA into the Carl Moyer Program Fund (32) to cosponsor diesel emission reduction projects. The grant also provided an additional \$400,000 for administrative costs. To date, \$19,167 of the \$400,000 in administrative funds and \$4,500,000 for three projects have been expended, leaving a balance of \$480,833. On November 25, 2014, staff submitted a request to the U.S. EPA and received its concurrence to utilize the unspent funds (both project and administrative funds) for transport refrigeration unit (TRU) engine replacements and other possible diesel emission reduction projects. However, SCAQMD is required to select projects either under the federal sole source justification criteria or through a competitive public solicitation process.

Finally, on March 6, 2015, the Board approved issuance of a Program Announcement for school bus replacements using AB 923 funds.

### **Proposal**

Staff is proposing that one solicitation be issued for on-road heavy-duty vehicle replacement projects which will include TRU engine replacements as part of the solicitation.

Older heavy-duty diesel vehicles will be replaced with 2013 or newer natural gas vehicles meeting 2010 on-road heavy-duty engine emissions standards. The award amount will be \$40,000 per vehicle. Model year 2007 or older TRU engines will be replaced with 2012 or newer CARB certified engines. The award amount will be \$8,500 per unit. If an insufficient number of applications for TRU projects are received, other project categories such as replacement of diesel shuttle buses or heavy-duty trucks with alternative fuel vehicles may be considered. The preferred targeted areas for implementation of these projects will be the disproportionately impacted areas of San Bernardino, Long Beach, City of Los Angeles and Boyle Heights.

These actions are to: 1) recognize \$753,476 in FY 14 DERA funds from U.S. EPA for on-road heavy-duty vehicle and school bus replacement projects; 2) issue the attached Program Announcement #PA2015-09 to solicit on-road heavy-duty vehicle and TRU engine replacement projects for a total cost of up to \$920,833; and 3) authorize reimbursement to the SCAQMD General Fund of up to \$38,476 for administrative costs necessary to implement the U.S. EPA FY 14 DERA grant. The \$275,000 balance of the FY 14 DERA award would be used to complement the AB 923 funds already allocated for school bus replacements, awards for which will be considered by the Board separately at a later date.

### **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's Press Enterprise newspapers to leverage the most cost-effective method of outreach to the South Coast Basin.

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

### **Bid Evaluation**

Proposals will be reviewed and evaluated by a diverse, technically qualified panel in accordance with criteria contained in the attached RFP.

### **Benefits to SCAQMD**

Successful implementation of heavy-duty vehicle, school bus and TRU engine replacement projects will provide reductions of both NO<sub>x</sub> and PM, and GHG emissions. The heavy-duty vehicles, school buses and TRU engines funded under this program are expected to operate for many years providing long-term emission reduction benefits.



**Resource Impacts**

Of the \$753,476 in U.S. EPA FY 14 DERA funds, \$478,476 (comprised of \$440,000 for projects and \$38,476 for administrative costs) will be placed into the Advanced Technology, Outreach and Education Fund (17) for heavy-duty truck replacements and \$275,000 will be placed into the Carl Moyer Program AB 923 Fund (80) for school bus replacements. The \$480,833 available for the TRU engine replacement projects is comprised of unused project and administrative funds from a U.S. EPA award previously recognized by the Board into the Carl Moyer Program Fund (32) on June 4, 2010. The Program Announcement #PA2015-09 shall not exceed \$920,833 (comprised of \$440,000 from Fund 17 and \$480,833 from Fund 32). A more precise accounting of the available funds for both replacement projects will be given at the time of the Board's consideration for the recommended awards.

**Attachment**

Program Announcement #PA2015-09 – Heavy-Duty Vehicle and TRU Engine Replacement Projects

# **SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

## **HEAVY-DUTY VEHICLE AND TRU ENGINE REPLACEMENT PROJECTS**

### **SCAQMD PROGRAM ANNOUNCEMENT #PA2015-09**

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

#### **SECTION I OVERVIEW**

##### **PURPOSE**

The SCAQMD is seeking proposals for on-road short-haul heavy-duty diesel vehicle (HDDV) and Transport Refrigeration Unit (TRU) diesel engine replacement projects. The purpose of this PA is to provide financial incentives to assist fleets in the replacement of their older:

1. Class 8 (greater than 33,000 pounds Gross Vehicle Weight Rating or GVWR) on-road short-haul HDDVs with newer vehicles powered by CNG COMPLIANT engines; and
2. TRU diesel engines with newer California Air Resources Board (CARB) interim Tier 4 diesel engines or better.

##### **INTRODUCTION/BACKGROUND**

On-road HDDVs are a significant source of diesel PM and NO<sub>x</sub> emissions causing adverse health effects that disproportionately target children, elderly and sick individuals in the South Coast Air Basin (Basin). TRUs are directly or indirectly powered by diesel engines ranging in sizes from 7 to 36 horsepower (hp), with 35 hp being the most common size. The CARB estimated statewide PM and NO<sub>x</sub> emissions from these units to be 2 and 20 tons per day (tpd), respectively, and projected that diesel PM emissions will increase to almost over 3 tpd by 2020. Introduction of low- and zero-emission technologies into the Basin, particularly for captive fleets, will assist in achieving SCAQMD air quality goals. As such, this PA targets captive fleets of diesel HDDVs and TRUs operating in the cities of San Bernardino, Long Beach and Los Angeles (LA) and the Boyle Heights neighborhood of LA City, whose residents are disproportionately impacted by heavy diesel traffic along the goods movement corridors and by diesel goods movement activities at the Ports of Long Beach and LA, and nearby BNSF and Union Pacific railyards. A proven emission control strategy to reduce diesel emissions and its associated public health risks is to accelerate replacement of older HDDVs and TRU engines with newer vehicles and TRUs powered by advanced engine technologies.

##### **FUNDING/AWARDS**

The total estimated funding for this PA is \$920,833, of which \$440,000 and \$480,833 are allocated for HDDV and TRU engine replacement projects, respectively, from a U.S. Environmental Protection Agency (U.S. EPA) Diesel Emissions Reduction Act grant. Cofunding is expected from prospective applicants. Awards will be made on a competitive basis, and SCAQMD anticipates awarding up to \$40,000 per replacement vehicle and \$8,500 per replacement TRU engine. SCAQMD retains discretion to make full awards, partial awards or no awards at all under this PA. Prospective applicants will be expected to enter into a "Fixed Price" contract with SCAQMD for specific tasks. Payments will be based upon task deliverables.

## **DEFINITIONS**

1. **Compliant Engine**  
An engine certified by the U.S. EPA and CARB to meet 2010 emissions standards.
2. **HDDV Replacement Project**  
Replacement of older short-haul HDDVs involved in goods movement activities with heavy-duty vehicles powered by CNG-compliant engine.
3. **TRU Engine Replacement Project**  
Replacement of older TRU diesel engines with 2012 or newer CARB interim Tier 4 diesel engines.

## **ELIGIBLE PROJECTS**

Eligible projects include one or combination of on-road HDDV and TRU diesel engine replacement projects. For:

1. On-road HDDV replacement projects, the:
  - Older on-road HDDVs must be: Model Year (MY) 1993 – 1995 short-haul Class 8 vehicles; operational and drivable; and used in goods movement activities in the cities of San Bernardino, Long Beach and LA and the Boyle Heights neighborhood of LA City.
  - Newer replacement heavy-duty vehicles must be MY 2013 or newer short-haul Class 8 vehicles powered by CNG-compliant engines.
  - Newer replacement heavy-duty vehicles must be of the same type and similar gross weight rating and in the same application as the replaced older HDDVs.
2. TRU engine replacement projects, the
  - TRUs must be owned by a non-profit hunger relief organization to preserve perishable food and used to serve the cities of San Bernardino, Long Beach and LA and the Boyle Heights neighborhood of LA City.
  - Older TRU diesel engines must be MY 2007 or older diesel engines and operational.
  - Newer replacement TRU diesel engines must be MY 2012 or newer and meet CARB interim Tier 4 emission standards or better.

Other project categories, such as shuttle bus or heavy-duty truck replacements with alternative fuel vehicles, may be considered as eligible projects if this solicitation is not fully subscribed.

## **ELIGIBLE ENTITY**

Eligible entity is a fleet, company, firm or corporation under the same ownership, wholly or partially, proposing eligible projects as defined in this PA.

## **FUNDING RESTRICTIONS**

- No funds awarded under this PA shall be used for matching funds for other federal grants, lobbying or intervention in federal regulatory or adjudicatory proceedings, and cannot be used to sue the Federal Government or any other government entity.

## IMPORTANT PROGRAM INFORMATION

- Up to \$40,000 for each replacement heavy-duty vehicle with a maximum of \$80,000 per eligible entity as defined in this PA.
- Up to \$8,500 for each TRU replacement engine with a maximum of \$50,000 per eligible entity as defined in this PA.
- If the solicitation is not fully subscribed, the maximum amount per eligible entity for HDDV replacement project and TRU engine replacement project may be increased and other project categories, such as shuttle bus or heavy-duty truck replacements with alternative fuel vehicles, may be considered. The precise awards will be determined at the time of the SCAQMD Board's consideration of the recommended awards.
- All eligible projects will be evaluated and competitively ranked based on criteria set forth in this PA. The HDDV replacement project and TRU engine replacement project will be ranked based on specifications including, but not be limited to: engine model year, vehicle miles traveled (VMT) per year, fuel usage and the requested funding amount.
- Applicants applying for grant funding must be the legal owner of the old HDDV or old TRU diesel engine at the time the eligible project application is submitted to the SCAQMD.
- Applicants must provide a price quote for each replacement heavy-duty vehicle and each replacement TRU engine, whichever is applicable.
- Applicants must provide a copy of the CARB Executive Order as a documentation that in the case of:
  - HDDV replacement project, the replacement engine is a compliant engine as defined in this PA.
  - TRU engine replacement project, the replacement engine is MY 2012 or newer and meets CARB interim Tier 4 emission standards.
- Applicants must provide the old HDDV vehicle identification number (VIN) as part of the application.
- Unsigned applications will be deemed ineligible and will NOT be considered for funding.
- No third-party contracts will be executed.
- Any tax obligation associated with the award is the responsibility of the grantee. Individuals or companies receiving grant funding will be issued a 1099-G form by SCAQMD for the full award amount.
- A pre-inspection of the old HDDV and TRU engine and post-inspection of the replacement heavy-duty vehicle and replacement TRU engine will be required to verify eligibility of the vehicle and TRU engine prior to disbursement of any incentive funding under this Program. Replacement vehicle or engine shall not be ordered or purchased until the existing equipment passes a pre-inspection by SCAQMD or its designee and the contract is fully executed.
- **Destruction of the old HDDV and/or old TRU engine being replaced is required.**
- There are two payment options that will be available: 1) direct payment to the vendor and 2) reimbursement to contractor with proof of payment by contractor. Payment of grant funds shall only be made upon the submittal of sufficient invoice documentation specifying the actual cost of the replacement heavy-duty vehicle and replacement TRU engine and grant funds requested, and the satisfactory completion of a post-inspection by SCAQMD.
- Compliance with existing air quality regulations is a prerequisite for Program funding. Applicants are responsible for ensuring that they are in full compliance with all applicable regulations.
- Non-performance with any provision of the SCAQMD contract may result in the recovery of all or a portion of the grant funds or penalties to the equipment owner.

## **SCHEDULE OF EVENTS**

Release of #PA2015-09	April 3, 2015
All Applications Due by 2:00 pm	July 24, 2015
Anticipated Board Consideration of Award	September 4, 2015

**ALL APPLICATIONS MUST BE RECEIVED AT THE SCAQMD HEADQUARTERS  
BY NO LATER THAN 2:00 P.M. ON FRIDAY, JULY 24, 2015**

**Postmark will not be accepted. Faxed or email proposals will not be accepted. All proposals must be hand-delivered to the SCAQMD Public Information Center at the SCAQMD Headquarters in Diamond Bar, California. Each 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 as a result of this 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.

## **CONTACT FOR ADDITIONAL INFORMATION**

Questions regarding the content or intent of this PA, procedural matters, sample contract or locations of bidder's conference can be found at the website (<http://www.aqmd.gov/grants-bids>), 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

## **SECTION II: PROPOSAL SUBMITTAL REQUIREMENTS**

Submitted proposals must follow the format outlined below and all requested information must be supplied. Failure to submit proposals in the required format will result in elimination from proposal evaluation. It is the responsibility of the applicant to ensure that all information submitted is accurate and complete. Each proposal must include the following:

### **1. Fully Completed Application Forms**

Application forms are contained in Attachment A of this PA. These forms must be completed and submitted with other required documents (i.e., Certifications and Representations and vendor quotations) discussed in the application and below.

## **2. Certifications and Representations**

Contained in Attachment B of this PA are five forms which must also be completed and submitted with the application forms in Attachment A.

## **3. Project Cost**

Applicants must provide cost information in their applications, as follows:

- The total project cost
- Program dollar requested
- Source and amount of other funding (private, local and/or state, federal)
- Request for a direct payment to vendor (if applicable)
- Documentation of match funding availability.

**Note that 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.**

## **SECTION III: PROPOSAL SUBMISSION**

All proposals must be submitted according to specifications set forth herein.

### Due Date

The applicant shall submit **four (4) complete copies of the application** in a sealed envelope, plainly marked in the upper left-hand corner with the name and address of the applicant and the words "**Program Announcement #PA2015-09**". 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. All proposals must be received no later than **2:00 p.m., on Friday, July 24, 2015**. 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 applicant will not extend the submittal due date.**

### Grounds for Rejection

A proposal may be immediately rejected if:

1. It is not for an eligible project as defined in Section I of this PA.
2. It is not prepared in the format described.
3. It is not signed by the vehicle and/or TRU owner (or duly authorized individual representing the firm).
4. Does not include DMV registration information, mileage supporting documents, Contractor Statement Forms and other forms required in this PA.
5. Does not include current cost quotes and fully and properly completed forms required in this PA.

### Missing Information

SCAQMD is not required to contact the applicant to obtain missing application information. It is the responsibility of the applicant to ensure all required application information is submitted to SCAQMD by the application 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 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 SELECTION CRITERIA**

SCAQMD staff will evaluate all submitted proposals. The proposals will be evaluated on a competitive basis and will be ranked as follows:

1. On the basis of expected cost-effectiveness (rounded up to the nearest dollar) of each HDDV replacement project and TRU engine replacement project as defined in this PA.
2. If there is a tie in (1), then the proposal will be further ranked on the basis of the expected emissions reductions (rounded up to the nearest tenths) of each HDDV replacement project and TRU engine replacement project as defined in this PA.

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

All applicants that are selected for funding awards will be required to execute a contract with SCAQMD that will include, at a minimum, the following Work Statement and Schedule of Deliverables.

### **WORK STATEMENT**

As part of the contract execution, a statement of work will be provided to all grantees that include tasks and deliverables demonstrating compliance with the requirements of the Program as administered by SCAQMD. Detailed requirements will be provided in the contract to be executed but below are the minimum criteria for replacement projects:

1. Commit to register the new replacement heavy-duty vehicle in California and operate the vehicle and new replacement TRU engine at least 90% in the cities of San Bernardino, Long Beach and LA and the Boyle Heights neighborhood of LA City for the duration of the contract term. Dual plates, International Registration Plan (IRP) and any other out-of-state registrations are prohibited.
2. Agree to accept an on-board electronic monitoring unit at any time during the contract term.
3. Agree to vehicle and engine inspections and contract milestone deadlines for project implementation.
4. Comply with provision for payment of grant fund.
5. Scrap or render useless the old HDDV and its engine and the old TRU diesel engine without cannibalizing any parts from the old engine.

6. Sign a legally binding contract with the local agency including project milestone dates and completion deadlines.
7. Retain, at minimum, all documents, invoices and correspondence associated with the application, award, contract, monitoring, enforcement and reporting requirements for at least two years after final payment. Records shall be readily available and accessible to SCAQMD or its designee upon request for the purposes of ongoing evaluations or auditing.
8. Properly maintain the new replacement heavy-duty vehicle and new replacement TRU engine in good operating condition and according to the manufacturer's recommendations.
9. Demonstrate proof of vehicle warranty and collision/comprehensive insurance on replacement heavy-duty vehicle. SCAQMD shall be named as additional insured on the policy.
10. Agree to the following remedies for non-performance with the SCAQMD contract:
  - 10.1 Recovery of all or a portion of Program funds.
  - 10.2 Other fiscal penalties on prospective applicant based on the severity of the nonperformance.
  - 10.3 Cancellation of the contract.

### **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 proposed eligible project has been completed and is operational. These reports shall include a discussion of any problems encountered and how they were resolved, any changes in the schedule, and anticipated completion date.
2. A final report, which shall be submitted no later than 60 days after the completion of the proposed eligible project. The report shall, at a minimum, include:
  - a. Name, address and phone number of grantee.
  - b. Annual vehicle miles traveled (including mileage/activity log for documentation)
  - c. Annual fuel usage.
  - d. Project cost.
  - e. Any problems encountered and how they were resolved.

### **SECTION VI: PAYMENT TERMS**

For all projects, full payment shall be made upon the completion of all the following:

- Pre-inspection of old HDDV and old TRU engine.
- Receipt of the new replacement heavy-duty vehicle and the new TRU engine.
- Post-inspection of the new replacement heavy-duty vehicle and the new replacement TRU engine by SCAQMD or its designee.



**ATTACHMENT A**

Application Preparation Forms



**APPENDIX A – APPLICATION FOR**

**HEAVY-DUTY VEHICLE AND TRU ENGINE REPLACEMENT PROJECTS  
SCAQMD PROGRAM ANNOUNCEMENT  
#PA2015-09**

**Instructions:**

- ✓ Read the SCAQMD Program Announcement #PA2015-09 for instructions and additional important information.
- ✓ Fill in all applicable sections with ink. Please print legibly (Be sure to complete Appendix C – Application Statement and Appendix D – Certifications and Representations).
- ✓ **Return four (4) hard copies to:**

**Procurement Unit  
South Coast Air Quality Management District  
21865 East Copley Drive  
Diamond Bar, CA 91765**

**DEADLINE: Received at SCAQMD by Friday, July 24, 2015, by 2:00PM (no exceptions)**

**SECTION 1 – GENERAL INFORMATION (PLEASES PRINT OR TYPE)**

ORGANIZATION INFORMATION		
1. Applicant Name, Business, or Company (as it appears on Form W-9):		
2. Address:		
3. City:	4. State:	5. Zip Code:
6. Mailing Address (if different from above):		
7. City:	8. State:	9. Zip Code:
10. Number of Vehicles to be replaced:		
11. Have you applied for any other grant programs? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, please explain and provide name(s) of the agency:		
BUSINESS INFORMATION		
12. Fleet Size (Include Trucks > 14,000 lbs. GVWR only):	13. Number of Employees:	
PRIMARY CONTRACT INFORMATION		
14. First and Last Name:		15. Contact Title:
16. Phone Number:	17. Fax Number:	
18. Alternate Contact Number:	19. Email:	
20. Vehicle Registered Owner :		
21. Person with Equipment Signing Authority:		

(THE INFORMATION BELOW IS REQUIRED FOR EACH PIECE OF EQUIPMENT.

FOR MULTIPLE UNITS YOU MAY PROVIDE AN EXCEL SPREADSHEET CONTAINING THE REQUIRED INFORMATION)

**SECTION 2 – CURRENT HDDV AND TRU ENGINE ACTIVITY INFORMATION**

CURRENT VEHICLE		
1. Vehicle Number:	2. Vehicle Make:	3. Vehicle Model:
4. Vehicle Model Year:	5. Vehicle GVWR:	
6. Vehicle Identification Number (VIN):	7. License Plate Number:	
8. Vehicle Axle Configuration: <input type="checkbox"/> 2 Axle <input type="checkbox"/> 3 Axle	9. Odometer Reading:	
CURRENT VEHICLE ENGINE		
10. Engine Make:	11. Engine Model:	
12. Engine Model Year:	13. Horsepower Rating:	
14. Engine Serial Number:	15. Fuel Type:	
16. Engine Family Number (if applicable):		
17. Is the Vehicle Used Seasonally? ___No. ___Yes	18. Miles Traveled during the past 24 Months: _____ miles _____% Operation in the cities of San Bernardino, Long Beach, and LA, and the Boyle Heights neighborhood of LA City	19. Fuel usage during the past 24 Months: _____ gallons
20. Vehicle Vocation(s):		
21. Does the existing HDDV have a diesel particulate filter installed? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, list the CARB verified Level of PM emission control (Level 1, 2, or 3): _____ Diesel filter installation date: _____ Any grant funds received for the installation: <input type="checkbox"/> Yes <input type="checkbox"/> No		

**THE FOLLOWING DOCUMENTS ARE REQUIRED TO BE SUBMITTED WITH THE APPLICATION:**

- Copy of DMV Registration information, including:
  - Current registration - August or September 2011.
  - Past two-year registration - Provide copies of DMV registration for last 24 months (California Base-plated or International Registration Plan (IRP) is acceptable.)
  - If two-year registration records are not available, then the applicant must provide a DMV printout showing the registration history or a minimum of eight months registration supplemented by alternative documentation (e.g., proof of insurance, shipment records, or fuel consumption records) that establishes a pattern of California operation over the last two years.
- Copy of Title to show proof of ownership (if available)
- Vocation Letter (specifying the types of goods that you haul and where you haul these goods.)
- Provide documentation of annual miles traveled over past two years (e.g., maintenance or inspection records with odometer readings, shipment logs, fuel receipts with vehicle identification, etc)
- CARB Executive Order documenting the certified emissions level of the replacement truck engine, equipment, repower engine, or retrofit device (if available).
- Price quote for the replacement truck.

(THE INFORMATION BELOW IS REQUIRED FOR EACH PIECE OF EQUIPMENT.  
FOR MULTIPLE UNITS YOU MAY PROVIDE AN EXCEL SPREADSHEET CONTAINING THE REQUIRED INFORMATION)

**SECTION 3 – REPLACEMENT VEHICLE INFORMATION**

<b>REPLACEMENT VEHICLE</b>		
1. Vehicle Make (if known):		2. Vehicle Model (if known):
3. Vehicle Model Year:		4. Vehicle GVWR *:
<b>REPLACEMENT VEHICLE ENGINE</b>		
5. Engine Make (if known):		6. Engine Model (if known):
7. Engine Model Year:		8. Horsepower Rating (if known):
9. Fuel Type: <input type="checkbox"/> LNG <input type="checkbox"/> CNG		
10. Engine Family Number (if known):		
<b>REPLACEMENT VEHICLE ACTIVITIES</b>		
11. Will the new replacement vehicle be operated for at least 90% in the cities of San Bernardino, Long Beach and LA and the Boyle Heights neighborhood of LA City?		
12. Estimated percentage of annual miles that were in the Operation in the cities of San Bernardino, Long Beach and LA and the Boyle Heights neighborhood of LA City _____%		
<b>REPLACEMENT VEHICLE DEALER INFORMATION</b>		
1. Vehicle Dealer Name:		
2. Address:		
3. City:	4. State:	5. Zip Code:
6. Contact Name:		7. Contact Title
8. Phone Number:	9. Fax Number:	10. Email:
<b>REPLACEMENT TRU ENGINE</b>		
1. Engine Make (if known):		2. Engine Model (if known):
3. Engine Model Year:		4. Horsepower Rating (if known):
5. Engine Family Number and Tier (if known):		
<b>PROJECT FUNDING</b>		
1. Program Funding Requested: \$ _____		
2. Source(s) and amount of other funding (private, local, other State, Federal)		
3. Purchasing Vehicle with a Lease to Own Program*: <input type="checkbox"/> No <input type="checkbox"/> Yes		4. Indicate if you are requesting: <input type="checkbox"/> Direct payment to vendor <input type="checkbox"/> Reimbursement
5. Total project cost including Program and non-Program dollars:		

## APPLICATION PACKET CHECKLIST

- Completed Application form.
- CARB Executive Order (EO) for the replacement engines' verified emissions (if available).
- Copy of Vehicle Title(s) (if available).
- Copy of current DMV registration.
- Copy of DMV registration for past two years. If two-year registration records are not available, then the applicant must provide a DMV Printout showing the registration history or a minimum of eight months of registration supplemented by alternative documentation (proof of insurance, shipment records, or fuel consumption records) that establishes a pattern of California operation over the last two years.
- Dealer price quote for replacement vehicle and TRU engine.
- Vocation letter (provide a description of type of goods you haul and where you haul these goods).
- Documentation of annual miles traveled and fuel usage for the past two years. Examples of documentation include: maintenance or inspection records with odometer reading, shipment logs, fuel receipts with vehicle identification, etc.
- Verification of GVWR rating for vehicles by providing pictures of the engine tag or manufacturer's specification plate with truck VIN listed.



For additional assistance please contact:  
Mei Wang  
Technology Advancement Office  
South Coast Air Quality Management District  
(909) 396-3257

## ATTACHMENT B

### CERTIFICATIONS AND REPRESENTATIONS



# South Coast Air Quality Management District

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

## **Business Information Request**

Dear SCAQMD Contractor/Supplier:

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 1/15



# South Coast Air Quality Management District

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

## BUSINESS INFORMATION REQUEST

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

## REMITTING ADDRESS INFORMATION

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

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

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



**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): \_\_\_\_\_

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

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

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

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

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

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

## Definitions

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

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

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

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

- has an ongoing business within the boundary of 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.

## Request for Taxpayer Identification Number and Certification

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

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

<b>Part I Taxpayer Identification Number (TIN)</b>																																																													
Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the Part I instructions on page 3. For other entities, it is your employer identification number (EIN). If you do not have a number, see <i>How to get a TIN</i> on page 3.																																																													
<b>Note.</b> If the account is in more than one name, see the instructions for line 1 and the chart on page 4 for guidelines on whose number to enter.																																																													
	<table border="1" style="margin-left: auto; margin-right: auto;"> <tr><td colspan="11" style="text-align: center;"><b>Social security number</b></td></tr> <tr><td style="width: 30px;"> </td><td style="width: 30px;"> </td><td style="width: 30px;"> </td><td style="width: 30px;"> </td><td style="width: 30px;"> </td><td style="width: 30px;"> </td><td style="width: 30px;"> </td><td style="width: 30px;"> </td><td style="width: 30px;"> </td><td style="width: 30px;"> </td><td style="width: 30px;"> </td></tr> <tr><td colspan="4" style="text-align: center;">-</td><td colspan="3" style="text-align: center;">-</td><td colspan="4"></td></tr> </table> <p style="text-align: center;"><b>OR</b></p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr><td colspan="9" style="text-align: center;"><b>Employer identification number</b></td></tr> <tr><td style="width: 30px;"> </td><td style="width: 30px;"> </td><td style="width: 30px;"> </td><td style="width: 30px;"> </td><td style="width: 30px;"> </td><td style="width: 30px;"> </td><td style="width: 30px;"> </td><td style="width: 30px;"> </td><td style="width: 30px;"> </td></tr> <tr><td colspan="2" style="text-align: center;">-</td><td colspan="7"></td></tr> </table>	<b>Social security number</b>																						-				-							<b>Employer identification number</b>																		-								
<b>Social security number</b>																																																													
-				-																																																									
<b>Employer identification number</b>																																																													
-																																																													

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

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

### General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.  
**Future developments.** Information about developments affecting Form W-9 (such as legislation enacted after we release it) is at [www.irs.gov/fw9](http://www.irs.gov/fw9).

### Purpose of Form

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

- Form 1099-INT (interest earned or paid)
- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)

- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

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

*If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See What is backup withholding? on page 2.*

By signing the filled-out form, you:

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

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

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

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

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

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

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

**Foreign person.** If you are a foreign person or the U.S. branch of a foreign bank that has elected to be treated as a U.S. person, do not use Form W-9. Instead, use the appropriate Form W-8 or Form 8233 (see 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, give the requester the appropriate completed Form W-8 or Form 8233.

## Backup Withholding

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

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

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

1. You do not furnish your TIN to the requester,
2. You do not certify your TIN when required (see the 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 *Exempt payee code* on page 3 and the separate Instructions for the Requester of Form W-9 for more information.

Also see *Special rules for partnerships* above.

## What is FATCA reporting?

The Foreign Account Tax Compliance Act (FATCA) requires a participating foreign financial institution to report all United States account holders that are specified United States persons. Certain payees are exempt from FATCA reporting. See *Exemption from FATCA reporting code* on page 3 and the Instructions for the Requester of Form W-9 for more information.

## Updating Your Information

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

## Penalties

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

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

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

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

## Specific Instructions

### Line 1

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

If this Form W-9 is for a joint account, list first, and then circle, the name of the person or entity whose number you entered in Part I of Form W-9.

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

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

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

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

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

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



**Line 2**

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

**Line 3**

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

**Limited Liability Company (LLC).** If the name on line 1 is an LLC treated as a partnership for U.S. federal tax purposes, check the "Limited Liability Company" box and enter "P" in the space provided. If the LLC has filed Form 8832 or 2553 to be taxed as a corporation, check the "Limited Liability Company" box and in the space provided enter "C" for C corporation or "S" for S corporation. If it is a single-member LLC that is a disregarded entity, do not check the "Limited Liability Company" box; instead check the first box in line 3 "Individual/sole proprietor or single-member LLC."

**Line 4, Exemptions**

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

**Exempt payee code.**

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

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

- 1—An organization exempt from tax under section 501(a), any IRA, or a custodial account under section 403(b)(7) if the account satisfies the requirements of section 401(f)(2)
- 2—The United States or any of its agencies or instrumentalities
- 3—A state, the District of Columbia, a U.S. commonwealth or possession, or any of their political subdivisions or instrumentalities
- 4—A foreign government or any of its political subdivisions, agencies, or instrumentalities
- 5—A corporation
- 6—A dealer in securities or commodities required to register in the United States, the District of Columbia, or a U.S. commonwealth or possession
- 7—A futures commission merchant registered with the Commodity Futures Trading Commission
- 8—A real estate investment trust
- 9—An entity registered at all times during the tax year under the Investment Company Act of 1940
- 10—A common trust fund operated by a bank under section 584(a)
- 11—A financial institution
- 12—A middleman known in the investment community as a nominee or custodian
- 13—A trust exempt from tax under section 664 or described in section 4947

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

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

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

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

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

- A—An organization exempt from tax under section 501(a) or any individual retirement plan as defined in section 7701(a)(37)
- B—The United States or any of its agencies or instrumentalities
- C—A state, the District of Columbia, a U.S. commonwealth or possession, or any of their political subdivisions or instrumentalities
- D—A corporation the stock of which is regularly traded on one or more established securities markets, as described in Regulations section 1.1472-1(c)(1)(i)
- E—A corporation that is a member of the same expanded affiliated group as a corporation described in Regulations section 1.1472-1(c)(1)(i)
- F—A dealer in securities, commodities, or derivative financial instruments (including notional principal contracts, futures, forwards, and options) that is registered as such under the laws of the United States or any state
- G—A real estate investment trust
- H—A regulated investment company as defined in section 851 or an entity registered at all times during the tax year under the Investment Company Act of 1940
  - I—A common trust fund as defined in section 584(a)
  - J—A bank as defined in section 581
  - K—A broker
  - L—A trust exempt from tax under section 664 or described in section 4947(a)(1)
  - M—A tax exempt trust under a section 403(b) plan or section 457(g) plan

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

**Line 5**

Enter your address (number, street, and apartment or suite number). This is where the requester of this Form W-9 will mail your information returns.

**Line 6**

Enter your city, state, and ZIP code.

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

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

If you are a sole proprietor and you have an EIN, you may enter either your SSN or EIN. 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 this page), 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 SSA office or get this form online at [www.ssa.gov](http://www.ssa.gov). You may also get this form by calling 1-800-772-1213. Use Form W-7, Application for IRS Individual Taxpayer Identification Number, to apply for an ITIN, or Form SS-4, Application for Employer Identification Number, to apply for an EIN. You can apply for an EIN online by accessing the IRS website at [www.irs.gov/businesses](http://www.irs.gov/businesses) and clicking on Employer Identification Number (EIN) under Starting a Business. You can get Forms W-7 and SS-4 from the IRS by visiting [IRS.gov](http://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, apply for a TIN and write "Applied For" in the space for the TIN, sign and date the form, and give it to the requester. For interest and dividend payments, and certain payments made with respect to readily tradable instruments, generally you will have 60 days to get a TIN and give it to the requester before you are subject to backup withholding on payments. The 60-day rule does not apply to other types of payments. You will be subject to backup withholding on all such payments until you provide your TIN to the requester.

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

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

**Part II. Certification**

To establish to the withholding agent that you are a U.S. person, or resident alien, sign Form W-9. You may be requested to sign by the withholding agent even if items 1, 4, or 5 below 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 line 1 must sign. Exempt payees, see *Exempt payee code* earlier.

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

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

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

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

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

**5. Mortgage interest paid by you, acquisition or abandonment of secured property, cancellation of debt, qualified tuition program payments (under section 529), 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 <sup>1</sup>
3. Custodian account of a minor (Uniform Gift to Minors Act)	The minor <sup>2</sup>
4. a. The usual revocable savings trust (grantor is also trustee) b. So-called trust account that is not a legal or valid trust under state law	The grantor-trustee <sup>1</sup>  The actual owner <sup>1</sup>
5. Sole proprietorship or disregarded entity owned by an individual	The owner <sup>1</sup>
6. Grantor trust filing under Optional Form 1099 Filing Method 1 (see Regulations section 1.671-4(b)(2)(i)(A))	The grantor <sup>1</sup>
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 <sup>1</sup>
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 Regulations section 1.671-4(b)(2)(i)(B))	The trust

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

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

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

<sup>4</sup> List first and circle the name of the trust, estate, or pension trust. (Do not furnish the TIN of the personal representative or trustee unless the legal entity itself is not designated in the account title.) Also see *Special rules for partnerships* on page 2.

**\*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, 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](mailto:phishing@irs.gov). You may also report misuse of the IRS name, logo, or other IRS property to the Treasury Inspector General for Tax Administration (TIGTA) at 1-800-366-4484. You can forward suspicious emails to the Federal Trade Commission at: [spam@uce.gov](mailto:spam@uce.gov) or contact them at [www.ftc.gov/idtheft](http://www.ftc.gov/idtheft) or 1-877-IDTHEFT (1-877-438-4338).

Visit [IRS.gov](http://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. commonwealths and possessions for use in administering their laws. The information also may be disclosed to other countries under a treaty, to federal and state agencies to enforce civil and criminal laws, or to federal law enforcement and intelligence agencies to combat terrorism. You must provide your TIN whether or not you are required to file a tax return. Under section 3406, payers must generally withhold a percentage of taxable interest, dividend, and certain other payments to a payee who does not give a TIN to the payer. Certain penalties may also apply for providing false or fraudulent information.



# 2015 Withholding Exemption Certificate

**590**

The payee completes this form and submits it to the withholding agent.

**Withholding Agent** (Type or print)

Name \_\_\_\_\_

**Payee**

Name \_\_\_\_\_

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

Address (apt./ste., room, PO Box, or PMB no.) \_\_\_\_\_

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

State \_\_\_\_\_ ZIP Code \_\_\_\_\_

**Exemption Reason**

Check only one reason box below that applies to the payee.

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

- Individuals — Certification of Residency:**  
I am a resident of California and I reside at the address shown above. If I become a nonresident at any time, I will promptly notify the withholding agent. See instructions for General Information D, Definitions.
- Corporations:**  
The corporation has a permanent place of business in California at the address shown above or is qualified through the California Secretary of State (SOS) to do business in California. The corporation will file a California tax return. If this corporation ceases to have a permanent place of business in California or ceases to do any of the above, I will promptly notify the withholding agent. See instructions for General Information D, Definitions.
- Partnerships or Limited Liability Companies (LLCs):**  
The partnership or LLC has a permanent place of business in California at the address shown above or is registered with the California SOS, and is subject to the laws of California. The partnership or LLC will file a California tax return. If the partnership or LLC ceases to do any of the above, I will promptly inform the withholding agent. For withholding purposes, a limited liability partnership (LLP) is treated like any other partnership.
- Tax-Exempt Entities:**  
The entity is exempt from tax under California Revenue and Taxation Code (R&TC) Section 23701 \_\_\_\_\_ (insert letter) or Internal Revenue Code Section 501(c) \_\_\_\_\_ (insert number). If this entity ceases to be exempt from tax, I will promptly notify the withholding agent. Individuals cannot be tax-exempt entities.
- Insurance Companies, Individual Retirement Arrangements (IRAs), or Qualified Pension/Profit Sharing Plans:**  
The entity is an insurance company, IRA, or a federally qualified pension or profit-sharing plan.
- California Trusts:**  
At least one trustee and one noncontingent beneficiary of the above-named trust is a California resident. The trust will file a California fiduciary tax return. If the trustee or noncontingent beneficiary becomes a nonresident at any time, I will promptly notify the withholding agent.
- Estates — Certification of Residency of Deceased Person:**  
I am the executor of the above-named person's estate or trust. The decedent was a California resident at the time of death. The estate will file a California fiduciary tax return.
- Nonmilitary Spouse of a Military Servicemember:**  
I am a nonmilitary spouse of a military servicemember and I meet the Military Spouse Residency Relief Act (MSRRA) requirements. See instructions for General Information E, MSRRA.

**CERTIFICATE OF PAYEE:** Payee must complete and sign below.

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) \_\_\_\_\_ Telephone (\_\_\_\_) \_\_\_\_\_

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



# 2015 Instructions for Form 590

## Withholding Exemption Certificate

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

### General Information

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

### A Purpose

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

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

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

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

### B Income Subject to Withholding

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

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

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

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

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

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

### C Who Certifies this Form

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

An incomplete certificate is invalid and the withholding agent should not accept it. If the withholding agent receives an incomplete certificate, the withholding agent is required to withhold tax on payments made to the payee until a valid certificate is received. In lieu of a completed 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 Definitions

For California non-wage withholding purposes, **nonresident** includes all of the following:

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

Foreign refers to non-U.S.

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

#### Permanent Place of Business:

A corporation has a permanent place of business in California if it is organized and existing under the laws of California or if it is a foreign corporation qualified to transact intrastate business by the CA 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.

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

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

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

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

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

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

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

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

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

## Specific Instructions

### Payee Instructions

Enter the withholding agent's name.

Enter the payee's information, including the taxpayer identification number (TIN) and check the appropriate TIN box.

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

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

**Foreign Address** – 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.

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

### Withholding Agent Instructions

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 Additional Information.

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

- The individual payee becomes a nonresident.
- The corporation ceases to have a permanent place of business in California or ceases to be qualified to do business in California.
- The partnership ceases to have a permanent place of business in California.
- The LLC ceases to have a permanent place of business in California.
- The tax-exempt entity loses its tax-exempt status.

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

## Additional Information

For additional information or to speak to a representative regarding this form, call the Withholding Services and Compliance telephone service at:

Telephone: **888.792.4900**  
916.845.4900

Fax: 916.845.9512

OR write to:

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

You can download, view, and print California tax forms and publications at [ftb.ca.gov](http://ftb.ca.gov).

OR to get forms by mail write to:

TAX FORMS REQUEST UNIT  
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](http://ftb.ca.gov)

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

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

### Asistencia Por Internet y Teléfono

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

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

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

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

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

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

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

---

Typed Name & Title of Authorized Representative

---

Signature of Authorized Representative Date

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

---

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

### **SECTION I.**

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

DBA, Name _____, County Filed in _____ Corporation, ID No. _____ LLC/LLP, ID No. _____
--

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

\_\_\_\_\_  
\_\_\_\_\_

### **SECTION II.**

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

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

**Campaign Contributions Disclosure, continued:**

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

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

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

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

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

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

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

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

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

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

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

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

**DEFINITIONS**

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

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



# South Coast Air Quality Management District

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

## Direct Deposit Authorization

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

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

### STEP 2: Payee Information

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

### Authorization

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

### STEP 3:

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

### To be Completed by your Bank

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

BOARD MEETING DATE: April 3, 2015

AGENDA NO. 6

**PROPOSAL:** Adopt Resolution Recognizing Funds and Accepting Terms and Conditions for FY 2013-14 Carl Moyer Multidistrict Program Award and Issue Program Announcement for Carl Moyer Multidistrict Program

**SYNOPSIS:** As agreed in a Memorandum of Understanding signed between CAPCOA and CARB on May 1, 2013, the Carl Moyer Multidistrict Program funds will be alternatively designated between the Bay Area and the South Coast AQMDs from FY 2012-13 (Year 15) through FY 2015-16 (Year 18). As such, the SCAQMD is to implement the FY 2013-14 Multidistrict Program. These actions are to adopt a resolution recognizing \$3 Million in Carl Moyer Multidistrict Program grant awards from CARB with its terms and conditions for FY 2013-14 and to approve the release of a Program Announcement for the FY 2013-14 Carl Moyer Multidistrict Program.

**COMMITTEE:** Technology, March 20, 2015; Recommended for Approval

**RECOMMENDED ACTIONS:**

1. Adopt the attached resolution recognizing, upon receipt, up to \$3,000,000 from CARB into the Carl Moyer Program SB 1107 Multidistrict Fund (32) and accepting the terms and conditions of the FY 2013-14 Carl Moyer Multidistrict Grant award.
2. Approve issuance of Program Announcement #PA2015-10 to solicit projects for off-road construction equipment with a funding amount of up to \$2,850,000 from the Carl Moyer Program SB 1107 Multidistrict Fund (32).

Barry R. Wallerstein, D.Env.  
Executive Officer



## **Background**

As agreed in a Memorandum of Understanding signed between CAPCOA and CARB on May 1, 2013, the Carl Moyer Multidistrict Program funds will be alternatively designated between the Bay Area and the South Coast AQMDs from FY 2012-13 (Year 15) through FY 2015-16 (Year 18). As such, the SCAQMD is to implement the FY 2013-14 (Year 16) Multidistrict Program. As required by the grant award, the SCAQMD has submitted a funding plan to CARB for implementation of the Multidistrict Program and received approval.

## **Proposal**

This action is to adopt a resolution recognizing up to \$3,000,000 from CARB into the Carl Moyer Program SB 1107 Multidistrict Fund (32) and accepting the terms and conditions of the FY 2013-14 Carl Moyer Multidistrict Grant award.

This action is also to issue a Program Announcement #PA2015-10 to solicit projects for off-road construction equipment with a funding amount of up to \$2,850,000 from the Carl Moyer Program SB 1107 Multidistrict Fund (32). The PA is issued based on the current program guidelines approved by CARB on July 11, 2014. The Carl Moyer PA outlines the maximum allowed cost-effectiveness limit and solicits projects for off-road construction equipment and vehicles operating in at least two air districts jurisdictions.

## **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's Press Enterprise newspapers to leverage the most cost-effective method of outreach to the South Coast Basin.

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

## **Bid Evaluation**

Proposals will be reviewed and evaluated in accordance with criteria in the current program guidelines approved by CARB on July 11, 2014.

## **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 Multidistrict Program is the direct result of



these technology advancement activities. The vehicles and equipment funded under this Program will operate many years, providing long-term emission reductions.

**Resource Impacts**

The \$3,000,000 allocated by CARB in SB 1107 multidistrict funds to the SCAQMD will be recognized into the Carl Moyer Program SB 1107 Multidistrict Program Fund (32) and comprises \$2,850,000 for project funds and \$150,000 in administrative funds to reimburse the SCAQMD General Fund.

**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 Program Multidistrict Award
2. Program Announcement #PA2015-10 – Off-Road Construction Equipment

**RESOLUTION NO. 15- \_\_\_\_\_**

**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 Program Multidistrict 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 Carl Moyer, the Carl Moyer Multidistrict, and the School Bus Incentive Programs; 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 April 3, 2015, does hereby accept the terms and conditions of the FY 2013-14 (Year 16) Carl Moyer Multidistrict Program grant award and recognizes up to \$3,000,000 in SB 1107 Multidistrict 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

**CARL MOYER MEMORIAL  
AIR QUALITY STANDARDS ATTAINMENT PROGRAM  
MULTIDISTRICT PROGRAM ANNOUNCEMENT  
“Year 16”**

**SCAQMD PROGRAM ANNOUNCEMENT  
#PA2015-10**

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 FY 2013 - 14 Carl Moyer Memorial Air Quality Standards Attainment Multidistrict Program (CMP), referred to as “Year 16”.

**Funding for this PA will be approximately \$2.85 million, from the CMP Multidistrict Fund.**

The purpose of the CMP is to achieve near-term emission reductions of Nitrogen Oxides (NO<sub>x</sub>), Particulate Matter (PM<sub>10</sub>) 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 July 11, 2014, which is available online at: <http://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 <http://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 equipment. A resolution approving such fees was adopted by the SCAQMD Board on December 3, 2004.

On May 1, 2013, the California Air Pollution Control Officers Association (CAPCOA) and the California Air Resources Board (CARB) signed a Letter of Understanding (LOU) with regard to the disposition of the CMP Multidistrict funding. The LOU requires the development of a Multidistrict Funding Plan (MDFP) for \$3 million or 50 percent of the available CMP Multidistrict funding (whichever is less) for Fiscal Years 2012/2013 through 2015/2016 (referred to as Program Years 15, 16, 17 and 18).

The purpose of this MDFP document is to establish funding priorities for approximately \$3 million in CMP Year 16 multidistrict funding to be administered by the SCAQMD for CAPCOA. The plan targets the most cost-effective, timely and impactful mobile source emission reduction projects that benefit air quality across the jurisdiction areas of Imperial, Ventura, Santa Barbara, Mojave and San Luis Obispo. This MDFP has been devised based on consultation and collaboration with CARB and the aforementioned air districts.

### **FUNDING CATEGORIES**

SCAQMD is soliciting applications for Off-Road Construction Equipment.

### **GENERAL PROGRAM INFORMATION**

All project awards shall not exceed the maximum **cost-effectiveness limit of \$17,720** per ton of weighted emissions reduced. All projects must meet the criteria stated in this PA, Appendix A and the CMP Guidelines. Cost-effectiveness is based on NO<sub>x</sub>, ROG and PM reductions. Project cost-effectiveness is calculated according to the following formula:

$$\frac{\text{Annualized Cost (\$/year)}}{[\text{NO}_x \text{ reduction} + 20(\text{combustion PM}_{10} \text{ reduction}) + \text{ROG reduction}] \text{ (tons/year)}}$$

All projects must be operational by **May 19, 2016**. 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 CARB's website for updates and advisories to the guidelines ([www.arb.ca.gov/msprog/moyer/moyer.htm](http://www.arb.ca.gov/msprog/moyer/moyer.htm)).

In cases of conflict between CARB guidelines and SCAQMD criteria, the more stringent criteria will prevail. SCAQMD will post any new information and requirements on its CMP Web page at [www.aqmd.gov/Moyer](http://www.aqmd.gov/Moyer).

Projects subject to CARB regulations must submit a copy of the most recent CARB compliance report(s) or other documentation that provides SCAQMD with clear understanding of the applicant's 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-Emission School Bus Replacement Program
- SCAQMD Rule 2202 Air Quality Investment Program
- SCAQMD RECLAIM Air Quality Investment Program for NO<sub>x</sub>
- Emission credit programs encompassed in the SCAQMD Rule 1600-series and 1309.1
- AB 118 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 CARB, 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 application.

Program requirements are highlighted below; however, applicants are responsible for consulting the CMP guidelines for additional program limitations/requirements.

### **OFF-ROAD COMPRESSION-IGNITION 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 are limited to construction equipment. Portable equipment is not eligible for CMP funding.

Fleets must be in compliance with CARB's In-Use Off-Road Diesel Vehicle Regulation (Off-Road Regulation) in order to be eligible for funding. Applicants must submit information regarding fleet size and compliance status. **This must include the Diesel Off-Road On-line Reporting System (DOORS) ID of the fleet, the DOORS Compliance Snapshot, the DOORS equipment list, and the DOORS Equipment Identification Number (EIN) of the funded equipment.** All documentation submitted must be signed and dated by the applicant and include language certifying that the fleet list provided is accurate and complete. Off-road projects fall into three distinct categories: 1) repower 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 NO<sub>x</sub> 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. Off-road repower projects must install CARB-verified retrofit equipment subject to the "Retrofit Purchase" discussion below.

#### Retrofit Purchase

Retrofit is the installation of a CARB-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 NO<sub>x</sub> reductions.

### 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).

## **DEFINITIONS**

### Alternative Fuel

Alternative fuels include compressed natural gas (CNG), liquefied natural gas (LNG), hydrogen (H<sub>2</sub>), methanol, ethanol, propane (LPG) and electric technologies. Experimental technologies and fuels will be referred to CARB for evaluation and possible eligibility in the program.

### Equipment Replacement

Equipment replacement means the replacement of an older vehicle or piece of equipment that still has remaining useful life with a newer, cleaner vehicle or piece of equipment. For this project type, applicant must have owned and operated the old equipment in California for the previous two years.

### Repower

Vehicle repower means the replacement of an in-use engine with another, cleaner engine (more than 15 percent cleaner).

### Retrofit

An emission control system employed exclusively with an in-use engine, vehicle or piece of equipment. **CARB guidance requires the applicant to select the highest level technology certified for that engine that provides the most emission reductions.** For many projects, this includes a diesel emission control device that reduces both PM and NO<sub>x</sub> emissions. In order to be eligible for CMP funding, the retrofit device must be verified for the specific engine family found on the equipment and achieve the highest level emission reductions when compared to other verified retrofit devices. If a specific device reduces both NO<sub>x</sub> and PM but the PM reduction from a retrofit is required by a regulation, only the NO<sub>x</sub> reduction may be eligible for funding.

### SCAQMD Jurisdiction

The SCAQMD is the air pollution control agency for all of Orange County and the urban portions of Los Angeles, Riverside and San Bernardino counties. This area of 10,743 square miles is home to over 16.8 million people—about half the population of the whole state of California. It is the second most populated urban area in the United States and one of the smoggiest. Visit [www.aqmd.gov/home/about/jurisdiction](http://www.aqmd.gov/home/about/jurisdiction) for more information.

## **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 prior to the closing date of the Program Announcement.**

- Compliance with existing CARB 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 no later than **May 19, 2016**.
- All project invoices must be submitted for payment no later than May 19, 2016. Projects which have not invoiced by the applicable date may forfeit their funding.
- The highest level verified diesel emissions control system (VDECS) available is required.
- Repower projects must also include a VDECS, if available for the project engine. 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 available for inspection. Documentation of compliance with existing regulatory requirements is required at the time of pre-inspection.
- Emissions reduction calculations will be based on annual hours of operation for off-road equipment projects.

#### **PROGRAM ADMINISTRATION**

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

The SCAQMD reserves the right to partially fund a project.

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

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 application submittal.

## **SCHEDULE OF EVENTS**

Issue PA #PA2015-10	April 3, 2015
Workshops	April 2015
All Applications Due by 1:00 pm	<b>Wednesday, May 6, 2015</b>
Awards Consideration by the Board	July 2015
Contract Execution	January 2016

<p><b>ALL PROPOSALS MUST BE RECEIVED AT THE SCAQMD HEADQUARTERS NO LATER THAN 1:00 P.M. ON WEDNESDAY, MAY 6, 2015</b></p>
---

**Postmarks will not be accepted. Fax or email 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 15, 2015 - 10 a.m. to Noon**  
SCAQMD Headquarters, Room CC2  
21865 Copley Drive  
Diamond Bar, CA 91765
- **Wednesday, April 29, 2015 - 10 a.m. to Noon**  
SCAQMD Headquarters, Room CC2  
21865 Copley Drive  
Diamond Bar, CA 91765

### **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 by May 19, 2016. **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 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 (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.
- Provide at least 30 percent NO<sub>x</sub> emission reduction for new engine/vehicle purchases and 15 percent for repowers and retrofits, compared to baseline NO<sub>x</sub> emissions, if NO<sub>x</sub> emission reductions are to be considered in the cost-effectiveness calculations.
- Commit that all vehicles/engines/equipment are in operation by May 19, 2016.
- Provide for appropriate recordkeeping during the project life (i.e., annual mileage, fuel consumption and/or hours of operation).
- Ensure that the project complies with 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.
- If requested, contractor must make all equipment and records available to the SCAQMD or CARB for audit and inspections.

### **DELIVERABLES**

The contract will describe how the project will be monitored and what type of information 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 annual fuel consumption, and operational and maintenance issues encountered and how they were resolved. SCAQMD reserves the right to verify the information provided.

Reporting forms are available online at: [www.aqmd.gov/Moyer](http://www.aqmd.gov/Moyer)

### **SECTION III - PROPOSAL SUBMITTAL REQUIREMENTS**

Proposers **must** complete the appropriate application forms, which are included in Appendix A. 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.

#### **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 Statement Form.

#### **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 estimate prices to the future/projected order/purchase date.

**Purchase orders must not be placed for projects until after the date of award approval by the SCAQMD Governing Board. Purchase orders may be placed after SCAQMD Governing Board approval and in advance of a fully executed contract, but these orders are placed at the applicant's risk<sup>1</sup>.**

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. No fueling infrastructure, administrative or operational costs will be funded.

---

<sup>1</sup> All orders placed in advance of a fully executed contract are at the purchaser's own risk.

All project costs must be clearly indicated in the application. In addition, applicants should be sure to include any sources of cofunding and the amount of each cofunding 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 annual reporting obligation.** In other words, a project applicant using a ten-year life for the emissions reduction calculations will be required to operate, track and report activity for the project vehicle for the full ten years. The contract term will also be ten years.

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 at [http://www.arb.ca.gov/msprog/moyer/guidelines/2011gl/2011cmp\\_appc\\_07\\_11\\_14.pdf](http://www.arb.ca.gov/msprog/moyer/guidelines/2011gl/2011cmp_appc_07_11_14.pdf)

### **APPLICATION SUBMISSION**

All applications must be submitted according to specifications set forth herein. Failure to adhere to these specifications may be cause for rejection of the proposal without evaluation.

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

**Business Information Forms:** Consists of business information request forms that **must** be completed and submitted with the Application. Please note, if recommended for an award, you will be required to submit an updated Campaign Contribution Disclosure form at a later date.

**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 #PA2015-10**". 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 May 6, 2015**. 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 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 NO<sub>x</sub>, PM<sub>10</sub> 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 disproportionately impacted by air pollution. SCAQMD uses the following method to meet these requirements:

1. All projects must qualify for the Carl Moyer Program 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: Detailed socioeconomic information is not included in the 2010 Census. Such data is collected yearly from a small percentage of the population on a rotating basis by the American Community Survey (ACS). All projects in areas where at least 10 percent of the population falls below the Federal poverty level based on the 2008-2012 ACS data are eligible to be included in this category, and
  - b) PM<sub>2.5</sub> Exposure: All projects in areas with the highest 15 percent of PM<sub>2.5</sub> concentration measured within a 2 km grid will be eligible to be ranked in this category. The highest 15 percent of PM<sub>2.5</sub> concentration is 11.10 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 is 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 port since these populated areas are directly impacted by port activities.

## **SECTION V - PAYMENT TERMS**

Full payment will be made upon installation and commencement of operation of the funded equipment.

## **SECTION VI: SCAQMD STAFF CONTACTS AND ADDITIONAL RESOURCES**

Please direct technical questions to Frank Motavassel at (909) 396-2152 or [fmotavassel@aqmd.gov](mailto:fmotavassel@aqmd.gov), and direct administrative questions to Connie Day at (909) 396-3055 or [cday@aqmd.gov](mailto:cday@aqmd.gov). Copies of the Program Announcement, Application Forms and a sample SCAQMD CMP contract may be accessed at: [www.aqmd.gov/Moyer](http://www.aqmd.gov/Moyer).

## **WEBSITE LINKS TO CARB RULES THAT AFFECT CMP ELIGIBILITY**

In-Use Off-Road (CI) @ <http://www.arb.ca.gov/msprog/ordiesel/ordiesel.htm>

## **APPENDIX A**

### **Table of Contents**

**Each document listed below is linked to SCAQMD's CMP website for efficient download.**

1. Application Checklist
2. Form A-1: General Application (includes Checklist, Application Statement and Business Information Forms)
3. Category Application Form specific to your project category (one type per application)
  - a) Form B-1M: Off-Road Equipment Replacement
  - b) Form B-2M: Off-Road Equipment (Repower, Repower with Retrofit)
  - c) Form B-3M: Off-Road Equipment Retrofit

## APPLICATION CHECKLIST

Use this checklist to organize your application. Each of the following application sections is required to be submitted:

- A cover letter stating your grant request, how many pieces of equipment and/or engines included in the proposed project, and the funding amount being requested (per engine and for the total project).
- This Application Checklist (signed below)
- General Application Form A-1 – including:
  - General Application Information Form
  - Application Statement (signed and initialed as applicable)
  - Completed and **signed** Business Information Request Forms
- Category Application Form specific to your project category, along with the following attachments/enclosures:
  - Excel worksheet associated with applicable application form/category (use this form with multiple equipment projects)
  - Vendor quotes dated no earlier than 90 days prior to the closing date of the Program Announcement
  - CARB Executive Orders for each engine. Download at:  
Off-road: <http://www.arb.ca.gov/diesel/cv.htm>
  - Previous two years of historical data documenting usage

Once completed, please submit one electronic and four paper copies of the assembled package, in accordance with the Application Submittal Instructions.

I understand that all documents, as listed above, are required to have a complete application package in order to be considered for funding under the Carl Moyer Program.

---

Signature

---

Date



**FORM A-1: GENERAL APPLICATION FORM**

The SCAQMD is accepting applications for projects throughout its jurisdiction. All proposals will be evaluated based on their cost-effectiveness and their disproportionate impact score as discussed in Section IV “Proposal Evaluation/Contract Selection Criteria” contained in Program Announcement #PA2015-10. For additional information about SCAQMD’s policies and application information see: [www.aqmd.gov/Moyer](http://www.aqmd.gov/Moyer). 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 an application does not guarantee approval for funding, but will be used to determine the potential emission reductions and eligible grant funding amount for the proposed project. Any equipment purchased prior to project approval by the SCAQMD Governing Board will not be eligible for funding. Applicant may, at their own risk, issue a purchase order for approved equipment prior to contract execution. Other than a purchase order, **no other work shall proceed** until a fully executed contract, i.e. signed by the applicant and SCAQMD Board Chairman and a pre-inspection, is completed.

**APPLICANT INFORMATION**

Total Number of Vehicles/Equipment included in this application:	
Legal Name of Equipment Owner:	
Mailing Address:	
Street Address/P.O. Box:	
State:	
County:	
City and zip code:	

	E-Mail	Phone Number	Fax Number
Primary Contact Name:			
Person Authorized to Sign Application and Execute Grant Agreement:			

Name of 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?	
Signature:	
Date:	





**Application Statement – Please Read and Sign/Initial as Applicable**

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.

**Initial to indicate acceptance or note “NA” if not applicable (NA) to your project.**

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

I understand that all vehicles/equipment, both existing and new, must be made available within the SCAQMD boundaries for inspection, unless otherwise approved by SCAQMD’s Project Officer.

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 NO<sub>x</sub> 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 prorated 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 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.

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 off-road equipment applicants subject to CARB’s In-Use Off-Road Diesel Vehicle Regulation (Off-Road Regulation) must submit information regarding fleet size and compliance status. This must include the Diesel Off-Road On-line Reporting System (DOORS) ID of the fleet and the DOORS Equipment Identification Number (EIN) of the funded equipment. All documentation submitted must be signed and dated by the applicant and include language certifying that the fleet list provided is accurate and complete.

I understand that additional project information may be requested during project review and must be submitted prior to contract award.



I understand that all vehicles, engines or equipment funded by this Program must be operational by May 19, 2016.

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 contract 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: \$ \_\_\_\_\_

**Conflict of Interest**

**I initialed below 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, else attach separate sheet describing the potential conflict.)

\_\_\_\_\_  
Applicant’s Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Applicant’s Name (please print)

\_\_\_\_\_  
Title



# South Coast Air Quality Management District

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

**Business Information Request Forms**  
**Complete and submit each form with application.**  
**Please do not submit the instructions.**

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



# South Coast Air Quality Management District

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

## BUSINESS INFORMATION REQUEST

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

## REMITTING ADDRESS INFORMATION

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

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

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

## 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:

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

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

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

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

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

\_\_\_\_\_  
NAME

\_\_\_\_\_  
TITLE

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

\_\_\_\_\_  
DATE

## Definitions

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

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

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

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

- has an ongoing business within the boundary of 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.

## Request for Taxpayer Identification Number and Certification

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

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

### Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the 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.

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

**Note.** If the account is in more than one name, see the instructions for line 1 and the chart on page 4 for guidelines on whose number to enter.

### Part II Certification

Under penalties of perjury, I certify that:

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

**Certification instructions.** You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions on page 3.

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

### General Instructions

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

**Future developments.** Information about developments affecting Form W-9 (such as legislation enacted after we release it) is at [www.irs.gov/fw9](http://www.irs.gov/fw9).

#### Purpose of Form

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

- Form 1099-INT (interest earned or paid)
- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)

- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)

- Form 1099-C (canceled debt)

- Form 1099-A (acquisition or abandonment of secured property)

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

*If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See What is backup withholding? on page 2.*

By signing the filled-out form, you:

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



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

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

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

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

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

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

**Foreign person.** If you are a foreign person or the U.S. branch of a foreign bank that has elected to be treated as a U.S. person, do not use Form W-9. Instead, use the appropriate Form W-8 or Form 8233 (see 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, give the requester the appropriate completed Form W-8 or Form 8233.

## Backup Withholding

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

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

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

1. You do not furnish your TIN to the requester,
2. You do not certify your TIN when required (see the 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 *Exempt payee code* on page 3 and the separate Instructions for the Requester of Form W-9 for more information.

Also see *Special rules for partnerships* above.

## What is FATCA reporting?

The Foreign Account Tax Compliance Act (FATCA) requires a participating foreign financial institution to report all United States account holders that are specified United States persons. Certain payees are exempt from FATCA reporting. See *Exemption from FATCA reporting code* on page 3 and the Instructions for the Requester of Form W-9 for more information.

## Updating Your Information

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

## Penalties

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

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

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

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

## Specific Instructions

### Line 1

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

If this Form W-9 is for a joint account, list first, and then circle, the name of the person or entity whose number you entered in Part I of Form W-9.

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

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

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

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

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

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

**Line 2**

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

**Line 3**

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

**Limited Liability Company (LLC).** If the name on line 1 is an LLC treated as a partnership for U.S. federal tax purposes, check the "Limited Liability Company" box and enter "P" in the space provided. If the LLC has filed Form 8832 or 2553 to be taxed as a corporation, check the "Limited Liability Company" box and in the space provided enter "C" for C corporation or "S" for S corporation. If it is a single-member LLC that is a disregarded entity, do not check the "Limited Liability Company" box; instead check the first box in line 3 "Individual/sole proprietor or single-member LLC."

**Line 4, Exemptions**

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

**Exempt payee code.**

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

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

- 1—An organization exempt from tax under section 501(a), any IRA, or a custodial account under section 403(b)(7) if the account satisfies the requirements of section 401(f)(2)
- 2—The United States or any of its agencies or instrumentalities
- 3—A state, the District of Columbia, a U.S. commonwealth or possession, or any of their political subdivisions or instrumentalities
- 4—A foreign government or any of its political subdivisions, agencies, or instrumentalities
- 5—A corporation
- 6—A dealer in securities or commodities required to register in the United States, the District of Columbia, or a U.S. commonwealth or possession
- 7—A futures commission merchant registered with the Commodity Futures Trading Commission
- 8—A real estate investment trust
- 9—An entity registered at all times during the tax year under the Investment Company Act of 1940
- 10—A common trust fund operated by a bank under section 584(a)
- 11—A financial institution
- 12—A middleman known in the investment community as a nominee or custodian
- 13—A trust exempt from tax under section 664 or described in section 4947

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

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

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

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

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

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

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

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

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

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

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

G—A real estate investment trust

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

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

J—A bank as defined in section 581

K—A broker

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

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

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

**Line 5**

Enter your address (number, street, and apartment or suite number). This is where the requester of this Form W-9 will mail your information returns.

**Line 6**

Enter your city, state, and ZIP code.

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

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

If you are a sole proprietor and you have an EIN, you may enter either your SSN or EIN. 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 this page), 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 SSA office or get this form online at [www.ssa.gov](http://www.ssa.gov). You may also get this form by calling 1-800-772-1213. Use Form W-7, Application for IRS Individual Taxpayer Identification Number, to apply for an ITIN, or Form SS-4, Application for Employer Identification Number, to apply for an EIN. You can apply for an EIN online by accessing the IRS website at [www.irs.gov/businesses](http://www.irs.gov/businesses) and clicking on Employer Identification Number (EIN) under Starting a Business. You can get Forms W-7 and SS-4 from the IRS by visiting [IRS.gov](http://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, apply for a TIN and write "Applied For" in the space for the TIN, sign and date the form, and give it to the requester. For interest and dividend payments, and certain payments made with respect to readily tradable instruments, generally you will have 60 days to get a TIN and give it to the requester before you are subject to backup withholding on payments. The 60-day rule does not apply to other types of payments. You will be subject to backup withholding on all such payments until you provide your TIN to the requester.

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

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



**Part II. Certification**

To establish to the withholding agent that you are a U.S. person, or resident alien, sign Form W-9. You may be requested to sign by the withholding agent even if items 1, 4, or 5 below 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 line 1 must sign. Exempt payees, see *Exempt payee code* earlier.

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

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

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

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

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

**5. Mortgage interest paid by you, acquisition or abandonment of secured property, cancellation of debt, qualified tuition program payments (under section 529), 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 <sup>1</sup>
3. Custodian account of a minor (Uniform Gift to Minors Act)	The minor <sup>2</sup>
4. a. The usual revocable savings trust (grantor is also trustee) b. So-called trust account that is not a legal or valid trust under state law	The grantor-trustee <sup>1</sup>  The actual owner <sup>1</sup>
5. Sole proprietorship or disregarded entity owned by an individual	The owner <sup>3</sup>
6. Grantor trust filing under Optional Form 1099 Filing Method 1 (see Regulations section 1.671-4(b)(2)(i)(A))	The grantor <sup>4</sup>
For this type of account:	Give name and EIN of:
7. Disregarded entity not owned by an individual	The owner
8. A valid trust, estate, or pension trust	Legal entity <sup>4</sup>
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 Regulations section 1.671-4(b)(2)(i)(B))	The trust

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

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

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

<sup>4</sup> List first and circle the name of the trust, estate, or pension trust. (Do not furnish the TIN of the personal representative or trustee unless the legal entity itself is not designated in the account title.) Also see *Special rules for partnerships* on page 2.

**\*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, 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](mailto:phishing@irs.gov). You may also report misuse of the IRS name, logo, or other IRS property to the Treasury Inspector General for Tax Administration (TIGTA) at 1-800-366-4484. You can forward suspicious emails to the Federal Trade Commission at: [spam@uce.gov](mailto:spam@uce.gov) or contact them at [www.ftc.gov/idtheft](http://www.ftc.gov/idtheft) or 1-877-IDTHEFT (1-877-438-4338).

Visit [IRS.gov](http://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. commonwealths and possessions for use in administering their laws. The information also may be disclosed to other countries under a treaty, to federal and state agencies to enforce civil and criminal laws, or to federal law enforcement and intelligence agencies to combat terrorism. You must provide your TIN whether or not you are required to file a tax return. Under section 3406, payers must generally withhold a percentage of taxable interest, dividend, and certain other payments to a payee who does not give a TIN to the payer. Certain penalties may also apply for providing false or fraudulent information.

# 2015 Withholding Exemption Certificate

**590**

The payee completes this form and submits it to the withholding agent.

**Withholding Agent** (Type or print)

Name \_\_\_\_\_

**Payee**

Name \_\_\_\_\_

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

Address (apt./ste., room, PO Box, or PMB no.) \_\_\_\_\_

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

State \_\_\_\_\_ ZIP Code \_\_\_\_\_

**Exemption Reason**

Check only one reason box below that applies to the payee.

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

- Individuals — Certification of Residency:**  
I am a resident of California and I reside at the address shown above. If I become a nonresident at any time, I will promptly notify the withholding agent. See instructions for General Information D, Definitions.
- Corporations:**  
The corporation has a permanent place of business in California at the address shown above or is qualified through the California Secretary of State (SOS) to do business in California. The corporation will file a California tax return. If this corporation ceases to have a permanent place of business in California or ceases to do any of the above, I will promptly notify the withholding agent. See instructions for General Information D, Definitions.
- Partnerships or Limited Liability Companies (LLCs):**  
The partnership or LLC has a permanent place of business in California at the address shown above or is registered with the California SOS, and is subject to the laws of California. The partnership or LLC will file a California tax return. If the partnership or LLC ceases to do any of the above, I will promptly inform the withholding agent. For withholding purposes, a limited liability partnership (LLP) is treated like any other partnership.
- Tax-Exempt Entities:**  
The entity is exempt from tax under California Revenue and Taxation Code (R&TC) Section 23701 \_\_\_\_\_ (insert letter) or Internal Revenue Code Section 501(c) \_\_\_\_\_ (insert number). If this entity ceases to be exempt from tax, I will promptly notify the withholding agent. Individuals cannot be tax-exempt entities.
- Insurance Companies, Individual Retirement Arrangements (IRAs), or Qualified Pension/Profit Sharing Plans:**  
The entity is an insurance company, IRA, or a federally qualified pension or profit-sharing plan.
- California Trusts:**  
At least one trustee and one noncontingent beneficiary of the above-named trust is a California resident. The trust will file a California fiduciary tax return. If the trustee or noncontingent beneficiary becomes a nonresident at any time, I will promptly notify the withholding agent.
- Estates — Certification of Residency of Deceased Person:**  
I am the executor of the above-named person's estate or trust. The decedent was a California resident at the time of death. The estate will file a California fiduciary tax return.
- Nonmilitary Spouse of a Military Servicemember:**  
I am a nonmilitary spouse of a military servicemember and I meet the Military Spouse Residency Relief Act (MSRRA) requirements. See instructions for General Information E, MSRRA.

**CERTIFICATE OF PAYEE:** Payee must complete and sign below.

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) \_\_\_\_\_ Telephone (\_\_\_\_) \_\_\_\_\_

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



# 2015 Instructions for Form 590

## Withholding Exemption Certificate

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

### General Information

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

### A Purpose

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

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

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

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

### B Income Subject to Withholding

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

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

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

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

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

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

### C Who Certifies this Form

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

An incomplete certificate is invalid and the withholding agent should not accept it. If the withholding agent receives an incomplete certificate, the withholding agent is required to withhold tax on payments made to the payee until a valid certificate is received. In lieu of a completed 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 Definitions

For California non-wage withholding purposes, **nonresident** includes all of the following:

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

Foreign refers to non-U.S.

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

#### Permanent Place of Business:

A corporation has a permanent place of business in California if it is organized and existing under the laws of California or if it is a foreign corporation qualified to transact intrastate business by the CA 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.

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

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

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

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

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

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

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

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

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

## Specific Instructions

### Payee Instructions

Enter the withholding agent's name.

Enter the payee's information, including the taxpayer identification number (TIN) and check the appropriate TIN box.

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

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

**Foreign Address** – 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.

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

### Withholding Agent Instructions

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 Additional Information.

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

- The individual payee becomes a nonresident.
- The corporation ceases to have a permanent place of business in California or ceases to be qualified to do business in California.
- The partnership ceases to have a permanent place of business in California.
- The LLC ceases to have a permanent place of business in California.
- The tax-exempt entity loses its tax-exempt status.

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

## Additional Information

For additional information or to speak to a representative regarding this form, call the Withholding Services and Compliance telephone service at:

Telephone: **888.792.4900**  
916.845.4900  
Fax: 916.845.9512

OR write to:

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

You can download, view, and print California tax forms and publications at [ftb.ca.gov](http://ftb.ca.gov).

OR to get forms by mail write to:

TAX FORMS REQUEST UNIT  
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](http://ftb.ca.gov)  
Telephone: 800.852.5711 from within the United States  
916.845.6500 from outside the United States

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

### Asistencia Por Internet y Teléfono

Sitio web: [ftb.ca.gov](http://ftb.ca.gov)  
Teléfono: 800.852.5711 dentro de los Estados Unidos  
916.845.6500 fuera de los Estados Unidos

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

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

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

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

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

---

Typed Name & Title of Authorized Representative

---

Signature of Authorized Representative Date

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

---

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

### **SECTION I.**

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

DBA, Name _____, County Filed in _____ Corporation, ID No. _____ LLC/LLP, ID No. _____
--

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

\_\_\_\_\_  
\_\_\_\_\_

### **SECTION II.**

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

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



**Campaign Contributions Disclosure, *continued*:**

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

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

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

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

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

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

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

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

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

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

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

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

**DEFINITIONS**

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

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



# South Coast Air Quality Management District

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

## Direct Deposit Authorization

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

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

### STEP 2: Payee Information

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

### Authorization

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

### STEP 3:

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

### To be Completed by your Bank

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

For SCAQMD Use Only

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

Date \_\_\_\_\_



### FORM B-1M: OFF-ROAD EQUIPMENT REPLACEMENT

If you have any questions regarding this program or the application process, please contact **Frank Motavassel** by phone at **(909) 396-2152** or by e-mail at: [fmotavassel@aqmd.gov](mailto:fmotavassel@aqmd.gov).

Please complete one Form B-1M for each piece of equipment. For multiple unit requests, you may download the Form B-1M multiple-unit spreadsheet from [www.aqmd.gov/Moyer](http://www.aqmd.gov/Moyer) in lieu of filling out multiple B-1M forms.

#### Part 1: Existing Equipment Information (Baseline)

Company name/ Organization name/ Individual name:
Is equipment currently subject to CARB’s Off-Road Regulation? <input type="checkbox"/> Yes <input type="checkbox"/> No
Off-road equipment applicants subject to CARB’s In-Use Off-Road Diesel Vehicle Regulation must submit their DOORS fleet compliance snapshot and vehicle list. You may contact the DOORS hotline at (877) 593-6677 for assistance.
Baseline Equipment Identifier (Company ID or Unit #):
What is the primary function of this equipment?
Has this equipment received Carl Moyer Program funds in the past? <input type="checkbox"/> Yes <input type="checkbox"/> No
Is the vehicle location address the same as the applicant address? <input type="checkbox"/> Yes <input type="checkbox"/> No
If “No”, please provide vehicle address here:
Is existing equipment in operable condition?
How long has applicant owned the existing piece of equipment?
Baseline Equipment Type (e.g. tractor, scraper, roller, loader, etc.):
Number of Main/Front Engines on this Unit?
Number of Auxiliary/Rear Engines on this Unit?
Baseline Equipment Serial Number:
Baseline Equipment Make & Model: Make: _____ Model: _____
Baseline Equipment Model Year:
Is 2 for 1 Replacement Applied? YES or NO (circle one)
Is this vehicle used in Agricultural operation? YES or NO (circle one)
If Yes, What percent of the time of the equipment used in Agricultural operations? _____%
Does the existing equipment have a functioning, non- resettable hour meter?
Proposed Project Life (same as contract term/how long you must operate equipment): _____ years



**Part 2: Existing (baseline) Engine Information (one section for each engine)**

Engine Type: <input type="checkbox"/> Main (Front) <b>-OR-</b> <input type="checkbox"/> Auxiliary (Rear) # <u>    </u> of <u>    </u>	
Fuel Type:	Baseline Engine Make:
Baseline Engine Model:	Baseline Engine Year:
Engine Serial No.:	Baseline Engine Horsepower:
Baseline Engine Tier:	Baseline Engine Family:
Annual activity in units of hour per year: _____ (hr/yr) Note: Annual gallons may not be used to document activity unless the fuel tank is dedicated for the use of this single unit.	
Engine Type: <input type="checkbox"/> Main (Front) <b>-OR-</b> <input type="checkbox"/> Auxiliary (Rear) # <u>    </u> of <u>    </u>	
Fuel Type:	Baseline Engine Make:
Baseline Engine Model:	Baseline Engine Year:
Engine Serial No.:	Baseline Engine Horsepower:
Baseline Engine Tier:	Baseline Engine Family:
Annual activity in units of hour per year: _____ (hr/yr) Note: Annual gallons may not be used to document activity unless the fuel tank is dedicated for the use of this single unit.	
Engine Type: <input type="checkbox"/> Main (Front) <b>-OR-</b> <input type="checkbox"/> Auxiliary (Rear) # <u>    </u> of <u>    </u>	
Fuel Type:	Baseline Engine Make:
Baseline Engine Model:	Baseline Engine Year:
Engine Serial No.:	Baseline Engine Horsepower:
Baseline Engine Tier:	Baseline Engine Family:
Annual activity in units of hour per year: _____ (hr/yr) Note: Annual gallons may not be used to document activity unless the fuel tank is dedicated for the use of this single unit.	
Engine Type: <input type="checkbox"/> Main (Front) <b>-OR-</b> <input type="checkbox"/> Auxiliary (Rear) # <u>    </u> of <u>    </u>	
Fuel Type:	Baseline Engine Make:
Baseline Engine Model:	Baseline Engine Year:
Engine Serial No.:	Baseline Engine Horsepower:
Baseline Engine Tier:	Baseline Engine Family:
Annual activity in units of hour per year: _____ (hr/yr) Note: Annual gallons may not be used to document activity unless the fuel tank is dedicated for the use of this single unit.	



**Part 3: New Equipment Information**

New Equipment Type (e.g. tractor, scraper, roller, loader, etc.):
New Equipment Make:
New Equipment Model: Equipment
New Equipment Model Year:
# of Main/Front Engines:
# of Auxiliary/Rear Engines:
Percent Operation in California:
Percent Operation within the South Coast Air Quality Management District (%):

**Part 4: New Equipment Vendor Information**

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

**Part 5: New Engine Information (one section for each engine)**

Engine Type: <input type="checkbox"/> Main (Front) <b>-OR-</b> <input type="checkbox"/> Auxiliary (Rear) # <u>    </u> of <u>    </u>	
Fuel Type:	New Engine Make:
New Engine Model:	New Engine Year:
Engine Serial No.:	New Engine Horsepower:
New Engine Tier:	New Engine Family:
Annual activity in units of hour per year: _____ (hr/yr) <small>Note: Annual gallons may not be used to document activity unless the fuel tank is dedicated for the use of this single unit.</small>	
Engine Type: <input type="checkbox"/> Main (Front) <b>-OR-</b> <input type="checkbox"/> Auxiliary (Rear) # <u>    </u> of <u>    </u>	
Fuel Type:	New Engine Make:
New Engine Model:	New Engine Year:
Engine Serial No.:	New Engine Horsepower:
New Engine Tier:	New Engine Family:
Annual activity in units of hour per year: _____ (hr/yr) <small>Note: Annual gallons may not be used to document activity unless the fuel tank is dedicated for the use of this single unit.</small>	



**Part 5: New Engine Information (1 section for each engine), cont'd.**

Engine Type: <input type="checkbox"/> Main (Front) <b>-OR-</b> <input type="checkbox"/> Auxiliary (Rear) # <u>    </u> of <u>    </u>	
Fuel Type:	New Engine Make:
New Engine Model:	New Engine Year:
Engine Serial No.:	New Engine Horsepower:
New Engine Tier:	New Engine Family:
Annual activity in units of hour per year: _____ (hr/yr) Note: Annual gallons may not be used to document activity unless the fuel tank is dedicated for the use of this single unit.	
Engine Type: <input type="checkbox"/> Main (Front) <b>-OR-</b> <input type="checkbox"/> Auxiliary (Rear) # <u>    </u> of <u>    </u>	
Fuel Type:	New Engine Make:
New Engine Model:	New Engine Year:
Engine Serial No.:	New Engine Horsepower:
New Engine Tier:	New Engine Family:
Annual activity in units of hour per year: _____ (hr/yr) Note: Annual gallons may not be used to document activity unless the fuel tank is dedicated for the use of this single unit.	

**Part 6: Funding/Cost Information for this Repower Project**

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.

Number of engines for this Unit? Main (Front) Engine(s): _____ Auxiliary (Rear) Engine(s): _____
<b>New Replacement Unit Cost:</b> \$ _____
<b>Tax:</b> \$ _____
<b>Total Cost:</b> \$ _____
Applicant Co-Funding Amount (if any): \$ _____
Applicant Grant Request Amount: \$ _____



**FORM B-2M: OFF-ROAD EQUIPMENT REPOWER & RETROFIT**  
**(use form B-3M for Retrofit-Only projects)**

**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** attach documentation in accordance with CARB requirements, as summarized at: <http://www.arb.ca.gov/msprog/ordiesel/vdecssafety.htm>.

If you have any questions regarding this program or the application process, please contact **Frank Motavassel** by phone at **(909) 396-2152** or by e-mail at: [fmotavassel@aqmd.gov](mailto:fmotavassel@aqmd.gov).

Please complete one Form B-2M for each piece of equipment. For multiple unit requests, you may download the Form B-2M multiple-unit spreadsheet from [www.aqmd.gov/Moyer](http://www.aqmd.gov/Moyer) in lieu of filling out multiple B-2M forms.

**Part 1: Equipment Information**

Company name/ Organization name/ Individual name:
Is equipment currently subject to CARB’s Off-Road Regulation? <input type="checkbox"/> Yes <input type="checkbox"/> No Off-road equipment applicants subject to CARB’s In-Use Off-Road Diesel Vehicle Regulation must submit their DOORS fleet compliance snapshot and vehicle list. You may contact the DOORS hotline at (877) 593-6677 for assistance.
Baseline Equipment Identifier (Company ID or Unit #):
What is the primary function of this equipment?
Has this equipment received Carl Moyer Program funds in the past? <input type="checkbox"/> Yes <input type="checkbox"/> No
Is the vehicle location address the same as the applicant address? <input type="checkbox"/> Yes <input type="checkbox"/> No. If “No”, provide vehicle address here:
Is existing equipment in operable condition?
How long has applicant owned the existing piece of equipment?
Equipment Type (e.g. tractor, scraper, roller, loader, etc.):
Number of Main Engines on this Unit?
Number of Auxiliary Engines on this Unit?
Equipment Serial Number or VIN:
Baseline Equipment Make & Model: Make: _____ Model: _____
Equipment Model Year:
Is this vehicle used in Agricultural operation? <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, What percent of the time of the equipment used in Agricultural operations? _____%
Does the existing equipment have a functioning, non- resettable hour meter? <input type="checkbox"/> Yes <input type="checkbox"/> No
Proposed Project Life (same as contract term/how long you must operate equipment): _____ <b>years</b>



**Part 2: Existing Engine Information (one section for each engine)**

Method proposed for rendering the baseline engine(s) inoperable:	
Engine Type: <input type="checkbox"/> Main (Front) <b>-OR-</b> <input type="checkbox"/> Auxiliary (Rear) # <u>    </u> of <u>    </u>	
Fuel Type:	Baseline Engine Make:
Baseline Engine Model:	Baseline Engine Year:
Engine Serial No.:	Baseline Engine Horsepower:
Baseline Engine Tier:	Baseline Engine Family:
Annual activity in units of hour per year: _____ (hr/yr) Note: Annual gallons may not be used to document activity unless the fuel tank is dedicated for the use of this single unit.	
Engine Type: <input type="checkbox"/> Main (Front) <b>-OR-</b> <input type="checkbox"/> Auxiliary (Rear) # <u>    </u> of <u>    </u>	
Fuel Type:	Baseline Engine Make:
Baseline Engine Model:	Baseline Engine Year:
Engine Serial No.:	Baseline Engine Horsepower:
Baseline Engine Tier:	Baseline Engine Family:
Annual activity in units of hour per year: _____ (hr/yr) Note: Annual gallons may not be used to document activity unless the fuel tank is dedicated for the use of this single unit.	
Engine Type: <input type="checkbox"/> Main (Front) <b>-OR-</b> <input type="checkbox"/> Auxiliary (Rear) # <u>    </u> of <u>    </u>	
Fuel Type:	Baseline Engine Make:
Baseline Engine Model:	Baseline Engine Year:
Engine Serial No.:	Baseline Engine Horsepower:
Baseline Engine Tier:	Baseline Engine Family:
Annual activity in units of hour per year: _____ (hr/yr) Note: Annual gallons may not be used to document activity unless the fuel tank is dedicated for the use of this single unit.	
Engine Type: <input type="checkbox"/> Main (Front) <b>-OR-</b> <input type="checkbox"/> Auxiliary (Rear) # <u>    </u> of <u>    </u>	
Fuel Type:	Baseline Engine Make:
Baseline Engine Model:	Baseline Engine Year:
Engine Serial No.:	Baseline Engine Horsepower:
Baseline Engine Tier:	Baseline Engine Family:
Annual activity in units of hour per year: _____ (hr/yr) Note: Annual gallons may not be used to document activity unless the fuel tank is dedicated for the use of this single unit.	





**waPart 3: New Engine Information (one section for each engine)**

Engine Type: <input type="checkbox"/> Main (Front) <b>-OR-</b> <input type="checkbox"/> Auxiliary (Rear) # <u>    </u> <b>of</b> <u>    </u>	
Fuel Type:	Baseline Engine Make:
Baseline Engine Model:	Baseline Engine Year:
Engine Serial No.:	Baseline Engine Horsepower:
Baseline Engine Tier:	Baseline Engine Family:
Annual activity in units of hour per year: _____ (hr/yr) <small>Note: Annual gallons may not be used to document activity unless the fuel tank is dedicated for the use of this single unit.</small>	
Engine Type: <input type="checkbox"/> Main (Front) <b>-OR-</b> <input type="checkbox"/> Auxiliary (Rear) # <u>    </u> <b>of</b> <u>    </u>	
Fuel Type:	Baseline Engine Make:
Baseline Engine Model:	Baseline Engine Year:
Engine Serial No.:	Baseline Engine Horsepower:
Baseline Engine Tier:	Baseline Engine Family:
Annual activity in units of hour per year: _____ (hr/yr) <small>Note: Annual gallons may not be used to document activity unless the fuel tank is dedicated for the use of this single unit.</small>	
Engine Type: <input type="checkbox"/> Main (Front) <b>-OR-</b> <input type="checkbox"/> Auxiliary (Rear) # <u>    </u> <b>of</b> <u>    </u>	
Fuel Type:	Baseline Engine Make:
Baseline Engine Model:	Baseline Engine Year:
Engine Serial No.:	Baseline Engine Horsepower:
Baseline Engine Tier:	Baseline Engine Family:
Annual activity in units of hour per year: _____ (hr/yr) <small>Note: Annual gallons may not be used to document activity unless the fuel tank is dedicated for the use of this single unit.</small>	
Engine Type: <input type="checkbox"/> Main (Front) <b>-OR-</b> <input type="checkbox"/> Auxiliary (Rear) # <u>    </u> <b>of</b> <u>    </u>	
Fuel Type:	Baseline Engine Make:
Baseline Engine Model:	Baseline Engine Year:
Engine Serial No.:	Baseline Engine Horsepower:
Baseline Engine Tier:	Baseline Engine Family:
Annual activity in units of hour per year: _____ (hr/yr) <small>Note: Annual gallons may not be used to document activity unless the fuel tank is dedicated for the use of this single unit.</small>	



**Part 4: New Engine Vendor Information**

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

**Part 5: Retrofit Information (applicable to Repower projects)**

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. Download the EO at: <http://www.arb.ca.gov/diesel/cv.htm>

**NOTE:** Off-road retrofits must include installation of the highest level CARB-verified retrofit device.

On which repowered engine will this device be installed? <input type="checkbox"/> Main (Front) # ___ of ___ <input type="checkbox"/> Auxiliary (Rear) # ___ of ___	
Retrofit Device CARB Executive Order Number:	
Retrofit Device Make:	Verified NO <sub>x</sub> Reduction: %
Retrofit Device Model:	Verified PM Reduction: %
Retrofit Family Name:	Verified ROG Reduction: %
Verification Level:	Retrofit Device Serial No.
On which repowered engine will this device be installed? <input type="checkbox"/> Main (Front) # ___ of ___ <input type="checkbox"/> Auxiliary (Rear) # ___ of ___	
Retrofit Device CARB Executive Order Number:	
Retrofit Device Make:	Verified NO <sub>x</sub> Reduction: %
Retrofit Device Model:	Verified PM Reduction: %
Retrofit Family Name:	Verified ROG Reduction: %
Verification Level:	Retrofit Device Serial No.



**Part 6a: Funding/Cost Information for Engine Repower**

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.

Engine Type? Main (Front) Engine(s): _____ Auxiliary (Rear) Engine(s): _____
<p><b>New Engine Unit Cost:</b> \$ _____ (Quantity of this Engine Type: _____)</p> <p><b>Tax:</b> \$ _____</p> <p><b>Installation Cost:</b> \$ _____</p> <p><b>Total Repower Cost:</b> \$ _____</p>
Applicant Co-Funding Amount (if any): \$
Grant Request Amount for this Repower: \$
Engine Type? Main (Front) Engine(s): _____ Auxiliary (Rear) Engine(s): _____
<p><b>New Engine Unit Cost:</b> \$ _____ (Quantity of this Engine Type: _____)</p> <p><b>Tax:</b> \$ _____</p> <p><b>Installation Cost:</b> \$ _____</p> <p><b>Total Repower Cost:</b> \$ _____</p>
Applicant Co-Funding Amount (if any): \$
Grant Request Amount for Repower: \$



**Part 6b: Funding/Cost Information for Engine Retrofits**

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. The data-logging cost of a retrofit project cannot be included in the eligible project cost.

On which repowered engine will this device be installed? <input type="checkbox"/> Main (Front) # <u>    of    </u> <input type="checkbox"/> Auxiliary (Rear) # <u>    of    </u>
Retrofit Device Unit Cost: \$  Tax: \$  Installation Cost: \$  Maintenance Cost: \$ (if grant funding assistance is requested)  Total Retrofit Cost: \$
Retrofit Device Vendor and Installer:
Grant Request for Retrofit: \$

On which repowered engine will this device be installed? <input type="checkbox"/> Main (Front) # <u>    of    </u> <input type="checkbox"/> Auxiliary (Rear) # <u>    of    </u>
Retrofit Device Unit Cost: \$  Tax: \$  Installation Cost: \$  Maintenance Cost: \$ (if grant funding assistance is requested)  Total Retrofit Cost: \$
Retrofit Device Vendor and Installer:
Grant Request for Retrofit: \$

**Part 6c: Total Project Costs and Grant Request for full Project**

Total Project Cost (Repower(s) + Retrofit(s)):
Total Grant Request (Repower(s) + Retrofit(s)):



### FORM B-3M: OFF-ROAD EQUIPMENT RETROFIT ONLY

If you have any questions regarding this program or the application process, please contact **Frank Motavassel** by phone at **(909) 396-2152** or by e-mail at: [fmotavassel@aqmd.gov](mailto:fmotavassel@aqmd.gov).

Please complete one Form B-3M for each piece of equipment. For multiple unit requests, you may download the Form B-3M multiple-unit spreadsheet from [www.aqmd.gov/Moyer](http://www.aqmd.gov/Moyer) in lieu of filling out multiple B-3M forms.

#### Part 1: Equipment Information

Company name/ Organization name/ Individual name:	
Is equipment currently subject to CARB's Off-Road Regulation? <input type="checkbox"/> Yes <input type="checkbox"/> No Off-road equipment applicants subject to CARB's In-Use Off-Road Diesel Vehicle Regulation must submit their DOORS fleet compliance snapshot and vehicle list. You may contact the DOORS hotline at (877) 593-6677 for assistance.	
Baseline Equipment Identifier (Company ID or Unit #):	
What is the primary function of this equipment?	
Has this equipment received Carl Moyer Program funds in the past? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Is the vehicle location address the same as the applicant address? <input type="checkbox"/> Yes <input type="checkbox"/> No If "No", provide vehicle address here:	
Is existing equipment in operable condition?	
How long has applicant owned the existing piece of equipment?	
Equipment Type (e.g. tractor, scraper, roller, loader, etc.):	
Number of Main Engines on this Unit?	
Number of Auxiliary Engines on this Unit?	
Equipment Serial Number or VIN:	
Baseline Equipment Make & Model: Make:	Model:
Equipment Model Year:	
Is this vehicle used in Agricultural operation? <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, What percent of the time of the equipment used in Agricultural operations? _____%	
Does the existing equipment have a functioning, non- resettable hour meter?	
Proposed Project Life (same as contract term/how long you must operate equipment): _____ years	



**Part 2: Existing Engine Information (one section for each engine)**

Method proposed for rendering the baseline engine(s) inoperable:	
Engine Type: <input type="checkbox"/> Main (Front) <b>-OR-</b> <input type="checkbox"/> Auxiliary (Rear) # <u>    </u> of <u>    </u>	
Fuel Type:	Baseline Engine Make:
Baseline Engine Model:	Baseline Engine Year:
Engine Serial No.:	Baseline Engine Horsepower:
Baseline Engine Tier:	Baseline Engine Family:
Annual activity in units of hour per year: _____ (hr/yr) Note: Annual gallons may not be used to document activity unless the fuel tank is dedicated for the use of this single unit.	
Engine Type: <input type="checkbox"/> Main (Front) <b>-OR-</b> <input type="checkbox"/> Auxiliary (Rear) # <u>    </u> of <u>    </u>	
Fuel Type:	Baseline Engine Make:
Baseline Engine Model:	Baseline Engine Year:
Engine Serial No.:	Baseline Engine Horsepower:
Baseline Engine Tier:	Baseline Engine Family:
Annual activity in units of hour per year: _____ (hr/yr) Note: Annual gallons may not be used to document activity unless the fuel tank is dedicated for the use of this single unit.	
Engine Type: <input type="checkbox"/> Main (Front) <b>-OR-</b> <input type="checkbox"/> Auxiliary (Rear) # <u>    </u> of <u>    </u>	
Fuel Type:	Baseline Engine Make:
Baseline Engine Model:	Baseline Engine Year:
Engine Serial No.:	Baseline Engine Horsepower:
Baseline Engine Tier:	Baseline Engine Family:
Annual activity in units of hour per year: _____ (hr/yr) Note: Annual gallons may not be used to document activity unless the fuel tank is dedicated for the use of this single unit.	
Engine Type: <input type="checkbox"/> Main (Front) <b>-OR-</b> <input type="checkbox"/> Auxiliary (Rear) # <u>    </u> of <u>    </u>	
Fuel Type:	Baseline Engine Make:
Baseline Engine Model:	Baseline Engine Year:
Engine Serial No.:	Baseline Engine Horsepower:
Baseline Engine Tier:	Baseline Engine Family:
Annual activity in units of hour per year: _____ (hr/yr) Note: Annual gallons may not be used to document activity unless the fuel tank is dedicated for the use of this single unit.	



### **Part 3: Retrofit Information**

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. Download the EO at: <http://www.arb.ca.gov/diesel/cv.htm>

**NOTE:** Off-road retrofits must include installation of the highest level CARB-verified retrofit device.

Engine Type: <input type="checkbox"/> Main (Front) -OR- <input type="checkbox"/> Auxiliary (Rear)		#	of
Retrofit Device Make:	Verified NO <sub>x</sub> Reduction:	%	
Retrofit Device Model:	Verified PM Reduction:	%	
Retrofit Family Name:	Verified ROG Reduction:	%	
Verification Level:	Retrofit Device Serial No.		
Engine Type: <input type="checkbox"/> Main (Front) -OR- <input type="checkbox"/> Auxiliary (Rear)		#	of
Retrofit Device Make:	Verified NO <sub>x</sub> Reduction:	%	
Retrofit Device Model:	Verified PM Reduction:	%	
Retrofit Family Name:	Verified ROG Reduction:	%	
Verification Level:	Retrofit Device Serial No.		
Engine Type: <input type="checkbox"/> Main (Front) -OR- <input type="checkbox"/> Auxiliary (Rear)		#	of
Retrofit Device Make:	Verified NO <sub>x</sub> Reduction:	%	
Retrofit Device Model:	Verified PM Reduction:	%	
Retrofit Family Name:	Verified ROG Reduction:	%	
Verification Level:	Retrofit Device Serial No.		
Engine Type: <input type="checkbox"/> Main (Front) -OR- <input type="checkbox"/> Auxiliary (Rear)		#	of
Retrofit Device Make:	Verified NO <sub>x</sub> Reduction:	%	
Retrofit Device Model:	Verified PM Reduction:	%	
Retrofit Family Name:	Verified ROG Reduction:	%	
Verification Level:	Retrofit Device Serial No.		



**Part 4: Funding/Cost Information for Engine Retrofit(s)**

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. The data-logging cost of a retrofit project cannot be included in the eligible project cost.

On which repowered engine will this device be installed? <input type="checkbox"/> Main (Front) # <u>    of    </u> <input type="checkbox"/> Auxiliary (Rear) # <u>    of    </u>
Retrofit Device Unit Cost: \$  Tax: \$  Installation Cost: \$  Maintenance Cost: \$ (if grant funding assistance is requested)  Total Retrofit Cost: \$
Retrofit Device Vendor and Installer:
Grant Request for Retrofit: \$

On which repowered engine will this device be installed? <input type="checkbox"/> Main (Front) # <u>    of    </u> <input type="checkbox"/> Auxiliary (Rear) # <u>    of    </u>
Retrofit Device Unit Cost: \$  Tax: \$  Installation Cost: \$  Maintenance Cost: \$ (if grant funding assistance is requested)  Total Retrofit Cost: \$
Retrofit Device Vendor and Installer:
Grant Request for Retrofit: \$



BOARD MEETING DATE: April 3, 2015

AGENDA NO. 7

**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 \$464,500 for needed development and maintenance work.

**COMMITTEE:** Administrative, March 13, 2015, Recommended for Approval

**RECOMMENDED ACTIONS:**

1. Transfer \$164,500 from Information Management's FY 2014-15 Budget, Services and Supplies, Professional and Specialized Services account to Information Management's FY 2014-15, Capital Outlays Major Object, Computer Software Account.
2. Authorize the Executive Officer to execute amendments to the contracts for systems development services in the amount of \$30,000 to Agreeya Solutions, \$84,500 to Prelude Systems, \$200,000 to Sierra Cybernetics, and \$150,000 to Varsun eTechnologies for the specific task orders listed in Attachment 1.

Barry R. Wallerstein, D.Env.  
Executive Officer

**Background**

At the October 3, 2014 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 \$464,500 in the amount of \$30,000 to Agreeya Solutions, \$84,500 to Prelude Systems, \$200,000 to Sierra Cybernetics, and \$150,000 to Varsun eTechnologies for the specific task orders listed in Attachment 1.

In addition, staff proposes a transfer of \$164,500 from Information Management’s FY 2014-15 Professional & Special Services account to Information Management’s FY 2014-15 Capital Outlays Major Object to facilitate software development work.

**Resource Impacts**

Sufficient funding is included in the FY 2014-15 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
Agreeya Solutions	\$50,000	\$30,000	\$80,000
Prelude Systems	\$72,000	\$84,500	\$156,500
Sierra Cybernetics	\$192,500	\$200,000	\$392,500
Varsun eTechnologies	\$375,000	\$150,000	\$525,000
<b>TOTAL</b>	<b>\$689,500</b>	<b>\$464,500</b>	<b>\$1,154,000</b>

#### Section B – Task Orders Scheduled for Award

TASK	DESCRIPTION	ESTIMATE	AWARDED TO
CLASS Core Infrastructure Upgrade	Continue modernization of SCAQMD business applications by developing a roll-based portal for Enforcement, Customer Service and Permitting System users	\$100,000	Sierra
Finance System Replacement	Multi –year project to replace the Finance client/server system with a web-based system that provides agency-wide e-government functionalities	\$150,000	Varsun
GIS Infrastructure Development	Multi-year project to expand SCAQMD's GIS infrastructure to provide enhanced access capabilities across all computing devices including desktops, laptops, tablets and mobile phones	\$84,500	Prelude
SQL Server to INGRES Migration/Integration work	Migrate and/or integrate various Divisional SQL Server systems data into SCAQMD's INGRES Enterprise Database	\$30,000	Agreeya, Prelude
CLASS Systems and Web Application Support	Ongoing maintenance, minor enhancements and support for SCAQMD's CLASS systems, web applications and enterprise database support	\$100,000	Sierra
<b>TOTAL</b>		<b>\$464,500</b>	

BOARD MEETING DATE: April 3, 2015

AGENDA NO. 8

**PROPOSAL:** Issue RFP for Purchase of Audio Visual Enhancements for Conference Room GB and Hearing Board Room

**SYNOPSIS:** Conference Room GB is a large multipurpose room requiring audio visual upgrades to make it a viable resource with the ability to support a wide variety of functions, similar to the Auditorium. The Hearing Board Room houses a quasi-judicial panel authorized to hear certain cases from individuals or companies that have compliance issues with SCAQMD rules and regulations. The audio visual upgrade project for these rooms will add the functionality of multiple cameras, video recording, webcasting, an upgrade to wireless microphones, a sophisticated sound processing system, installation of a video wall, and user-controlled wireless Crestron touch panel. This action is to issue an RFP to solicit proposals from qualified firms to upgrade the audio visual systems in Conference Room GB and Hearing Board Room. Funds for this project are included in the Proposed FY 2015-16 Budget.

**COMMITTEE:** Administrative, March 13, 2015; Recommended for Approval

**RECOMMENDED ACTION:**

Issue RFP #P2015-22 to upgrade SCAQMD's audio visual systems for Conference Room GB and Hearing Board Room.

Barry R. Wallerstein, D.Env.  
Executive Officer

CJM:MH:RG:agg

---

**Background**

SCAQMD's headquarters' conference center includes Conference Room GB (large conference room with a capacity of approximately 200, with movable tables and chairs that can be configured to meet various needs), and the Hearing Board Room (a quasi-judicial hearing chamber). The conference center is primarily used by SCAQMD staff, but is also used by a number of outside agencies. The conference center just underwent a major audio visual system upgrade, which primarily involved the Auditorium, A/V

Control Room, and Conference Center Room CC8. During this upgrade additional enhancements were identified for Conference Room GB and the Hearing Board Room to allow expanded utilization of the rooms under a variety of circumstances.

The Hearing Board Room currently lacks video recording capability, and lacks the ability to webcast hearings in progress. Conference Room GB lacks video recording capability, has an inadequate size display at the front of the room, lacks webcast capability, lacks video conference capability, and has an inadequate sound system for the room in some usage scenarios.

### **Proposal**

Staff recommends the Board authorize the release of RFP #P2015-22 to solicit proposals from qualified contractors to upgrade the audio visual system in Conference Room GB and Hearing Board Room. The audio visual enhancements will make the rooms viable options for practically all room-use requirement scenarios. The audio visual upgrades will entail the addition of multiple cameras to support video recording and webcasting; upgrade of the sound system, including updated wireless microphones, and installation of a sophisticated sound processing and reinforcement system; installation of a video wall; and implementation of a user controlled wireless Crestron touch panel.

### **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's Press Enterprise newspapers to leverage the most cost-effective method of outreach to the South Coast Basin.

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

### **Bid Evaluation**

Proposals received will be evaluated by a diverse, technically qualified panel in accordance with criteria contained in the attached RFP.

### **Resource Impacts**

Funds for this project will be requested in the proposed FY 2015-16 Budget.

### **Attachment**

RFP/ #P2015-22 – Audio Visual System Upgrades (GB and Hearing Board Rooms)

# **SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

## **REQUEST FOR PROPOSALS**

### **Audio Visual System Upgrades (Hearing Board and GB Rooms)**

**RFP # P2015-22**

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

#### **PURPOSE**

The purpose of this Request for Proposals (RFP) is to solicit proposals from qualified firms to upgrade SCAQMD's audio visual systems in the Hearing Board and GB rooms at its Diamond Bar headquarters. Due to the audio visual limitations in both rooms, SCAQMD is seeking a Contractor who can implement the SCAQMD's engineering design upgrading the existing audio visual systems. This will be a turnkey project, including the purchase, installation (with minimal downtime), test, and deployment of the new cost-effective, state-of-the-art, audio-visual systems.

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

Section I	Background/Information
Section II	Contact Person
Section III	Schedule of Events
Section IV	Participation in the Procurement Process
Section V	Statement of Work/Schedule of Deliverables
Section VI	Required Qualifications
Section VII	Proposal Submittal Requirements
Section VIII	Proposal Submission
Section IX	Proposal Evaluation/Contractor Selection Criteria
Section X	Funding
Section XI	Draft Contract
Attachment A	Audio-Visual Upgrade Engineering Design Overview
Attachment B	Certifications and Representations

#### **SECTION I: BACKGROUND/INFORMATION**

The SCAQMD is a regional air quality regulatory agency with jurisdiction in a four-county area of Southern California, including metropolitan Los Angeles. SCAQMD's major areas of activities include developing rules and regulations to reduce air pollution, monitoring and analyzing air quality data from stations throughout the region, reviewing permits to construct and operate for facilities which emit air pollution, and inspecting commercial and industrial facilities for compliance with SCAQMD, state, and federal rules and regulations.

SCAQMD's headquarters conference center includes the Hearing Board Room (a quasi-judicial hearing chamber) and Conference Room GB (large conference room with a capacity of approximately 200, with movable tables and chairs that can be configured to meet various needs). The conference center is primarily used by SCAQMD staff, but is also used by a number of outside agencies. The conference center just underwent a major audio visual system upgrade, which primarily involved the Auditorium, A/V Control Room, and conference center room CC8. During this upgrade additional

enhancements were identified for Conference Room GB and the Hearing Board Room to allow expanded utilization of the rooms under a variety of circumstances.

The Hearing Board Room lacks video recording capability, and lacks the ability to webcast hearings in progress. Conference Room GB lacks video recording capability, has an inadequate size display at the front of the room, lacks webcast capability, lacks video conference capability, and has an inadequate sound system for the room in some usage scenarios.

An overview of the audio-visual upgrade engineering design document is included in this RFP as Attachment A. A complete engineering design package will be distributed at the mandatory bidders conference.

**SECTION II: CONTACT PERSON:**

Questions regarding this RFP should be addressed to:

Ray Goldsworthy  
Systems & Programming Supervisor  
South Coast Air Quality Management District  
21865 Copley Drive  
Diamond Bar, CA 91765-4178  
(909) 396-2866 / [rgoldsworthy@aqmd.gov](mailto:rgoldsworthy@aqmd.gov)

**SECTION III: SCHEDULE OF EVENTS**

April 3, 2015	RFP Released
April 21, 2015	<u>Mandatory Bidder's Conference 9:30 a.m. CC-6</u>
<b>June 4, 2015</b>	<b>Proposals Due – No Later than 1:00 p.m.</b>
June 5 – 17, 2015	Proposal Evaluations
June 12 – 17, 2015	Interviews, if required
September 4, 2015	Recommendation to Governing Board
September 11, 2015	Contract Execution
(To Be Determined)	Begin Installation
December 31, 2015	System Fully Installed, Tested, and Ready for Use

**Mandatory Bidder's Conference**

A mandatory bidder's conference will be held to allow a walk-through to see the facility and the current set-up, present additional information, and respond to questions. Bidders who will be acting as prime contractor under this contract **must** attend this bidder's conference.

**Date:** April 21, 2015  
**Time:** 9:30 a.m.  
**Location:** SCAQMD CC-6  
21865 Copley Drive  
Diamond Bar, CA 91765-4178

Firms/individuals interested in attending the mandatory bidder's conference should confirm their attendance with Annie Genato at (909) 396-2880 or at [agenato@aqmd.gov](mailto:agenato@aqmd.gov).

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

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

B. Definitions:

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

1. "Women business enterprise" (WBE) as used in this policy means a business enterprise that meets all of the following criteria:
  - a. a business that is at least 51 percent owned by one or more women, or in the case of any business whose stock is publicly held, at least 51 percent of the stock is owned by one or more women.
  - b. a business whose management and daily business operations are controlled by one or more women.
  - c. a business which is a sole proprietorship, corporation, or partnership with its primary headquarters office located in the United States, which is not a branch or subsidiary of a foreign corporation, foreign firm, or other foreign-based business.
2. "Disabled veteran" as used in this policy is a United States military, naval, or air service veteran with at least 10 percent service-connected disability who is a resident of California.
3. "Disabled veteran business enterprise" (DVBE) as used in this policy means a business enterprise that meets all of the following criteria:
  - a. is a sole proprietorship or partnership of which at least 51 percent is owned by one or more disabled veterans or, in the case of a publicly owned business, at least 51 percent of its stock is owned by one or more disabled veterans; a subsidiary which is wholly owned by a parent corporation but only if at least 51 percent of the voting stock of the parent corporation is owned by one or more disabled veterans; or a joint venture in which at least 51 percent of the joint venture's management and control and earnings are held by one or more disabled veterans.
  - b. the management and control of the daily business operations are by one or more disabled veterans. The disabled veterans who exercise management and control are not required to be the same disabled veterans as the owners of the business.
  - c. is a sole proprietorship, corporation, or partnership with its primary headquarters office located in the United States, which is not a branch or subsidiary of a foreign corporation, firm, or other foreign-based business.
4. "Local business" as used in this policy means a company that has an ongoing business within the South Coast SCAQMD at the time of bid or proposal submittal and performs 90% of the



work related to the contract within the South Coast SCAQMD and satisfies the requirements of subparagraph H below.

5. "Small business" as used in this policy means a business that meets the following criteria:
  - a. 1) an independently owned and operated business; 2) not dominant in its field of operation; 3) together with affiliates is either:
    - A service, construction, or non-manufacturer with 100 or fewer employees, and average annual gross receipts of ten million dollars (\$10,000,000) or less over the previous three years, or
    - A manufacturer with 100 or fewer employees.
  - b. Manufacturer means a business that is both of the following:
    - 1) Primarily engaged in the chemical or mechanical transformation of raw materials or processed substances into new products.
    - 2) Classified between Codes 311000 and 339000, inclusive, of the North American Industrial Classification System (NAICS) Manual published by the United States Office of Management and Budget, 2007 edition.
6. "Joint ventures" as defined in this policy pertaining to certification means that one party to the joint venture is a DVBE or small business and owns at least 51 percent of the joint venture.
7. "Low-Emission Vehicle Business" as used in this policy means a company or contractor that uses low-emission vehicles in conducting deliveries to the SCAQMD. Low-emission vehicles include vehicles powered by electric, compressed natural gas (CNG), liquefied natural gas (LNG), liquefied petroleum gas (LPG), ethanol, methanol, hydrogen and diesel retrofitted with particulate matter (PM) traps.
8. "Off-Peak Hours Delivery Business" as used in this policy means a company or contractor that commits to conducting deliveries to the SCAQMD during off-peak traffic hours defined as between 10:00 a.m. and 3:00 p.m.
9. "Benefits Incentive Business" as used in this policy means a company or contractor that provides janitorial, security guard or landscaping services to the SCAQMD and commits to providing employee health benefits (as defined below in Section VIII.D.2.d) for full time workers with affordable deductible and co-payment terms.
10. "Minority Business Enterprise" as used in this policy means a business that is at least 51 percent owned by one or more minority person(s), or in the case of any business whose stock is publicly held, at least 51 percent of the stock is owned by one or more or minority persons.
  - a. a business whose management and daily business operations are controlled by one or more minority persons.
  - b. a business which is a sole proprietorship, corporation, or partnership with its primary headquarters office located in the United States, which is not a branch or subsidiary of a foreign corporation, foreign firm, or other foreign-based business.
  - c. "Minority person" for purposes of this policy, means a Black American, Hispanic American, Native-American (including American Indian, Eskimo, Aleut, and Native Hawaiian), Asian-Indian (including a person whose origins are from India, Pakistan, and Bangladesh), Asian-Pacific-American (including a person whose origins are from Japan, China, the Philippines,

Vietnam, Korea, Samoa, Guam, the United States Trust Territories of the Pacific, Northern Marianas, Laos, Cambodia, and Taiwan).

11. Disadvantaged Business Enterprise” as used in this policy means a business that is an entity owned and/or controlled by a socially and economically disadvantaged individual(s) as described by Title X of the Clean Air Act Amendments of 1990 (42 U.S.C. 7601 note) (10% statute), and Public Law 102-389 (42 U.S.C. 4370d)(8% statute), respectively;  
a Small Business Enterprise (SBE);  
a Small Business in a Rural Area (SBRA);  
a Labor Surplus Area Firm (LSAF); or  
a Historically Underutilized Business (HUB) Zone Small Business Concern, or a concern under a successor program.

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

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

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

### **A. Statement of Work**

The Contractor will provide a full turnkey implementation of the engineering design overviews detailing the state-of-the-art audio-visual system upgrades in the Hearing Board and GB rooms referenced in Attachment A. Note: A complete, fully detailed (component level), engineering design package will be distributed at the mandatory bidders conference. The proposal must include a detailed schedule for migrating from the current system to the upgraded system with minimal downtime.

**Performance Bond.** As specifically requested by South Coast Air Quality Management District (SCAQMD) herein, the Contractor awarded the bid shall execute and provide to SCAQMD concurrently with the executed Contract a Performance Bond in the amount of 100% of the project cost, in a form approved by the SCAQMD. No payment will be made to Contractor until it has been received and approved by the SCAQMD. This bond shall have a one (1) year term from the date of contract execution by contractor.

**Payment Bond (Material and Labor Bond).** Within fourteen days after execution of the Contract by the SCAQMD and prior to performing any work under the Contract, the CONTRACTOR shall file with the SCAQMD, a payment bond (material and labor bond) in an amount equal to one hundred (100) percent of the contract price, to satisfy claims of material suppliers and of mechanics and laborers employed by the Contractor to perform the work.

- A. Unsatisfactory Sureties - Should any Surety, at any time, be deemed unsatisfactory by the SCAQMD, notice will be given to the Contractor to that effect. No further payments shall be deemed due, or will be made under the Contract until a new Surety shall qualify and be accepted by the SCAQMD.
- B. Effect of Changes in the Work/Extensions of Time on the Surety - Changes in the work, or extensions of time, made pursuant to the Contract, shall in no way release the Contractor or the Surety from their obligations under the bond. Notice of such changes or extensions shall be waived by the Surety.

## **Overview**

The SCAQMD Hearing Board and GB rooms require upgrades and modifications to existing audio-visual systems. The initial scope of work defined in this document will explain the intent of the SCAQMD to modernize the AV systems in two areas for private and public use within the main facility. This package will discuss the main requirements of the Hearing Board and GB rooms.

### **Locations involved:**

1. Hearing Board Room
2. GB Room

### **B. Schedule of Deliverables**

Proposals must offer a complete turn-key solution, including purchase of all products and services required to meet this RFP. Upon award, contractor must provide the following additional submittals:

#### **System Operation**

- Introduction / overview to system components and their functions and locations; brief listing of basic system functions
- Complete, but clear, simple and written for non-technical personnel, system operating instructions to accomplish basic system functions

#### **System Documentation**

- Complete inventory of system components, including serial numbers and identification of location (e.g., equipment rack, dais, stored in sound room, etc.) of each
- Cable and terminal strip documentation, including cable numbers, functions, originating and terminating locations, and signal levels
- All shop drawings corrected to reflect as-built conditions
- Initial tests and adjustments data
- Final tests and adjustments data
- CD-ROM discs that include all utilized manufacturer's software, editable copies of all software configurations, and editable copies of all source code; this includes, but is not limited to, final Crestron, and other source code

#### **Manufacturer's Documentation**

- Manufacturer's product data
- Operating instructions
- Installation instructions
- Service requirements and information

- Schematic diagrams
- Replacement parts list

#### Maintenance Information

- Preventive maintenance schedule letter clearly stating target dates of six months and end-of-warranty preventive maintenance inspections
- Trouble-shooting information, complete with instructions for procedures for when equipment fails

#### Warranty Information

- System warranty letters
- Manufacturers' warranties

All components and software covered under this RFP must include, at a minimum, the following:

- A warranty period of no less than one year for all components and software covered under this RFP is required. The supplying Contractor must be the single point of contact for all warranty service.
- Manufacturer's statement that shows the maintenance support of the proposed equipment for the period of time after the equipment is installed.
- Any proprietary equipment, technology, or software proposed must be clearly identified and the source code of all software developed for this project must be owned solely by SCAQMD.
- All components in the proposal must be currently available to the general public in full production version (no alpha, beta or test versions) and installed and fully functional in client sites.
- All systems delivered must include all tools for upgrading and monitoring the system. All systems provided and installed must be turnkey solutions.
- Contractor will not be allowed to substitute system components after award of contract without SCAQMD's written approval.
- During performance and upon completion of work on this project, contractor must remove and legally dispose of all unused equipment and instruments of service, all excess or unsuitable material, and trash and debris unless otherwise directed by these specifications. Contractor shall leave entire area in a neat, clean, and acceptable condition as approved by SCAQMD.
- Contractor shall be held responsible for any breakage or loss of SCAQMD equipment or supplies due to contractor's negligence or negligence of contractor's employees or subcontractors while working on this project. Contractor shall be responsible for restoring or replacing any damaged equipment or damage to facility resulting from work performed under this contract. Failure or refusal to restore or replace such damaged property will be considered a breach of the contract.

SCAQMD's obligation for payment shall not commence until the following acceptance criteria have been satisfied:

The system must be delivered with all components specified in the engineering design installed and optimally configured, and the system must be fully operational and dependable. Additionally, the system must remain up and running for 48 continuous hours.

The proposal submitted must cover the following:

I - Installation Plan with Timeline

Installation services will consist of the following:

- Purchasing and delivering all equipment to SCAQMD's headquarters

- Removal of all equipment to be replaced as directed by SCAQMD
- Configuration of system and all associated components
- Booting the system up, fully testing all functionality, and leaving system ready to use
- Providing training on the overall operation of the new system to a team of SCAQMD's technical staff

II - Maintenance Services - Contractors are required to include quotes for on-site hardware and software maintenance services for all components bid under this RFP. All on-site maintenance services will be bid for a three-year contract covering a 7:00 a.m. to 10:00 p.m., seven-days per week time period. After-hours hardware and software maintenance will consist of telephone support from contractor's technical staff seven days per week, 24 hours per day. All software upgrades will be included in the maintenance contract for a period of three years. Multi-year extensions and discounts should be provided if available. All spare or replacement parts will include the same or compatible components as identified in the contractor's proposal.

III - Training Services - Vendors must provide adequate training for two District staff from a manufacturer-certified professional covering all installed equipment. Contractor is responsible for providing a course list and course descriptions with their bid.

## **SECTION VI: REQUIRED QUALIFICATIONS**

Contractor must:

1. demonstrate an understanding of RFP requirements
2. demonstrate familiarity with all aspects of a professional, integrated board-room type audio-visual system, including but not limited to audio, video, timers, cameras, audio and video recording and editing, and webcasting
3. demonstrate possession of solid technical expertise and in-depth experience evaluating professional audio-visual systems, developing innovative and workable solutions, and successfully migrating from an existing system to a completely upgraded system with minimum down time
4. have sufficient staff with required expertise to complete all aspects of SCAQMD's project in a reasonably short time frame
5. be financially sound and likely to remain strongly committed to the AV field for the next five years
6. provide at least three recent (within the past five years) references from public agencies or other organizations for which projects of a similar nature and size to SCAQMD's were successfully completed, including the client's name and the name and telephone number of a contact person, a description of the project and the date work was completed (the SCAQMD reserves the right to contact any of the vendor's previous clients at any time)
7. provide resumes and geographic locations of the senior executives and other team members in the firm's organization who will be involved with this project (resumes may include projects accomplished while employed at current or previous firms)
8. provide a summary of general qualifications for this type of project
9. designate a project manager who will have full authority to commit resources of the firm to expedite and complete project tasks and who has an assigned workload that will permit him or her personally to manage every aspect of the project, as well as personally attend project status meetings and present information, if required by SCAQMD (no substitution of the project manager may occur without the prior written authorization of SCAQMD)
10. identify all proposed subcontractors and their roles and provide cost estimates for the services of each subcontractor (prime contractor shall be fully responsible for evaluating and pre-qualifying all subcontractors and for all services, performance, and deliverables provided by all subcontractors)
11. indicate in the proposal that, if selected, Contractor will adopt SCAQMD's contract format (as included with this RFP)

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

Submitted proposals must follow the format outlined below and all requested information must be supplied. Failure to submit proposals in the required format will result in elimination from proposal evaluation.

Each proposal must be submitted in three separate volumes:

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

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

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

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

### **VOLUME I - TECHNICAL PROPOSAL**

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

Submitted proposals must follow the format outlined below and all requested information must be supplied. All pertinent information regarding the vendor should be thoroughly addressed in the RFP. Failure to submit proposals in the required format may result in elimination from proposal evaluation.

Summary (Section A) –State overall approach to meeting the objectives and satisfying the scope of work to be performed. Provide a detailed implementation plan for migrating from the existing system to the new design with minimum down time. Describe your commitment to implementing your migration plan and to resolving problems that arise during implementation, and describe warranties, services, and your commitment to resolving problems that arise after implementation. Describe your commitment to assuring system reliability and guaranteed performance.

Program Schedule (Section B) - Provide a detailed implementation schedule and time-line for completing migration from SCAQMD's existing system to the new system,.

Project Organization (Section C) - Describe the proposed management structure, program monitoring procedures, oversight of work performed, and organization of the proposed team.

Qualifications (Section D) - Describe the technical capabilities of the firm. Provide references of other similar projects completed during the last 5 years demonstrating the ability successfully to complete a project of the size and scope of SCAQMD's. Include contact name, title, and telephone number for any references listed. Provide a statement of your firm's background and experience in performing similar projects for other governmental organizations.

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

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

Subcontractors (Section F) - This project may require expertise in multiple technical areas. List any subcontractors that may be used and specify the work to be performed by each.

Conflict of Interest (Section G) - Address possible conflicts of interest with other clients affected by actions performed by the firm on behalf of SCAQMD. Although the Proposer will not be automatically disqualified by reason of work performed for such firms, SCAQMD reserves the right to consider the nature and extent of such work in evaluating the proposal.

Additional Data (Section H) – Provide other essential data, but not limited to the following:

1. Benchmarks - provide a narrative statement as to the amount of inventory kept at Contractor's location and an average delivery time for in-stock and out-of-stock items.
2. Authorization & Services - provide documentation that contractor is authorized to provide maintenance services on the proposed equipment
3. Any documentation that the manufacturer will support the product (spare parts) for a period of time
4. Any other data that may assist in the evaluation of the proposal

## **VOLUME II - COST PROPOSAL**

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

Cover Letter - Must include the name, address, and telephone number of the vendor, and be signed by the person or persons authorized to represent the bidding vendor.

Vendor Contact Information - Provide the following information on the vendor:

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

Summary (Section A) - State overall summary of the equipment and services to be provided under this RFP.

Delivery Schedule (Section B) -

Warranty Information (Section C) - Provide warranty, service and support information for each and every component proposed under this RFP.



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

1. Detail must be provided by the following categories:
  - A. Equipment List – List all hardware, software, and all associated materials along with the quantity, manufacturer, model, accessories with their price.
  - B. Labor - List the total number of hours and the hourly billing rate for each level of professional staff. A breakdown of the proposed billing rates must identify the direct labor rate, overhead rate and amount, fringe benefit rate and amount, General and Administrative rate and amount, and proposed profit or fee. Provide a basis of estimate justifying the proposed labor hours and proposed labor mix.
  - C. Subcontractor Costs - List subcontractor costs and identify subcontractors by name. Itemize subcontractor charges per hour or per day.
  - D. Travel Costs - Indicate amount of travel cost and basis of estimate to include trip destination, purpose of trip, length of trip, airline fare or mileage expense, per diem costs, lodging and car rental.
  - E. Other Direct Costs -This category may include such items as postage and mailing expense, printing and reproduction costs, etc. Provide a basis of estimate for these costs.

Provide itemized costs for each hardware and software component included in the bid. For services, provide costs for each service provided. **Combine all costs in a single line entitled “Grand Total of All Categories” and highlight this line in bold text. Include tax, delivery, shipping, and any other cost that would apply to the grand total line.** Include in the itemized costs the list price and any discounts that may apply. All costs submitted must remain valid for a period of 90 days. Proposed costs must be all inclusive in relation to all components needed for each category of goods and services.

### **VOLUME III - CERTIFICATIONS AND REPRESENTATIONS**

See Attachment B.

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

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

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

Due Date - Proposer must submit 6 complete copies of the proposal in a sealed envelope, plainly marked in the upper left-hand corner with the name and address of the Proposer and the words "Request for Proposals #P2015-22." All proposals are due no later than **1:00 p.m., June 4, 2015, and should be directed to:**

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

**Late bids/proposals will not be accepted under any circumstances.** Any correction or resubmission by the Proposer must be submitted by the submittal due date stated above.

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

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

Disposition of Proposals - SCAQMD reserves the right to reject any or all proposals. All responses become the property of 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 all prices quoted shall remain valid for a period of ninety (90) days from date of submittal. Proposals may not be withdrawn for a period of ninety (90) days following the last day to accept proposals.

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

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

<u>1. Proposal Evaluation Criteria</u>	<u>Points</u>
Responsiveness of the proposal in clearly identifying a thorough understanding of the Scope of Work and the adequacy and quality of the proposed design in meeting SCAQMD requirements	20
Demonstrated technical expertise successfully to complete an installation project of this scope and magnitude	20
Contractor's overall qualifications and financial viability	20
References with respect to similar projects completed	10
Cost	30
<b>TOTAL</b>	<b>100</b>
 <u>Additional Points</u>	
Small Business or Small Business Joint Venture	10
DVBE or DVBE Joint Venture	10
Use of DVBE or Small Business Subcontractors	7

Low-Emission Vehicle Business	5
Local Business (Non-EPA Funded Projects Only)	5
Off-Peak Hours Delivery Business	2

**The cumulative points awarded for small business, DVBE, use of small business or DVBE subcontractors, low-emission vehicle business, local business, and off-peak hours delivery business shall not exceed 15 points.**

**Self-Certification for Additional Points**

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

2. To receive additional points in the evaluation process for the categories of Small Business or Small Business Joint Venture, DVBE or DVBE Joint Venture or Local Business (for non-EPA funded projects), the proposer must submit a self-certification or certification from the State of California Office of Small Business Certification and Resources at the time of proposal submission certifying that the proposer meets the requirements set forth in Section III. To receive points for the use of DVBE and/or Small Business subcontractors, at least 25 percent of the total contract value must be subcontracted to DVBEs and/or Small Businesses. To receive points as a Low-Emission Vehicle Business, the proposer must demonstrate to the Executive Officer, or designee, that supplies and materials delivered to the SCAQMD are delivered in vehicles that operate on either clean-fuels or if powered by diesel fuel, that the vehicles have particulate traps installed. To receive points as an Off-Peak Hours Delivery Business, the proposer must submit, at proposal submission, certification of its commitment to delivering supplies and materials to SCAQMD between the hours of 10:00 a.m. and 3:00 p.m. The cumulative points awarded for small business, DVBE, use of Small Business or DVBE Subcontractors, Local Business, Low-Emission Vehicle Business and Off-Peak Hour Delivery Business shall not exceed 15 points.

The Procurement Section will be responsible for monitoring compliance of suppliers awarded purchase orders based upon use of low-emission vehicles or off-peak traffic hour delivery commitments through the use of vendor logs which will identify the contractor awarded the incentive. The purchase order shall incorporate terms which obligate the supplier to deliver materials in low-emission vehicles or deliver during off-peak traffic hours. The Receiving department will monitor those qualified supplier deliveries to ensure compliance to the purchase order requirements. Suppliers in non-compliance will be subject to a two percent of total purchase order value penalty. The Procurement Manager will adjudicate any disputes regarding either low-emission vehicle or off-peak hour deliveries.

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

4. The lowest cost proposal will be awarded the maximum cost points available and all other cost proposals will receive points on a prorated basis. For example if the lowest cost proposal is \$1,000 and the maximum points available are 30 points, this proposal would receive the full 30 points. If the next lowest cost proposal is \$1,100 it would receive 27 points reflecting the fact that it is 10% higher than the lowest cost (90% of 30 points = 27 points).
- C. During the selection process the evaluation panel may wish to interview some proposers for clarification purposes only. No new material will be permitted at this time. Additional information provided during the bid review process is limited to clarification by the Proposer of information presented in his/her proposal, upon request by SCAQMD.
- D. The Executive Officer or Governing Board may award the contract to a Proposer other than the Proposer receiving the highest rating in the event the Governing Board determines that another Proposer from among those technically qualified would provide the best value to SCAQMD considering cost and technical factors. The determination shall be based solely on the Evaluation Criteria contained in the Request for Proposal (RFP), on evidence provided in the proposal and on any other evidence provided during the bid review process.
- E. Selection will be made based on the above-described criteria and rating factors. The selection will be made by and is subject to Executive Officer or Governing Board approval. Proposers may be notified of the results by letter.
- F. The Governing Board has approved a Bid Protest Procedure which provides a process for a bidder or prospective bidder to submit a written protest to the SCAQMD Procurement Manager in recognition of two types of protests: Protest Regarding Solicitation and Protest Regarding Award of a Contract. Copies of the Bid Protest Policy can be secured through a request to the SCAQMD Procurement Department.
- G. The Executive Officer or Governing Board may award contracts to more than one proposer if in (his or their) sole judgment the purposes of the (contract or award) would best be served by selecting multiple proposers.
- H. If additional funds become available, the Executive Officer or Governing Board may increase the amount awarded. The Executive Officer or Governing Board may also select additional proposers for a grant or contract if additional funds become available.
- I. Disposition of Proposals – Pursuant to the District's Procurement Policy and Procedure, SCAQMD reserves the right to reject any or all proposals. All proposals become the property of SCAQMD, and are subject to the California Public Records Act. One copy of the proposal shall be retained for SCAQMD files. Additional copies and materials will be returned only if requested and at the proposer's expense.
- J. **If proposal submittal is for a Public Works project as defined by State of California Labor Code Section 1720, Proposer is required to include Contractor Registration No. in Attachment A. Proposal submittal will be deemed as non-responsive and bidder may be disqualified if Contractor Registration No. is not included in Attachment A. Proposer is alerted to changes to California Prevailing Wage compliance requirements as defined in Senate Bill 854 (Stat. 2014, Chapter 28).**

## **SECTION X: FUNDING**

Funds are not currently budgeted for this project. A request for the Board to appropriate funds will be made at the time award of a contract is recommended for Board approval.

## SECTION XI: DRAFT CONTRACT (Provided as a sample only)



This Contract consists of \*\*\* pages.

1. PARTIES - The parties to this Contract are the South Coast Air Quality Management District (referred to here as "SCAQMD") whose address is 21865 Copley Drive, Diamond Bar, California 91765-4178, and \*\*\* (referred to here as "CONTRACTOR") whose address is \*\*\*.
2. RECITALS
  - A. SCAQMD is the local agency with primary responsibility for regulating stationary source air pollution within the geographical boundaries of the South Coast Air Quality Management District in the State of California. SCAQMD desires to contract with CONTRACTOR for services described in Attachment 1 - Statement of Work, attached here and made a part here by this reference. CONTRACTOR warrants that it is well-qualified and has the experience to provide such services on the terms set forth here.
  - B. CONTRACTOR is authorized to do business in the State of California and attests that it is in good tax standing with the California Franchise Tax Board.
  - C. All parties to this Contract have had the opportunity to have this Contract reviewed by their attorney.
3. PERFORMANCE REQUIREMENTS
  - A. CONTRACTOR agrees to obtain and maintain the required licenses, permits, and all other appropriate legal authorizations from all applicable federal, state and local jurisdictions and pay all applicable fees. CONTRACTOR further agrees to immediately notify SCAQMD in writing of any change in its licensing status which has a material impact on the CONTRACTOR's performance under this Contract.
  - B. CONTRACTOR shall submit reports to SCAQMD as outlined in Attachment 1 - Statement of Work. All reports shall be submitted in an environmentally friendly format: recycled paper; stapled, not bound; black and white, double-sided print; and no three-ring, spiral, or plastic binders or cardstock covers. SCAQMD reserves the right to review, comment, and request changes to any report produced as a result of this Contract.
  - C. CONTRACTOR shall perform all tasks set forth in Attachment 1 - Statement of Work, and shall not engage, during the term of this Contract, in any performance of work that is in direct or indirect conflict with duties and responsibilities set forth in Attachment 1 - Statement of Work.
  - D. CONTRACTOR shall be responsible for exercising the degree of skill and care customarily required by accepted professional practices and procedures subject to SCAQMD's final approval which SCAQMD will not unreasonably withhold. Any costs incurred due to the failure to meet the foregoing standards, or otherwise defective services which require re-performance, as directed by SCAQMD, shall be the responsibility of CONTRACTOR. CONTRACTOR's failure to achieve the performance goals and objectives stated in Attachment 1- Statement of Work, is not a basis for requesting re-performance unless work conducted by CONTRACTOR is deemed by SCAQMD to have failed the foregoing standards of performance.
  - E. CONTRACTOR shall post a performance bond in the amount of \*\*\* Dollars (\$\*\*\*) from a surety authorized to issue such bonds within the State.**[OPTIONAL]**
  - F. SCAQMD has the right to review the terms and conditions of the performance bond and to request modifications thereto which will ensure that SCAQMD will be compensated in the event CONTRACTOR fails to perform and also provides SCAQMD with the opportunity to review the qualifications of the entity designated by the issuer of the performance bond to perform in CONTRACTOR's absence and, if necessary, the right to reject such entity.**[OPTIONAL]**
  - G. CONTRACTOR shall require its subcontractors to abide by the requirements set forth in this Contract.
4. TERM - The term of this Contract is from the date of execution by both parties **(or insert date)** to \*\*\*, unless further extended by amendment of this Contract in writing. No work shall commence until this Contract is fully executed by all parties. **[Remove this last sentence if Pre-Contract Clause is used]**
5. TERMINATION
  - A. In the event any party fails to comply with any term or condition of this Contract, or fails to provide services in the manner agreed upon by the parties, including, but not limited to, the requirements of Attachment 1 – Statement of

Work, this failure shall constitute a breach of this Contract. The non-breaching party shall notify the breaching party that it must cure this breach or provide written notification of its intention to terminate this contract. Notification shall be provided in the manner set forth in Clause 12. The non-breaching party reserves all rights under law and equity to enforce this contract and recover damages.

- B. SCAQMD reserves the right to terminate this Contract, in whole or in part, without cause, upon thirty (30) days' written notice. Once such notice has been given, CONTRACTOR shall, except as and to the extent or directed otherwise by SCAQMD, discontinue any Work being performed under this Contract and cancel any of CONTRACTOR's orders for materials, facilities, and supplies in connection with such Work, and shall use its best efforts to procure termination of existing subcontracts upon terms satisfactory to SCAQMD. Thereafter, CONTRACTOR shall perform only such services as may be necessary to preserve and protect any Work already in progress and to dispose of any property as requested by SCAQMD.
- C. CONTRACTOR shall be paid in accordance with this Contract for all Work performed before the effective date of termination under Clause 5.B. Before expiration of the thirty (30) days' written notice, CONTRACTOR shall promptly deliver to SCAQMD all copies of documents and other information and data prepared or developed by CONTRACTOR under this Contract with the exception of a record copy of such materials, which may be retained by CONTRACTOR.

- 6. STOP WORK – SCAQMD may, at any time, by written notice to CONTRACTOR, require CONTRACTOR to stop all or any part of the work tasks in this Contract. A stop work order may be issued for reasons including, but not limited to, the project exceeding the budget, out of scope work, delay in project schedule, or misrepresentations. Upon receipt of the stop work order, CONTRACTOR shall immediately take all necessary steps to comply with the order. CONTRACTOR shall resume the work only upon receipt of written instructions from SCAQMD cancelling the stop work order. CONTRACTOR agrees and understands that CONTRACTOR will not be paid for performing work while the stop work order is in effect, unless SCAQMD agrees to do so in its written cancellation of the stop work order.

#### 7. INSURANCE

- A. CONTRACTOR shall furnish evidence to SCAQMD of workers' compensation insurance for each of its employees, in accordance with either California or other states' applicable statutory requirements prior to commencement of any work on this Contract.
- B. CONTRACTOR shall furnish evidence to SCAQMD of general liability insurance with a limit of at least \$1,000,000 per occurrence, and \$2,000,000 in a general aggregate prior to commencement of any work on this Contract. SCAQMD shall be named as an additional insured on any such liability policy, and thirty (30) days written notice prior to cancellation of any such insurance shall be given by CONTRACTOR to SCAQMD.
- C. CONTRACTOR shall furnish evidence to SCAQMD of automobile liability insurance with limits of at least \$100,000 per person and \$300,000 per accident for bodily injuries, and \$50,000 in property damage, or \$1,000,000 combined single limit for bodily injury or property damage, prior to commencement of any work on this Contract. SCAQMD shall be named as an additional insured on any such liability policy, and thirty (30) days written notice prior to cancellation of any such insurance shall be given by CONTRACTOR to SCAQMD.
- D. CONTRACTOR shall furnish evidence to SCAQMD of Professional Liability Insurance with an aggregate limit of not less than \$5,000,000. [OPTIONAL]
- E. If CONTRACTOR fails to maintain the required insurance coverage set forth above, SCAQMD reserves the right either to purchase such additional insurance and to deduct the cost thereof from any payments owed to CONTRACTOR or terminate this Contract for breach.
- F. All insurance certificates should be mailed to: SCAQMD Risk Management, 21865 Copley Drive, Diamond Bar, CA 91765-4178. **The SCAQMD Contract Number must be included on the face of the certificate.**
- G. CONTRACTOR must provide updates on the insurance coverage throughout the term of the Contract to ensure that there is no break in coverage during the period of contract performance. Failure to provide evidence of current coverage shall be grounds for termination for breach of Contract.

- 8. INDEMNIFICATION - CONTRACTOR agrees to hold harmless, defend and indemnify SCAQMD, its officers, employees, agents, representatives, and successors-in-interest against any and all loss, damage, costs, lawsuits, claims, demands, causes of action judgments, attorney's fees, or any other expenses arising from or related to any third party claim against SCAQMD, its officers, employees, agents, representatives, or successors in interest that arise or result in whole or in part, from any actual or alleged act or omission of CONTRACTOR, its employees,

subcontractors, agents or representatives in the performance of this Contract. This Indemnification Clause shall survive the expiration or termination (for any reason) of the Contract and shall remain in full force and effect.

9. RECORDS RETENTION, ON-SITE INSPECTIONS AND AUDIT

- A. CONTRACTOR agrees to the following Records Retention Period: maintain records related to this Contract during the Contract term and continue to retain these records for a period of three years beyond the Contract term.
- B. SCAQMD, or its designee(s), shall have the right to conduct on-site inspections of the project and to audit records related to this Contract during the Records Retention Period. CONTRACTOR agrees to include a similar right for SCAQMD to conduct on-site inspections and audits in any related subcontract.
- C. If an amount is found to be inappropriately expended, SCAQMD may withhold payment, or seek reimbursement, from CONTRACTOR in the amount equal to the amount which was inappropriately expended. Such withholding or reimbursement shall not be construed as SCAQMD's sole remedy and shall not relieve CONTRACTOR of its obligation to perform under the terms of this Contract.

10. CO-FUNDING [USE IF REQUIRED]

- A. CONTRACTOR shall obtain co-funding as follows: \*\*\*, \*\*\* Dollars (\$\*\*\*); \*\*\*, \*\*\* Dollars (\$\*\*\*); \*\*\*, \*\*\* Dollars (\$\*\*\*); \*\*\*, \*\*\* Dollars (\$\*\*\*); \*\*\*, \*\*\* Dollars (\$\*\*\*); and \*\*\*, \*\*\* Dollars (\$\*\*\*).
- B. If CONTRACTOR fails to obtain co-funding in the amount(s) referenced above, then SCAQMD reserves the right to renegotiate or terminate this Contract.
- C. CONTRACTOR shall provide co-funding in the amount of \*\*\* Dollars (\$\*\*\*) for this project. If CONTRACTOR fails to provide this co-funding, then SCAQMD reserves the right to renegotiate or terminate this Contract.

11. PAYMENT

[FIXED PRICE]

- A. SCAQMD shall pay CONTRACTOR a fixed price of \*\*\* Dollars (\$\*\*\*) for work performed under this Contract in accordance with Attachment 2 - Payment Schedule, attached here and included here by reference. Payment shall be made by SCAQMD to CONTRACTOR within thirty (30) days after approval by SCAQMD of an invoice prepared and furnished by CONTRACTOR showing services performed and referencing tasks and deliverables as shown in Attachment 1 - Statement of Work, and the amount of charge claimed. Each invoice must be prepared in duplicate, on company letterhead, and list SCAQMD's Contract number, period covered by invoice, and CONTRACTOR's social security number or Employer Identification Number and submitted to: South Coast Air Quality Management District, Attn: \*\*\*.
- B. An amount equal to ten percent (10%) shall be withheld from all charges paid until satisfactory completion and final acceptance of work by SCAQMD. [OPTIONAL]
- C. SCAQMD reserves the right to disallow charges when the invoiced services are not performed satisfactorily in SCAQMD's sole judgment.

[T & M].

- A. SCAQMD shall pay CONTRACTOR a total not to exceed amount of \*\*\* Dollars (\$\*\*\*), including any authorized travel-related expenses, for time and materials at rates in accordance with Attachment 2 - Cost Schedule, attached here and included here by this reference. Payment of charges shall be made by SCAQMD to CONTRACTOR within thirty (30) days after approval by SCAQMD of an itemized invoice prepared and furnished by CONTRACTOR referencing line item expenditures as listed in Attachment 2 and the amount of charge claimed. Each invoice must be prepared in duplicate, on company letterhead, and list SCAQMD's Contract number, period covered by invoice, and CONTRACTOR's social security number or Employer Identification Number and submitted to: South Coast Air Quality Management District, Attn: \*\*\*.
- B. CONTRACTOR shall adhere to total tasks and/or cost elements (cost category) expenditures as listed in Attachment 2. Reallocation of costs between tasks and/or cost category expenditures is permitted up to One Thousand Dollars (\$1,000) upon prior written approval from SCAQMD. Reallocation of costs in excess of One Thousand Dollars (\$1,000) between tasks and/or cost category expenditures requires an amendment to this Contract.
- C. SCAQMD's payment of invoices shall be subject to the following limitations and requirements:
  - i) Charges for equipment, material, and supply costs, travel expenses, subcontractors, and other charges, as applicable, must be itemized by CONTRACTOR. Reimbursement for equipment, material, supplies,

subcontractors, and other charges shall be made at actual cost. Supporting documentation must be provided for all individual charges (with the exception of direct labor charges provided by CONTRACTOR). SCAQMD's reimbursement of travel expenses and requirements for supporting documentation are listed below.

- ii) CONTRACTOR's failure to provide receipts shall be grounds for SCAQMD's non-reimbursement of such charges. SCAQMD may reduce payments on invoices by those charges for which receipts were not provided.
- iii) SCAQMD shall not pay interest, fees, handling charges, or cost of money on Contract.
- D. SCAQMD shall reimburse CONTRACTOR for travel-related expenses only if such travel is expressly set forth in Attachment 2 – Cost Schedule of this Contract or pre-authorized by SCAQMD in writing.
  - i) SCAQMD's reimbursement of travel-related expenses shall cover lodging, meals, other incidental expenses, and costs of transportation subject to the following limitations:
    - Air Transportation - Coach class rate for all flights. If coach is not available, business class rate is permissible.
    - Car Rental - A compact car rental. A mid-size car rental is permissible if car rental is shared by three or more individuals.

Lodging - Up to One Hundred Fifty Dollars (\$150) per night. A higher amount of reimbursement is permissible if pre-approved by SCAQMD.

Meals - Daily allowance is Fifty Dollars (\$50.00).

ii) Supporting documentation shall be provided for travel-related expenses in accordance with the following requirements:

Lodging, Airfare, Car Rentals - Bill(s) for actual expenses incurred.

Meals - Meals billed in excess of \$50.00 each day require receipts or other supporting documentation for the total amount of the bill and must be approved by SCAQMD.

Mileage - Beginning each January 1, the rate shall be adjusted effective February 1 by the Chief Financial Officer based on the Internal Revenue Service Standard Mileage Rate.

Other travel-related expenses - Receipts are required for all individual items.

- E. SCAQMD reserves the right to disallow charges when the invoiced services are not performed satisfactorily in SCAQMD's sole judgment.

12. INTELLECTUAL PROPERTY RIGHTS - Title and full ownership rights to any software, documents, or reports developed under this Contract shall at all times remain with SCAQMD. Such material is agreed to be SCAQMD proprietary information.

A. Rights of Technical Data - SCAQMD shall have the unlimited right to use technical data, including material designated as a trade secret, resulting from the performance of services by CONTRACTOR under this Contract. CONTRACTOR shall have the right to use technical data for its own benefit.

B. Copyright - CONTRACTOR agrees to grant SCAQMD a royalty-free, nonexclusive, irrevocable license to produce, translate, publish, use, and dispose of all copyrightable material first produced or composed in the performance of this Contract.

13. NOTICES - Any notices from either party to the other shall be given in writing to the attention of the persons listed below, or to other such addresses or addressees as may hereafter be designated in writing for notices by either party to the other. Notice shall be given by certified, express, or registered mail, return receipt requested, and shall be effective as of the date of receipt indicated on the return receipt card.



SCAQMD: South Coast Air Quality Management District  
21865 Copley Drive  
Diamond Bar, CA 91765-4178  
Attn: \*\*\*

CONTRACTOR: \*\*\*  
\*\*\*  
\*\*\*  
Attn: \*\*\*

14. INDEPENDENT CONTRACTOR – CONTRACTOR is an independent contractor. CONTRACTOR, its officers, employees, agents, representatives, or subcontractors shall in no sense be considered employees or agents of SCAQMD, nor shall CONTRACTOR, its officers, employees, agents, representatives, or subcontractors be entitled to or eligible to participate in any benefits, privileges, or plans, given or extended by SCAQMD to its employees. SCAQMD will not supervise, direct, or have control over, or be responsible for, CONTRACTOR's or subcontractor's means, methods, techniques, work sequences or procedures or for the safety precautions and programs incident thereto, or for any failure by them to comply with any local, state, or federal laws, or rules or regulations, including state minimum wage laws and OSHA requirements. CONTRACTOR shall promptly notify SCAQMD of any material changes to subcontracts that affect the Contract's scope of work, deliverable schedule, and/or payment/cost schedule.
15. CONFIDENTIALITY - It is expressly understood and agreed that SCAQMD may designate in a conspicuous manner the information which CONTRACTOR obtains from SCAQMD as confidential. CONTRACTOR agrees to:
  - A. Observe complete confidentiality with respect to such information, including without limitation, agreeing not to disclose or otherwise permit access to such information by any other person or entity in any manner whatsoever, except that such disclosure or access shall be permitted to employees or subcontractors of CONTRACTOR requiring access in fulfillment of the services provided under this Contract.
  - B. Ensure that CONTRACTOR's officers, employees, agents, representatives, and independent contractors are informed of the confidential nature of such information and to assure by agreement or otherwise that they are prohibited from copying or revealing, for any purpose whatsoever, the contents of such information or any part thereof, or from taking any action otherwise prohibited under this clause.
  - C. Not use such information or any part thereof in the performance of services to others or for the benefit of others in any form whatsoever whether gratuitously or for valuable consideration, except as permitted under this Contract.
  - D. Notify SCAQMD promptly and in writing of the circumstances surrounding any possession, use, or knowledge of such information or any part thereof by any person or entity other than those authorized by this clause.
  - E. Take at CONTRACTOR expense, but at SCAQMD's option and in any event under SCAQMD's control, any legal action necessary to prevent unauthorized use of such information by any third party or entity which has gained access to such information at least in part due to the fault of CONTRACTOR.
  - F. Take any and all other actions necessary or desirable to assure such continued confidentiality and protection of such information.
  - G. Prevent access to such information by any person or entity not authorized under this Contract.
  - H. Establish specific procedures in order to fulfill the obligations of this clause.
  - I. Notwithstanding the above, nothing herein is intended to abrogate or modify the provisions of Government Code Section 6250 et.seq. (Public Records Act).
16. PUBLICATION
  - A. SCAQMD shall have the right of prior written approval of any document which shall be disseminated to the public by CONTRACTOR in which CONTRACTOR utilized information obtained from SCAQMD in connection with performance under this Contract.
  - B. Information, data, documents, or reports developed by CONTRACTOR for SCAQMD, pursuant to this Contract, shall be part of SCAQMD public record unless otherwise indicated. CONTRACTOR may use or publish, at its own expense, such information provided to SCAQMD. The following acknowledgment of support and disclaimer must appear in each publication of materials, whether copyrighted or not, based upon or developed under this Contract.

"This report was prepared as a result of work sponsored, paid for, in whole or in part, by the South Coast Air Quality Management District (SCAQMD). The opinions, findings, conclusions, and recommendations are those of the author and do not necessarily represent the views of SCAQMD. SCAQMD, its officers, employees, contractors, and subcontractors make no warranty, expressed or implied, and assume no legal liability for the information in this report. SCAQMD has not approved or disapproved this report, nor has SCAQMD passed upon the accuracy or adequacy of the information contained herein."

C. CONTRACTOR shall inform its officers, employees, and subcontractors involved in the performance of this Contract of the restrictions contained herein and require compliance with the above.

17. NON-DISCRIMINATION - In the performance of this Contract, CONTRACTOR shall not discriminate in recruiting, hiring, promotion, demotion, or termination practices on the basis of race, religious creed, color, national origin, ancestry, sex, age, or physical or mental disability and shall comply with the provisions of the California Fair Employment & Housing Act (Government Code Section 12900 et seq.), the Federal Civil Rights Act of 1964 (P.L. 88-352) and all amendments thereto, Executive Order No. 11246 (30 Federal Register 12319), and all administrative rules and regulations issued pursuant to said Acts and Order.
18. SOLICITATION OF EMPLOYEES - CONTRACTOR expressly agrees that CONTRACTOR shall not, during the term of this Contract, nor for a period of six months after termination, solicit for employment, whether as an employee or independent contractor, any person who is or has been employed by SCAQMD during the term of this Contract without the consent of SCAQMD.
19. PROPERTY AND SECURITY - Without limiting CONTRACTOR obligations with regard to security, CONTRACTOR shall comply with all the rules and regulations established by SCAQMD for access to and activity in and around SCAQMD premises.
20. ASSIGNMENT - The rights granted hereby may not be assigned, sold, licensed, or otherwise transferred by either party without the prior written consent of the other, and any attempt by either party to do so shall be void upon inception.
21. NON-EFFECT OF WAIVER - The failure of CONTRACTOR or SCAQMD to insist upon the performance of any or all of the terms, covenants, or conditions of this Contract, or failure to exercise any rights or remedies hereunder, shall not be construed as a waiver or relinquishment of the future performance of any such terms, covenants, or conditions, or of the future exercise of such rights or remedies, unless otherwise provided for herein.
22. ATTORNEYS' FEES - In the event any action is filed in connection with the enforcement or interpretation of this Contract, each party shall bear its own attorneys' fees and costs.
23. FORCE MAJEURE - Neither SCAQMD nor CONTRACTOR shall be liable or deemed to be in default for any delay or failure in performance under this Contract or interruption of services resulting, directly or indirectly, from acts of God, civil or military authority, acts of public enemy, war, strikes, labor disputes, shortages of suitable parts, materials, labor or transportation, or any similar cause beyond the reasonable control of SCAQMD or CONTRACTOR.
24. SEVERABILITY - In the event that any one or more of the provisions contained in this Contract shall for any reason be held to be unenforceable in any respect by a court of competent jurisdiction, such holding shall not affect any other provisions of this Contract, and the Contract shall then be construed as if such unenforceable provisions are not a part hereof.
25. HEADINGS - Headings on the clauses of this Contract are for convenience and reference only, and the words contained therein shall in no way be held to explain, modify, amplify, or aid in the interpretation, construction, or meaning of the provisions of this Contract.
26. DUPLICATE EXECUTION - This Contract is executed in duplicate. Each signed copy shall have the force and effect of an original.

27. GOVERNING LAW - This Contract shall be construed and interpreted and the legal relations created thereby shall be determined in accordance with the laws of the State of California. Venue for resolution of any disputes under this Contract shall be Los Angeles County, California.
28. PRE-CONTRACT COSTS - Any costs incurred by CONTRACTOR prior to CONTRACTOR receipt of a fully executed Contract shall be incurred solely at the risk of the CONTRACTOR. In the event that a formal Contract is not executed, the SCAQMD shall not be liable for any amounts expended in anticipation of a formal Contract. If a formal Contract does result, pre-contract cost expenditures authorized by the Contract will be reimbursed in accordance with the Payment/Cost Schedule and payment provision of the Contract[OPTIONAL]
29. CITIZENSHIP AND ALIEN STATUS
- A. CONTRACTOR warrants that it fully complies with all laws regarding the employment of aliens and others, and that its employees performing services hereunder meet the citizenship or alien status requirements contained in federal and state statutes and regulations including, but not limited to, the Immigration Reform and Control Act of 1986 (P.L. 99-603). CONTRACTOR shall obtain from all covered employees performing services hereunder all verification and other documentation of employees' eligibility status required by federal statutes and regulations as they currently exist and as they may be hereafter amended. CONTRACTOR shall have a continuing obligation to verify and document the continuing employment authorization and authorized alien status of employees performing services under this Contract to insure continued compliance with all federal statutes and regulations. Notwithstanding the above, CONTRACTOR, in the performance of this Contract, shall not discriminate against any person in violation of 8 USC Section 1324b.
- B. CONTRACTOR shall retain such documentation for all covered employees for the period described by law. CONTRACTOR shall indemnify, defend, and hold harmless SCAQMD, its officers and employees from employer sanctions and other liability which may be assessed against CONTRACTOR or SCAQMD, or both in connection with any alleged violation of federal statutes or regulations pertaining to the eligibility for employment of persons performing services under this Contract.
30. REQUIREMENT FOR FILING STATEMENT OF ECONOMIC INTERESTS - In accordance with the Political Reform Act of 1974 (Government Code Sec. 81000 et seq.) and regulations issued by the Fair Political Practices Commission (FPPC), SCAQMD has determined that the nature of the work to be performed under this Contract requires CONTRACTOR to submit a Form 700, Statement of Economic Interests for Designated Officials and Employees, for each of its employees assigned to work on this Contract. These forms may be obtained from SCAQMD's District Counsels' office.[OPTIONAL]
31. COMPLIANCE WITH SINGLE AUDIT ACT REQUIREMENTS [OPTIONAL - TO BE INCLUDED IN CONTRACTS WITH FOR-PROFIT CONTRACTORS WHICH HAVE FEDERAL PASS-THROUGH FUNDING] - During the term of the Contract, and for a period of three (3) years from the date of Contract expiration, and if requested in writing by the SCAQMD, CONTRACTOR shall allow the SCAQMD, its designated representatives and/or the cognizant Federal Audit Agency, access during normal business hours to all records and reports related to the work performed under this Contract. CONTRACTOR assumes sole responsibility for reimbursement to the Federal Agency funding the prime grant or contract, a sum of money equivalent to the amount of any expenditures disallowed should the SCAQMD, its designated representatives and/or the cognizant Federal Audit Agency rule through audit exception or some other appropriate means that expenditures from funds allocated to the CONTRACTOR were not made in compliance with the applicable cost principles, regulations of the funding agency, or the provisions of this Contract.

[OPTIONAL - TO BE INCLUDED IN CONTRACTS WITH NON-PROFIT CONTRACTORS WHICH HAVE FEDERAL PASS-THROUGH FUNDING] - Beginning with CONTRACTOR's current fiscal year and continuing through the term of this Contract, CONTRACTOR shall have a single or program-specific audit conducted in accordance with the requirements of the Office of Management and Budget (OMB) Circular A-133 (Audits of States, Local Governments and Non-Profit Organizations), if CONTRACTOR expended Five Hundred Thousand Dollars (\$500,000) or more in a year in Federal Awards. Such audit shall be conducted by a firm of independent accountants in accordance with Generally Accepted Government Audit Standards (GAGAS). Within thirty (30) days of Contract execution,

CONTRACTOR shall forward to SCAQMD the most recent A-133 Audit Report issued by its independent auditors. Subsequent A-133 Audit Reports shall be submitted to the SCAQMD within thirty (30) days of issuance.

CONTRACTOR shall allow the SCAQMD, its designated representatives and/or the cognizant Federal Audit Agency, access during normal business hours to all records and reports related to the work performed under this Contract. CONTRACTOR assumes sole responsibility for reimbursement to the Federal Agency funding the prime grant or contract, a sum of money equivalent to the amount of any expenditures disallowed should the SCAQMD, its designated representatives and/or the cognizant Federal Audit Agency rule through audit exception or some other appropriate means that expenditures from funds allocated to the CONTRACTOR were not made in compliance with the applicable cost principles, regulations of the funding agency, or the provisions of this Contract.

32. OPTION TO EXTEND THE TERM OF THE CONTRACT - SCAQMD reserves the right to extend the contract for a one-year period commencing \*\*\*\*\* (enter date) at the (option price or Not-to-Exceed Amount) set forth in Attachment 2. In the event that SCAQMD elects to extend the contract, a written notice of its intent to extend the contract shall be provided to CONTRACTOR no later than thirty (30) days prior to Contract expiration. [OPTIONAL]
33. PROPOSAL INCORPORATION – CONTRACTOR's Technical Proposal dated \*\*\* submitted in response to Request for Proposal (RFP) #\*\*\*, is expressly incorporated herein by this reference and made a part hereof of this Contract. In the event of any conflict between the terms and conditions of this Contract and CONTRACTOR's Technical Proposal, this Contract shall govern and control. [OPTIONAL]
34. KEY PERSONNEL - *insert person's name* is deemed critical to the successful performance of this Contract. Any changes in key personnel by CONTRACTOR must be approved by SCAQMD. All substitute personnel must possess qualifications/experience equal to the original named key personnel and must be approved by SCAQMD. SCAQMD reserves the right to interview proposed substitute key personnel. [OPTIONAL]
35. PREVAILING WAGES – [USE FOR INFRASTRUCTURE AND MAINTENANCE PROJECTS] CONTRACTOR is alerted to the prevailing wage requirements of California Labor Code section 1770 et seq., and the compliance monitoring and enforcement of such requirements by the Department of Industrial Relations ("DIR"). CONTRACTOR and all of CONTRACTOR's subcontractors must comply with the California Public Works Contractor Registration Program and must be registered with the DIR to participate in public works projects. CONTRACTOR shall be responsible for determining the applicability of the provisions of California Labor Code and complying with the same, including, without limitation, obtaining from the Director of the Department of Industrial Relations the general prevailing rate of per diem wages and the general prevailing rate for holiday and overtime work, making the same available to any interested party upon request, paying any applicable prevailing rates, posting copies thereof at the job site and flowing all applicable prevailing wage rate requirements to its subcontractors. Proof of compliance with these requirements must be provided to SCAQMD upon request. CONTRACTOR shall indemnify, defend and hold harmless the South Coast Air Quality Management District against any and all claims, demands, damages, defense costs or liabilities based on failure to adhere to the above referenced statutes.
36. SUBCONTRACTOR APPROVAL – If CONTRACTOR intends to subcontract all or a portion of the work under this Contract, then CONTRACTOR must first obtain written approval from SCAQMD's Executive Officer or designee prior to subcontracting any work. Any material changes to the subcontract(s) that affect the scope of work, deliverable schedule, and/or payment/cost schedule shall also require the prior written approval of the Executive Officer or designee. No subcontract charges will be reimbursed unless the required approvals have been obtained from SCAQMD.
37. ENTIRE CONTRACT - This Contract represents the entire agreement between the parties hereto related to CONTRACTOR providing services to SCAQMD and there are no understandings, representations, or warranties of any kind except as expressly set forth herein. No waiver, alteration, or modification of any of the provisions herein shall be binding on any party unless in writing and signed by the party against whom enforcement of such waiver, alteration, or modification is sought.

IN WITNESS WHEREOF, the parties to this Contract have caused this Contract to be duly executed on their behalf by their authorized representatives.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT \*\*\*

By: \_\_\_\_\_  
Barry R. Wallerstein, D.Env., Executive Officer  
Dr. William A. Burke, Chairman, Governing Board

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_

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

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

ATTEST:  
Saundra McDaniel, Clerk of the Board

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

APPROVED AS TO FORM:  
Kurt R. Wiese, General Counsel

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

## ATTACHMENT A

### **BACKGROUND**

SCAQMD auditorium requires upgrades and modifications to existing audio-visual presentation systems. The initial scope of work defined in this document will explain the intent of SCAQMD to modernize the AV systems in two areas of private and public use within the Hearing Board and GB rooms. This attachment will discuss SCAQMD's main requirements.

### **Locations involved:**

1. Hearing Board Room
2. GB Room

### **Hearing Board Room**

1. Description and Scope
  - a. Description. The Hearing Board room houses a quasi-judicial panel authorized to hear certain cases from individuals or companies that have come into conflict with SCAQMD rules and regulations. This room was recently renovated to include the latest AV equipment and standards. This project will add multiple cameras to support video recording and webcasting.
  - b. Scope.
    - i. PTZ Cameras: Two new Panasonic PTZ cameras and mounts are to be installed and integrated into the current AV system. The integration of the cameras may require a new network switch and serial control ports. It will require new input cards on the Crestron DM8x8 router
    - ii. A new streaming webcasting encoder will be integrated for use by public and private meetings
    - iii. The current touch panel will be updated to include the new room functions
    - iv. Integration of O.F.E (owner furnished equipment)
2. High Level Requirements. The new system must include the following:
  - a. Updates to the core Crestron programming, Central Equipment Room touch panels, Fusion RV maintenance features and functions and X-Panels support / changes
  - b. Updates to the core DSP BSS / London programming
  - c. Updates or new local Hearing Board Crestron programming and touch panels and hardware integration
  - d. Updates or new local DSP programming and hardware integration
  - e. The creation of tracking gated microphones to trigger camera presents
  - f. The ability to separate and control the sources sent to the local display verses the sources sent to the webcasting encoder under different meeting conditions
  - g. Physical rack-mounted hardware to be installed in current equipment rack in an adjacent room
  - h. Past documentation and some DSP programming code have been lost. New room documentation on the existing system as well as the new system changes will require the AV Integrator to define the existing room on paper, and possibly new DSP code
3. Deliverables.

- a. Editable Crestron Programming
- b. Main Processor and both touch panels, new or updates pages
- c. RV Fusion (Maintenance program) update
- d. X Panel Updates
- e. Editable BSS / London DSP Programming
- f. Design & Engineering Documentation
- g. Editable CAD Files
- h. Equipment on B.O.M

## GB Room

### 1. Description and Scope

- a. Description. GB is a multipurpose room that has been recently renovated to include the latest AV equipment and standards. This next phase of the project will add the functionality of multiple cameras, webcasting, a change in wireless microphones and processor, a change in the main display monitor, and a user controlled wireless Crestron touch panel.
- b. Scope.
  - i. Monitor Upgrade: The current 80" LCD monitor will be removed, repurposed in another location
  - ii. New Display: a 2x2 LCD video wall will be installed in the front of the room to replace the 80" display
  - iii. Microphones: The current Revolabs microphones and DSP will be removed and upgraded to the new Revolabs Elite processor and 12" Gooseneck Microphones. The microphone count will increase from 12 to 16. The microphones will be assigned to zones and interfaced to camera functions
  - iv. Speakers: Currently 18 new ceiling speakers will be reduced to 14 speakers. These speakers will need to be relocated in a new pattern and integrated to create four total speaker zones. Additional amplifiers will be required and changes to the BSS/London DSP hardware and programming
  - v. PTZ Cameras: Four new Panasonic PTZ cameras and mounts are to be installed and integrated into the current AV system. The integration of the cameras will require a new network switch and serial control ports.
  - vi. A new streaming webcasting encoder will be integrated for use by public and private meetings
  - vii. A second and new touch panel will be added to the room's functions. The panel will mimic the current podium (room functions) touch panel, plus the additional functions added by this new scope of work
  - viii. The current touch panel will be updated to include the new room functions
  - ix. Integration of O.F.E (owner furnished equipment)

### 2. High Level Requirements. The new system must include the following:

- a. Updates to the core Crestron programming, Central Equipment Room touch panels, Fusion RV maintenance features and functions and X-Panels support / changes
- b. Updates to the core DSP BSS / London programming

- c. Updates or new local GB Crestron programming and touch panels and hardware integration
- d. Updates or new local DSP BSS London programming and hardware integration
- e. The creation of new microphones and speaker zones
- f. The implementation of mix-minus functionality, gated microphones triggering camera presets (recall)
- g. The ability to separate and control the sources sent to the local display verses the sources sent to the webcasting encoder under different meeting conditions
- h. Physical rack-mounted hardware to be installed in current equipment rack in GB

3. Deliverables.

- a. Editable Crestron Programming including all source code
- b. Main Processor and both touch panels, new or updated pages
- c. RV Fusion (Maintenance program) update
- d. X Panel Updates
- e. Editable BSS / London DSP Programming including source code
- f. Design & Engineering Documentation
- g. Editable CAD Files
- h. Equipment on B.O.M



**ATTACHMENT B**

**CERTIFICATIONS AND REPRESENTATIONS**



# South Coast Air Quality Management District

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

## **Business Information Request**

Dear SCAQMD Contractor/Supplier:

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 1/15



# South Coast Air Quality Management District

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

## BUSINESS INFORMATION REQUEST

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

## REMITTING ADDRESS INFORMATION

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

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

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

**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:

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

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

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

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

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

\_\_\_\_\_  
C. NAME TITLE

\_\_\_\_\_  
D. 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.

## Request for Taxpayer Identification Number and Certification

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

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

### Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the 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.

<b>Social security number</b>													
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> </tr> </table>													
<b>or</b>													
<b>Employer identification number</b>													
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> </tr> </table>													

**Note.** If the account is in more than one name, see the instructions for line 1 and the chart on page 4 for guidelines on whose number to enter.

### Part II Certification

Under penalties of perjury, I certify that:

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

**Certification instructions.** You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions on page 3.

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

### General Instructions

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

**Future developments.** Information about developments affecting Form W-9 (such as legislation enacted after we release it) is at [www.irs.gov/fw9](http://www.irs.gov/fw9).

#### Purpose of Form

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

- Form 1099-INT (interest earned or paid)
- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)

- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
  - Form 1099-C (canceled debt)
  - Form 1099-A (acquisition or abandonment of secured property)
- Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.
- If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See What is backup withholding? on page 2.*
- By signing the filled-out form, you:
1. Certify that the TIN you are giving is correct (or you are waiting for a number to be issued),
  2. Certify that you are not subject to backup withholding, or
  3. Claim exemption from backup withholding if you are a U.S. exempt payee. If applicable, you are also certifying that as a U.S. person, your allocable share of any partnership income from a U.S. trade or business is not subject to the withholding tax on foreign partners' share of effectively connected income, and
  4. Certify that FATCA code(s) entered on this form (if any) indicating that you are exempt from the FATCA reporting, is correct. See *What is FATCA reporting?* on page 2 for further information.



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

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

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

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

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

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

**Foreign person.** If you are a foreign person or the U.S. branch of a foreign bank that has elected to be treated as a U.S. person, do not use Form W-9. Instead, use the appropriate Form W-8 or Form 8233 (see 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, give the requester the appropriate completed Form W-8 or Form 8233.

## Backup Withholding

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

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

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

1. You do not furnish your TIN to the requester,
2. You do not certify your TIN when required (see the 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 *Exempt payee code* on page 3 and the separate Instructions for the Requester of Form W-9 for more information.

Also see *Special rules for partnerships* above.

## What is FATCA reporting?

The Foreign Account Tax Compliance Act (FATCA) requires a participating foreign financial institution to report all United States account holders that are specified United States persons. Certain payees are exempt from FATCA reporting. See *Exemption from FATCA reporting code* on page 3 and the Instructions for the Requester of Form W-9 for more information.

## Updating Your Information

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

## Penalties

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

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

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

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

## Specific Instructions

### Line 1

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

If this Form W-9 is for a joint account, list first, and then circle, the name of the person or entity whose number you entered in Part I of Form W-9.

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

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

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

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

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

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



**Line 2**

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

**Line 3**

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

**Limited Liability Company (LLC).** If the name on line 1 is an LLC treated as a partnership for U.S. federal tax purposes, check the "Limited Liability Company" box and enter "P" in the space provided. If the LLC has filed Form 8832 or 2553 to be taxed as a corporation, check the "Limited Liability Company" box and in the space provided enter "C" for C corporation or "S" for S corporation. If it is a single-member LLC that is a disregarded entity, do not check the "Limited Liability Company" box; instead check the first box in line 3 "Individual/sole proprietor or single-member LLC."

**Line 4, Exemptions**

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

**Exempt payee code.**

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

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

- 1—An organization exempt from tax under section 501(a), any IRA, or a custodial account under section 403(b)(7) if the account satisfies the requirements of section 401(f)(2)
- 2—The United States or any of its agencies or instrumentalities
- 3—A state, the District of Columbia, a U.S. commonwealth or possession, or any of their political subdivisions or instrumentalities
- 4—A foreign government or any of its political subdivisions, agencies, or instrumentalities
- 5—A corporation
- 6—A dealer in securities or commodities required to register in the United States, the District of Columbia, or a U.S. commonwealth or possession
- 7—A futures commission merchant registered with the Commodity Futures Trading Commission
- 8—A real estate investment trust
- 9—An entity registered at all times during the tax year under the Investment Company Act of 1940
- 10—A common trust fund operated by a bank under section 584(a)
- 11—A financial institution
- 12—A middleman known in the investment community as a nominee or custodian
- 13—A trust exempt from tax under section 664 or described in section 4947

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

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

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

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

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

- A—An organization exempt from tax under section 501(a) or any individual retirement plan as defined in section 7701(a)(37)
- B—The United States or any of its agencies or instrumentalities
- C—A state, the District of Columbia, a U.S. commonwealth or possession, or any of their political subdivisions or instrumentalities
- D—A corporation the stock of which is regularly traded on one or more established securities markets, as described in Regulations section 1.1472-1(c)(1)(i)
- E—A corporation that is a member of the same expanded affiliated group as a corporation described in Regulations section 1.1472-1(c)(1)(i)
- F—A dealer in securities, commodities, or derivative financial instruments (including notional principal contracts, futures, forwards, and options) that is registered as such under the laws of the United States or any state
- G—A real estate investment trust
- H—A regulated investment company as defined in section 851 or an entity registered at all times during the tax year under the Investment Company Act of 1940
- I—A common trust fund as defined in section 584(a)
- J—A bank as defined in section 581
- K—A broker
- L—A trust exempt from tax under section 664 or described in section 4947(a)(1)
- M—A tax exempt trust under a section 403(b) plan or section 457(g) plan

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

**Line 5**

Enter your address (number, street, and apartment or suite number). This is where the requester of this Form W-9 will mail your information returns.

**Line 6**

Enter your city, state, and ZIP code.

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

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

If you are a sole proprietor and you have an EIN, you may enter either your SSN or EIN. 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 this page), 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 SSA office or get this form online at [www.ssa.gov](http://www.ssa.gov). You may also get this form by calling 1-800-772-1213. Use Form W-7, Application for IRS Individual Taxpayer Identification Number, to apply for an ITIN, or Form SS-4, Application for Employer Identification Number, to apply for an EIN. You can apply for an EIN online by accessing the IRS website at [www.irs.gov/businesses](http://www.irs.gov/businesses) and clicking on Employer Identification Number (EIN) under Starting a Business. You can get Forms W-7 and SS-4 from the IRS by visiting [IRS.gov](http://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, apply for a TIN and write "Applied For" in the space for the TIN, sign and date the form, and give it to the requester. For interest and dividend payments, and certain payments made with respect to readily tradable instruments, generally you will have 60 days to get a TIN and give it to the requester before you are subject to backup withholding on payments. The 60-day rule does not apply to other types of payments. You will be subject to backup withholding on all such payments until you provide your TIN to the requester.

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

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

**Part II. Certification**

To establish to the withholding agent that you are a U.S. person, or resident alien, sign Form W-9. You may be requested to sign by the withholding agent even if items 1, 4, or 5 below 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 line 1 must sign. Exempt payees, see *Exempt payee code* earlier.

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

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

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

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

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

**5. Mortgage interest paid by you, acquisition or abandonment of secured property, cancellation of debt, qualified tuition program payments (under section 529), 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 <sup>1</sup>
3. Custodian account of a minor (Uniform Gift to Minors Act)	The minor <sup>2</sup>
4. a. The usual revocable savings trust (grantor is also trustee) b. So-called trust account that is not a legal or valid trust under state law	The grantor-trustee <sup>1</sup>  The actual owner <sup>1</sup>
5. Sole proprietorship or disregarded entity owned by an individual	The owner <sup>3</sup>
6. Grantor trust filing under Optional Form 1099 Filing Method 1 (see Regulations section 1.671-4(b)(2)(i)(A))	The grantor <sup>4</sup>
For this type of account:	Give name and EIN of:
7. Disregarded entity not owned by an individual	The owner
8. A valid trust, estate, or pension trust	Legal entity <sup>4</sup>
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 Regulations section 1.671-4(b)(2)(i)(B))	The trust

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

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

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

<sup>4</sup> List first and circle the name of the trust, estate, or pension trust. (Do not furnish the TIN of the personal representative or trustee unless the legal entity itself is not designated in the account title.) Also see *Special rules for partnerships* on page 2.

**\*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, 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](mailto:phishing@irs.gov). You may also report misuse of the IRS name, logo, or other IRS property to the Treasury Inspector General for Tax Administration (TIGTA) at 1-800-366-4484. You can forward suspicious emails to the Federal Trade Commission at: [spam@uce.gov](mailto:spam@uce.gov) or contact them at [www.ftc.gov/idtheft](http://www.ftc.gov/idtheft) or 1-877-IDTHEFT (1-877-438-4338).

Visit [IRS.gov](http://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. commonwealths and possessions for use in administering their laws. The information also may be disclosed to other countries under a treaty, to federal and state agencies to enforce civil and criminal laws, or to federal law enforcement and intelligence agencies to combat terrorism. You must provide your TIN whether or not you are required to file a tax return. Under section 3406, payers must generally withhold a percentage of taxable interest, dividend, and certain other payments to a payee who does not give a TIN to the payer. Certain penalties may also apply for providing false or fraudulent information.



# 2015 Withholding Exemption Certificate

# 590

The payee completes this form and submits it to the withholding agent.

### Withholding Agent (Type or print)

Name \_\_\_\_\_

### Payee

Name \_\_\_\_\_

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

Address (apt./ste., room, PO Box, or PMB no.) \_\_\_\_\_

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

State \_\_\_\_\_ ZIP Code \_\_\_\_\_

### Exemption Reason

Check only one reason box below that applies to the payee.

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

**Individuals — Certification of Residency:**

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

**Corporations:**

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

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

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

**Tax-Exempt Entities:**

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

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

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

**California Trusts:**

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

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

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

**Nonmilitary Spouse of a Military Servicemember:**

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

**CERTIFICATE OF PAYEE:** Payee must complete and sign below.

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) \_\_\_\_\_ Telephone (\_\_\_\_) \_\_\_\_\_

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

# 2015 Instructions for Form 590

## Withholding Exemption Certificate

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

### General Information

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

### A Purpose

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

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

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

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

### B Income Subject to Withholding

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

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

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

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

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

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

### C Who Certifies this Form

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

An incomplete certificate is invalid and the withholding agent should not accept it. If the withholding agent receives an incomplete certificate, the withholding agent is required to withhold tax on payments made to the payee until a valid certificate is received. In lieu of a completed 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 Definitions

For California non-wage withholding purposes, **nonresident** includes all of the following:

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

Foreign refers to non-U.S.

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

#### Permanent Place of Business:

A corporation has a permanent place of business in California if it is organized and existing under the laws of California or if it is a foreign corporation qualified to transact intrastate business by the CA 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.

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

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

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

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

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

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

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

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

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

---

## Specific Instructions

---

### Payee Instructions

Enter the withholding agent's name.

Enter the payee's information, including the taxpayer identification number (TIN) and check the appropriate TIN box.

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

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

**Foreign Address** – 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.

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

### Withholding Agent Instructions

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 Additional Information.

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

- The individual payee becomes a nonresident.
- The corporation ceases to have a permanent place of business in California or ceases to be qualified to do business in California.
- The partnership ceases to have a permanent place of business in California.
- The LLC ceases to have a permanent place of business in California.
- The tax-exempt entity loses its tax-exempt status.

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

---

## Additional Information

---

For additional information or to speak to a representative regarding this form, call the Withholding Services and Compliance telephone service at:

Telephone: **888.792.4900**  
916.845.4900

Fax: 916.845.9512

OR write to:

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

You can download, view, and print California tax forms and publications at [ftb.ca.gov](http://ftb.ca.gov).

OR to get forms by mail write to:

TAX FORMS REQUEST UNIT  
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](http://ftb.ca.gov)

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

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

### Asistencia Por Internet y Teléfono

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

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

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

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

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

- (a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
- (b) Have not within a three year period preceding this proposal been convicted of or had a civil judgment 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](http://www.aqmd.gov)). The list of current MSRC members/alternates can be found at the MSRC website (<http://www.cleantransportationfunding.org>).

### **SECTION I.**

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

DBA, Name _____, County Filed in _____ Corporation, ID No. _____ LLC/LLP, ID No. _____
--

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

\_\_\_\_\_  
\_\_\_\_\_

### **SECTION II.**

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

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



**Campaign Contributions Disclosure, continued:**

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

\_\_\_\_\_

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

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

\_\_\_\_\_

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

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

\_\_\_\_\_

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

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

\_\_\_\_\_

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

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

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

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

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

**DEFINITIONS**

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

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





# South Coast Air Quality Management District

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

## Direct Deposit Authorization

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

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

### STEP 2: Payee Information

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

### Authorization

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

### STEP 3:

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

### To be Completed by your Bank

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

For SCAQMD Use Only

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

Date \_\_\_\_\_

BOARD MEETING DATE: April 3, 2015

AGENDA NO. 9

**PROPOSAL:** Execute Replacement Contract for Refurbishment of Elevator Cab Interiors at Diamond Bar Headquarters

**SYNOPSIS:** Following bid evaluations for proposals submitted in response to RFP #P2014-11 - Elevator Cab Interior Refurbishment, the selected, highest-ranked contractor did not complete the contracted work, ceased communication with SCAQMD staff, and was unresponsive to further efforts to resolve the matter. Therefore, a letter to cancel the contract was sent to West Coast Elevator Interiors, Inc., in November 2014. This action is to request Board authorization to proceed with the second-ranked responsive bidder and to execute a contract with ThyssenKrupp Elevator at a cost not to exceed \$75,778.

**COMMITTEE:** Administrative, March 13, 2015; Recommended for Approval

**RECOMMENDED ACTION:**

This is to request authorization to proceed with the second-ranked responsive bidder to RFP #P2014-11 and to authorize the Chairman to execute a contract with ThyssenKrupp Elevator, at a cost not to exceed \$75,778. The elevator interiors are scheduled to be replaced on weekends to minimize disruption to building operations

Barry R. Wallerstein, D.Env.  
Executive Officer

WJ:BJ

---

**Background**

The existing passenger elevators at SCAQMD's Diamond Bar headquarters building are original equipment installed during construction of the facilities in 1990-91. Over the years, wear and tear on the elevator interiors has become increasingly evident. Fabric panels on the walls are ripped and stained, and tiles on the floors are chipped and cracked.

Staff recommendations are as follows: replace the existing fabric panels with decorative laminate; replace tile flooring with carpet squares; and upgrade existing lighting to energy-efficient LED fixtures.

## **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's Press Enterprise newspapers to leverage the most cost-effective method of outreach to the South Coast Basin.

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

## **Proposal Evaluation**

Thirteen RFPs were mailed out and six contractors attended the mandatory Bidder's Conference on January 22, 2014. Two proposals were received when final bidding closed at 2:00 p.m., on February 13, 2014, both of which were complete and met the RFP requirements.

A panel evaluated the responsive bids based on the criteria specified in the RFP, which included cost, approach to meeting the statement of work, contractor qualifications, and client references. West Coast Elevator Interiors, Inc., (WCEI) submitted the most highly ranked bid and received excellent references for comparable services.

On April 24, 2014, SCAQMD entered into a contract with WCEI, for an amount not to exceed \$63,550. On May 21, 2014, a check in the amount of \$19,065 was sent to WCEI to cover initial expenditures, per the terms of the contract. However, after several unreturned contacts by phone and email, the contract with WCEI was terminated. The matter was turned over to the General Counsel's Office for disposition. After multiple unsuccessful attempts to contact WCEI in order to resolve this matter, SCAQMD attorneys determined it was necessary to initiate legal proceedings against WCEI to recover damages for breach of the contract.

This proposal is to request authorization to proceed with the second-ranked responsive bidder, and to execute a contract with ThyssenKrupp Elevator, at a cost not to exceed \$75,778. The elevator interiors are scheduled to be replaced on weekends to minimize disruption to building operations.

## **Resource Impacts**

The FY 2014-15 District General Budget includes sufficient funds in the building maintenance budget for the refurbishment of the elevator cab interiors for elevators one through four, at SCAQMD's Diamond Bar headquarters.

[↑ Back to Agenda](#)

BOARD MEETING DATE: April 3, 2015

AGENDA NO. 10

**PROPOSAL:** Execute Contract for Independent Audit Services for FYs Ending June 30, 2015 and 2016

**SYNOPSIS:** On November 7, 2014, the Board approved release of an RFP for independent financial audit services. An evaluation panel composed of outside and SCAQMD Legal and Finance staff evaluated the proposals. Three proposals were submitted to the Administrative Committee for consideration at its March 13, 2015 meeting. After the Committee interviewed representatives of each of the firms, Simpson & Simpson, CPAs was selected to be recommended to the full Board.

**COMMITTEE:** Administrative, March 13, 2015; Recommended for Approval

**RECOMMENDED ACTION:**

Authorize the Chairman to execute a contract with Simpson & Simpson, CPAs for performance of SCAQMD's Financial Audits for FYs ending June 30, 2015 and 2016 in an amount not to exceed \$84,000.

Barry R. Wallerstein, D.Env.  
Executive Officer

MBO:SJ:lg

---

**Background**

A financial audit is annually performed on the SCAQMD in compliance with the California Government Code and Single Audit Act of 1996. This audit is performed by independent Certified Public Accountants, and their reports are addressed to the Board.

**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's Press Enterprise newspapers to leverage the most cost-effective method of outreach to the South Coast Basin.

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

**Bid Evaluation**

Fifty-six copies of RFP #P2015-17 were sent out to firms who have requested to be notified of SCAQMD procurements for auditing services. Eight proposals were received prior to the bid closing at 1:00 p.m. on January 8, 2015. One proposal was deemed to be nonresponsive due to an incomplete cost schedule, and one proposal did not meet the required minimum technical score.

An evaluation panel was convened to evaluate the remaining seven proposals and consisted of an external local government Finance Director with governmental finance experience and three SCAQMD staff: a Chief Financial Officer (CPA), a Senior Deputy District Counsel, and the Controller (CPA). The panel’s composition was one Asian Pacific American, one Hispanic, two Caucasian; three female, one male. The evaluation results for the top six bidders are as follows:

BIDDER	ANNUAL AUDIT HOURS	BID AMOUNT 3 YEARS	TECHNICAL SCORE	NO PREVIOUS AUDIT ENGAGEMENT WITH SCAQMD	LOCAL FIRM	TOTAL POINTS *	OVERALL RANK
Simpson & Simpson, CPAs	450	\$126,000	70	***	√	116	1
Lance, Soll & Lunghard, LLP	409	\$120,000	65	√	√	113	2
BCA Watson Rice LLP	492	\$162,890	66	**	√	100	3
Mayer, Hoffman McCann, P.C.	455	\$143,590	64	√	√	98	4
Vasquez and Co, LLP	609	\$248,880	61	√	√	84	5
Macias, Gini & O’Connell LLP	654	\$249,400	63	√	√	78	6

\* Total maximum points of 125

\*\* Contracted auditing firm for SCAQMD 3 years ago (formerly Thompson, Cobb, Bazilio and Associates, LLP.)

\*\*\* Current SCAQMD auditors.

The selection criteria used to rank the proposals included responsiveness to the RFP; technical expertise; qualifications and experience; past performance; cost; SB/SBJV/DVBE/DVBEJV/DVBE/SB subcontractors/local business designation (non-EPA). Additional points were available for no previous audit experience with SCAQMD and for knowledge and understanding of the Governmental Accounting Standards Board Statement No. 68 “Accounting and Financial Reporting for Pensions.” Based on the panel’s assessment of the criteria, the top three bidders were submitted to the Administrative Committee for its consideration and recommendation to the full Board. The Committee selected Simpson & Simpson, CPAs.

**Resource Impacts**

The maximum audit costs, including out of pocket expenses, are \$42,000 and \$42,000 for FYs ending June 30, 2015 and 2016, respectively. Funding will be requested through the annual budget process.

[↑ Back to Agenda](#)

BOARD MEETING DATE: April 3, 2015

AGENDA NO. 11

PROPOSAL: Remove Various Fixed Assets from SCAQMD Inventory

SYNOPSIS: SCAQMD Administrative Policies and Procedures No. 20 requires each organizational unit to review fixed assets for obsolescence and disposal every six months. This action is to approve removal of surplus equipment and motor vehicles determined to be obsolete, non-operational and not worth repairing.

COMMITTEE: Administrative, March 13, 2015; Recommended for Approval

**RECOMMENDED ACTION:**

Declare the items on Attachments A and B as surplus and authorize removal of these items from the fixed assets inventory through donation, auction process, salvage, or dismantlement for parts.

Barry R. Wallerstein, D Env.  
Executive Officer

MBO:SJ:lg

---

**Background**

SCAQMD Administrative Policies and Procedures No. 20 established procedures for the approval, purchasing, tagging, physical inventory, and disposal of fixed assets. This policy requires the review of the fixed assets and controlled items for obsolescence and disposal every six months. The list of equipment appearing on Attachment A represents old, obsolete and non-operational equipment that could not be repaired. The list of vehicles appearing on Attachment B represents vehicles that are non-operational and not worth repairing. These vehicles have an average of over 160,000 miles ranging from 125,000 to 186,000 miles. Equipment and vehicles purchased with federal funds are being disposed of in accordance with applicable federal regulations.

**Proposal**

Staff is recommending that the assets on Attachments A and B, as in the past, be surplused through the surplus process and properly disposed of. Equipment will be auctioned, donated or dismantled for parts and the motor vehicles will be disposed of through auction.

**Resource Impacts**

The proposed action will have no significant impact on the General Fund, other than miscellaneous revenue from auction sales. The total original cost of the fixed assets in Attachments A and B was \$506,215.82 and was accounted for, fully depreciated, and reported in the annual audited financial statements.

**Attachment**

- A. Obsolete or Non-repairable Equipment
- B. Obsolete or Non-repairable Vehicles



**South Coast Air Quality Management District  
ATTACHMENT A  
Obsolete or Non-Repairable Equipment**

<b>Asset ID</b>	<b>Tag#</b>	<b>Description</b>	<b>Cost</b>	<b>Date Purchased</b>	<b>Net Book Value****</b>	<b>Disposition</b>
00003400	16525	Generator, Pure Air, AADCO	7,464.09	1/1/02	0.00	Scrap/Auction **
00003401	16526	Generator, Pure Air, AADCO	7,464.09	1/1/02	0.00	Scrap/Auction **
00003148	E000092*	Generator, Pure Air, AADCO	7,279.70	11/14/00	0.00	Scrap/Auction **
00003159	E000101*	Generator, Pure Air, AADCO	7,279.70	10/17/00	0.00	Scrap/Auction **
00002775	E000003*	Sampler, Anderson, RAAS, PM 2.5	10,500.00	1/29/99	0.00	Scrap/Auction **
00002778	E000006*	Sampler, Anderson, RAAS, PM 2.5	10,500.00	1/29/99	0.00	Scrap/Auction **
00002779	E000007*	Sampler, Anderson, RAAS, PM 2.5	10,500.00	1/29/99	0.00	Scrap/Auction **
00002638	9641	Analyzer, O3 Dasibi	5,857.50	11/10/98	0.00	Scrap/Auction **
00003115	E000079*	Analyzer, O3 Dasibi	6,754.80	8/31/00	0.00	Scrap/Auction **
00002618	9592	Gas Calibrator, Environics 100	10,709.13	11/10/98	0.00	Scrap/Auction **
00000043	10300	Gas Calibrator, Environics 100	10,678.38	12/8/88	0.00	Scrap/Auction **
00000184	10704	Gas Calibrator, Environics 100	10,708.81	12/5/89	0.00	Scrap/Auction **
00000285	10937	Gas Calibrator, Environics 100	11,043.98	5/11/93	0.00	Scrap/Auction **
00000304	10994	Gas Calibrator, Environics 100	11,043.98	9/11/90	0.00	Scrap/Auction **
00002765	16212	Analyzer, Horiba, APMA 360	5,928.86	3/24/99	0.00	Scrap/Auction **
00000426	11284	Monitor, Particulate, PM10	18,704.72	12/9/90	0.00	Scrap/Auction **
00000003740	E000139*	Gas Calibrator Sys, Sabio 4010	10,290.04	1/1/01	0.00	Scrap/Auction **
00003413	16535	Cleaning Tank Ultrasonic	5,179.00	1/1/02	0.00	Scrap/Auction **
00003649	E000251*	Acid Purification System	9,992.50	1/1/04	0.00	Scrap/Auction **
00000231	10804	Gas Chromatograph	9,573.46	6/6/90	0.00	Scrap/Auction **
00002392	6894	Gas Chromatograph	21,306.91	5/4/91	0.00	Scrap/Auction **
00000569	11687	Detector	16,114.64	6/3/92	0.00	Scrap/Auction **
00003632	E000230*	Sampler, Aerosol Speciation	11,697.24	1/1/04	0.00	Lost***
<b>Total Obsolete or Non-repairable Equipment</b>			<b>236,571.53</b>			

\* Assets purchased with Federal Funds.

\*\* Usable parts will be removed and the remainder will be auctioned and scrapped.

\*\*\* Item is reported lost or possibly scrapped for parts as tag was inadvertently thrown away when instrument case was replaced.

\*\*\*\* Net Book Value represents historical cost reduced by estimated depreciation. It is expected that some revenue will be realized upon sale at auction.

**South Coast Air Quality Management District  
ATTACHMENT B  
Obsolete or Non-Repairable Vehicles**

<b>Asset ID</b>	<b>Tag#</b>	<b>Description</b>	<b>Cost</b>	<b>Date Purchased</b>	<b>Net Book Value**</b>	<b>Disposition</b>
00003187	38694	2001 Toyota Camry CNG	30,538.20	3/30/2001	0.00	Auction
00003189	38696	2001 Toyota Camry CNG	30,538.20	3/30/2001	0.00	Auction
00003196	38703	2001 Toyota Camry CNG	30,538.20	3/30/2001	0.00	Auction
00003197	38704	2001 Toyota Camry CNG	30,538.20	3/30/2001	0.00	Auction
00003198	38705	2001 Toyota Camry CNG	30,538.20	3/30/2001	0.00	Auction
00003200	38707	2001 Toyota Camry CNG	30,538.20	3/30/2001	0.00	Auction
00003204	38711	2001 Toyota Camry CNG	30,538.20	3/30/2001	0.00	Auction
00003208	38715	2001 Toyota Camry CNG	30,538.20	3/30/2001	0.00	Auction
000000003766	38778	2006 Honda Civic GX CNG *	25,338.69	6/1/2006	0.00	Auction
<b>Total Obsolete or Non-repairable Vehicles</b>			<b>\$269,644.29</b>			

\* Model year 2006 vehicle has 144,507 miles, engine is damaged with estimated engine replacment cost exceeding \$6,000.

\*\* Net Book Value represents historical cost reduced by estimated depreciation. It is expected that some revenue will be realized upon sale at auction.

BOARD MEETING DATE: April 3, 2015

AGENDA NO. 12

**PROPOSAL:** Approve Compensation Adjustments for Board Member Assistants/Consultants and Revisions to Board Member Assistant and Board Member Consultant Policy

**SYNOPSIS:** The Executive Officer recommends the Board Member Assistants/Consultants receive the same compensation adjustments as those recently provided to date to Teamsters Local 911 and unrepresented employees. Funds for these increases are available in the FY 2014-15 Budget.

**COMMITTEE:** Administrative, March 13, 2015; Recommended for Approval

**RECOMMENDED ACTIONS:**

1. Approve adjustments to compensation for Board Member Assistants/Consultants effective on January 1, 2015, 2016, and 2017 and authorize the Executive Officer to amend their contracts to reflect these compensation increases.
2. Amend Board Member Assistant and Board Member Consultant Policy to reflect these compensation increases.

Barry R. Wallerstein, D.Env.  
Executive Officer

MBO:lg

---

**Background**

Board members must address an ever-increasing range of complex issues related to performance of their duties, requiring increased assistance and it is appropriate to make an adjustment to compensation for the Board Member Assistants/Consultants at this time. Consistent with the salary adjustments approved by the Board on December 5, 2014 for most SCAQMD employees, it is recommended that the Board approve compensation increases of 2% effective January 1, 2015, 1.5% effective January 1, 2016, and 1.5% effective January 1, 2017.

**Proposal**

The Board Assistants/Consultants' compensation will be increased annually by 2% effective January 1, 2015, 1.5% effective January 1, 2016, and 1.5% effective January 1, 2017. Existing Board Member Assistants/Consultants' contracts will be amended to incorporate this increase and future contracts will also incorporate these increases.

**Resource Impacts**

There is sufficient funding available in the FY 2014-15 Budget.

**Attachment**

A – Proposed Amendments to Board Member Assistant and Board Member Consultant Policy

## ATTACHMENT A – PROPOSED REVISED

### BOARD MEMBER ASSISTANT AND BOARD MEMBER CONSULTANT POLICY

1. That an employee classification of Board Member Assistant be established, with the following scope of duties, minimum requirements, and compensation rates:

Scope of Duties: performs for Board Member a variety of tasks ranging from liaison with constituent public entities, other Board Members, the public, and District staff related to clerical functions. Typical functions may include preparing narrative and statistical reports, preparing correspondence, filing and maintaining records, arranging meetings and other group functions; monitoring various programs and projects; responding to inquiries from constituent public entities, District Board Members, the public, and District staff.

Minimum requirements: evidence of the required training and experience shall be demonstrated by coursework in business administration or a related field, and/or sufficient experience performing data analysis and adjunct clerical functions for which familiarity with personal computers is desirable.

Maximum compensation rate: up to ~~\$30.44~~31.05 per hour effective January 1, 2015, \$31.51 per hour effective January 1, 2016, and \$31.99 per hour effective January 1, 2017, and as revised by the Governing Board.

2. That an employee classification of Board Member Consultant be established, with the following scope of duties, minimum requirements, and compensation rates:

Scope of Duties: performs for Board Member a variety of professional-level assignments in the development and formulation of policy, data analysis, reports, plans, assessments, and strategies for District programs; provides advice and recommendations to the Board Member regarding matters subject to the Board Member's decision-making authority; may provide liaison with the public on behalf of the Board Member. Typical functions may include planning, organizing, and developing a wide variety of programs on the Board Member's behalf and evaluating the effectiveness of various approaches.

Minimum requirements: evidence of the required training and experience shall be demonstrated by graduation from an accredited college or university preferably with a major in an academic discipline related to the assignment and/or sufficient experience involving technical or analytical work at a professional level which would demonstrate the required knowledge, skills, and abilities related to the assignment.

Maximum compensation rate: up to ~~\$54.80~~55.90 per hour effective January 1, 2015, \$56.73 per hour effective January 1, 2016, and \$57.59 per hour effective January 1, 2017, and as revised by the Governing Board, except for the Board Chair's Assistant/Consultant.

3. That class specifications of Board Member Assistant and Board Member Consultant be added to the District's Classification Plan at that maximum compensation rate and with the scope of duties and minimum requirements specified above.
4. That Board Member Consultants may be engaged as either independent contractors or exempt SCAQMD contract employees and that Board Member Assistants may only be employed as SCAQMD contract employees.
5. That the Contracts for Board Member Consultants engaged as independent contractors shall specify that they shall not, during the term of their employment, engage in any performance of work that is in direct or indirect conflict with duties and responsibilities for the District, and that their contracts shall contain a provision so stating. Contracts for Board Consultants and Assistants engaged as contract employees shall be subject to Section 40 of the District's Administrative Code—Code of Ethics, except that they shall adhere to the work rules and performance standards established by the Board Member to whom they report.
6. That a Board Member wishing to engage the services of a person to provide assistance shall submit to the Administrative Committee a Proposal identifying the person and setting forth his or her qualifications, scope of duties, and proposed compensation. The proposal shall include a listing of other employment and/or clients sufficient to determine whether the person has existing work that conflicts directly or indirectly with his or her duties and responsibilities for the District. The Administrative Committee shall review the Proposal and determine if the proposed compensation rate is consistent with the required qualifications described above and shall, with advice of District Counsel, make a case-by-case determination of whether a person proposed to provide assistance complies with the conflict-of-interest requirements of this Policy and is a Board Member Assistant or a Board Member Consultant. If the determination is made that the person is a Board Member Consultant, the Administrative Committee also shall determine whether the Board Member consultant be classified as an employee or an independent contractor. All Board Member Assistants shall be contract employees. Board Member Assistants, and Board Member Consultants who are District employees, are exempt from the District's Salary Resolution, Personnel Rules, and Administrative Code, except as specifically referenced in the said documents, this policy, or in his/her contract with the District.
7. That the position of Board Member Consultant (whether District employee or independent contractor) and Board Member Assistant be noticed for designation in the District's Conflict of Interest Code listing classifications subject to the Code and the incumbent must disclose economic interests and comply with the Conflict of Interest provisions of the Political Reform Act.
8. That Board Member Assistants and Board Member Consultants serve at the pleasure of the Board Member to whom support services are provided and pursuant to the provisions of the contract executed between the Board Member Assistant or Board Member Consultant and the District. The Board Member served may determine whether his/her Board Member Consultant is to be paid on an hourly or a monthly basis. Board Member Assistants must be paid on an hourly basis. Board Member Assistants and Board Member

Consultants who are contract SCAQMD employees and who are paid on an hourly basis shall receive overtime pay at the rate of 1.5 times the hourly rate specified in his or her contract for hours worked in excess of ten per day or forty per week provided the Board Member approves in advance in writing the working of any overtime by the Board Member Assistant or Board Member Consultant. Board Member Consultants paid on a monthly basis will be paid a prorata share of their annual contract amount each month, provided the Board Member approves in writing, which will also cover all expense reimbursements authorized under the contract.

9. That the maximum support service-related expenditure the District may make per Board Member (except the Chair, Vice-Chair, and the CARB representative) is ~~\$37,707~~38,084 ~~per for~~ fiscal year 2014-15, \$38,750 for fiscal year 2015-16, \$39,331 for fiscal year 2016-17, and \$39,624 for fiscal year 2017-18, and as revised by the Governing Board, not including business-related expenses. Effective May 1, 2009, expenses approved in advance that are associated with Board Member-approved attendance at mobile Board meetings and Board retreats will be reimbursed by SCAQMD upon presentation of expense receipts. That the Board's CARB representative shall have, ~~in addition to an amount equal to two times the fiscal-year maximum applicable to the Board Members, an equivalent amount~~ for assistance with CARB-related matters. That the Board Chair's and Vice-Chair's administrative support shall be, at the Chair's and Vice-Chair's option, either: (1) a regular, non-contract District employee at the Executive Secretary level; or (2) a Board Member Assistant, or Board Member Consultant, or combination, at a total fiscal-year cost, not including business-related expenses, ~~at an amount set by the Governing Board of an amount equal to three times the fiscal-year maximum applicable to the Board Members.~~ Effective May 1, 2009, expenses approved in advance that are associated with Board Chair-approved attendance at mobile Board meetings and Board retreats will be reimbursed by SCAQMD upon presentation of expense receipts.
  - a. Board Member Assistants and Board Member Consultants will be provided vehicle mileage reimbursement, at the rate set forth in Administrative Code section 110.4, for travel within the geographical boundaries of the District for travel directly related to their duties as a Board Member Assistant or Board Member Consultant.
  - b. A Board Member Assistant or Board Member Consultant to the Board Member(s) serving as the District's CARB representative or as the District's representative to the California Fuel Cell Partnership (CaFCP) will be provided reimbursement for necessary expenses related to attending CARB or CaFCP workshops, hearings, meetings, or related events, subject to advance approval by the Board Chair.
  - c. The Board Chairman may also approve other Board Member Assistant/Consultant travel for District-related activities provided such travel is requested by their supervising Board Member and is reported to the Administrative Committee.
10. That Board Member Assistants and Board Member Consultants who are contract SCAQMD employees and who work on average a minimum of 13 hours per week may elect, from among District-sponsored health, dental, and vision insurance plans available

to SCAQMD employees, District-paid single-party coverage up to the dollar amount of the benefits cap approved by the Board for professional employees. Board Member Consultants who are independent contractors are not eligible for any SCAQMD benefits.

11. That Board Member Assistants and Board Member Consultants who are contract SCAQMD employees may elect to participate in the deferred compensation plan SCAQMD sponsors for employees, as covered under section 457 of the Federal Internal Revenue Code.
12. The total compensation provided under a contract between the Board Member Assistant or Board Member Consultant and the District for any Board Member shall not exceed the amounts specified in paragraph 9 above. At such time as the compensation for services reaches said amounts, the contract for services shall be terminated at the employment relationship between the Board Member Assistant or Board Member Consultant and the District shall be terminated.
13. That all present and future assistants to a Board Member (whether Board Member Assistant or Board Member Consultant and whether or not an independent contractor) shall be subject to this policy.



BOARD MEETING DATE: April 3, 2015

AGENDA NO. 13

PROPOSAL: Legislative and Public Affairs Report

SYNOPSIS: This report highlights the February 2015 outreach activities of Legislative and Public Affairs, which include: an 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:jf

---

## **BACKGROUND**

This report summarizes the activities of Legislative and Public Affairs for February 2015. 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 February. These events involve communities that may suffer disproportionately from adverse air quality impacts.

### February 11

- Staff participated in the American Lung Association's planning meeting for the Inland Counties Lung Force Expo on May 2, 2015 at American Career College in

Ontario. SCAQMD will be participating in the Lung Force Expo health fair to promote air quality awareness.

#### February 25

- Staff helped coordinate a community meeting related to Allenco Oil Company in the University Park neighborhood of South Los Angeles. The meeting provided an update on air quality and odor issues related to Allenco as well as an update on the facility's operation and permit. Staff also discussed SCAQMD's proposed Oil and Gas rule changes.

#### February 27

- Staff coordinated SCAQMD's Environmental Justice for All: A Conversation with the Community conference at The Center at Cathedral Plaza, Los Angeles. Nearly 300 attendees, representing government agencies, academia and community organizations, as well as other community stakeholders, heard presentations, panel discussions and keynote speakers discuss ways in which the government and community can work better on environmental justice issues in the future.

### **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; and
- Assistance in resolving air pollution-related problems.

SCAQMD staff attended and/or provided information and updates at the following events:

#### February 4

- SCAQMD's Public Hearings for Proposed Supplement to the 24-hour PM2.5 State Implementation Plan (SIP) were held at the Buena Park Community Center and the East Los Angeles Library.

#### February 5

- SCAQMD's Public Hearing for Proposed Supplement to the 24-hour PM2.5 SIP was held at the Arrowhead Regional Medical Center in Colton and the Louis Rubidoux Public Library in Riverside.

#### February 6

- Southern California Edison's 13<sup>th</sup> Annual "Connecting the Evolution of Electricity to Black History," Edison's Energy Education Center, Irwindale.

#### February 27

- Western Riverside Council of Government's Future Cities Conference at the Riverside Convention Center.

#### February 27 & 28

- Southland Credit Union's Race on the Base Event, Los Alamitos Joint Forces Training Base, Los Alamitos.

### **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.

#### February 3

- Sixteen representatives from China's State Forestry Administration, hosted by the U.S.-China Business & Culture Exchange Center, visited SCAQMD headquarters where they received an overview on the agency, air quality, and toured the laboratory.

#### February 6

- Three representatives from the office of Los Angeles County Supervisor Hilda L. Solis, 1<sup>st</sup> District, hosted by SCAQMD Board Member Michael Cacciotti, visited SCAQMD headquarters where they received an overview on the agency, air quality, and toured the laboratory.

## COMMUNICATION CENTER STATISTICS

The Communication Center handles calls on the SCAQMD main line, 1-800-CUT-SMOG<sup>®</sup> line, the Spanish line, and after hours calls to each of those lines. Calls received in the month of February 2015 were:

Calls to SCAQMD's Main Line and the 1-800-CUT-SMOG <sup>®</sup> Line	4,723
Calls to SCAQMD's Spanish-language Line	<u>71</u>
Total Calls	4,794

## PUBLIC INFORMATION CENTER STATISTICS

The Public Information Center (PIC) handles phone calls and walk-in requests for general information. Information for the month of February 2015 is summarized below:

Calls Received by PIC Staff	146
Calls to Automated System	<u>1,240</u>
Total Calls	1,386
Visitor Transactions	245
E-Mail Advisories Sent	16,915

## BUSINESS ASSISTANCE

SCAQMD notifies local businesses of proposed regulations so they can participate in the agency's rule development process. SCAQMD also works with other agencies and governments to identify efficient, cost-effective ways to reduce air pollution and shares that information broadly. Staff provides personalized assistance to small businesses both over the telephone and via on-site consultation. The information is summarized below:

Conducted four free on-site consultation  
Provided permit application assistance to 168 companies  
Issued 22 clearance letters

### Types of businesses assisted

Auto Body Shops	Auto Repair Shops	Metal Processing Facilities
Dry Cleaners	Printing Facilities	Furniture Manufacturers
Gas Stations	Aerospace Manufacturers	Construction & Architecture
Restaurants		

## **OUTREACH TO COMMUNITY GROUPS AND FEDERAL, STATE, AND LOCAL GOVERNMENTS**

Field visits and/or communications were conducted with elected officials or staff from the following cities:

Anaheim	Huntington Park	Murrieta
Arcadia	Inglewood	Pasadena
Bell	Irwindale	Perris
Beaumont	Jurupa Valley	Redlands
Buena Park	La Palma	Riverside
Carson	La Canada	Rosemead
Claremont	Long Beach	San Fernando
Colton	Los Angeles	San Marino
Commerce	Los Alamitos	South Gate
Cypress	Maywood	South Pasadena
Flintridge	Montebello	Temecula
Gardena	Moreno Valley	Torrance
Hawthorne	Monterey Park	Temple City
Hemet	Monrovia	Vernon

Visits and/or communications were conducted with elected officials or staff from the following State and Federal Offices:

- U.S. Senator James Inhofe
- U.S. Congressman Pete Aguilar
- U.S. Congressman Ken Calvert
- U.S. Congresswoman Judy Chu
- U.S. Congresswoman Janice Hahn
- U.S. Congressman Ed Royce
- U.S. Congressman Raul Ruiz
- U.S. Congressman Mark Takano
- State Senator Ed Hernandez
- State Senator Mike Morrell
- State Senator Richard Roth
- Assembly Member Ian Calderon
- Assembly Member Ed Hernandez
- Assembly Member Chris Holden
- Assembly Member Yong Kim
- Assembly Member Eric Linder
- Assembly Member Ling Ling Chang
- Assembly Member Chad Mayes
- Assembly Member Jose Medina

- Assembly Member Melissa Melendez
- Assembly Member Marie Waldron

Staff represented SCAQMD and/or provided a presentation to the following governments and business organizations:

Arcadia Chamber of Commerce  
 Anaheim Chamber of Commerce  
 Beaumont Chamber of Commerce  
 Big Bear Chamber of Commerce  
 Chino Valley Chamber of Commerce  
 Dewitt Petroleum, South El Monte  
 Greater Riverside Chambers of Commerce  
 Highland Chamber of Commerce  
 Inland Empire League of Cities  
 Irwindale Chamber of Commerce  
 League of California Cities, Inland Empire Division  
 Loma Linda Chamber of Commerce  
 Moreno Valley Chamber of Commerce  
 North Orange County Legislative Alliance  
 Redlands Chamber of Commerce  
 Riverside Transit Agency  
 Riverside County Transportation Commission  
 San Gabriel Valley Council of Governments  
 San Gabriel Valley Economic Partnership  
 San Bernardino Chamber of Commerce  
 San Bernardino Associated Governments  
 South Bay Council of Governments  
 South Pasadena Chamber of Commerce  
 Southwest California Legislative Council  
 -Temecula Valley Chamber of Commerce  
 -Murrieta Chamber of Commerce  
 -Wildomar Chamber of Commerce  
 -Menifee Valley Chamber of Commerce  
 -Lake Elsinore Valley Chamber of Commerce  
 -Perris Valley Chamber of Commerce  
 Western Riverside County Council of Governments (WRCOG)  
 Western Riverside County Transportation NOW (RTA)  
 -Greater Riverside Chapter, Riverside  
 -Hemet/San Jacinto Chapter, Hemet  
 -Moreno Valley/Perris Chapter, Moreno Valley  
 -Northwest Chapter, Norco  
 -San Gorgonio Pass Chapter, Beaumont

-Southwest Chapter, Murrieta  
Yucaipa Chamber of Commerce

Staff represented SCAQMD and/or provided a presentation to the following community groups and organizations:

American Cancer Society, Riverside  
American Lung Association in California, Inland Counties  
American Heart Association, Riverside  
Beaumont School District  
Burbank Green Alliance  
Carson Community Center  
Center for Community & Environmental Justice, Jurupa Valley  
Clean Air Now, Riverside  
Coalition for a Safe Environment, Wilmington  
Competitive Edge Charter School, Yucaipa  
Desert Mirage High School, Thermal  
Dollarhide Neighborhood Center, Compton  
Edison's Energy Center, Irwindale  
Environmental Charter High School, Wilmington  
First 5 Riverside County Children & Families Commission  
Gardena Senior Center  
Hawthorne Senior Center  
Inland Action Network, Inland Communities  
Inglewood Senior Center  
Jurupa Unified School District  
Kiwanis Club of Big Bear Valley  
Lawndale Senior Center  
Louis Rubidoux Public Library  
Mesa View Middle School, Calimesa  
South Bay Environmental Services Center, Torrance  
Yucaipa Charter School

[↑ Back to Agenda](#)

BOARD MEETING DATE: April 3, 2015

AGENDA NO. 14

REPORT: Hearing Board Report

SYNOPSIS: This reports the actions taken by the Hearing Board during the period of February 1 through February 28, 2015.

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 2015** and **February 2015 Hearing Board Cases**.

The total number of appeals filed during the period February 1 to February 28, 2015 is 0; and total number of appeals filed during the period of January 1 to February 28, 2015 is 0.





























## Report of February 2015 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. SCAQMD vs. ACD, LLC Case No. 6003-1 (K. Manwaring)	203(a)	Respondent cannot meet FCD because of a delay in SCE's approval of upgrade of electric service.	Stipulated/Issued	Mod. O/A issued commencing 2/10/15 and continuing through 6/15/15. The Hearing Board shall retain jurisdiction over this matter until 6/15/15.	N/A
2. SCAQMD vs. Mike Homaizad, individually and dba Classic Cleaners Case No. 6019-1 (N. Feldman)	222 1146.2(c)(4)	Respondent operating noncompliant boiler.	Stipulated/Issued	O/A issued commencing 2/25/15 and continuing through 12/31/15. The Hearing Board shall retain jurisdiction over this matter until 1/15/16.	N/A
3. SCAQMD vs. Pacific Battleship Center Case No. 5976-1 (Consent Calendar, No Appearance)	203 1110.2 1470(c)(4)(B)	Respondent operating noncompliant diesel generator.	Stipulated/Issued	Mod O/A issued commencing 2/25/15 and continuing through 3/1/16. The Hearing Board shall retain jurisdiction over this matter until 3/1/16.	N/A
4. SCAQMD vs. United States Government, Veteran's Affairs Medical Center Case No. 4280-3 (Consent Calendar, No Appearance)	1146(c)(1)(G)	Respondent operating three noncompliant boilers.	Stipulated/Issued	O/A issued commencing 2/10/15 and continuing through 4/30/16. The Hearing Board shall retain jurisdiction over this matter until 4/30/16.	N/A
5. Sunshine Gas Producers LLC Case No. 5880-2 (N. Feldman)	203(b) 3002(c)(1)	Petitioner cannot comply with SOx limit for regeneration flare.	Not Opposed/Granted	SV granted commencing 2/18/15 and continuing for 90 days or until SCAQMD permit is issued or denied, whichever comes first.	SO2: 12.35 lbs/day
6. Thermal Remediation Solutions, LLC Case No. 5989-2 (L. Nevitt)	203(b) 1166, Part 12	Equipment breakdown prevents petitioner from processing VOC contaminated soil within prescribed timeframe.	Not Opposed/Granted	Ex Parte EV granted commencing 2/6/15 and continuing for 30 days or until the SV currently scheduled for 3/3/15, whichever comes first.	None

## **Acronyms**

AOC: Alternative Operating Conditions  
BACT: Best Available Control Technology  
CEMS: Continuous Emissions Monitoring System  
CO: Carbon Monoxide  
DPF: Diesel Particulate Filter  
EV: Emergency Variance  
FCD: Final Compliance Date  
GDF: Gasoline Dispensing Facility  
H<sub>2</sub>S: 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  
NH<sub>3</sub>: Ammonia  
NOV: Notice of Violation  
NO<sub>x</sub>: 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  
SCE: Southern California Edison  
SCR: Selective Catalytic Reduction  
SO<sub>2</sub>: Sulfur Dioxide  
SO<sub>x</sub>: Oxides of Sulfur  
SV: Short Variance  
TBD: To be determined  
VOC: Volatile Organic Compound  
VRS: Vapor Recovery System

[↑ Back to Agenda](#)

BOARD MEETING DATE: April 3, 2015

AGENDA NO. 15

REPORT: Civil Filings and Civil Penalties Report

SYNOPSIS: This reports the monthly penalties from February 1 through February 28, 2015, and legal actions filed by the General Counsel's Office from February 1 through February 28, 2015. An Index of District Rules is attached with the penalty report.

COMMITTEE: No Committee Review

RECOMMENDED ACTION:

Receive and file this report.

Kurt R. Wiese  
General Counsel

KRW:lc

---

No Civil Actions Filed

**Attachments**

February 2015 Penalty Report

Index of District Rules and Regulations

**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT  
General Counsel's Office**

**February 2015 Settlement Penalty Report**

**Total Penalties**

<b>Civil Settlements:</b>	<b>\$53,763.66</b>
<b>Self-Reported Violations:</b>	<b>\$71,200.00</b>
<b>MSPAP Settlements:</b>	<b>\$30,905.00</b>
<b>Hearing Board Settlements:</b>	<b>\$12,500.00</b>
<b>Total Cash Settlements:</b>	<b>\$168,368.66</b>
<b>Total SEP Value:</b>	<b>\$0.00</b>

<b>Fiscal Year through February 2015 Cash Total:</b>	<b>\$7,512,030.32</b>
<b>Fiscal Year through February 2015 SEP Value Only Total:</b>	<b>\$299,000.00</b>



FAC ID	COMPANY NAME	RULE NUMBER	RECLAIM ID	SETTLED DATE	ATTY INT	NOTICE NO.	TOTAL SETTLEMENT
<b>CIVIL SETTLEMENTS:</b>							
3704	ALL AMERICAN ASPHALT, UNIT NO.01	2004 2004	Y	2/10/2015	KCM	P56324 P56323	\$7,200.00
2526	CHEVRON USA INC	463 221, 3002		2/11/2015	BTG	P37231 P37230	\$3,500.00
158141	FAUX EFFECTS INTERNATIONAL INC.	1113(C)(1)		2/25/2015	WBW	P60306	\$9,438.66
115862	HIGHLAND ARCO, DANIEL KOHANOF	203(B), 461 203, 203(B), 206, 461 41960.2 461(C)(2)(B), 41960.2		2/12/2015	NSF	P59039 P61478  P61475	\$1,000.00
800057	KINDER MORGAN LIQUIDS TERMINALS, LLC	462, 3002		2/4/2015	BTG	P52622	\$3,000.00
84456	LA CANADA UNIFIED SCHOOL DISTRICT	203 (A), 1146.1		2/20/2015	NSF	P61702	\$2,500.00
137966	LA CURACAO BUSINESS CENTER	203 (B)		2/25/2015	KCM	P58832	\$1,200.00
165580	M & Z ENTERPRISES INC	461, 41960.2 203		2/26/2015	WBW	P62241 P61253	\$1,000.00
45471	O N I S DBA CARMEUSE INDUSTRIAL	2004	Y	2/26/2015	KCM	P52196	\$1,200.00
158910	RANCHO LPG HOLDINGS, LLC	1173		2/24/2015	NSF	P34696	\$10,000.00
114801	RHODIA INC.	2011, 2012	Y	2/24/2015	BTG	P57815	\$10,625.00

FAC ID	COMPANY NAME	RULE NUMBER	RECLAIM ID	SETTLED DATE	ATTY INT	NOTICE NO.	TOTAL SETTLEMENT
173194	SAFAR & SAFAR BROTHERS INC. \$10,000 suspended penalty from November 1, 2014 through November 10, 2016. Facility shall remain in full compliance with all District rules and regulations at all of their facilities located in South Coast Basin.	461(C)(2)(B) 461 203 (A)		2/26/2015	NSF	P56835 P59918	\$1,600.00
157644	SR PRODUCTS	1113(C)(1)		2/26/2015	LBN	P60324	\$500.00
11034	VEOLIA ENERGY LOS ANGELES, INC	2004, 2012	Y	2/25/2015	TRB	P55543	\$1,000.00
<b>TOTAL CIVIL SETTLEMENTS:</b>							<b>\$53,763.66</b>
<b>SELF-REPORTED VIOLATIONS:</b>							
800026	ULTRAMAR INC On January 4, 2013, Ultramar detected a decrease in alkylation unit feed rate and detected an increase in moisture in the acid. Refinery immediately shut down the alkylation unit and the fluid catalytic cracking unit.	203, 2004	Y	2/4/2015	KCM	SRV105	\$71,200.00
<b>TOTAL SRV SETTLEMENT:</b>							<b>\$71,200.00</b>
<b>MSPAP SETTLEMENTS:</b>							
176308	100 CEDAR AVENUE LLC	203 (B), 1470		2/25/2015		P58087	\$1,650.00
174718	61 N RAYMOND BURGERS, INC. DBA SLATER	401		2/19/2015		P61707	\$1,600.00
177675	AMERICAN BEEF PACKERS	222		2/11/2015		P57693	\$5,500.00
177813	AMERIGAS	203 (A)		2/11/2015		P61439	\$770.00

FAC ID	COMPANY NAME	RULE NUMBER	RECLAIM ID	SETTLED DATE	ATTY INT	NOTICE NO.	TOTAL SETTLEMENT
6638	ANAHEIM CITY	1146.2		2/11/2015		P61855	\$1,500.00
171583	ARB, INC	203(A)		2/11/2015		P59268	\$440.00
177814	ARROW CONCRETE PUMPING	203 (A)		2/18/2015		P61437	\$275.00
158931	AUTO CONVENIENCE CNTRS, 1010 FAIRWAY	461 (E) (1)		2/6/2015		P60919	\$550.00
100542	AUTRY NATIONAL CENTER	1146.1		2/11/2015		P59374	\$1,800.00
178420	BRISTOL FARMS	203 (A)		2/18/2015		P60130	\$550.00
8309	CAMBRO MANUFACTURING CO	3002(C)(1)		2/25/2015		P61909	\$600.00
64327	CITY OF BEVERLY HILLS	203 (B)		2/3/2015		P60959	\$1,300.00
75495	CITY OF BEVERLY HILLS	203 (B)		2/3/2015		P60960	\$1,300.00
1209	DECCO US POST HARVEST, INC.	1146.1		2/11/2015		P61607	\$3,000.00
140811	DUCOMMUN AEROSTRUCTURES INC	1469		2/25/2015		P61069	\$850.00
148898	ENCINO OIL CORPORATION #135272	201		2/4/2015		P61772	\$800.00
177480	FRAME2FINISH, INC	403(D)(1)		2/24/2015		P60700	\$600.00
106302	HIGHLAND VALERO	203 (A)		2/24/2015		P59774	\$650.00
170043	KING JR.GAS & SUPER KING ENTER.CORP.	203 (B)		2/4/2015		P59305	\$1,000.00
14953	MURPHY INDUSTRIAL COATINGS INC	203 (A)		2/24/2015		P61441	\$1,000.00
137111	RASHID & SONS INC	461(C)(2)(B)		2/18/2015		P59338	\$650.00

FAC ID	COMPANY NAME	RULE NUMBER	RECLAIM ID	SETTLED DATE	ATTY INT	NOTICE NO.	TOTAL SETTLEMENT
168971	SMS, INC	203(A) 203(A)		2/6/2015		P44883 P44882	\$1,100.00
117466	THREE SISTERS TRUCK STOP	461		2/11/2015		P60917	\$360.00
167023	THRIFTY PETROLEUM, INC.	461, 41960.2		2/18/2015		P59780	\$560.00
133991	UNITED RENTALS (NORTH AMERICA), INC	461 (E) (2)		2/12/2015		P58597	\$800.00
171711	UPLAND ROCK, INC	1157, 403(D)(2) PERP 2459		2/11/2015		P58086	\$1,700.00

**TOTAL MSPAP SETTLEMENTS: \$30,905.00**

**HEARING BOARD SETTLEMENTS:**

35188	3M COMPANY Hearing Board Case No. 5970-2 Penalty for ongoing operation of the facility's equipment in noncompliance until 9.15.15.	203, 1147, 1303		2/13/2015	KCM	HRB2263	\$4,000.00
44873	A. C. D. INC Hearing Board Case No. 6003-1 Facility self-reported and now is under a stipulated order for abatement and will pay \$2500/month for ongoing operation of facility engine beginning December 15, 2014. Penalty is for December 2014 and January 2015.	203		2/10/2015	KCM	HRB2261	\$7,500.00

<b>FAC ID</b>	<b>COMPANY NAME</b>	<b>RULE NUMBER</b>	<b>RECLAIM ID</b>	<b>SETTLED DATE</b>	<b>ATTY INT</b>	<b>NOTICE NO.</b>	<b>TOTAL SETTLEMENT</b>
173952	THE REHABILITATION CENTER OF BEVERLY Hearing Board Case No. 5996-2 Beginning 11.17.14, RCBH shall pay \$1,000/month until they permanently cease use of all three boilers in noncompliance with District Rule.	1146.2		2/13/2015	NAS	HRB2262	\$1,000.00

**TOTAL HEARING BOARD SETTLEMENTS:    \$12,500.00**

## DISTRICT RULES AND REGULATIONS INDEX FOR FEBRUARY 2015 PENALTY REPORTS

### 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 1/5/90*)
- Rule 206 Posting of Permit to Operate (*Amended 10/8/93*) *Explains how and where permits are to be displayed.*
- 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 401 Visible Emissions (*Amended 9/11/98*)
- Rule 403 Fugitive Dust (*Amended 12/11/98*) *Pertains to solid particulate matter emitted from man-made activities.*
- Rule 461 Gasoline Transfer and Dispensing (*Amended 6/15/01*)
- Rule 462 Organic Liquid Loading (*Amended 5/14/99*)
- Rule 463 Storage of Organic Liquids (*Amended 3/11/94*)

### REGULATION XI - SOURCE SPECIFIC STANDARDS

- 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 1147 NOx REDUCTIONS FROM MISCELLANEOUS SOURCES (9/08)
- Rule 1157 PM10 Emission Reductions From Aggregate And Related Operations
- Rule 1173 Fugitive Emissions of Volatile Organic Compounds (*Amended 5/13/94*)

## **REGULATION XIII - NEW SOURCE REVIEW**

Rule 1303 Requirements (*Amended 4/20/01*)

## **REGULATION XIV - TOXICS**

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*)

Rule 2011 Requirements for Monitoring, Reporting, and Recordkeeping for Oxides of Sulfur (SO<sub>x</sub>) Emissions (*Amended 5/11/01*)

Rule 2012 Requirements for Monitoring, Reporting, and Recordkeeping for Oxides of Nitrogen (NO<sub>x</sub>) Emissions (*Amended 5/11/01*)

## **REGULATION XXX - TITLE V PERMITS**

Rule 3002 Requirements (*Amended 11/14/97*)

## **CALIFORNIA HEALTH AND SAFETY CODE § 41700**

41960.2 Gasoline Vapor Recovery

## **CALIFORNIA CODE OF REGULATIONS**

PERP 2459 Portable Equipment Notification

[↑ Back to Agenda](#)

BOARD MEETING DATE: April 3, 2015

AGENDA NO. 16

REPORT: Lead Agency Projects and Environmental Documents Received By SCAQMD

SYNOPSIS: This report provides, for the Board's consideration, a listing of CEQA documents received by the SCAQMD between February 1, 2015 and February 28, 2015 and those projects for which the SCAQMD is acting as lead agency pursuant to CEQA.

COMMITTEE: Mobile Source, March 20, 2015, Reviewed

RECOMMENDED ACTION:  
Receive and file.

Barry R. Wallerstein, D.Env.  
Executive Officer

EC:PF:SN:MK:JW:AK

---

**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 February 1, 2015 and February 28, 2015 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 Board's 1997 Environmental Justice Guiding Principles and Environmental Justice Initiative #4. Furthermore, as required by 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." However, if there is no notation, then SCAQMD staff did not provide testimony at a hearing for the proposed project.

During the period February 1, 2015 through February 28, 2015, the SCAQMD received 114 CEQA documents. Of the total of 134 documents\* listed in Attachments A and B:

- 35 comment letters were sent;
- 25 documents were reviewed, but no comments were made;
- 22 documents are currently under review;
- 0 documents did not require comments (e.g., public notices, plot plans, Final Environmental Impact Reports);
- 0 documents was not reviewed; and
- 52 documents were screened without additional review.

\* These statistics are from February 1, 2015 to February 28, 2015 and do not include the most recent “Comment Status” updates in Attachments A and B.

Copies of all comment letters sent to lead agencies can be found on the SCAQMD’s CEQA webpage at the following internet address:

<http://www.aqmd.gov/home/regulations/ceqa/commenting-agency/comment-letter-year-2014>.

**SCAQMD Lead Agency Projects (Attachment C)** – Pursuant to CEQA, the SCAQMD periodically acts as lead agency for stationary source permit projects. Under CEQA, the lead agency is responsible for determining the type of CEQA document to be prepared if the proposal is considered to be a “project” as defined by CEQA. For example, an Environmental Impact Report (EIR) is prepared when the SCAQMD, as lead agency, finds substantial evidence that the proposed project may have significant adverse effects on the environment. Similarly, a Negative Declaration (ND) or Mitigated Negative Declaration (MND) may be prepared if the SCAQMD determines that the proposed project will not generate significant adverse environmental impacts, or the impacts can be mitigated to less than significance. The ND and MND are written statements describing the reasons why proposed projects will not have a significant adverse effect on the environment and, therefore, do not require the preparation of an EIR.

Attachment C to this report summarizes the active projects for which the SCAQMD is lead agency and is currently preparing or has prepared environmental documentation. During February, one Lead Agency CEQA document was certified, and two projects were removed due to lack of activity. As noted in Attachment C, the SCAQMD continued working on the CEQA documents for six active projects during February.

### **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  
FEBRUARY 1, 2015 TO FEBRUARY 28, 2015**

<u>SCAQMD LOG-IN NUMBER</u> PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
<i>Waste and Water-related</i> <b>ORC150203-12</b> Reach 9 Phases 4, 5A, 5B and Burlington Northern and Santa Fe Railroad Bridge Protection	The proposed project consists of embankment protection features involving replacing the existing soil cement and riprap protection along 4.48 miles of embankment on the north side of the river and 3,150 feet of embankment on the south side of the river, with a combination of grouted stone, soil cement and sheet pile.  Comment Period: 2/3/2015 - 2/20/2015 Public Hearing: N/A	Notice of Availability of a Draft Supplemental Environmental Assessment	NEPA: U.S. Army Corps of Engineers, LA District: CEQA: Orange County Flood Control District	Document screened - No further review conducted
<i>Waste and Water-related</i> <b>ORC150206-02</b> Wellhead Equipping for Well No. 21 Project & Richfield Road Pipeline Project	The proposed project consists of equipping Well No. 21 with a high efficiency vertical turbine pump and other necessary appurtenances to be capable of producing 3,000 gallons per minute of groundwater. The project also includes a pipeline to collect the produced groundwater from Well No. 21 and produced groundwater from future wells. The pipeline will range in diameter from 16-inches to 36-inches for a distance of about 2,700 feet and will connect to Yorba Linda Water District's existing groundwater collection system.  Comment Period: 2/5/2015 - 3/9/2015 Public Hearing: N/A	Draft Mitigated Negative Declaration	Yorba Linda Water District	Document screened - No further review conducted
<i>Waste and Water-related</i> <b>RVC150203-07</b> Valley Verde Green Waste Recycling Facility	The proposed project consists of a conditional use permit to allow the operation of a Green Waste Recycling Facility on 6.06 acres. Operations will consist of receiving green waste, load checking, processing and shipping. Reference RVC140708-02, RVC131126-04  Comment Period: 2/3/2015 - 2/19/2015 Public Hearing: N/A	Initial Project Consultation	City of Coachella	Document reviewed - No comments sent
<i>Waste and Water-related</i> <b>RVC150217-02</b> Frank Sinatra Drive at Whitewater River Crossing Project, Case No. EA15001	The proposed project consists of replacing the existing low water crossing along Frank Sinatra Drive at the Whitewater River with a new four lane divided minor arterial, all-weather access bridge. The new bridge would replace the existing roadway which is currently a four lane divided minor arterial, low water crossing and emergency access in the City of Rancho Mirage during flood events.  Comment Period: 2/17/2015 - 3/16/2015 Public Hearing: N/A	Draft Mitigated Negative Declaration	City of Rancho Mirage	Document screened - No further review conducted

# - Project has potential environmental justice concerns due to the nature and/or location of the project.



















































**ATTACHMENT B  
ONGOING ACTIVE PROJECTS FOR WHICH SCAQMD HAS  
OR IS CONTINUING TO CONDUCT A CEQA REVIEW**

SCAQMD LOG-IN NUMBER PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
<i>Waste and Water-related</i> <b>RVC150113-12</b> Coachella Valley Compost Solid Waste	The proposed project consists of revisions of the Coachella Valley Compost's (CVC) Solid Waste Facility Permit. Some of the revisions include increase of total Lease Agreement area by 4.53 acres, from 35.27 acres to 39.8 acres; providing a new concrete low-water crossing and cut-off wall; increase of the maximum daily tonnage of compostable and non-compostable organic materials processed at the CVC from 250 tons per day (tpd) to 785 tons per day (tpd); increase compost production to 450 tpd from 250 tpd; add 200 tpd of construction/demolition waste processing as a permitted activity on 3 acres west of the expanded compost management unit; and increasing the number of days of operation from 6 to 7 days per week. <a href="http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2015/february/deirswfp.pdf">http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2015/february/deirswfp.pdf</a> Comment Period: 1/14/2015 - 3/2/2015 Public Hearing: N/A	Draft Environmental Impact Report	County of Riverside	SCAQMD staff commented 2/25/2015
<i>Utilities</i> <b>ODP150114-20</b> Analysis of Oil and Gas Well Stimulation Treatments in California	The proposed project consists of analyzing the impacts of well stimulation treatments, including hydraulic fracturing, performed in a manner consistent with the proposed permanent regulations that would amend California Code of Regulations Title 14, Division 2, Chapter 4, Subchapter 2. <a href="http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2015/march/deiroidlandgaswell.pdf">http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2015/march/deiroidlandgaswell.pdf</a> Comment Period: 1/14/2015 - 3/16/2015 Public Hearing: N/A	Draft Environmental Impact Report	California Department of Conservation	SCAQMD staff commented 3/13/2015
<i>Institutional (schools, government, etc.)</i> <b>LAC141209-05</b> Pomona College 2015 Campus Master Plan EIR	The proposed project consists of a long-range Master Plan for planned future improvements to the Pomona College campus over a period of 15 years from the date of the City approval of the Master Plan. <a href="http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2015/february/deirpomona.pdf">http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2015/february/deirpomona.pdf</a> Comment Period: 12/8/2014 - 2/6/2015 Public Hearing: N/A	Draft Environmental Impact Report	City of Claremont	SCAQMD staff commented 2/4/2015
<i>General Land Use (residential, etc.)</i> <b>LAC141219-03</b> Baldwin Hills Crenshaw Plaza Master Plan Project	The proposed project consists of redeveloping the existing Baldwin Hills Crenshaw Plaza, which will result in a mixed-use retail, commercial, office, hotel, and residential project totaling approximately 3,072,956 square feet of net floor area. Approximately 90,898 square feet of the existing free-standing structures will be demolished, and all of the enclosed mall structure and cinema would be retained. <a href="http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2015/february/deirbaldwinhills.pdf">http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2015/february/deirbaldwinhills.pdf</a> Comment Period: 12/18/2014 - 2/17/2015 Public Hearing: N/A	Draft Environmental Impact Report	City of Los Angeles	SCAQMD staff commented 2/13/2015

# - Project has potential environmental justice concerns due to the nature and/or location of the project.









**ATTACHMENT C  
ACTIVE SCAQMD LEAD AGENCY PROJECTS  
THROUGH FEBRUARY 28, 2015**

PROJECT DESCRIPTION	PROPONENT	TYPE OF DOCUMENT	STATUS	CONSULTANT
<p>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.</p>	<p>Phillips 66 (formerly ConocoPhillips), Los Angeles Refinery</p>	<p>Environmental Impact Report (EIR)</p>	<p>The Notice of Preparation/ Initial Study (NOP/IS) was circulated for a 30-day public comment period on March 26, 2012 to April 26, 2012. The consultant submitted the administrative Draft EIR to SCAQMD in late July 2013. The Draft EIR was circulated for a 45-day public review and comment period from September 30, 2014 to November 13, 2014. Two comment letters were received and responses to comments are being prepared.</p>	<p>Environmental Audit, Inc.</p>
<p>Tesoro Refinery proposes to integrate the Tesoro Wilmington Operations with the Tesoro Carson Operations (former BP Refinery). The proposed project also includes modifications of storage tanks at both facilities, new interconnecting pipelines, and new electrical connections. In addition, Carson's Liquid Gas Rail Unloading facilities will be modified. The proposed project will be designed to comply with the federally mandated Tier 3 gasoline specifications and with State and local regulations mandating emission reductions.</p>	<p>Tesoro Refining and Marketing Company Los Angeles Refinery</p>	<p>Environmental Impact Report (EIR)</p>	<p>A previous Draft Negative Declaration was withdrawn in order for the storage tank project to be analyzed in a new CEQA document that also addresses the Tesoro-BP Refinery Integration Project. A NOP/IS was prepared for the integration project and released for a 30-day public review and comment period from September 10, 2014 to October 10, 2014. 86 comment letters were received, and responses to comments are being prepared. The consultant is preparing a Draft EIR.</p>	<p>Environmental Audit, Inc.</p>
<p>Quemetco is proposing an increase in daily furnace feed rate.</p>	<p>Quemetco</p>	<p>Environmental Impact Report (EIR)</p>	<p>An Initial Study has been prepared by the consultant and is under review by SCAQMD staff.</p>	<p>Trinity Consultants</p>
<p>Chevron is proposing modifications to its Product Reliability and Optimization (PRO) Project and has applied for a modification to its permit to increase the firing duty of its Tail Gas Unit to meet current BACT requirements.</p>	<p>Chevron</p>	<p>Addendum</p>	<p>An addendum to the 2008 Final EIR has been prepared by the consultant. Staff has reviewed the Addendum and provided edits to the consultant. Chevron is currently conducting a BACT review for equipment.</p>	<p>Environmental Audit, Inc.</p>

A shaded row indicates a new project.

**ATTACHMENT C  
ACTIVE SCAQMD LEAD AGENCY PROJECTS  
THROUGH FEBRUARY 28, 2015**

PROJECT DESCRIPTION	PROPONENT	TYPE OF DOCUMENT	STATUS	CONSULTANT
Signal Hill Petroleum is proposing to upgrade the existing natural gas processing plant and enhance their vapor recovery system. No new combustion equipment will be installed.	Signal Hill Petroleum Gas Plant	Subsequent Mitigated Negative Declaration (SMND)	The SMND was released for a 35-day public comment and review period from November 26, 2014 to December 30, 2014. No comment letters were received. The project was approved and the SMND was certified on February 18, 2015.	RBF Consulting
Breitburn Operating LP is proposing to upgrade their fluid handling systems to facilitate an increase in the amount of produced water that can be treated at the site in Sante Fe Springs.	Breitburn Operating LP	Environmental Impact Report (EIR)	The NOP/IS was released for a 30-day public review and comment period from December 4, 2014 to January 2, 2015. Two comment letters were received and responses are being prepared. A Draft EIR has been prepared and staff is currently reviewing.	Environ

A shaded row indicates a new project.

BOARD MEETING DATE: April 3, 2015

AGENDA NO. 17

REPORT: Rule and Control Measure Forecast

SYNOPSIS: This report highlights SCAQMD rulemaking activities and public workshops potentially scheduled for the year 2015.

COMMITTEE: No Committee Review

RECOMMENDED ACTION:  
Receive and file.

Barry R. Wallerstein, D.Env.  
Executive Officer

EC:PF:cg

212	Standards for Approving Permits and Issuing Public Notice
1401.1	Requirements for New and Relocated Facilities Near Schools
1402	Control of Toxic Air Contaminants from Existing Sources
Rules 212, 1401.1 and 1402 are added to the rule schedule for Public Hearing in May. On March 6, 2015, the Office of Environmental Health Hazard Assessment (OEHHA) adopted revisions to the Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments. The Revised OEHHA Guidance is referenced in Rules 1401 (currently scheduled), 1401.1, 1402, and 212. Amendments are proposed to reference the Revised OEHHA Guidance where appropriate.	
219	Equipment Not Requiring a Written Permit Pursuant to Regulation II
Rule 219 is being moved from May to July to allow for additional staff analysis.	
415	Odors from Animal Rendering
Proposed Rule 415 is being moved from May to June to allow for additional staff analysis and to work with stakeholders on the rule proposal.	
416	Odors from Kitchen Grease
Proposed Rule 416 is being moved from July to September to allow additional time to work with stakeholders on the rule proposal.	
1166	Volatile Organic Compound Emissions from Decontamination of Soil

Due to staff resources, Rule 1166 is being moved from May to December 2015.	
1188	VOC Reductions from Vacuum Trucks (FUG-01)
Proposed Rule 1188 is moved from May to October to allow staff and stakeholders additional time to further develop and validate inventories and review associated emission reduction potential.	
Reg. XX	Regional Clean Air Incentives Market (RECLAIM) (CMB-01)
Regulation XX is moved from May to June to allow additional time to continue the rule development evaluation.	

## 2015 MASTER CALENDAR

Below is a list of all rulemaking activity scheduled for the year 2015. 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.*

*<sup>1</sup>Subject to Board approval*

*California Environmental Quality Act shall be referred to as "CEQA."*

*Socioeconomic Analysis shall be referred to as "Socio."*

### 2015

May		AQMP	Toxics	Other	Climate Change
Reg. III	Fees			√	
212 <sup>1</sup>	Standards for Approving Permits and Issuing Public Notice		√		
1401	New Source Review of Toxic Air Contaminants		√		
1401.1 <sup>1</sup>	Requirements for New and Relocated Facilities Near Schools		√		
1402 <sup>1</sup>	Control of Toxic Air Contaminants from Existing Sources		√		
2202	On-Road Motor Vehicle Mitigation Options			√	
<b>June</b>					
415 <sup>1</sup>	Odors from Animal Rendering			√	
1148.1	Oil and Gas Production Wells			√	
1148.2	Notification and Reporting Requirements for Oil and Gas Wells and Chemical Suppliers		√	√	
1156	Further Reductions of Particulate Emissions from Cement Manufacturing Facilities		√		
1420	Emissions Standard for Lead		√		

**2015 MASTER CALENDAR (continued)**

**2015**

<b>June</b>	<b>(continued)</b>	<b>AQMP</b>	<b>Toxics</b>	<b>Other</b>	<b>Climate Change</b>
1420.2	Emissions Standard for Lead from Metal Melting Operations		√		
Reg. XX <sup>1</sup>	Regional Clean Air Incentives Market (RECLAIM) (CMB-01)	√			
2301	Control of Emissions from New or Redevelopment Projects (EGM-01)	√			
4001	Backstop to Ensure AQMP Emission Reduction Targets Are Met at Commercial Marine Ports (IND-01)	√			
<b>July</b>					
219 <sup>1</sup>	Equipment Not Requiring a Written Permit Pursuant to Regulation II			√	
1123	Refinery Process Turnarounds (MCS-03)	√			
1171	Solvent Cleaning Operations (CTS-02)	√			
1430.1	Control of Toxic Air Contaminants from Grinding Operations at Forging Facilities		√		
<b>September</b>					
416 <sup>1</sup>	Odors from Kitchen Grease Processing			√	
1106	Marine Coating Operations			√	
1106.1	Pleasure Craft Coating Operations			√	
1304.2	Greenfield or Existing Electrical Generating Facility Fee for Use of Offsets for Load Serving Entities			√	
1304.3	Greenfield or Existing Electrical Generating Facility Fee for Use of Offsets for Municipalities			√	

**2015 MASTER CALENDAR (continued)**

**2015**

<b>October</b>		<b>AQMP</b>	<b>Toxics</b>	<b>Other</b>	<b>Climate Change</b>
1110.2	Emissions from Gaseous- and Liquid-Fueled Engines			√	
1161	VOC Reductions from Mold Release Agents (CTS-03)	√			
1188 <sup>1</sup>	VOC Reductions from Vacuum Trucks (FUG-01)	√			
<b>November</b>					
1113	Architectural Coatings (CTS-01)	√			
1177	Liquefied Petroleum Gas Transfer and Dispensing (FUG-02)	√			
1402	Control of Toxic Air Contaminants from Existing Sources		√		
1450	Control of Methylene Chloride Emissions		√		
<b>December</b>					
1136	Wood Products Coatings (CTS-02)			√	
1166 <sup>1</sup>	Volatile Organic Compound Emissions from Decontamination of Soil			√	
1430	Control of Toxic Air Contaminants from Metal Forging, Shredding, Grinding and Other Metal Processing Operations		√		

**2015 TO-BE DETERMINED**

<b>TBD</b>		<b>AQMP</b>	<b>Toxics</b>	<b>Other</b>	<b>Climate Change</b>
222	Filing Requirements for Specific Emission Sources Not Requiring a Written Permit Pursuant to Regulation I			√	

**2015 MASTER CALENDAR (continued)**

**2015 TO-BE DETERMINED**

<b>TBD</b>	<b>(continued)</b>	<b>AQMP</b>	<b>Toxics</b>	<b>Other</b>	<b>Climate Change</b>
224	Incentives for Super-Compliant Technologies			√	
1107	Coating of Metal Parts and Products (CTS-02)			√	
1118	Control of Emissions from Refinery Flares			√	√
1147	NOx Reductions from Miscellaneous Sources			√	
1148.2	Notification and Reporting Requirements for Oil and Gas Wells and Chemical Suppliers		√	√	
1168	Adhesive and Sealant Applications (CTS-02)	√			
1190 Series	Fleet Vehicle Requirements			√	
Reg. XIII	New Source Review			√	
1403	Asbestos Emissions from Demolition/Renovation Activities		√		
1411	Recovery of Recycling of Refrigerants from Motor Vehicle Air Conditioners		√		
1902	Transportation Conformity – Preamble			√	
2511	Credit Generation Program for Locomotive Head End Power Unit Engines			√	
2512	Credit Generation Program for Ocean-Going Vessels at Berth			√	
Reg. XXVII	Climate Change				√



**2015 MASTER CALENDAR (continued)**

**2015 TO-BE DETERMINED**

<b>TBD</b>	<b>(continued)</b>	<b>AQMP</b>	<b>Toxics</b>	<b>Other</b>	<b>Climate Change</b>
Reg. IV, IX, X, XI, XIV, XX, XXX and XXXV Rules	Various rule amendments may be needed to meet the requirements of state and federal laws, implement OEHHA revised risk assessment guidance, 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 commitment. The associated rule development or amendments include, but are not limited to, SCAQMD existing rules listed in Table 1 of the December 5, 2014 Rule and Control Measure Forecast and new or amended rules to implement the 2012 AQMP measures in Table 2 of the December 5, 2014 Rule and Control Measure Forecast. The CCP has been updated to include new measures to address toxic emissions in the basin. The CCP includes a variety of measures that will reduce exposure to air toxics from stationary, mobile, and area sources (Table 3 of the December 5, 2014 Rule and Control Measure Forecast). Rule amendments may include updates to provide consistency with CARB Statewide Air Toxic Control Measures.	√	√	√	√
---	Mobile Source Measures	√	√		
---	SIP Implementation	√			

# ATTACHMENT A

## AQMP Rule Activity Schedule

This attachment lists those control measures that are being developed into rules or rule amendments for Governing Board consideration that are designed to implement the amendments to the 2012 Air Quality Management Plan.

### 2015

June	
Reg. XX <sup>1</sup>	<p><b>Regional Clean Air Incentives Market (RECLAIM) (CMB-01)</b>  <i>[Projected Emission Reduction: 3-5 TPD]</i>                      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.  <i>Joe Cassmassi 909.396.3155 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
2301	<p><b>Control of Emissions from New or Redevelopment Projects (EGM-01)</b>  <i>[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.]</i>                      The proposed rule will implement AQMP Control Measure EGM-01 – Emission Reductions from New or Redevelopment Projects. Proposed Rule 2301 will consider the co-benefits of VOC, NOx, and PM 2.5 emission reductions from the 2012 Regional Transportation Plan/Sustainable Communities Strategy and San Joaquin Valley Air Pollution Control District’s Rule 9510 – Indirect Source Review to meet the “all feasible measure” requirement.  <i>Carol Gomez 909.396.3264 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
4001	<p><b>Backstop to Ensure AQMP Emission Reduction Targets Are Met at Commercial Marine Ports (IND-01)</b>  <i>[Projected Emission Reduction: TBD]</i>                      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-hour PM2.5 standard are maintained.  <i>Randall Pasek 909.396.2251 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>

# ATTACHMENT A

## AQMP Rule Activity Schedule (continued)

**2015**

<b>July</b>	
1123	<p><b>Refinery Process Turnarounds (MCS-03)</b>  <i>[Projected Emission Reduction: N/A]</i>                      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.  <i>Naveen Berry 909.396.2363 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
1171	<p><b>Solvent Cleaning Operations (CTS-02)</b>  <i>[Projected Emission Reduction: Some VOC]</i>                      The proposed amendments will review existing exemptions and include clarifications that may arise due to compliance verification activities or manufacturer and public input, including the sales prohibition clause.  <i>Naveen Berry 909.396.2363 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
<b>October</b>	
1161	<p><b>VOC Reductions from Mold Release Agents (CTS-03)</b>  <i>[Projected Emission Reduction: TBD]</i>                      The proposed rule will establish requirements for mold release products used in composite, fiberglass, metal and plastic manufacturing, and concrete stamping operations.  <i>Naveen Berry 909.396.2363 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
1188 <sup>1</sup>	<p><b>VOC Reductions from Vacuum Trucks (FUG-01)</b>  <i>[Projected Emission Reduction: TBD]</i>                      The proposed rule will establish VOC emission standards and other requirements associated with the operation of vacuum trucks not covered by Rule 1149 – Storage Tank and Pipeline Cleaning and Degassing.  <i>Naveen Berry 909.396.2363 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
<b>November</b>	
1113	<p><b>Architectural Coatings (CTS-01)</b>  <i>[Projected Emission Reduction: N/A]</i>                      Potential amendments may include a backstop provision to address additional potential VOC emission reductions from the small container exemption, high volume categories, and increased fees in Rule 314 – Fees for Architectural Coatings. Additional clarifications will also be considered to address ongoing compliance issues.  <i>Naveen Berry 909.396.2363 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
1177	<p><b>Liquefied Petroleum Gas Transfer and Dispensing (FUG-02)</b>  <i>[Projected Emission Reduction: N/A]</i>                      Potential amendments may be proposed to include additional sources of emissions from the dispensing and transfer of LPG.  <i>Naveen Berry 909.396.2363 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>

# ATTACHMENT A

## AQMP Rule Activity Schedule (continued)

### To-Be Determined 2015

<b>To-Be Determined</b>	
1168	<p><b>Adhesive and Sealant Applications (CTS-02)</b>  <i>[Projected Emission Reduction: N/A]</i>                      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.  <i>Naveen Berry 909.396.236 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
Reg. IV, IX, X, XI, XIV, XIV, XX, XXX AND XXXV Rules	<p>Various rule amendments may be needed to meet the requirements of state and federal laws, implement OEHHA revised risk assessment guidance, 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 and/or long-term emission reduction commitments. The associated rule development or amendments include, but are not limited to, SCAQMD existing rules listed in Table 1 of the December 5, 2014 Rule and Control Measure Forecast and new or amended rules to implement the 2012 AQMP measures in Table 2 of the December 5, 2014 Rule and Control Measure Forecast.</p>
---	<p><b>Mobile Source Measures</b>  <i>[Projected Emission Reduction: TBD]</i>                      The District may adopt measures to limit emissions from mobile sources, both on-road and off-road (nonroad) sources, consistent with the Board's direction to counsel at the October 2014 meeting to explore the District's regulatory authority over mobile sources. These measures may include but are not limited to, transportation control measures, operational limits, fleet rules, credit generation rules, and indirect source rules, such as an indirect source rule for railyards and/or other sources which attract mobile sources.  <i>Henry Hogo 909.396.3184 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
---	<p><b>SIP Implementation</b>  <i>[Projected Emission Reduction: TBD]</i>                      The District may adopt additional measures to carry out the State Implementation Plan for PM2.5 or ozone, or other pollutants if required, as deemed necessary to meet commitments and federal requirements.  <i>Philip Fine 909.396.2239 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>

## ATTACHMENT B

### Toxics Rule Activity Schedule

This attachment lists those rules or rule amendments for Governing Board consideration that are designed to implement the Air Toxics Control Plan.

**2015**

<b>May</b>	
212 <sup>1</sup> 1401 1401.1 <sup>1</sup> 1402 <sup>1</sup>	<p><b>Standards for Approving Permits and Issuing Public Notice</b></p> <p><b>New Source Review of Toxic Air Contaminants</b></p> <p><b>Requirements for New and Relocated Facilities Near Schools</b></p> <p><b>Control of Toxic Air Contaminants from Existing Sources</b>  <i>[Projected Emission Reduction: TBD]</i>                      The Office of Environmental Health Hazard Assessment (OEHHA) is updating its Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments. The proposed amendments will address revisions to OEHHA’s updated guidance.  <i>Susan Nakamura 909.396.3105 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
<b>June</b>	
1148.2	<p><b>Notification and Reporting Requirements for Oil and Gas Wells and Chemical Suppliers</b>  <i>[Projected Emission Reduction: N/A]</i>                      Amendments to Rule 1148.2 may be needed to extend the implementation of requirements to submit emissions reports and other necessary changes to be consistent with SB 4.  <i>Susan Nakamura 909.396.3105 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
1156	<p><b>Further Reductions of Particulate Emissions from Cement Manufacturing Facilities</b>  <i>[Projected Emission Reduction: N/A]</i>                      As part of the 2009 amendments to Rule 1156, cement manufacturing facilities were required to establish and maintain a monitoring network to ensure that the surrounding areas were not exposed to unhealthful levels of hexavalent chromium emanating from the facilities. Since establishing the monitoring networks, no exceedances of the standard established in the amended rule has occurred. Pursuant to the adoption resolution, the proposed rule amendments will address the conditions by which the existing monitoring requirements could be reduced, particularly as they pertain to partial or full facility shutdown and any change in ownership and land use.  <i>Philip Fine 909.396.2239 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>

## ATTACHMENT B

### Toxics Rule Activity Schedule (continued)

**2015**

<b>June</b>	<b>(continued)</b>
1420	<p><b>Emissions Standard for Lead</b>  <i>[Projected Emission Reduction: TBD]</i>                      In October 2008, U.S. EPA lowered the National Ambient Air Quality Standard (NAAQS) for lead from 1.5 to 0.15 ug/m<sup>3</sup>. Proposed Rule 1420 will establish requirements for smaller lead emitting sources that are not covered under Rules 1420.1 and Rule 1420.2 to ensure compliance with the lead NAAQS.  <i>Susan Nakamura 909.396.3105 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
1420.2	<p><b>Emissions Standard for Lead from Metal Melting Operations</b>  <i>[Projected Emission Reduction: TBD]</i>                      In October 2008, U.S. EPA lowered the National Ambient Air Quality Standard (NAAQS) for lead from 1.5 to 0.15 ug/m<sup>3</sup>. Proposed Rule 1420.2 will establish requirements for medium lead emitting sources to ensure compliance with the lead NAAQS.  <i>Susan Nakamura 909.396.3105 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
<b>July</b>	
1430.1	<p><b>Control of Toxic Air Contaminants from Grinding Operations at Forging Facilities</b>  <i>[Projected Emission Reduction: TBD]</i>                      Proposed Rule 1430.1 will establish emission reduction requirements to control toxic emissions from grinding operations at forging facilities.  <i>Susan Nakamura 909.396.3105 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
<b>November</b>	
1402	<p><b>Control of Toxic Air Contaminants from Existing Sources</b>  <i>[Projected Emission Reduction: TBD]</i>                      Amendments to Rule 1402 will address new or revised toxic air contaminant listings and risk levels that have been approved by OEHHA.  <i>Susan Nakamura 909.396.3105 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
1450	<p><b>Control of Methylene Chloride Emissions</b>  <i>[Projected Emission Reduction: N/A]</i>                      Proposed Rule 1450 will establish requirements to control methylene chloride from furniture stripping operations and other sources.  <i>Susan Nakamura 909.396.3105 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
<b>December</b>	
1430	<p><b>Control of Toxic Air Contaminants from Metal Forging, Shredding, Grinding and Other Metal Processing Operations</b>  <i>[Projected Emission Reduction: TBD]</i>                      Proposed Rule 1430 will establish emission reduction requirements to control toxic emissions from grinding operations.  <i>Susan Nakamura 909.396.3105 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>

## ATTACHMENT B

### Toxics Rule Activity Schedule (continued)

#### To-Be Determined 2015

<b>To-Be Determined</b>	
1148.2	<p><b>Notification and Reporting Requirements for Oil and Gas Wells and Chemical Suppliers</b>  <i>[Projected Emission Reduction: N/A]</i>                      Revisions to Rule 1148.2 may be needed based on information collected through implementation of Rule 1148.2.  <i>Susan Nakamura 909.396.3105 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
1403	<p><b>Asbestos Emissions from Demolition/Renovation Activities</b>  <i>[Projected Emission Reduction: N/A]</i>                      Amendments to Rule 1403 will include specific requirements when conducting asbestos emitting demolition/renovation activities at schools, daycares, and possibly establishments that have sensitive populations. Amendments may include other provisions to improve the implementation of the rule.  <i>Susan Nakamura 909.396.3105 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
1411	<p><b>Recovery of Recycling of Refrigerants from Motor Vehicle Air Conditioners</b>  <i>[Projected Emission Reduction: TBD]</i>                      The proposed amendments to Rule 1411 will align with existing Clean Air Act requirements to minimize the release of refrigerants during the servicing of motor vehicle air conditioning, incorporate other clarifications and enhance enforceability.  <i>Philip Fine 909.396.2239 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
Reg. IV, IX, X, XI, XIV, XIV, XX, XXX AND XXXV Rules	<p>The Clean Communities Plan has been updated to include new measures to address toxic emissions in the basin. The CCP includes a variety of measures that will reduce exposure to air toxics from stationary, mobile, and area sources (Table 3 of the December 5, 2014 Rule and Control Measure Forecast). Rule amendments may include updates to provide consistency with CARB Statewide Air Toxic Control Measures.</p>
---	<p><b>Mobile Source Measures</b>  <i>[Projected Emission Reduction: TBD]</i>                      The District may adopt measures to limit emissions from mobile sources, both on-road and off-road (nonroad) sources, consistent with the Board's direction to counsel at the October 2014 meeting to explore the District's regulatory authority over mobile sources. These measures may include but are not limited to, transportation control measures, operational limits, fleet rules, credit generation rules, and indirect source rules, such as an indirect source rule for railyards and/or other sources which attract mobile sources.  <i>Henry Hogo 909.396.3184 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>

# ATTACHMENT C

## Other Rule Activity Schedule

This attachments lists rules or rule amendments for Governing Board consideration that are designed to improve rule enforceability, SIP corrections, or implementing state or federal regulations.

**2015**

<b>May</b>	
Reg. III	<p><b>Fees</b>  <i>[Projected Emission Reduction: N/A]</i>                      Regulation III is being amended with a primary goal to increase fees, at a minimum by the Consumer Price Index. Other minor amendments may also be proposed to correct typos, eliminate out-of-date references, and improve consistency and clarity.  <i>Naveen Berry 909.396.2363 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
2202	<p><b>On-Road Motor Vehicle Mitigation Options</b>  <i>[Projected Emission Reduction: N/A]</i>                      The Employee Commute Reduction Program Guidelines to Rule 2202 will be amended to streamline the annual reporting process, and to add clarification to specific guideline sections as requested by the regulated community.  <i>Carol Gomez 909.396.3264 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
<b>June</b>	
415 <sup>1</sup>	<p><b>Odors from Animal Rendering</b>  <i>[Projected Emission Reduction: TBD]</i>                      Proposed Rule 415 will provide protection to the public from odors created during animal rendering operations. The proposed rule will incorporate a preventative approach to odors by establishing Best Management Practices and will consider enclosures for operations and processes that generate odors, such as receiving, cooking, processing of oils, tallow and meat, and from wastewater treatment. The proposed rule will also examine requirements for an Odor Mitigation Plan for continuing odor issues at facilities impacted by the rule.  <i>Philip Fine 909.396.2239 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
1148.1	<p><b>Oil and Gas Production Wells</b>  <i>[Projected Emission Reduction: N/A]</i>                      Amendments may be necessary to improve rule effectiveness in reducing emissions from production wells and associated equipment and improving housekeeping activities to minimize potential nuisance.  <i>Naveen Berry 909.396.2363 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>



# ATTACHMENT C

## Other Rule Activity (continued)

2015

June	(continued)
1148.2	<p><b>Notification and Reporting Requirements for Oil and Gas Wells and Chemical Suppliers</b>  <i>[Projected Emission Reduction: N/A]</i>                      Amendments to Rule 1148.2 may be needed to extend the implementation of requirements to submit emissions reports and other necessary changes to be consistent with SB 4.  <i>Susan Nakamura 909.396.3105 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
July	
219 <sup>1</sup>	<p><b>Equipment Not Requiring a Written Permit Pursuant to Regulation II</b>  <i>[Projected Emission Reduction: N/A]</i>                      Amendments to Rule 219 may be proposed to exclude equipment with de minimis emissions from the requirement to obtain written permits.  <i>Naveen Berry 909.396.2363 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
September	
416 <sup>1</sup>	<p><b>Odors from Kitchen Grease Processing</b>  <i>[Projected Emission Reduction: TBD]</i>                      Proposed Rule 416 will provide protection to the public from odors created during kitchen grease processing operations. The proposed rule will establish Best Management Practices (BMP) to address odors created during delivery and processing of trap grease to affected facilities. In addition, the proposed rule will examine enclosure for wastewater treatment operations and filter cake storage. The proposed rule will also examine requirements for an Odor Mitigation Plan for continuing odor issues at facilities impacted by the rule.  <i>Philip Fine 909.396.2239 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
1106 1106.1	<p><b>Marine Coating Operations</b>  <b>Pleasure Craft Coating Operations</b>  <i>[Projected Emission Reduction: N/A]</i>                      The proposed amendments will include any clarifications that may arise due to the compliance verification activities or manufacturer and public input, including the sales prohibition clause.  <i>Naveen Berry 909.396.2363 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>

# ATTACHMENT C

## Other Rule Activity (continued)

**2015**

<b>September</b>	<b>(continued)</b>
1304.2	<p><b>Greenfield or Existing Electrical Generating Facility Fee for Use of Offsets for Load Serving Entities</b>  <i>[Projected Emission Reduction: TBD]</i>                      Proposed Rule 1304.2 would provide for new, greenfield or additions at existing electrical generating facilities access to the SCAQMD’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 to the recently adopted Rule 1304.1 and will provide offsets so 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.  <i>Naveen Berry 909.396.2363 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
1304.3	<p><b>Greenfield or Existing Electrical Generating Facility Fee for Use of Offsets for Municipalities</b>  <i>[Projected Emission Reduction: TBD]</i>                      Proposed Rule 1304.3 would provide for new, greenfield or additions at existing electrical generating facilities to access the SCAQMD’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 to the recently adopted Rule 1304.1 and will provide offsets so that new, proposed and other existing electrical generating facilities run by local municipalities can meet the reliable electric needs of their customers.  <i>Naveen Berry 909.396.2363 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
<b>October</b>	
1110.2	<p><b>Emissions from Gaseous- and Liquid-Fueled Engines</b>  <i>[Projected Emission Reduction: N/A]</i>                      The proposed amendments to Rule 1110.2 would potentially extend the compliance date for biogas used to fuel power generators at landfills and municipal waste facilities. The amendment would result in a delay in emission reductions.  <i>Joe Cassmassi 909.396.3155 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>

## ATTACHMENT C

### Other Rule Activity (continued)

**2015**

December	
1136	<p><b>Wood Products Coatings</b>  <i>[Projected Emission Reduction: TBD]</i>                      The proposed amendments will include any clarification that may arise due to compliance verification activities or manufacturer and public input, including the sales prohibition clause.  <i>Naveen Berry 909.396.2363 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
1166 <sup>1</sup>	<p><b>Volatile Organic Compound Emissions from Decontamination of Soil</b>  <i>[Projected Emission Reduction: TBD]</i>                      Amendments to Rule 1166 will expand the applicability to decontamination of soils containing toxic metals. The proposed amended rule would establish additional requirements to control emissions from activities involving storing, handling, and transporting soil contaminated with toxic metals.  <i>Susan Nakamura 909.396.3105 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>

### To-Be Determined 2015

To-Be Determined	
222	<p><b>Filing Requirements for Specific Emission Sources Not Requiring a Written Permit Pursuant to Regulation I</b>  <i>[Projected Emission Reduction: N/A]</i>                      Amendments for Rule 222 may be proposed to add additional equipment categories to the streamlined filing/registration program of Rule 222.  <i>Naveen Berry 909.396.2363 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
224	<p><b>Incentives for Super-Compliant Technologies</b>  <i>[Projected Emission Reduction: TBD]</i>                      This proposed rule will outline strategies and requirements to incentivize the development, establishment and use of super-compliant technologies. It can be considered as a part of Rule 219 amendments or proposed as a separate incentive rule.  <i>Naveen Berry 909.396.2363 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
1107	<p><b>Coating of Metal Parts and Products</b>  <i>[Projected Emission Reduction: N/A]</i>                      Potential amendments to Rule 1107 would further reduce VOC emissions and improve rule clarity and enforceability.  <i>Naveen Berry 909.396.2363 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>

# ATTACHMENT C

## Other Rule Activity (continued)

### To-Be Determined 2015

<b>To-Be Determined</b>	<b>(continued)</b>
1118	<p><b>Control of Emissions from Refinery Flares</b>  <i>[Projected Emission Reduction: TBD]</i>            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.  <i>Naveen Berry 909.396.2363 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
1147	<p><b>NOx Reductions from Miscellaneous Sources</b>  <i>[Projected Emission Reduction: N/A]</i>            Amendments may be necessary to address findings of ongoing technology assessment.  <i>Joe Cassmassi 909.396.3155 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
1148.2	<p><b>Notification and Reporting Requirements for Oil and Gas Wells and Chemical Suppliers</b>  <i>[Projected Emission Reduction: N/A]</i>            Revisions to Rule 1148.2 may be needed based on information collected through implementation of Rule 1148.2.  <i>Susan Nakamura 909.396.3105 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
1190 Series	<p><b>Fleet Vehicle Requirements</b>  <i>[Projected Emission Reduction: TBD]</i>            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.  <i>Dean Saito 909.396.2647 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
Reg. XIII	<p><b>New Source Review</b>  <i>[Projected Emission Reduction: TBD]</i>            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.  <i>Naveen Berry 909.396.2363 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
1902	<p><b>Transportation Conformity</b>  <i>[Projected Emission Reduction: TBD]</i>            Amendments to Rule 1902 may be necessary to bring the District's Transportation Conformity rule in line with current U.S. EPA requirements.  <i>Susan Nakamura 909.396.3105 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>

## ATTACHMENT C

### Other Rule Activity (continued)

#### To-Be Determined 2015

To-Be Determined	(continued)
2511	<p><b>Credit Generation Program for Locomotive Head End Power Unit Engines</b>  <i>[Projected Emission Reduction: TBD]</i>            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.  <i>Randall Pasek 909.396.2251 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
2512	<p><b>Credit Generation Program for Ocean-Going Vessels at Berth</b>  <i>[Projected Emission Reduction: TBD]</i>            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.  <i>Randall Pasek 909.396.2251 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
Reg. IV, IX, X, XI, XIV, XX, XXX AND XXXV Rules	<p>Various rule amendments may be needed to meet the requirements of state and federal laws, implement OEHHA revised risk assessment guidance, 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 commitment. The associated rule development or amendments include, but are not limited to, SCAQMD existing rules listed in Table 1 of the December 5, 2014 Rule and Control Measure Forecast and new or amended rules to implement the 2012 AQMP measures in Table 2 of the December 5, 2014 Rule and Control Measure Forecast. The CCP has been updated to include new measures to address toxic emissions in the basin. The CCP includes a variety of measures that will reduce exposure to air toxics from stationary, mobile, and area sources (Table 3 of the December 5, 2014 Rule and Control Measure Forecast). Rule amendments may include updates to provide consistency with CARB Statewide Air Toxic Control Measures.</p>

## ATTACHMENT D

### Climate Change

This attachments lists rules or rule amendments for Governing Board consideration that are designed to implement SCAQMD’s Climate Change Policy or for consistency with state or federal rules.

### To-Be Determined 2015

<b>To-Be Determined</b>	
1118	<p><b>Control of Emissions from Refinery Flares</b>  <i>[Projected Emission Reduction: TBD]</i>            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.  <i>Naveen Berry 909.396.2363 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
Reg. XXVII	<p><b>Climate Change</b>  <i>[Projected Emission Reduction: TBD]</i>            Additional protocols may be added to Rules 2701 and 2702 and amendments to existing rules may be needed to address implementation issues.  <i>Susan Nakamura 909.396.3105 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
Reg. IV, IX, X, XI, XIV, XX, XXX and XXXV Rules	<p>Rule developments/amendments may be needed to meet the requirements of state and federal laws related to climate change air pollutants.</p>

[↑ Back to Agenda](#)

BOARD MEETING DATE: April 3, 2015

AGENDA NO. 18

**PROPOSAL:** Status Report on Major Projects for Information Management Scheduled to Start During Last Six Months of FY 2014-15

**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 2014-15.

**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, 2015. Information provided for each project includes a brief project description, FY 2014-15 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, 2015

**ATTACHMENT**  
**April 3, 2015 Board Meeting**  
**Information Management Major Projects**  
**for the Period of January 1 through June 30, 2015**

Item	Brief Description	Budgeted Funds	Schedule of Board Actions	Status
Systems Development, Maintenance and Support	Provide Development, Maintenance and Support for: <ul style="list-style-type: none"> <li>• Web Application Development</li> <li>• E-Commerce Infrastructure</li> <li>• CLASS System Replacement</li> <li>• CLASS System(s) Enhancements</li> <li>• Version Upgrades</li> </ul>	\$464,500	April 3, 2015	On Schedule
Issue RFP for Purchase of Conference Room Enhancements	The audio visual upgrade project for conference rooms GB and Hearing Board will enhance functionality of both conference rooms.	To be budgeted	April 3, 2015	On Schedule
Issue RFP for Evaluation/Improvement of SCAQMD's Website	Issue RFP to solicit bids from qualified firms to evaluate the current website and make recommendations for improvements.	TBD	May 1, 2015	On Schedule

Double-lined Rows - Board Agenda items current for this month

Shaded Rows - activities completed



 [Back to Agenda](#)

BOARD MEETING DATE: April 3, 2015

AGENDA NO. 20

REPORT: Administrative Committee

SYNOPSIS: The Administrative Committee met on Friday, March 13, 2015. The Committee discussed various issues detailed in the Committee report. The next Administrative Committee meeting is scheduled for Friday, April 10, 2015 at 10:00 a.m.

RECOMMENDED ACTION:  
Receive and file.

Dr. William A. Burke, Chair  
Administrative Committee

GC

---

**Attendance:** Attending the March 13, 2015 meeting were Committee Members Dennis Yates at SCAQMD headquarters, and Dr. William Burke, Dr. Clark E. Parker, Sr., and Judith Mitchell via videoconference.

**ACTION/DISCUSSION ITEMS:**

1. **Board Members' Concerns:** None
2. **Chairman's Report of Approved Travel:** Executive Officer Barry Wallerstein reported that Councilmember Judith Mitchell will be traveling to Sacramento to meet with State Legislators and will also be attending the monthly CARB Board meeting. Additional meetings will potentially be scheduled for Councilmember Mitchell in the Capitol if time permits. Councilmember Joe Buscaino will also be traveling to Sacramento to meet with State Legislators and will also travel to San Francisco for several meetings related to air quality. Councilmember Mitchell noted that the dates of her travel to Sacramento to meet with Legislators have changed due to their availability. She will now meet with them on April 21.

3. **Approval of Compensation for Board Member Assistant(s)/Consultant(s):** None to report.
4. **Report of Approved Out-of-Country Travel:** None to report.
5. **Proposed Mobile Source Initiatives:** Dr. Wallerstein advised that this item was delayed one month.
6. **Status Report on the Career Development Intern Program:** Assistant Deputy Executive Officer Bill Johnson reported that staff has conferred with the Los Angeles County Department of Human Resources regarding a letter received from the Board of Supervisors requesting that SCAQMD create a Career Development Internship Program. Staff proposes to develop a classification of Career Development Intern tied to one of possibly six currently existing classifications. This would be a limited-term opportunity for up to twelve months focused on youth emancipated out of the foster care system.

Moved by Parker; seconded by Mitchell; unanimously approved.

7. **Receive Public Input on Executive Officer's Draft Goals and Priority Objectives for FY 2015-16:** Dr. Wallerstein reported that the Executive Officer's Draft Goals and Priority Objectives for FY 2015-16 were released at the last Committee meeting. Based on feedback received on the proposed Goals & Objectives, minor amendments were made to recognize the Chairman's Initiative on Environment Justice Community Partnerships. Also referenced were additional outreach efforts, as directed by the Board, including the cable TV summary that is now provided to cable TV stations regarding monthly Board meetings and other forms of communication. The Board will also be provided with an Attachment 2, which is a status report that summarizes agency performance relative to last year's Board-approved FY 2014-15 Goals & Objectives.
8. **Execute Contract for Independent Audit Services for FYs Ending June 30, 2015, 2016, and 2017:** Chief Financial Officer Michael O'Kelly reported that every year staff prepares financial statements for SCAQMD as required by law, which also requires that those financial statements be audited by a qualified independent auditor. An RFP was released and an evaluation panel reviewed the proposals received. The top three scoring firms were Simpson & Simpson CPAs, Lance, Soll, & Lunghard, LLP, and BCA Watson Rice LLP. After interviewing these firms, the Committee discussed each of their specific qualifications. It was determined that Simpson & Simpson CPAs were best qualified to perform the audit. The Committee amended the recommended action and authorized a 2-year contract with Simpson & Simpson CPAs.

Moved by Mitchell; seconded by Parker; unanimously approved.

9. **Approve Compensation Adjustments for Board Member Assistants/Consultants and Revisions to Board Member Assistant and Board Member Consultant Policy:** Mr. O’Kelly reported that this item requests approval to adjust the compensation for Board Member Assistants/Consultants effective January 1, 2015 in the same manner that compensation adjustments were provided to Teamsters Local 911, unrepresented employees, the Executive Officer and General Counsel.

Moved by Yates; seconded by Mitchell; unanimously approved.

10. **Remove Various Fixed Assets from SCAQMD Inventory:** Mr. O’Kelly reported that this item requests approval to declare designated equipment and motor vehicles as surplus and authorize the removal of these items from our fixed asset inventory.

Moved by Mitchell; seconded by Parker; unanimously approved.

11. **Amend Contracts to Provide Short- and Long-Term Systems Development, Maintenance and Support Services:** Assistant Deputy Executive Officer Chris Marlia reported that staff receives competitive bids to have several companies perform software development work for the District. Periodically during the year, staff identifies where software development or maintenance work is needed. This action is to amend the contracts for those companies to add additional budgeted funding needed to perform the work. Dr. Burke requested an update on the improvements to the website. Mr. Marlia responded that he has been in discussion with the company that provided an independent assessment before the new website went live. Enhancements to the website are continuing in particular with regard to compliance issues with the Americans with Disabilities Act. Mr. Marlia has also discussed whether this company would be interested in doing some further work and they have indicated that they are. Dr. Wallerstein mentioned that the contractor proposed a scope of work that was much larger than anticipated and was above his signature authority. He and Mr. Marlia will review the recommendations and determine what would be an appropriate scope of work. Dr. Burke expressed his frustration with the progress of the improvements and directed staff to expeditiously bring the website up to a standard that is equivalent to expected industry standards.

Moved by Mitchell; seconded by Parker; unanimously approved.

12. **Issue RFP for Purchase of Conference Room GB and Hearing Board Room Audio Visual Enhancements:** Mr. Marlia reported that this item is to release an RFP to enhance the GB Conference Room and Hearing Board Room to enable web streaming from both locations and to improve the quality of the sound and video in the GB Conference Room.

Moved by Yates; seconded by Parker; unanimously approved.

13. **Execute Replacement Contract for Refurbishment of Elevator Cab Interiors at Diamond Bar Headquarters:** Mr. Johnson reported that staff is requesting to execute a replacement contract to refurbish four elevator cars at the Diamond Bar facility. Earlier last year an RFP was released and West Coast Elevators, Inc. was selected. They were awarded a contract and accepted an initial payment, but they have since disappeared from contact. General Counsel has initiated legal action to recover the costs. This item is to execute a replacement contract with Thyssen Krupp Elevator, the second highest-rated proposal. Dr. Parker inquired whether a policy was in place that required a threshold or payment bond from a contractor, especially if they are seeking money in advance for mobilization. Mr. Johnson responded that there is not a policy in place requiring such a bond. Dr. Parker suggested that consideration be given to setting a threshold and requiring a payment bond when advancing money before performance to avoid problems of this nature in the future. Dr. Wallerstein agreed with that idea and suggested that such a provision be incorporated into RFPs. Dr. Burke thought it was a good idea as well, but expressed his concerns that it would prevent small businesses from bidding because of the financial burden. Dr. Burke determined that a policy decision should be held for further consideration and that the Committee only take action on the item currently before them.

Moved by Parker; seconded by Yates; unanimously approved.

14. **Review of the April 3, 2015 Governing Board Agenda:** There were no questions regarding the April 3, 2015 Governing Board Agenda.
15. **Other Business:** None
16. **Public Comment:** None

Meeting adjourned at 11:30 a.m.

[↑ Back to Agenda](#)

BOARD MEETING DATE: April 3, 2015

AGENDA NO. 21

REPORT: Legislative Committee

SYNOPSIS: The Legislative Committee met on Friday, March 13, 2015. The next Legislative Committee meeting is scheduled for Friday, April 10, 2015 at 9 a.m. in Conference Room CC8.

The Committee deliberated on agenda items for Board consideration and recommended the following actions:

<b>Agenda Item</b>	<b>Recommendation</b>
AB 335 (Patterson) Air Quality: Minor Violations	OPPOSE
AB 678 (O'Donnell) Greenhouse Gases: Energy Efficient Ports Program	SUPPORT WITH AMENDMENTS

**RECOMMENDED ACTION:**

Receive, file this report, and approve agenda items as specified in this letter.

Judith Mitchell  
Chair  
Legislative Committee

LBS:GSA:PFC:jf

---

**Attendance [Attachment 1]**

The Legislative Committee met on March 13, 2015. Committee Member Janice Rutherford, was present at SCAQMD's Diamond Bar headquarters. Committee Chair Judith Mitchell and Committee Members Michael Antonovich, Joe Buscaino, and Dr.

Clark Parker attended via videoconference. Dr. William A. Burke, who was appointed to the Legislative Committee for this meeting, also attended via videoconference.

### **Update on Federal Legislative Issues**

SCAQMD federal legislative consultant, Mark Kadesh of Kadesh & Associates, reported on various key Washington, D.C. issues.

Mr. Kadesh reported that the current MAP-21 law expires on May 31, 2015, and the Highway Trust Fund will be exhausted by this summer.

The U.S. Senate Environment and Public Works (EPW) Committee has been holding hearings to discuss issues related to the MAP-21 reauthorization legislation. Similar activities in the U.S. House of Representatives (U.S. House) have also taken place. The fundamental issue continues to be how to fully fund the reauthorization legislation, with no clear revenue source identified at this time. However, a short-term extension of MAP-21 is expected.

Mr. Kadesh reported that SCAQMD has been working with various U.S. House Representatives from California (Reps. Grace Napolitano, Janice Hahn, Julia Brownley and Jared Huffman) who are members of the U.S. House Transportation and Infrastructure (T&I) Committee regarding SCAQMD's freight policy priorities. The U.S. House T&I Committee is currently considering freight policy issues and legislation.

Rep. Napolitano is considering drafting a letter to the House T&I Committee leadership regarding her ideas for freight policy, along with ideas from other committee members. SCAQMD has approached her office about including SCAQMD policy priorities in that letter as well.

Mr. Kadesh informed the Committee that the U.S. House Appropriations Energy and Water Subcommittee will hold a hearing on the FY 2016 U.S. Department of Energy (DoE) Budget, which includes a \$10 million grant for zero-emission goods movement, from which SCAQMD previously received funding.

SCAQMD federal legislative consultant, Warren Weinstein of Kadesh & Associates, reported that the Senate EPW Committee recently held a hearing on the U.S. Environmental Protection Agency's (U.S. EPA) proposed new climate rules for existing power plants. California Air Resources Board (CARB) Chairwoman Mary Nichols testified during this hearing.

Mr. Weinstein also reported that Senators Rob Portman and Jeanne Shaheen recently reintroduced their energy efficiency bill. The legislation, which SCAQMD has supported in the past, focuses on various issues including, building, industrial, and

manufacturing efficiencies. The bill has numerous recent amendments that SCAQMD staff is still reviewing.

SCAQMD federal legislative consultant, Mia O'Connell of the Carmen Group, also reported on key Washington, D.C. issues.

Ms. O'Connell reported that SCAQMD continues to work with U.S. House and Senate committee staffs to promote SCAQMD's legislative proposals in the developing MAP-21 reauthorization bill. Separate bills in the House and Senate are now in the final stages of drafting with committee markups expected sometime in April. On March 17, the U.S. House T&I Committee will hold a hearing on the MAP-21 reauthorization.

As a follow-up to a SCAQMD staff meeting with U.S Senate EPW Committee staff in January, SCAQMD provided information on the agency's Alternative Fuel Technology Projects and continued discussions regarding incorporating SCAQMD's legislative proposals within the MAP-21 reauthorization.

Ms. O'Connell also stated that the Carmen Group arranged a conference call requested by EPW Committee staff with SCAQMD staff to discuss other air quality issues in the MAP-21 bill.

Finally, Ms. O'Connell reported that the U.S. House voted to pass a new rail reauthorization bill, which would provide mostly status quo money for Amtrak and related passenger rail infrastructure. No similar bill is moving in the Senate, so nothing is expected to happen on further rail legislation before Congress takes up the MAP-21 bill. Meanwhile, other avenues are being explored to promote cleaner locomotive technologies, possibility through the transit section of the MAP-21 bill dealing with commuter rail.

### **Update on State Legislative Issues**

SCAQMD state legislative consultant, Will Gonzalez of Gonzalez, Quintana & Hunter, briefed the Committee on key Sacramento issues.

Mr. Gonzalez informed the committee that although it is early in the year, the full package of state bills has been introduced and committee hearings will be starting up soon. The two following energy-related issues will be major topics of consideration in Sacramento this year:

- 1) The effort proposed by Governor Jerry Brown to increase renewable power levels to 50%, to reduce petroleum usage by 50% and to double energy efficiency has been incorporated into SB 350 (De León and Leno), and is the leading legislative vehicle in the Senate regarding this larger effort. Also of note is AB 197 (Garcia), which also deals with the 50% renewable power standard;

Assemblymember Garcia has a specific interest in developing geothermal energy in the Imperial Valley and funding improvements for the Salton Sea. Lastly, AB 645 (Williams) is potentially the State Assembly vehicle to coordinate with SB 350.

- 2) Nearly a dozen bills have been introduced regarding electric vehicles (EV), including those addressing possible changes to current incentives. Also, there are numerous bills regarding EV charging stations. There is a rush right now between private industry and the utilities to determine who is going to build, own and operate the many upcoming EV charging stations. Some of the related issues in these bills include open competition and permit streamlining. Finally, a significant budget allocation is being discussed and is likely for EV vehicles, including a possible \$250 million for passenger EVs and \$150 million for zero- and near-zero emission medium- and heavy-duty trucks.

SCAQMD state legislative consultant, Paul Gonsalves of Joe A. Gonsalves & Son, also briefed the Committee on key Sacramento issues.

Mr. Gonsalves stated that February 27 was the bill introduction deadline. The Senate introduced 793 bills, which is the lowest total in a first-year session since 1989. The Assembly introduced 1,504 bills, which is about 130 bills more than it introduced last legislative session. A majority of the introduced bills will be eligible to be heard in committee at the end of March. However, March 26 to April 6 is the legislative spring recess, which will delay hearings of these bills. Overall, about 75% of the introduced bills are “spot” bills, meaning that their content has very little substance or details.

Mr. Gonsalves reported on the state’s fiscal outlook. State Controller Betty Yee indicated that February’s tax revenues were about \$1 billion over the Governor’s projections and that General Fund revenue for the fiscal year is about 1.5% higher than that projected by the Governor in January. This is important because the Legislature is preparing its budget proposal and will likely push the Governor to agree to restoration of recession-era cuts to health and service programs. The Governor’s revised proposed budget will be released in May and the Legislature will need to adopt their budget proposal by June 15.

Mr. Gonsalves also reported that CARB held its first cap and trade auction of 2015 in February and sold all of their 73 million 2015 allowances at a price over the reserve price and sold over 10 million of their 2018 future allowances at a significantly higher price than the 2017 future allowances, netting the state about \$1 billion in revenue for the cap and trade program, which is about 50% more than previous auctions. This increase is being attributed by some to the addition of transportation fuels to the cap and trade program. The Legislative Analyst’s Office produced a report on cap and trade revenues stating that these projected revenues are grossly underestimated by at least \$1



billion, meaning that there may be additional funding available for programs that reduce not only greenhouse gases but also criteria pollutant emissions.

**Recommend Position on State Bills [Attachment 2]**

Guillermo Sanchez, Senior Public Affairs Manager presented on:

**AB 335 (Patterson) Air Quality: Minor Violations**

This bill would require CARB and the local air districts to adopt regulations limiting their actions to issuing a Notice to Comply for violations deemed to be minor in terms of the dangers they pose to human health, safety, welfare, or the environment.

Recommended Position: Oppose

Supervisor Rutherford inquired as to whether the author's concerns were focused on the enforcement procedures in the Central Valley rather than in the South Coast region. Mr. Sanchez responded that he did not know about concerns with the Central Valley, but that the author's staff stated that it was attempting to address how violations are handled in the various air districts, including South Coast. When the author's staff was asked to further explain, they were unable to explain further or give any examples. Supervisor Rutherford further inquired about the meaning of a Notice to Comply. Mr. Sanchez explained that it was merely a warning requesting compliance prior to any further action being taken. Supervisor Antonovich asked about the motivation behind the legislation. Dr. Wallerstein and Lisha B. Smith, Deputy Executive Officer of Legislative & Public Affairs, explained that the bill did not have any known purpose nor was it addressing any existing problem. Councilmember Mitchell inquired as to whether this bill might encourage more disputes involving whether a violation should be classified as minor. Dr. Wallerstein responded in the affirmative.

***The Legislative Committee approved staff's recommendation to OPPOSE AB 335 (Patterson).***

***AYES: Antonovich, Burke, Buscaino, Mitchell, Parker, and Rutherford***

***NOES: None***

Philip Crabbe, Community Relations Manager, presented on the following two bills:

**AB 678 (O'Donnell) Greenhouse Gases: Energy Efficient Ports Program**

This bill would require CARB, in conjunction with the State Energy Resources Conservation and Development Commission to develop and implement the Energy Efficient Ports Program to fund energy efficiency upgrades and investments at public ports.

To maximize the benefit of the state investment, the following amendments are suggested to prioritize co-benefits and identify additional types of projects eligible for investment:

- Page 2 Line 6: “and investments at public ports that help reduce criteria pollutant, toxic, and greenhouse gas emissions.”
- Page 2 Line 13: “(3) Installation of cold ironing/shorepower infrastructure at the ports, beyond actions currently required by existing regulations, to facilitate reduced emissions from diesel auxiliary engines on container, passenger, and refrigerated cargo ships while berthing at a California port.  
(4) Deployment of zero and near-zero emission vehicle and infrastructure technologies, including, but not limited to: stationary fuel cells, energy storage and battery electric trucks.”

Recommended Position: Support with Amendments

Dr. Wallerstein commented that the Governing Board received a presentation recently regarding projects currently worked on at the Ports of Long Beach and Los Angeles. He continued that this bill would provide funding for the projects included in that presentation and that some of these projects were viewed during a recent tour of the Long Beach container terminal.

Councilmember Buscaino applauded the efforts of the author on this legislation. Councilmember Mitchell commented that she is supportive of the suggested amendment that would include a reference to co-benefit emission reductions of criteria pollutants along with greenhouse gases because of the funding that will be available through the cap and trade auctions.

***The Legislative Committee approved staff’s recommendation to SUPPORT WITH AMENDMENTS AB 678 (O’Donnell).***

***AYES: Antonovich, Burke, Buscaino, Mitchell, Parker, and Rutherford***  
***NOES: None***

**SB 350 (DeLeón and Leno) Clean Energy and Pollution Reduction Act of 2015**

This bill would implement new “50-50-50” benchmark standards by raising California’s Renewable Portfolio Standard from 33% to 50%, striving for a 50% reduction in petroleum use, and doubling energy efficiency in buildings by the year 2030.

**Recommended Position: Support**

Dr. Wallerstein commented that this bill contains a proposal the Governor mentioned during his inaugural address. He continued that from a technology perspective, the goals in this bill are definitely possible; however the requirements of the South Coast Air Quality Management Plan actually require additional emission reductions beyond this proposal. Dr. Wallerstein also explained that the way the bill proposes to alter the language of current statute appears to set goals rather than create mandates. He also stated that SCAQMD staff believes that natural gas could be utilized as part of efforts to achieve the bill’s goals.

Dr. Parker commented that the bill is setting forth goals of achievement and that CARB should be taking more action regarding mobile sources of pollution that SCAQMD does not have jurisdiction over.

Supervisor Antonovich commented that SCAQMD should continue to strive to push for market incentives and strategies.

Dr. Burke asked for clarification as to whether this bill includes mandates or goals. Dr. Wallerstein responded that he believes the bill sets goals and cited specific examples of language in the bill. He added that a request for amendments to the bill to include incentives could be considered.

Dr. Parker inquired as to whether this bill would cut out current programs like the Carl Moyer Program and stated that the bill should include a reference that incentive programs would not be cut, but rather would be enhanced.

Supervisor Rutherford stated that she believes that the bill is not developed enough to be ready for support by the SCAQMD. She continued that language in the bill appears to include natural gas as part of the definition of petroleum. She also has concerns about the requirements on buildings, among other things.

***The Legislative Committee approved a motion to actively monitor SB 350 (DeLeón and Leno).***

***AYES: Antonovich, Burke, Buscaino, and Rutherford***

***NOES: Mitchell and Parker***

**Report from SCAQMD Home Rule Advisory Group [Attachment 3]**

Please refer to Attachment 3 for written report.

**Other Business:**

None

**Public Comment Period:**

No public comment.

**Attachments**

1. Attendance Record
2. Bill and Bill Analyses
3. SCAQMD Home Rule Advisory Group Report

## **ATTACHMENT 1**

ATTENDANCE RECORD –March 13, 2014

### **DISTRICT BOARD MEMBERS:**

Dr. William A. Burke (Videoconference)  
Councilmember Judy Mitchell, Chair (Videoconference)  
Supervisor Michael Antonovich (Videoconference)  
Councilmember Joe Buscaino (Videoconference)  
Dr. Clark E. Parker, Sr. (Videoconference)  
Supervisor Janice Rutherford

### **STAFF TO COMMITTEE:**

Lisha B. Smith, Deputy Executive Officer  
Derrick Alatorre, Assistant Deputy Executive Officer/Public Advisor  
Guillermo Sanchez, Senior Public Affairs Manager  
Julie Franco, Senior Administrative Secretary

### **DISTRICT STAFF:**

Barry R. Wallerstein, Executive Officer  
Kurt R. Wiese, General Counsel  
Barbara Baird, Chief Deputy Counsel  
Chris Marlia, Assistant Deputy Executive Officer  
Matt Miyasato, Deputy Executive Officer  
Mohsen Nazemi, Deputy Executive Officer  
Laki Tisopulos, Assistant Deputy Executive Officer  
William Wong, Principal Deputy District Counsel,  
Leeor Alpern, Senior Public Information Specialist (Videoconference)  
Marc Carrel, Program Supervisor  
Philip Crabbe, Community Relations Manager  
Tina Cox, Senior Public Information Specialist  
Nancy Feldman, Principal Deputy District Counsel  
Mark Henninger, Technology Implementation Manager  
Stan Myles, Senior Public Information Specialist (Videoconference)  
Jean Ospital, Health Effects Officer  
Robert Paud, Telecommunications Technician II  
Barbara Radlein, AQ Specialist  
Kim White, Public Affairs Specialist  
Patti Whiting, Staff Specialist  
Rainbow Yeung, Senior Public Information Specialist (Videoconference)

### **OTHERS PRESENT:**

Mark Abramowitz, Governing Board Member Consultant (Lyou)  
Josh Candelaria, County of San Bernardino  
Kris Flaig, City of Los Angeles Sanitation Department  
Jason Gonsalves, Joe A. Gonsalves & Son (teleconference)  
Paul A. Gonsalves, Joe A. Gonsalves & Son (teleconference)  
Will Gonzalez, Gonzalez, Quintana & Hunter, LLC (teleconference)  
Sue Gornick, WSPA  
Tom Gross, SCE

Stewart Harris, Carmen Group (teleconference)  
Gary Hoitsma, Carmen Group (teleconference)  
Mark Kadesh, Kadesh & Associates (teleconference)  
Chris Kierig, Kadesh & Associates (teleconference)  
Bill LaMarr, California Small Business Alliance  
Chung Liu, Governing Board Member Consultant (Mitchell)  
Rita Loof, RadTech  
Debra Mendelsohn, Governing Board Assistant (Antonovich)  
Mia O'Connell, Carmen Group (teleconference)  
Peter Okurowski, AAR  
David Rothbart, Los Angeles County Sanitation District  
Andy Silva, Governing Board Assistant (Gonzales)  
Susan Stark, Tesoro  
Andy Takata, County of San Bernardino  
Warren Weinstein, Kadesh & Associates (teleconference)  
Peter Whittingham, CP & A

## **ATTACHMENT 2a**

### **AB 335 (Patterson) Air Quality: Minor Violations**

**Summary:** AB 335 requires the California Air Resources Board (CARB) and the local air districts to adopt regulations limiting their actions to issuing a Notice to Comply for violations deemed to be minor in terms of the dangers they pose to human health, safety, welfare, or the environment.

**Background:** AB 335 would reinstate the Air Resources Board’s Minor Violation Program. Pursuant to the Program’s requirements, SCAQMD adopted SCAQMD Rule 112 in 1998. The rule language was the culmination of a California Air Pollution Control Officers Association (CAPCOA) task force convened in 1996 to draft core rule language for adoption by all districts statewide, subject to minor local modifications as required. Following numerous CAPCOA public consultation meetings held throughout the state in 1997 and local SCAQMD workshops, comments were evaluated and rule language modified as necessary. Rule 112- Definition of Minor Violation and Guidelines for Issuance of Notice to Comply represented the culmination of this effort to meet the Program’s requirements.

**Status:** 2/23/15 - Referred to Assembly Committee on Natural Resources

**Specific Provisions:** Specifically, this bill would:

- Require CARB and the local air districts to adopt regulations classifying minor violations, taking a variety of factors into account, including:
  - The magnitude, scope and severity of the violation
  - The degree to which a violation puts human health, safety, or welfare or the environment into jeopardy.
- Minor violations would exclude:
  - Any knowing, willful, or intentional violation.
  - Any violation that enables the violator to benefit economically from noncompliance, either by realizing reduced costs or by gaining a competitive advantage.
  - Any violation that is a chronic violation or that is committed by a recalcitrant violator.
- Except as otherwise provided, a notice to comply shall be the only means by which the state board or local air district shall cite a minor violation.

**Impacts on SCAQMD’s mission, operations or initiatives:** The author’s intent is to ensure a “more resource-efficient enforcement mechanism, faster compliance times, and the

creation of a productive and cooperative working relationship between the state board, the districts, and the regulated community” by allowing a violator the automatic right to cure. Though well intended, the bill is unnecessary, creates a disincentive for compliance, and, as borne out by the Agency’s prior experience, creates further legal complications and delays.

South Coast AQMD already has a robust Notice to Comply program as evidenced by the over 5,000 Notices to Comply that were issued in the last year. These were issued pursuant to the Agency’s enforcement policy under a variety of circumstances for various purposes. However, if the Agency were limited to issuing Notices to Comply for “minor violations”, the regulated community would have little incentive to comply if there is no consequence other than to correct a violation if discovered. In turn, the agency would have to step up its enforcement and monitoring efforts to maintain the same level of compliance that is realized today.

When Rule 112 was in effect at South Coast AQMD, legal costs only increased as violators argued that their violation was only minor and, thus, they were entitled to a Notice to Comply prior to any other enforcement action. This added significant time to the resolution of Notices of Violation. As the determination of whether a violation was major or minor was based on the balancing of a variety of factors, this became a subject of protracted negotiations and added to the costs of investigations. If AB 335 is enacted, enforcement costs will increase as all enforcement actions other than Notices to Comply would require further documented justification. Ultimately, these increased legal and enforcement costs would be borne by the regulated community.

Moreover, the bill establishes a statewide standard that does not acknowledge the current enforcement discretion exercised by each of the air districts. Very different economic sectors and air quality challenges exist in each of the 35 air districts that are best responded to by their respective local Air Pollution Control Officer and Governing Board.

**Recommended Position: OPPOSE**



**ASSEMBLY BILL**

**No. 335**

---

---

**Introduced by Assembly Member Patterson**  
**(Coauthors: Assembly Members Brough, Chávez, Lackey, Steinorth,**  
**and Waldron)**  
(Coauthor: Senator Anderson)

February 13, 2015

---

---

An act to add Chapter 3 (commencing with Section 39150) to Part 1 of Division 26 of the Health and Safety Code, relating to air pollution.

LEGISLATIVE COUNSEL'S DIGEST

AB 335, as introduced, Patterson. Air quality: minor violations.

(1) Existing law authorizes the State Air Resources Board and air pollution control and air quality management districts to enforce air quality laws.

This bill would require the State Air Resources Board and air pollution control and air quality management districts to adopt regulations classifying minor violations. The bill would define the term “notice to comply” and would require a representative of those agencies, who in the course of conducting an inspection detects a minor violation, to issue a notice to comply, as specified.

The bill would require the State Air Resources Board to report to the Legislature by January 1, 2020, regarding implementation of the bill.

Because the bill would make a false statement of compliance submitted under those procedures a crime pursuant to specified provisions, the bill would impose a state-mandated local program by creating a new crime. In addition, the bill would impose a state-mandated local program by imposing new requirements on air pollution control and air quality management districts.

(2)The California Constitution requires the state to reimburse local agencies and school districts for certain costs mandated by the state. Statutory provisions establish procedures for making that reimbursement.

This bill would provide that no reimbursement is required by this act for a specified reason.

Vote: majority. Appropriation: no. Fiscal committee: yes.

State-mandated local program: yes.

*The people of the State of California do enact as follows:*

1 SECTION 1. Chapter 3 (commencing with Section 39150) is  
2 added to Part 1 of Division 26 of the Health and Safety Code, to  
3 read:

4  
5 CHAPTER 3. MINOR VIOLATIONS  
6

7 39150. (a) The Legislature hereby finds and declares that the  
8 purpose of this chapter is to establish an enforcement policy for  
9 violations of this division that the enforcement agency finds are  
10 minor when the danger they pose to, or the potential that they have  
11 for endangering, human health, safety, or welfare or the  
12 environment is taken into account.

13 (b) It is the intent of the Legislature in enacting this chapter to  
14 provide a more resource-efficient enforcement mechanism, faster  
15 compliance times, and the creation of a productive and cooperative  
16 working relationship between the state board, the districts, and the  
17 regulated community while maintaining protection of human health  
18 and safety and the environment.

19 (c) The state board and each district shall, for their respective  
20 jurisdictions, implement this chapter by adopting a regulation or  
21 a rule that classifies the types of violations of this division, or of  
22 the regulations, rules, standards, orders, permit conditions, or other  
23 requirements adopted pursuant to this division, that the state board  
24 or the district finds are minor violations in accordance with  
25 subdivision (d).

26 (d) In classifying the types of violations that are minor  
27 violations, the state board or the district shall consider all of the  
28 following factors:

- 29 (1) The magnitude of the violation.
- 30 (2) The scope of the violation.

1 (3) The severity of the violation.

2 (4) The degree to which a violation puts human health, safety,  
3 or welfare or the environment into jeopardy.

4 (5) The degree to which a violation could contribute to the  
5 failure to accomplish an important goal or program objective as  
6 established by this division.

7 (6) The degree to which a violation may make it difficult to  
8 determine if the violator is in compliance with other requirements  
9 of this division.

10 (e) For purposes of this chapter, a minor violation of this division  
11 shall not include any of the following:

12 (1) Any knowing, willful, or intentional violation of this  
13 division.

14 (2) Any violation of this division that enables the violator to  
15 benefit economically from noncompliance, either by realizing  
16 reduced costs or by gaining a competitive advantage.

17 (3) Any violation that is a chronic violation or that is committed  
18 by a recalcitrant violator.

19 (f) In determining whether a violation is chronic or a violator  
20 is recalcitrant, for purposes of paragraph (3) of subdivision (e),  
21 the state board or district or an authorized or designated officer  
22 shall consider whether there is evidence indicating that the violator  
23 has engaged in a pattern of neglect or disregard with respect to the  
24 requirements of this division or the requirements adopted pursuant  
25 to this division.

26 39151. For purposes of this chapter, “notice to comply” means  
27 a written method of alleging a minor violation that is in compliance  
28 with all of the following requirements:

29 (a) The notice to comply is written in the course of conducting  
30 an inspection by an authorized representative of the state board or  
31 district or an authorized or designated officer. If testing is required  
32 by the state board or district or an authorized or designated officer  
33 to determine compliance, and the testing cannot be conducted  
34 during the course of the inspection, the representative of the state  
35 board or the district or an authorized or designated officer shall  
36 have a reasonable period of time to conduct the required testing.  
37 If, after the test results are available, the representative of the state  
38 board or district or an authorized or designated officer determines  
39 that the issuance of a notice to comply is warranted, the

1 representative or officer shall immediately notify the facility owner  
2 or operator in writing.

3 (b) A copy of the notice to comply is presented to a person who  
4 is an owner, operator, employee, or representative of the facility  
5 being inspected at the time that the notice to comply is written. If  
6 offsite testing is required pursuant to subdivision (a), a copy of the  
7 notice to comply may be mailed to the owner or operator of the  
8 facility.

9 (c) The notice to comply clearly states the nature of the alleged  
10 minor violation, a means by which compliance with the  
11 requirement cited by the state board's or district's representative  
12 or an authorized or designated officer may be achieved, and a time  
13 limit in which to comply, which shall not exceed 30 days.

14 (d) The notice to comply shall contain the information specified  
15 in subdivision (h) of Section 39152 with regard to the possible  
16 reinspection of the facility.

17 39152. (a) An authorized representative of the state board or  
18 district or an authorized or designated officer, who, in the course  
19 of conducting an inspection, detects a minor violation shall issue  
20 a notice to comply before leaving the site at which the minor  
21 violation is alleged to have occurred if the authorized representative  
22 finds that a notice to comply is warranted.

23 (b) A person who receives a notice to comply pursuant to  
24 subdivision (a) shall have the period specified in the notice to  
25 comply from the date of receipt of the notice to comply in which  
26 to achieve compliance with the requirement cited on the notice to  
27 comply. Within five working days of achieving compliance, the  
28 person who received the notice to comply shall sign the notice to  
29 comply and return it to the state board's or district's representative  
30 or an authorized or designated officer, stating that the person has  
31 complied with the notice to comply. A false statement that  
32 compliance has been achieved is a violation of this division  
33 pursuant to Section 42400.2 or 42402.2.

34 (c) A single notice to comply shall be issued for all minor  
35 violations cited during the same inspection and the notice to comply  
36 shall separately list each cited minor violation and the manner in  
37 which each minor violation may be brought into compliance.

38 (d) A notice to comply shall not be issued for any minor  
39 violation that is corrected immediately in the presence of the  
40 inspector. Immediate compliance in that manner may be noted in

1 the inspection report, but the person shall not be subject to any  
2 further action by the state board's or district's representative or an  
3 authorized or designated officer.

4 (e) Except as otherwise provided in subdivision (g), a notice to  
5 comply shall be the only means by which the state board's or  
6 district's representative or an authorized or designated officer shall  
7 cite a minor violation. The state board's or district's representative  
8 or an authorized or designated officer shall not take any other  
9 enforcement action specified in this division to enforce the minor  
10 violation against a person who has received a notice to comply if  
11 the person is in compliance with this section.

12 (f) If a person who receives a notice to comply pursuant to  
13 subdivision (a) disagrees with one or more of the alleged violations  
14 cited in the notice to comply, the person shall give written notice  
15 of appeal to the state board or district, which shall develop a  
16 process for reviewing and determining the disposition of the appeal.

17 (g) Notwithstanding any other provision of this section, if a  
18 person fails to comply with a notice to comply within the  
19 prescribed period, or if the state board or district or an authorized  
20 or designated officer determines that the circumstances surrounding  
21 a particular minor violation are such that immediate enforcement  
22 is warranted to prevent harm to the public health or safety or to  
23 the environment, the state board or district or an authorized or  
24 designated officer may take any needed enforcement action  
25 authorized by this division.

26 (h) A notice to comply issued to a person pursuant to this section  
27 shall contain a statement that the inspected facility may be subject  
28 to reinspection at any time. Nothing in this section shall be  
29 construed as preventing the reinspection of a facility to ensure  
30 compliance or to ensure that minor violations cited in a notice to  
31 comply have been corrected.

32 (i) Nothing in this section shall be construed as preventing the  
33 state board or district or an authorized or designated officer, on a  
34 case-by-case basis, from requiring a person subject to a notice to  
35 comply to submit reasonable and necessary documentation to  
36 support a claim of compliance by the person.

37 (j) Nothing in this section restricts the power of a city attorney,  
38 district attorney, county counsel, or the Attorney General to bring,  
39 in the name of the people of California, any criminal proceeding  
40 otherwise authorized by law. Furthermore, nothing in this section

1 prevents the state board or district, or any representative of the  
2 state board or district, from cooperating with, or participating in,  
3 such a proceeding.

4 (k) Notwithstanding any other provision of this section, if the  
5 state board or district or an authorized or designated officer  
6 determines that the circumstances surrounding a particular minor  
7 violation are such that the assessment of a civil penalty pursuant  
8 to this division is warranted or required by federal law, in addition  
9 to issuance of a notice to comply, the state board or district or an  
10 authorized or designated officer shall assess a civil penalty in  
11 accordance with this division, if the state board or district or an  
12 authorized or designated officer makes written findings that set  
13 forth the basis for the determination of the state board or district.

14 39153. On or before January 1, 2020, the state board shall  
15 report to the Legislature on actions taken by the state board and  
16 the districts to implement this chapter and the results of that  
17 implementation. Each district shall provide the state board with  
18 the information that the state board requests to determine the degree  
19 to which the purposes described in subdivision (a) of Section 39150  
20 have been achieved. The report shall be submitted consistent with  
21 Section 9795 of the Government Code.

22 SEC. 2. No reimbursement is required by this act pursuant to  
23 Section 6 of Article XIII B of the California Constitution because  
24 a local agency or school district has the authority to levy service  
25 charges, fees, or assessments sufficient to pay for the program or  
26 level of service mandated by this act or because costs that may be  
27 incurred by a local agency or school district will be incurred  
28 because this act creates a new crime or infraction, eliminates a  
29 crime or infraction, or changes the penalty for a crime or infraction,  
30 within the meaning of Section 17556 of the Government Code, or  
31 changes the definition of a crime within the meaning of Section 6  
32 of Article XIII B of the California Constitution.

## **ATTACHMENT 2b**

### **AB 678 (O'Donnell)**

#### **Greenhouse Gases: Energy Efficient Ports Program**

**Summary:** This bill would require the California Air Resources Board (CARB), in conjunction with the State Energy Resources Conservation and Development Commission (Commission), to develop and implement the Energy Efficient Ports Program (Ports Program) to fund energy efficiency upgrades and investments at public ports.

**Background:** Existing law establishes various programs to provide financial assistance for energy efficiency upgrades and investments. Under existing law, CARB has issued regulations to reduce emissions from diesel auxiliary engines on container ships, passenger ships, and refrigerated cargo ships while berthing at a California port.

**Status:** 2/26/15 - From printer. May be heard in committee March 28.

**Specific Provisions:** Specifically, this bill would:

1. Require CARB, in conjunction with the Commission, to develop and implement the Ports Program to fund energy efficiency upgrades and investments at public ports;
2. Specify that projects eligible for funding in the Ports Program include the following: (1) Installation of solar technologies at marine terminals, and warehouses and other freight facilities at the ports; and (2) Replacement of conventional lighting with light emitting diodes (LED) lighting at the ports; and
3. Require CARB, in consultation with the Commission, to develop guidelines through the funding plan process for the Air Quality Improvement Program, consistent with AB 32.

**Impacts on SCAQMD's mission, operations or initiatives:** The bill's intent is to fund energy efficiency upgrades and investments at public ports. These investments would provide co-benefit reductions in criteria pollutant and toxic air contaminant emissions within the South Coast region. Such potential reductions would help protect the health of South Coast residents and assist in attaining state and federal ambient air quality standards. In addition, the bill is consistent with SCAQMD's priority to facilitate the deployment of clean technology that reduces emissions.

To maximize the benefit of the state investment, the following amendments are suggested to prioritize cobenefits and identify additional types of projects eligible for investment:

- Page 2 Line 6: “and investments at public ports that help reduce criteria pollutant, toxic, and greenhouse gas emissions.”

- Page 2 Line 13: “(3) Installation of cold ironing/shorepower infrastructure at the ports, beyond actions currently required by existing regulations, to facilitate reduced emissions from diesel auxiliary engines on container ships, passenger ships, and refrigerated cargo ships while berthing at a California port.  
(4) Deployment of zero and near-zero emission vehicle and infrastructure technologies, including, but not limited to: stationary fuel cells, energy storage and battery electric trucks.”

**Recommended Position: SUPPORT WITH AMENDMENTS**



**ASSEMBLY BILL**

**No. 678**

---

---

**Introduced by Assembly Member O'Donnell**

February 25, 2015

---

---

An act to add Chapter 4.3 (commencing with Section 39735) to Part 2 of Division 26 of the Health and Safety Code, relating to greenhouse gases.

LEGISLATIVE COUNSEL'S DIGEST

AB 678, as introduced, O'Donnell. Greenhouse gases: Energy Efficient Ports Program.

Existing law establishes various programs to provide financial assistance for energy efficiency upgrades and investments. Under existing law, the State Air Resources Board has issued regulations to reduce emissions from diesel auxiliary engines on container ships, passenger ships, and refrigerated cargo ships while berthing at a California port.

This bill would require the state board, in conjunction with the State Energy Resources Conservation and Development Commission, to develop and implement the Energy Efficient Ports Program to fund energy efficiency upgrades and investments at public ports.

Vote: majority. Appropriation: no. Fiscal committee: yes. State-mandated local program: no.

*The people of the State of California do enact as follows:*

- 1 SECTION 1. Chapter 4.3 (commencing with Section 39735)
- 2 is added to Part 2 of Division 26 of the Health and Safety Code,
- 3 to read:

1           CHAPTER 4.3. ENERGY EFFICIENT PORTS PROGRAM

2

3       39735. (a) The state board, in conjunction with the State  
4 Energy Resources Conservation and Development Commission,  
5 shall develop and implement the Energy Efficient Ports Program  
6 to fund energy efficiency upgrades and investments at public ports.

7       (b) Projects eligible for funding in the program shall include,  
8 but are not limited to, the following:

9       (1) Installation of solar technologies at marine terminals, and  
10 warehouses and other freight facilities at the ports.

11       (2) Replacement of conventional lighting with light emitting  
12 diodes (LED) lighting at the ports.

13       (c) The state board, in consultation with the State Energy  
14 Resources Conservation and Development Commission, shall  
15 develop guidelines through the funding plan process for the Air  
16 Quality Improvement Program established pursuant to Article 3  
17 (commencing with Section 44274) of Chapter 8.9 of Part 5 for the  
18 implementation of this chapter that are consistent with the  
19 California Global Warming Solutions Act of 2006 (Division 25.5  
20 (commencing with Section 38500) and Chapter 4.1 (commencing  
21 with Section 39710)).

## **ATTACHMENT 2c**

### **SB 350 (De León and Leno)**

#### Clean Energy and Pollution Reduction Act of 2015

**Summary:** This bill would implement new “50-50-50” benchmark standards by raising California’s Renewable Portfolio Standard (RPS) from 33% to 50%, striving for a 50% reduction in petroleum use, and doubling energy efficiency in buildings by the year 2030.

#### **Background:**

Renewable Portfolio Standard - Existing law establishes the California RPS, which calls for the amount of electricity generated per year from renewable energy resources to be increased to at least 33% of the total electricity sold to retail customers in California by December 31, 2020. The bill’s authors argue that renewable energy is as cost-effective as fossil fuels and produces much less pollution. According to the International Renewable Energy Agency, renewable power generation costs in 2014 were either equal to or less than the cost of coal, oil, and gas-fired power plants.

In 2011, Governor Jerry Brown signed legislation to increase the RPS to 33% by the year 2020. The bill’s authors claim that currently, most energy utilities have bought or have built enough energy resources to meet the 33% RPS before the target year. Also, according to numerous studies, California’s RPS standard has created hundreds of thousands of new jobs, millions of new investment and tax dollars, and significant clean air and climate benefits.

Reduction in Petroleum Use - The authors explain that according to the California Air Resources Board (CARB), production, refining, and the use of petroleum accounts for nearly half of greenhouse gas (GHG) emissions, 80% of smog-forming pollution, and over 95% of cancer-causing diesel particulate matter. CARB also notes that oil dependence costs the state \$33-55 billion annually, and that reducing petroleum use and improving vehicle efficiency will cut costs and improve California’s economic productivity and competitiveness.

In the effort to improve air quality over the last two decades, California has made cars significantly more efficient and less consuming of petroleum fuels. The bill’s authors argue that using less petroleum in transportation fuels saves money, creates jobs, and reduces pollution. For example, over 100,000 miles, a 40 mpg car saves \$16,668 in fuel costs compared to a 15 mpg car over 100,000 miles (assuming \$4/gallon fuel costs).

Energy Efficiency in Buildings - The authors point out that energy efficient buildings save money and reduce pollution from electricity. According to the California Energy Commission (Energy Commission), efficiency standards return an average of \$6,200 in

energy savings per household over 30 years on heating, cooling, and lighting bills. These same standards save 200 million gallons of water per year and avoid 170,500 tons of GHG emissions per year. Since 1978, the state's standards have saved Californians \$66 billion in electricity and natural gas savings.

State energy agencies allocate over \$1.5 billion per year on energy efficiency programs. Roughly \$1 billion is spent by the California Public Utilities Commission (PUC) and utilities via utility-sponsored programs such as rebates for high-efficiency appliances, heating and A/C systems, and insulation. In addition, Proposition 39—The California Clean Energy Jobs Act—has generated approximately \$500 million annually to assist schools in switching to clean energy and reducing energy use, which creates jobs and saves money that can be reinvested into classrooms. Under current law, although California has energy efficiency standards for new buildings and appliances, implementation challenges include the lack of enforcement mechanisms and accountability.

**Status:** 2/25/15 - From printer. May be acted upon on or after March 27.

**Specific Provisions:** Specifically, this bill would:

1. Express the intent of the Legislature, with respect to the RPS program, that the amount of electricity generated per year from renewable energy resources be increased to at least 50% by December 31, 2030;
2. Require standards created by CARB related to emissions from motor vehicles to be developed in furtherance of achieving a reduction in petroleum use in motor vehicles by 50% by January 1, 2030;
3. State the policy of the state is to exploit all practicable and cost-effective conservation and improvements in the efficiency of energy use and distribution, in furtherance of reducing petroleum use in the transportation sector by 50% by January 1, 2030; and
4. Require the Energy Commission, by January 1, 2017, and at least once every three years thereafter, to adopt an update to the program in furtherance of achieving a doubling of energy efficiency in buildings by January 1, 2030.

**Impacts on SCAQMD's mission, operations or initiatives:** The authors state that the purpose of this legislation is to create jobs, grow the state's economy, and to improve public health by setting new standards for California's RPS, reducing petroleum use, and increasing energy efficiency in existing buildings. The authors also state that SB 350 makes these standards permanent, trackable, and enforceable by enacting them into law. The authors argue that each of these new standards would be added to existing clean air, clean energy, and climate related statutes that have been implemented for years. For example, under current law, CARB must reduce pollution to achieve state and federal ambient air standards. Current law (Health and Safety Code Section 42013) requires CARB to adopt standards for vehicles and fuels to achieve clean air. This measure ensures that those actions will achieve a 50% reduction in petroleum by 2030.

This bill is in line with SCAQMD’s priorities regarding reducing GHG, criteria pollutant and toxic emissions within the South Coast region. Through this bill’s multi-faceted efforts, there will be co-benefit reductions in criteria and toxic emissions that will help protect the health of South Coast residents and meet state and federal ambient air quality standards. The bill is also consistent with SCAQMD’s priority to facilitate the development and deployment of clean transportation technology and to promote the usage of cleaner alternative fuels.

**Recommended Position: SUPPORT**

***March 13, 2014 Legislative Committee Action:***

*Legislative Committee did not take a position on the bill and instead requested staff to actively monitor it.*

**Introduced by Senators De León and Leno  
(Coauthors: Senators Hancock and Monning)**

February 24, 2015

---

---

An act to amend Section 43013 of the Health and Safety Code, to amend Sections 25000.5 and 25943 of the Public Resources Code, and to amend Sections 399.11, 399.12, 399.13, 399.15, 399.16, 399.18, 399.21, and 399.30 of, to add Section 454.51 to, and to add Article 17 (commencing with Section 400) to Chapter 2.3 of Part 1 of Division 1 of, the Public Utilities Code, relating to energy.

LEGISLATIVE COUNSEL'S DIGEST

SB 350, as introduced, De León. Clean Energy and Pollution Reduction Act of 2015.

(1) Under existing law, the Public Utilities Commission (PUC) has regulatory authority over public utilities, including electrical corporations, as defined, while local publicly owned electric utilities, as defined, are under the direction of their governing boards.

Existing law establishes the California Renewables Portfolio Standard (RPS) program, which expresses the intent of the Legislature that the amount of electricity generated per year from eligible renewable energy resources be increased to an amount that equals at least 33% of the total electricity sold to retail customers in California per year by December 31, 2020. Existing law requires the PUC, by January 1, 2012, to establish the quantity of electricity products from eligible renewable energy resources to be procured by each retail seller for specified compliance periods, sufficient to ensure that the procurement of electricity products from eligible renewable energy resources achieves 25% of retail sales by December 31, 2016, and 33% of retail sales by December 31, 2020, and that retail sellers procure not less than 33% of retail sales in all

subsequent years. Existing law includes as an eligible renewable energy resources a specified facility engaged in the combustion of municipal solid waste.

Existing law makes the requirements of the RPS program applicable to local publicly owned electric utilities, except that the utility's governing board is responsible for implementation of those requirements, instead of the PUC, and certain enforcement authority with respect to local publicly owned electric utilities is given to the State Energy Resources Conservation and Development Commission (Energy Commission) and State Air Resources Board, instead of the PUC.

This bill would additionally express the intent of the Legislature for the purposes of the RPS program that the amount of electricity generated per year from eligible renewable energy resources be increased to an amount equal to at least 50% by December 31, 2030, and would require the PUC, by January 1, 2017, to establish the quantity of electricity products from eligible renewable energy resources be procured by each retail seller for specified compliance periods sufficient to ensure that the procurement of electricity products from eligible renewable energy resources achieves 50% of retail sales by December 31, 2030. The bill would require the governing boards of local publicly owned electric utilities to ensure that specified quantities of electricity products from eligible renewable energy resources to be procured for specified compliance periods to ensure that the procurement of electricity products from eligible renewable energy resources achieve 50% of retail sales by December 31, 2030. The bill would exclude all facilities engaged in the combustion of municipal solid waste from being eligible renewable energy resources. The bill would require community choice aggregators and electric service providers to prepare and submit renewable energy procurement plans. The bill would revise other aspects of the RPS program, including, among other things, the enforcement provisions and would require penalties collected for noncompliance to be deposited in the Electric Program Investment Charge Fund. The bill would require the PUC to direct electrical corporations to include in their proposed procurement plans a strategy for procuring a diverse portfolio of resources that provide a reliable electricity supply. The bill would require the PUC and the Energy Commission to take certain actions in furtherance of meeting the state's clean energy and pollution reduction objectives.

(2) Under existing law, a violation of the RPS program is a crime.

Because the provisions of this bill would expand the RPS program, a violation of these provisions would impose a state-mandated local program by expanding the definition of a crime.

(3) By placing additional requirements upon local publicly owned electric utilities, this bill would impose a state-mandated local program.

(4) Existing law requires the State Air Resources Board to adopt and implement various standards related to emissions from motor vehicles.

This bill would require those standards to be in furtherance of achieving a reduction in petroleum use in motor vehicles by 50% by January 1, 2030.

(5) Existing law states the policy of the state to exploit all practicable and cost-effective conservation and improvements in the efficiency of energy use and distribution, and to achieve energy security, diversity of supply sources, and competitiveness of transportation energy markets based on the least environmental and economic costs.

This bill would additionally state the policy of the state to exploit those conservation and improvements in furtherance of reducing petroleum use in the transportation sector by 50% by January 1, 2030.

(6) Existing law requires the Energy Commission to establish a regulatory proceeding to develop and implement a comprehensive program to achieve greater energy savings in California's existing residential and nonresidential building stock and to periodically update criteria for the program.

This bill would require the Energy Commission, by January 1, 2017, and at least once every 3 years thereafter, to adopt an update to the program in furtherance of achieving a doubling of energy efficiency in buildings by January 1, 2030.

(7) The California Constitution requires the state to reimburse local agencies and school districts for certain costs mandated by the state. Statutory provisions establish procedures for making that reimbursement.

This bill would provide that no reimbursement is required by this act for a specified reasons.

Vote: majority. Appropriation: no. Fiscal committee: yes.  
State-mandated local program: yes.

*The people of the State of California do enact as follows:*

1 SECTION 1. This act shall be known and may be cited as the  
2 Clean Energy and Pollution Reduction Act of 2015.



1 SEC. 2. (a) The Legislature finds and declares that the  
2 Governor has called for a new set of objectives in clean energy,  
3 clean air, and pollution reduction for 2030 and beyond. Those  
4 objectives consist of the following:

5 (1) To increase from 33 percent to 50 percent, the procurement  
6 of our electricity from renewable sources.

7 (2) To reduce today's petroleum use in cars and trucks by up  
8 to 50 percent.

9 (3) To double the efficiency of existing buildings.

10 (b) It is the intent of the Legislature in enacting this act to codify  
11 the targets described under subdivision (a) to ensure they are  
12 permanent, enforceable, and quantifiable.

13 SEC. 3. Section 43013 of the Health and Safety Code is  
14 amended to read:

15 43013. (a) The state board shall adopt and implement motor  
16 vehicle emission standards, in-use performance standards, and  
17 motor vehicle fuel specifications for the control of air contaminants  
18 and sources of air pollution which the state board has found to be  
19 necessary, cost effective, and technologically feasible, to carry out  
20 the purposes of this ~~division~~, *division and in furtherance of*  
21 *achieving a reduction in petroleum use in motor vehicles by 50*  
22 *percent by January 1, 2030*, unless preempted by federal law.

23 (b) The state board shall, consistent with subdivision (a), adopt  
24 standards and regulations for light-duty and heavy-duty motor  
25 vehicles, medium-duty motor vehicles, as determined and specified  
26 by the state board, portable fuel containers and spouts, and off-road  
27 or nonvehicle engine categories, including, but not limited to,  
28 off-highway motorcycles, off-highway vehicles, construction  
29 equipment, farm equipment, utility engines, locomotives, and, to  
30 the extent permitted by federal law, marine vessels.

31 (c) Prior to adopting standards and regulations for farm  
32 equipment, the state board shall hold a public hearing and find and  
33 determine that the standards and regulations are necessary, cost  
34 effective, and technologically feasible. The state board shall also  
35 consider the technological effects of emission control standards  
36 on the cost, fuel consumption, and performance characteristics of  
37 mobile farm equipment.

38 (d) Notwithstanding subdivision (b), the state board shall not  
39 adopt any standard or regulation affecting locomotives until the  
40 final study required under Section 5 of Chapter 1326 of the Statutes

1 of 1987 has been completed and submitted to the Governor and  
2 Legislature.

3 (e) Prior to adopting or amending any standard or regulation  
4 relating to motor vehicle fuel specifications pursuant to this section,  
5 the state board shall, after consultation with public or private  
6 entities that would be significantly impacted as described in  
7 paragraph (2) of subdivision (f), do both of the following:

8 (1) Determine the cost-effectiveness of the adoption or  
9 amendment of the standard or regulation. The cost-effectiveness  
10 shall be compared on an incremental basis with other mobile source  
11 control methods and options.

12 (2) Based on a preponderance of scientific and engineering data  
13 in the record, determine the technological feasibility of the adoption  
14 or amendment of the standard or regulation. That determination  
15 shall include, but is not limited to, the availability, effectiveness,  
16 reliability, and safety expected of the proposed technology in an  
17 application that is representative of the proposed use.

18 (f) Prior to adopting or amending any motor vehicle fuel  
19 specification pursuant to this section, the state board shall do both  
20 of the following:

21 (1) To the extent feasible, quantitatively document the  
22 significant impacts of the proposed standard or specification on  
23 affected segments of the state's economy. The economic analysis  
24 shall include, but is not limited to, the significant impacts of any  
25 change on motor vehicle fuel efficiency, the existing motor vehicle  
26 fuel distribution system, the competitive position of the affected  
27 segment relative to border states, and the cost to consumers.

28 (2) Consult with public or private entities that would be  
29 significantly impacted to identify those investigative or preventive  
30 actions that may be necessary to ensure consumer acceptance,  
31 product availability, acceptable performance, and equipment  
32 reliability. The significantly impacted parties shall include, but are  
33 not limited to, fuel manufacturers, fuel distributors, independent  
34 marketers, vehicle manufacturers, and fuel users.

35 (g) To the extent that there is any conflict between the  
36 information required to be prepared by the state board pursuant to  
37 subdivision (f) and information required to be prepared by the state  
38 board pursuant to Chapter 3.5 (commencing with Section 11340)  
39 of Part 1 of Division 3 of Title 2 of the Government Code, the  
40 requirements established under subdivision (f) shall prevail.

1 (h) It is the intent of the Legislature that the state board act as  
2 expeditiously as is feasible to reduce nitrogen oxide emissions  
3 from diesel vehicles, marine vessels, and other categories of  
4 vehicular and mobile sources which significantly contribute to air  
5 pollution problems.

6 SEC. 4. Section 25000.5 of the Public Resources Code is  
7 amended to read:

8 25000.5. (a) The Legislature finds and declares that  
9 overdependence on the production, marketing, and consumption  
10 of petroleum based fuels as an energy resource in the transportation  
11 sector is a threat to the energy security of the state due to  
12 continuing market and supply uncertainties. In addition, petroleum  
13 use as an energy resource contributes substantially to the following  
14 public health and environmental problems: air pollution, acid rain,  
15 global warming, and the degradation of California's marine  
16 environment and fisheries.

17 (b) Therefore, it is the policy of this state to fully evaluate the  
18 economic and environmental costs of petroleum use, and the  
19 economic and environmental costs of other transportation ~~fuels,~~  
20 *fuels and options*, including the costs and values of environmental  
21 impacts, and to establish a state transportation energy policy that  
22 results in the least environmental and economic cost to the state.  
23 In pursuing the "least environmental and economic cost" strategy,  
24 it is the policy of the state to exploit all practicable and  
25 cost-effective conservation and improvements in the efficiency of  
26 energy use and distribution, and to achieve energy security,  
27 diversity of supply sources, and competitiveness of transportation  
28 energy markets based on the least environmental and economic  
29 ~~cost. cost, and in furtherance of reducing petroleum use in the~~  
30 *transportation sector by 50 percent by January 1, 2030.*

31 (c) It is also the policy of this state to minimize the economic  
32 and environmental costs due to the use of petroleum-based and  
33 other transportation fuels by state agencies. In implementing a  
34 least-cost economic and environmental strategy for state fleets, it  
35 is the policy of the state to implement practicable and cost-effective  
36 measures, including, but not necessarily limited to, the purchase  
37 of the cleanest and most efficient automobiles and replacement  
38 tires, the use of alternative fuels in its fleets, and other conservation  
39 measures.

1 (d) For the purposes of this section, “petroleum based fuels”  
2 means fuels derived from liquid unrefined crude oil, including  
3 natural gas liquids, liquefied petroleum gas, or the energy fraction  
4 of methyl tertiary-butyl ether (MTBE) or other ethers that is not  
5 attributed to natural gas.

6 SEC. 5. Section 25943 of the Public Resources Code is  
7 amended to read:

8 25943. (a) (1) By March 1, 2010, the commission shall  
9 establish a regulatory proceeding to develop and implement a  
10 comprehensive program to achieve greater energy savings in  
11 California’s existing residential and nonresidential building stock.  
12 This program shall comprise a complementary portfolio of  
13 techniques, applications, and practices that will achieve greater  
14 energy efficiency in existing residential and nonresidential  
15 structures that fall significantly below the current standards in Title  
16 24 of the California Code of Regulations, as determined by the  
17 commission.

18 (2) The comprehensive program may include, but need not be  
19 limited to, a broad range of energy assessments, building  
20 benchmarking, energy rating, cost-effective energy efficiency  
21 improvements, public and private sector energy efficiency  
22 financing options, public outreach and education efforts, and green  
23 workforce training.

24 (b) To develop and implement the program specified in  
25 subdivision (a), the commission shall do both of the following:

26 (1) Coordinate with the Public Utilities Commission and consult  
27 with representatives from the Bureau of Real Estate, the  
28 Department of Housing and Community Development,  
29 investor-owned and publicly owned utilities, local governments,  
30 real estate licensees, commercial and homebuilders, commercial  
31 property owners, small businesses, mortgage lenders, financial  
32 institutions, home appraisers, inspectors, energy rating  
33 organizations, consumer groups, environmental and environmental  
34 justice groups, and other entities the commission deems  
35 appropriate.

36 (2) Hold at least three public hearings in geographically diverse  
37 locations throughout the state.

38 (c) In developing the requirements for the program specified in  
39 subdivision (a), the commission shall consider all of the following:

- 1 (1) The amount of annual and peak energy savings, greenhouse  
2 gas emission reductions, and projected customer utility bill savings  
3 that will accrue from the program.
- 4 (2) The most cost-effective means and reasonable timeframes  
5 to achieve the goals of the program.
- 6 (3) The various climatic zones within the state.
- 7 (4) An appropriate method to inform and educate the public  
8 about the need for, benefits of, and environmental impacts of, the  
9 comprehensive energy efficiency program.
- 10 (5) The most effective way to report the energy assessment  
11 results and the corresponding energy efficiency improvements to  
12 the owner of the residential or nonresidential building, including,  
13 among other things, the following:
- 14 (A) Prioritizing the identified energy efficiency improvements.
- 15 (B) The payback period or cost-effectiveness of each  
16 improvement identified.
- 17 (C) The various incentives, loans, grants, and rebates offered  
18 to finance the improvements.
- 19 (D) Available financing options including all of the following:
- 20 (i) Mortgages or sales agreement components.
- 21 (ii) On-bill financing.
- 22 (iii) Contractual property tax assessments.
- 23 (iv) Home warranties.
- 24 (6) Existing statutory and regulatory requirements to achieve  
25 energy efficiency savings and greenhouse gas emission reductions.
- 26 (7) A broad range of implementation approaches, including both  
27 utility and nonutility administration of energy efficiency programs.
- 28 (8) Any other considerations deemed appropriate by the  
29 commission.
- 30 (d) The program developed pursuant to this section shall do all  
31 of the following:
- 32 (1) Minimize the overall costs of establishing and implementing  
33 the comprehensive energy efficiency program requirements.
- 34 (2) Ensure, for residential buildings, that the energy efficiency  
35 assessments, ratings, or improvements do not unreasonably or  
36 unnecessarily affect the home purchasing process or the ability of  
37 individuals to rent housing. A transfer of property subject to the  
38 program implemented pursuant to this section shall not be  
39 invalidated solely because of the failure of a person to comply  
40 with a provision of the program.

1 (3) Ensure, for nonresidential buildings, that the energy  
2 improvements do not have an undue economic impact on California  
3 businesses.

4 (4) Determine, for residential buildings, the appropriateness of  
5 the Home Energy Rating System (HERS) program to support the  
6 goals of this section and whether there are a sufficient number of  
7 HERS-certified raters available to meet the program requirements.

8 (5) Determine, for nonresidential structures, the availability of  
9 an appropriate cost-effective energy efficiency assessment system  
10 and whether there are a sufficient number of certified raters or  
11 auditors available to meet the program requirements.

12 (6) Coordinate with the California Workforce Investment Board,  
13 the Employment Training Panel, the California Community  
14 Colleges, and other entities to ensure a qualified, well-trained  
15 workforce is available to implement the program requirements.

16 (7) Coordinate with, and avoid duplication of, existing  
17 proceedings of the Public Utilities Commission and programs  
18 administered by utilities.

19 (e) A home energy rating or energy assessment service does not  
20 meet the requirements of this section unless the service has been  
21 certified by the commission to be in compliance with the program  
22 criteria developed pursuant to this section and is in conformity  
23 with other applicable elements of the program.

24 (f) (1) The commission shall periodically update the criteria  
25 and adopt any revision that, in its judgment, is necessary to improve  
26 or refine program requirements after receiving public input.

27 (2) *On or before January 1, 2017, and at least once every three*  
28 *years thereafter, the commission shall adopt an update to the*  
29 *program in furtherance of achieving a doubling of the energy*  
30 *efficiency of buildings by January 1, 2030.*

31 (g) Before implementing an element of the program developed  
32 pursuant to subdivision (a) that requires the expansion of statutory  
33 authority of the commission or the Public Utilities Commission,  
34 the commission and the Public Utilities Commission shall obtain  
35 legislative approval for the expansion of their authorities.

36 (h) The commission shall report on the status of the program in  
37 the integrated energy policy report pursuant to Section 25302.

38 (i) The commission shall fund activities undertaken pursuant  
39 to this section from the Federal Trust Fund consistent with the  
40 federal American Recovery and Reinvestment Act of 2009 (Public

1 Law 111-5) or other sources of nonstate funds available to the  
2 commission for the purposes of this section.

3 (j) For purposes of this section, “energy assessment” means a  
4 determination of an energy user’s energy consumption level,  
5 relative efficiency compared to other users, and opportunities to  
6 achieve greater efficiency or improve energy resource utilization.

7 SEC. 6. Section 399.11 of the Public Utilities Code is amended  
8 to read:

9 399.11. The Legislature finds and declares all of the following:

10 (a) In order to attain a target of generating 20 percent of total  
11 retail sales of electricity in California from eligible renewable  
12 energy resources by December 31, 2013,~~and~~ 33 percent by  
13 December 31, 2020, *and 50 percent by December 31, 2030*, it is  
14 the intent of the Legislature that the commission and the Energy  
15 Commission implement the California Renewables Portfolio  
16 Standard Program described in this article.

17 (b) Achieving the renewables portfolio standard through the  
18 procurement of various electricity products from eligible renewable  
19 energy resources is intended to provide unique benefits to  
20 California, including all of the following, each of which  
21 independently justifies the program:

22 (1) Displacing fossil fuel consumption within the state.

23 (2) Adding new electrical generating facilities in the  
24 transmission network within the Western Electricity Coordinating  
25 Council service area.

26 (3) Reducing air pollution in the state.

27 (4) Meeting the state’s climate change goals by reducing  
28 emissions of greenhouse gases associated with electrical generation.

29 (5) Promoting stable retail rates for electric service.

30 (6) Meeting the state’s need for a diversified and balanced  
31 energy generation portfolio.

32 (7) Assistance with meeting the state’s resource adequacy  
33 requirements.

34 (8) Contributing to the safe and reliable operation of the  
35 electrical grid, including providing predictable electrical supply,  
36 voltage support, lower line losses, and congestion relief.

37 (9) Implementing the state’s transmission and land use planning  
38 activities related to development of eligible renewable energy  
39 resources.

1 (c) The California Renewables Portfolio Standard Program is  
2 intended to complement the Renewable Energy Resources Program  
3 administered by the Energy Commission and established pursuant  
4 to Chapter 8.6 (commencing with Section 25740) of Division 15  
5 of the Public Resources Code.

6 (d) New and modified electric transmission facilities may be  
7 necessary to facilitate the state achieving its renewables portfolio  
8 standard targets.

9 (e) (1) Supplying electricity to California end-use customers  
10 that is generated by eligible renewable energy resources is  
11 necessary to improve California’s air quality and public health,  
12 and the commission shall ensure rates are just and reasonable, and  
13 are not significantly affected by the procurement requirements of  
14 this article. This electricity may be generated anywhere in the  
15 interconnected grid that includes many states, and areas of both  
16 Canada and Mexico.

17 (2) This article requires generating resources located outside of  
18 California that are able to supply that electricity to California  
19 end-use customers to be treated identically to generating resources  
20 located within the state, without discrimination.

21 (3) California electrical corporations have already executed,  
22 and the commission has approved, power purchase agreements  
23 with eligible renewable energy resources located outside of  
24 California that will supply electricity to California end-use  
25 customers. These resources will fully count toward meeting the  
26 renewables portfolio standard procurement requirements. ~~In  
27 addition, there are nearly 7,000 megawatts of additional proposed  
28 renewable energy resources located outside of California that are  
29 awaiting interconnection approval from the Independent System  
30 Operator. All of these resources, if procured, will count as eligible  
31 renewable energy resources that satisfy the portfolio content  
32 requirements of paragraph (1) of subdivision (c) of Section 399.16.~~

33 SEC. 7. Section 399.12 of the Public Utilities Code is amended  
34 to read:

35 399.12. For purposes of this article, the following terms have  
36 the following meanings:

37 (a) “Conduit hydroelectric facility” means a facility for the  
38 generation of electricity that uses only the hydroelectric potential  
39 of an existing pipe, ditch, flume, siphon, tunnel, canal, or other



1 manmade conduit that is operated to distribute water for a  
2 beneficial use.

3 (b) “Balancing authority” means the responsible entity that  
4 integrates resource plans ahead of time, maintains load-interchange  
5 generation balance within a balancing authority area, and supports  
6 interconnection frequency in real time.

7 (c) “Balancing authority area” means the collection of  
8 generation, transmission, and loads within the metered boundaries  
9 of the area within which the balancing authority maintains the  
10 electrical load-resource balance.

11 (d) “California balancing authority” is a balancing authority  
12 with control over a balancing authority area primarily located in  
13 this state and operating for retail sellers and local publicly owned  
14 electric utilities subject to the requirements of this article and  
15 includes the Independent System Operator (ISO) and a local  
16 publicly owned electric utility operating a transmission grid that  
17 is not under the operational control of the ISO. A California  
18 balancing authority is responsible for the operation of the  
19 transmission grid within its metered boundaries which may not be  
20 limited by the political boundaries of the State of California.

21 (e) “Eligible renewable energy resource” means an electrical  
22 generating facility that meets the definition of a “renewable  
23 electrical generation facility” in Section 25741 of the Public  
24 Resources Code, subject to the following:

25 (1) (A) An existing small hydroelectric generation facility of  
26 30 megawatts or less shall be eligible only if a retail seller or local  
27 publicly owned electric utility procured the electricity from the  
28 facility as of December 31, 2005. A new hydroelectric facility that  
29 commences generation of electricity after December 31, 2005, is  
30 not an eligible renewable energy resource if it will cause an adverse  
31 impact on instream beneficial uses or cause a change in the volume  
32 or timing of streamflow.

33 (B) Notwithstanding subparagraph (A), a conduit hydroelectric  
34 facility of 30 megawatts or less that commenced operation before  
35 January 1, 2006, is an eligible renewable energy resource. A  
36 conduit hydroelectric facility of 30 megawatts or less that  
37 commences operation after December 31, 2005, is an eligible  
38 renewable energy resource so long as it does not cause an adverse  
39 impact on instream beneficial uses or cause a change in the volume  
40 or timing of streamflow.

1 (C) A facility approved by the governing board of a local  
2 publicly owned electric utility prior to June 1, 2010, for  
3 procurement to satisfy renewable energy procurement obligations  
4 adopted pursuant to former Section 387, shall be certified as an  
5 eligible renewable energy resource by the Energy Commission  
6 pursuant to this article, if the facility is a “renewable electrical  
7 generation facility” as defined in Section 25741 of the Public  
8 Resources Code.

9 (D) (i) A small hydroelectric generation unit with a nameplate  
10 capacity not exceeding 40 megawatts that is operated as part of a  
11 water supply or conveyance system is an eligible renewable energy  
12 resource only for the retail seller or local publicly owned electric  
13 utility that procured the electricity from the unit as of December  
14 31, 2005. No unit shall be eligible pursuant to this subparagraph  
15 if an application for certification is submitted to the Energy  
16 Commission after January 1, 2013. Only one retail seller or local  
17 publicly owned electric utility shall be deemed to have procured  
18 electricity from a given unit as of December 31, 2005.

19 (ii) Notwithstanding clause (i), a local publicly owned electric  
20 utility that meets the criteria of subdivision (j) of Section 399.30  
21 may sell to another local publicly owned electric utility electricity  
22 from small hydroelectric generation units that qualify as eligible  
23 renewable energy resources under clause (i), and that electricity  
24 may be used by the local publicly owned electric utility that  
25 purchased the electricity to meet its renewables portfolio standard  
26 procurement requirements. The total of all those sales from the  
27 utility shall be no greater than 100,000 megawatthours of  
28 electricity.

29 (iii) The amendments made to this subdivision by the act adding  
30 this subparagraph are intended to clarify existing law and apply  
31 from December 10, 2011.

32 (2) (A) A facility engaged in the combustion of municipal solid  
33 waste shall not be considered an eligible renewable energy resource  
34 ~~unless it is located in Stanislaus County and was operational prior~~  
35 ~~to September 26, 1996.~~ *resource.*

36 (B) *Subparagraph (A) does not apply to contracts entered into*  
37 *before January 1, 2016, for the procurement of renewable energy*  
38 *resources from a facility located in Stanislaus County that was*  
39 *operational prior to September 26, 1996.*

40 (f) “Procure” means to acquire through ownership or contract.

1 (g) “Procurement entity” means any person or corporation  
2 authorized by the commission to enter into contracts to procure  
3 eligible renewable energy resources on behalf of customers of a  
4 retail seller pursuant to subdivision (f) of Section 399.13.

5 (h) (1) “Renewable energy credit” means a certificate of proof  
6 associated with the generation of electricity from an eligible  
7 renewable energy resource, issued through the accounting system  
8 established by the Energy Commission pursuant to Section 399.25,  
9 that one unit of electricity was generated and delivered by an  
10 eligible renewable energy resource.

11 (2) “Renewable energy credit” includes all renewable and  
12 environmental attributes associated with the production of  
13 electricity from the eligible renewable energy resource, except for  
14 an emissions reduction credit issued pursuant to Section 40709 of  
15 the Health and Safety Code and any credits or payments associated  
16 with the reduction of solid waste and treatment benefits created  
17 by the utilization of biomass or biogas fuels.

18 (3) (A) Electricity generated by an eligible renewable energy  
19 resource attributable to the use of nonrenewable fuels, beyond a  
20 de minimis quantity used to generate electricity in the same process  
21 through which the facility converts renewable fuel to electricity,  
22 shall not result in the creation of a renewable energy credit. The  
23 Energy Commission shall set the de minimis quantity of  
24 nonrenewable fuels for each renewable energy technology at a  
25 level of no more than 2 percent of the total quantity of fuel used  
26 by the technology to generate electricity. The Energy Commission  
27 may adjust the de minimis quantity for an individual facility, up  
28 to a maximum of 5 percent, if it finds that all of the following  
29 conditions are met:

30 (i) The facility demonstrates that the higher quantity of  
31 nonrenewable fuel will lead to an increase in generation from the  
32 eligible renewable energy facility that is significantly greater than  
33 generation from the nonrenewable fuel alone.

34 (ii) The facility demonstrates that the higher quantity of  
35 nonrenewable fuels will reduce the variability of its electrical  
36 output in a manner that results in net environmental benefits to the  
37 state.

38 (iii) The higher quantity of nonrenewable fuel is limited to either  
39 natural gas or hydrogen derived by reformation of a fossil fuel.

1 (B) Electricity generated by a small hydroelectric generation  
2 facility shall not result in the creation of a renewable energy credit  
3 unless the facility meets the requirements of subparagraph (A) or  
4 (D) of paragraph (1) of subdivision (e).

5 (C) Electricity generated by a conduit hydroelectric generation  
6 facility shall not result in the creation of a renewable energy credit  
7 unless the facility meets the requirements of subparagraph (B) of  
8 paragraph (1) of subdivision (e).

9 (D) Electricity generated by a facility engaged in the combustion  
10 of municipal solid waste shall not result in the creation of a  
11 renewable energy credit unless the facility meets the requirements  
12 of paragraph (2) of subdivision (e). *credit. This subparagraph does*  
13 *not apply to renewable energy credits that were generated before*  
14 *January 1, 2016, by a facility engaged in the combustion of*  
15 *municipal solid waste located in Stanislaus County that was*  
16 *operational prior to September 26, 1996, and sold pursuant to*  
17 *contacts entered into before January 1, 2016.*

18 (i) “Renewables portfolio standard” means the specified  
19 percentage of electricity generated by eligible renewable energy  
20 resources that a retail seller or a local publicly owned electric utility  
21 is required to procure pursuant to this article.

22 (j) “Retail seller” means an entity engaged in the retail sale of  
23 electricity to end-use customers located within the state, including  
24 any of the following:

25 (1) An electrical corporation, as defined in Section 218.

26 (2) A community choice aggregator. ~~The commission shall~~  
27 ~~institute a rulemaking to determine the manner in which a A~~  
28 ~~community choice aggregator will shall~~ participate in the  
29 renewables portfolio standard program subject to the same terms  
30 and conditions applicable to an electrical corporation.

31 (3) An electric service provider, as defined in Section ~~218.3,~~  
32 ~~for all sales of electricity to customers beginning January 1, 2006.~~  
33 ~~The commission shall institute a rulemaking to determine the~~  
34 ~~manner in which electric service providers will participate in the~~  
35 ~~renewables portfolio standard program. 218.3.~~ The electric service  
36 provider shall be subject to the same terms and conditions  
37 applicable to an electrical corporation pursuant to this article. This  
38 paragraph does not impair a contract entered into between an  
39 electric service provider and a retail customer prior to the

1 suspension of direct access by the commission pursuant to Section  
2 80110 of the Water Code.

3 (4) “Retail seller” does not include any of the following:

4 (A) A corporation or person employing cogeneration technology  
5 or producing electricity consistent with subdivision (b) of Section  
6 218.

7 (B) The Department of Water Resources acting in its capacity  
8 pursuant to Division 27 (commencing with Section 80000) of the  
9 Water Code.

10 (C) A local publicly owned electric utility.

11 (k) “WECC” means the Western Electricity Coordinating  
12 Council of the North American Electric Reliability Corporation,  
13 or a successor to the corporation.

14 SEC. 8. Section 399.13 of the Public Utilities Code is amended  
15 to read:

16 399.13. (a) (1) The commission shall direct each electrical  
17 corporation to annually prepare a renewable energy procurement  
18 plan that includes the matter in paragraph (5), to satisfy its  
19 obligations under the renewables portfolio standard. To the extent  
20 feasible, this procurement plan shall be proposed, reviewed, and  
21 adopted by the commission as part of, and pursuant to, a general  
22 procurement plan process. The commission shall require each  
23 electrical corporation to review and update its renewable energy  
24 procurement plan as it determines to be necessary. *The commission*  
25 *shall require all other retail sellers to prepare and submit*  
26 *renewable energy procurement plans that address the requirements*  
27 *identified in paragraph (5).*

28 (2) Every electrical corporation that owns electrical transmission  
29 facilities shall annually prepare, as part of the Federal Energy  
30 Regulatory Commission Order 890 process, and submit to the  
31 commission, a report identifying any electrical transmission  
32 facility, upgrade, or enhancement that is reasonably necessary to  
33 achieve the renewables portfolio standard procurement  
34 requirements of this article. Each report shall look forward at least  
35 five years and, to ensure that adequate investments are made in a  
36 timely manner, shall include a preliminary schedule when an  
37 application for a certificate of public convenience and necessity  
38 will be made, pursuant to Chapter 5 (commencing with Section  
39 1001), for any electrical transmission facility identified as being  
40 reasonably necessary to achieve the renewable energy resources

1 procurement requirements of this article. Each electrical  
2 corporation that owns electrical transmission facilities shall ensure  
3 that project-specific interconnection studies are completed in a  
4 timely manner.

5 (3) The commission shall direct each retail seller to prepare and  
6 submit an annual compliance report that includes all of the  
7 following:

8 (A) The current status and progress made during the prior year  
9 toward procurement of eligible renewable energy resources as a  
10 percentage of retail sales, including, if applicable, the status of any  
11 necessary siting and permitting approvals from federal, state, and  
12 local agencies for those eligible renewable energy resources  
13 procured by the retail seller, and the current status of compliance  
14 with the portfolio content requirements of subdivision (c) of  
15 Section 399.16, including procurement of eligible renewable energy  
16 resources located outside the state and within the WECC and  
17 unbundled renewable energy credits.

18 (B) If the retail seller is an electrical corporation, the current  
19 status and progress made during the prior year toward construction  
20 of, and upgrades to, transmission and distribution facilities and  
21 other electrical system components it owns to interconnect eligible  
22 renewable energy resources and to supply the electricity generated  
23 by those resources to load, including the status of planning, siting,  
24 and permitting transmission facilities by federal, state, and local  
25 agencies.

26 (C) Recommendations to remove impediments to making  
27 progress toward achieving the renewable energy resources  
28 procurement requirements established pursuant to this article.

29 (4) The commission shall adopt, by rulemaking, all of the  
30 following:

31 (A) A process that provides criteria for the rank ordering and  
32 selection of least-cost and best-fit eligible renewable energy  
33 resources to comply with the California Renewables Portfolio  
34 Standard Program obligations on a total cost basis. This process  
35 shall take into account all of the following:

36 (i) Estimates of indirect costs associated with needed  
37 transmission investments.

38 (ii) The cost impact of procuring the eligible renewable energy  
39 resources on the electrical corporation's electricity portfolio.

1 (iii) The viability of the project to construct and reliably operate  
2 the eligible renewable energy resource, including the developer's  
3 experience, the feasibility of the technology used to generate  
4 electricity, and the risk that the facility will not be built, or that  
5 construction will be delayed, with the result that electricity will  
6 not be supplied as required by the contract.

7 (iv) Workforce recruitment, training, and retention efforts,  
8 including the employment growth associated with the construction  
9 and operation of eligible renewable energy resources and goals  
10 for recruitment and training of women, minorities, and disabled  
11 veterans.

12 (v) (I) Estimates of electrical corporation expenses resulting  
13 from integrating and operating eligible renewable energy resources,  
14 including, but not limited to, any additional wholesale energy and  
15 capacity costs associated with integrating each eligible renewable  
16 resource.

17 (II) No later than December 31, 2015, the commission shall  
18 approve a methodology for determining the integration costs  
19 described in subclause (I).

20 (B) Rules permitting retail sellers to accumulate, beginning  
21 January 1, 2011, excess procurement in one compliance period to  
22 be applied to any subsequent compliance period. The rules shall  
23 apply equally to all retail sellers. In determining the quantity of  
24 excess procurement for the applicable compliance period, the  
25 commission shall deduct from actual procurement quantities the  
26 total amount of procurement associated with contracts of less than  
27 10 years in ~~duration. In no event shall~~ *duration and* electricity  
28 products meeting the portfolio content of paragraph (3) of  
29 subdivision (b) of Section ~~399.16 be counted as excess~~  
30 ~~procurement.~~ *399.16.*

31 (C) Standard terms and conditions to be used by all electrical  
32 corporations in contracting for eligible renewable energy resources,  
33 including performance requirements for renewable generators. A  
34 contract for the purchase of electricity generated by an eligible  
35 renewable energy resource, at a minimum, shall include the  
36 renewable energy credits associated with all electricity generation  
37 specified under the contract. The standard terms and conditions  
38 shall include the requirement that, no later than six months after  
39 the commission's approval of an electricity purchase agreement  
40 entered into pursuant to this article, the following information

1 about the agreement shall be disclosed by the commission: party  
2 names, resource type, project location, and project capacity.

3 (D) An appropriate minimum margin of procurement above the  
4 minimum procurement level necessary to comply with the  
5 renewables portfolio standard to mitigate the risk that renewable  
6 projects planned or under contract are delayed or canceled. This  
7 paragraph does not preclude an electrical corporation from  
8 voluntarily proposing a margin of procurement above the  
9 appropriate minimum margin established by the commission.

10 (5) Consistent with the goal of increasing California's reliance  
11 on eligible renewable energy resources, the renewable energy  
12 procurement plan ~~submitted by an electrical corporation~~ shall  
13 include all of the following:

14 (A) An assessment of annual or multiyear portfolio supplies  
15 and demand to determine the optimal mix of eligible renewable  
16 energy resources with deliverability characteristics that may include  
17 peaking, dispatchable, baseload, firm, and as-available capacity.

18 (B) Potential compliance delays related to the conditions  
19 described in paragraph (5) of subdivision (b) of Section 399.15.

20 (C) A bid solicitation setting forth the need for eligible  
21 renewable energy resources of each deliverability characteristic,  
22 required online dates, and locational preferences, if any.

23 (D) A status update on the development schedule of all eligible  
24 renewable energy resources currently under contract.

25 (E) Consideration of mechanisms for price adjustments  
26 associated with the costs of key components for eligible renewable  
27 energy resource projects with online dates more than 24 months  
28 after the date of contract execution.

29 (F) An assessment of the risk that an eligible renewable energy  
30 resource will not be built, or that construction will be delayed,  
31 with the result that electricity will not be delivered as required by  
32 the contract.

33 (6) In soliciting and procuring eligible renewable energy  
34 resources, each electrical corporation shall offer contracts of no  
35 less than 10 years duration, unless the commission approves of a  
36 contract of shorter duration.

37 (7) In soliciting and procuring eligible renewable energy  
38 resources for California-based projects, each electrical corporation  
39 shall give preference to renewable energy projects that provide  
40 environmental and economic benefits to communities afflicted



1 with poverty or high unemployment, or that suffer from high  
2 emission levels of toxic air contaminants, criteria air pollutants,  
3 and greenhouse gases.

4 (b) A retail seller may enter into a combination of long- and  
5 short-term contracts for electricity and associated renewable energy  
6 credits. The commission may authorize a retail seller to enter into  
7 a contract of less than 10 years' duration with an eligible renewable  
8 energy resource, if the commission has established, for each retail  
9 seller, minimum quantities of eligible renewable energy resources  
10 to be procured through contracts of at least 10 years' duration.

11 (c) The commission shall review and accept, modify, or reject  
12 each electrical corporation's renewable energy resource  
13 procurement plan prior to the commencement of renewable energy  
14 procurement pursuant to this article by an electrical corporation.

15 (d) Unless previously preapproved by the commission, an  
16 electrical corporation shall submit a contract for the generation of  
17 an eligible renewable energy resource to the commission for review  
18 and approval consistent with an approved renewable energy  
19 resource procurement plan. If the commission determines that the  
20 bid prices are elevated due to a lack of effective competition among  
21 the bidders, the commission shall direct the electrical corporation  
22 to renegotiate the contracts or conduct a new solicitation.

23 (e) If an electrical corporation fails to comply with a commission  
24 order adopting a renewable energy resource procurement plan, the  
25 commission shall exercise its authority pursuant to ~~Section 2113~~  
26 ~~to require compliance. The commission shall enforce comparable~~  
27 ~~penalties on any retail seller that is not an electrical corporation~~  
28 ~~that fails to meet the procurement targets established pursuant to~~  
29 ~~Section 399.15.~~

30 (f) (1) The commission may authorize a procurement entity to  
31 enter into contracts on behalf of customers of a retail seller for  
32 electricity products from eligible renewable energy resources to  
33 satisfy the retail seller's renewables portfolio standard procurement  
34 requirements. The commission shall not require any person or  
35 corporation to act as a procurement entity or require any party to  
36 purchase eligible renewable energy resources from a procurement  
37 entity.

38 (2) Subject to review and approval by the commission, the  
39 procurement entity shall be permitted to recover reasonable  
40 administrative and procurement costs through the retail rates of

1 end-use customers that are served by the procurement entity and  
2 are directly benefiting from the procurement of eligible renewable  
3 energy resources.

4 (g) Procurement and administrative costs associated with  
5 contracts entered into by an electrical corporation for eligible  
6 renewable energy resources pursuant to this article and approved  
7 by the commission are reasonable and prudent and shall be  
8 recoverable in rates.

9 (h) Construction, alteration, demolition, installation, and repair  
10 work on an eligible renewable energy resource that receives  
11 production incentives pursuant to Section 25742 of the Public  
12 Resources Code, including work performed to qualify, receive, or  
13 maintain production incentives, are “public works” for the purposes  
14 of Chapter 1 (commencing with Section 1720) of Part 7 of Division  
15 2 of the Labor Code.

16 SEC. 9. Section 399.15 of the Public Utilities Code is amended  
17 to read:

18 399.15. (a) In order to fulfill unmet long-term resource needs,  
19 the commission shall establish a renewables portfolio standard  
20 requiring all retail sellers to procure a minimum quantity of  
21 electricity products from eligible renewable energy resources as  
22 a specified percentage of total kilowatthours sold to their retail  
23 end-use customers each compliance period to achieve the targets  
24 established under this article. For any retail seller procuring at least  
25 14 percent of retail sales from eligible renewable energy resources  
26 in 2010, the deficits associated with any previous renewables  
27 portfolio standard shall not be added to any procurement  
28 requirement pursuant to this article.

29 (b) The commission shall implement renewables portfolio  
30 standard procurement requirements only as follows:

31 (1) Each retail seller shall procure a minimum quantity of  
32 eligible renewable energy resources for each of the following  
33 compliance periods:

34 (A) January 1, 2011, to December 31, 2013, inclusive.

35 (B) January 1, 2014, to December 31, 2016, inclusive.

36 (C) January 1, 2017, to December 31, 2020, inclusive.

37 (D) *January 1, 2021, to December 31, 2024, inclusive.*

38 (E) *January 1, 2025, to December 31, 2027, inclusive.*

39 (D) *January 1, 2028, to December 31, 2030, inclusive.*

1 (2) (A) No later than January 1, ~~2012~~, 2017, the commission  
2 shall establish the quantity of electricity products from eligible  
3 renewable energy resources to be procured by the retail seller for  
4 each compliance period. These quantities shall be established in  
5 the same manner for all retail sellers and result in the same  
6 percentages used to establish compliance period quantities for all  
7 retail sellers.

8 (B) In establishing quantities for the compliance period from  
9 January 1, 2011, to December 31, 2013, inclusive, the commission  
10 shall require procurement for each retail seller equal to an average  
11 of 20 percent of retail sales. For the following compliance periods,  
12 the quantities shall reflect reasonable progress in each of the  
13 intervening years sufficient to ensure that the procurement of  
14 electricity products from eligible renewable energy resources  
15 achieves 25 percent of retail sales by December 31, 2016, ~~and 33~~  
16 ~~percent of retail sales by December 31, 2020. 2020, 40 percent by~~  
17 *December 31, 2024, 45 percent by December 31, 2027, and 50*  
18 *percent by December 31, 2030.* The commission shall *establish*  
19 *appropriate multiyear compliance periods for all subsequent years*  
20 *that require retail sellers to procure not less than 33 50 percent of*  
21 *retail sales of electricity products from eligible renewable energy*  
22 ~~resources in all subsequent years.~~ *resources.*

23 (C) Retail sellers shall be obligated to procure no less than the  
24 quantities associated with all intervening years by the end of each  
25 compliance period. Retail sellers shall not be required to  
26 demonstrate a specific quantity of procurement for any individual  
27 intervening year.

28 (3) The commission may require the procurement of eligible  
29 renewable energy resources in excess of the quantities specified  
30 in paragraph (2).

31 (4) Only for purposes of establishing the renewables portfolio  
32 standard procurement requirements of paragraph (1) and  
33 determining the quantities pursuant to paragraph (2), the  
34 commission shall include all electricity sold to retail customers by  
35 the Department of Water Resources pursuant to Division 27  
36 (commencing with Section 80000) of the Water Code in the  
37 calculation of retail sales by an electrical corporation.

38 (5) The commission shall waive enforcement of this section if  
39 it finds that the retail seller has demonstrated any of the following

1 conditions are beyond the control of the retail seller and will  
2 prevent compliance:

3 (A) There is inadequate transmission capacity to allow for  
4 sufficient electricity to be delivered from proposed eligible  
5 renewable energy resource projects using the current operational  
6 protocols of the Independent System Operator. In making its  
7 findings relative to the existence of this condition with respect to  
8 a retail seller that owns transmission lines, the commission shall  
9 consider both of the following:

10 (i) Whether the retail seller has undertaken, in a timely fashion,  
11 reasonable measures under its control and consistent with its  
12 obligations under local, state, and federal laws and regulations, to  
13 develop and construct new transmission lines or upgrades to  
14 existing lines intended to transmit electricity generated by eligible  
15 renewable energy resources. In determining the reasonableness of  
16 a retail seller's actions, the commission shall consider the retail  
17 seller's expectations for full-cost recovery for these transmission  
18 lines and upgrades.

19 (ii) Whether the retail seller has taken all reasonable operational  
20 measures to maximize cost-effective deliveries of electricity from  
21 eligible renewable energy resources in advance of transmission  
22 availability.

23 (B) Permitting, interconnection, or other circumstances that  
24 delay procured eligible renewable energy resource projects, or  
25 there is an insufficient supply of eligible renewable energy  
26 resources available to the retail seller. In making a finding that this  
27 condition prevents timely compliance, the commission shall  
28 consider whether the retail seller has done all of the following:

29 (i) Prudently managed portfolio risks, including relying on a  
30 sufficient number of viable projects.

31 (ii) Sought to develop one of the following: its own eligible  
32 renewable energy resources, transmission to interconnect to eligible  
33 renewable energy resources, or energy storage used to integrate  
34 eligible renewable energy resources. This clause shall not require  
35 an electrical corporation to pursue development of eligible  
36 renewable energy resources pursuant to Section 399.14.

37 (iii) Procured an appropriate minimum margin of procurement  
38 above the minimum procurement level necessary to comply with  
39 the renewables portfolio standard to compensate for foreseeable  
40 delays or insufficient supply.

1 (iv) Taken reasonable measures, under the control of the retail  
 2 seller, to procure cost-effective distributed generation and allowable  
 3 unbundled renewable energy credits.

4 (C) Unanticipated curtailment of eligible renewable energy  
 5 resources necessary to address the needs of a balancing authority.

6 (6) If the commission waives the compliance requirements of  
 7 this section, the commission shall establish additional reporting  
 8 requirements on the retail seller to demonstrate that all reasonable  
 9 actions under the control of the retail seller are taken in each of  
 10 the intervening years sufficient to satisfy future procurement  
 11 requirements.

12 (7) The commission shall not waive enforcement pursuant to  
 13 this section, unless the retail seller demonstrates that it has taken  
 14 all reasonable actions under its control, as set forth in paragraph  
 15 (5), to achieve full compliance.

16 (8) If a retail seller fails to procure sufficient eligible renewable  
 17 energy resources to comply with a procurement requirement  
 18 pursuant to paragraphs (1) and (2) and fails to obtain an order from  
 19 the commission waiving enforcement pursuant to paragraph (5),  
 20 the commission shall ~~exercise its authority pursuant to Section~~  
 21 ~~2413~~ *assess penalties for noncompliance. A schedule of penalties*  
 22 *shall be adopted by the commission that shall be comparable for*  
 23 *electrical corporations and other retail sellers. For electrical*  
 24 *corporations, the cost of any penalties shall not be collected in*  
 25 *rates. Any penalties collected under this article shall be deposited*  
 26 *into the Electric Program Investment Charge Fund and used for*  
 27 *the purposes described in Chapter 8.1 (commencing with Section*  
 28 *25710) of Division 15 of the Public Resources Code.*

29 (9) Deficits associated with the compliance period shall not be  
 30 added to a future compliance period.

31 (c) The commission shall establish a limitation for each electrical  
 32 corporation on the procurement expenditures for all eligible  
 33 renewable energy resources used to comply with the renewables  
 34 portfolio standard. ~~In establishing this limitation, the commission~~  
 35 ~~shall rely on the following:~~ *This limitation shall be set at a level*  
 36 *that prevents disproportionate rate impacts.*

37 ~~(1) The most recent renewable energy procurement plan.~~

38 ~~(2) Procurement expenditures that approximate the expected~~  
 39 ~~cost of building, owning, and operating eligible renewable energy~~  
 40 ~~resources.~~

1 ~~(3) The potential that some planned resource additions may be~~  
2 ~~delayed or canceled.~~

3 ~~(d) In developing the limitation pursuant to subdivision (c), the~~  
4 ~~commission shall ensure all of the following:~~

5 ~~(1) The limitation is set at a level that prevents disproportionate~~  
6 ~~rate impacts.~~

7 ~~(2) The costs of all procurement credited toward achieving the~~  
8 ~~renewables portfolio standard are counted towards the limitation.~~

9 ~~(3) Procurement expenditures do not include any indirect~~  
10 ~~expenses, including imbalance energy charges, sale of excess~~  
11 ~~energy, decreased generation from existing resources, transmission~~  
12 ~~upgrades, or the costs associated with relicensing any utility-owned~~  
13 ~~hydroelectric facilities.~~

14 ~~(e) (1) No later than January 1, 2016, the commission shall~~  
15 ~~prepare a report to the Legislature assessing whether each electrical~~  
16 ~~corporation can achieve a 33-percent renewables portfolio standard~~  
17 ~~by December 31, 2020, and maintain that level thereafter, within~~  
18 ~~the adopted cost limitations. If the commission determines that it~~  
19 ~~is necessary to change the limitation for procurement costs incurred~~  
20 ~~by any electrical corporation after that date, it may propose a~~  
21 ~~revised cap consistent with the criteria in subdivisions (c) and (d).~~  
22 ~~The proposed modifications shall take effect no earlier than January~~  
23 ~~1, 2017.~~

24 ~~(2) Notwithstanding Section 10231.5 of the Government Code,~~  
25 ~~the requirement for submitting a report imposed under paragraph~~  
26 ~~(1) is inoperative on January 1, 2021.~~

27 ~~(3) A report to be submitted pursuant to paragraph (1) shall be~~  
28 ~~submitted in compliance with Section 9795 of the Government~~  
29 ~~Code.~~

30 ~~(f)~~

31 ~~(d) If the cost limitation for an electrical corporation is~~  
32 ~~insufficient to support the projected costs of meeting the~~  
33 ~~renewables portfolio standard procurement requirements, the~~  
34 ~~electrical corporation may refrain from entering into new contracts~~  
35 ~~or constructing facilities beyond the quantity that can be procured~~  
36 ~~within the limitation, unless eligible renewable energy resources~~  
37 ~~can be procured without exceeding a de minimis increase in rates,~~  
38 ~~consistent with the long-term procurement plan established for the~~  
39 ~~electrical corporation pursuant to Section 454.5.~~

40 ~~(g)~~

1 (e) (1) The commission shall monitor the status of the cost  
2 limitation for each electrical corporation in order to ensure  
3 compliance with this article.

4 (2) If the commission determines that an electrical corporation  
5 may exceed its cost limitation prior to achieving the renewables  
6 portfolio standard procurement requirements, the commission shall  
7 do both of the following within 60 days of making that  
8 determination:

9 (A) Investigate and identify the reasons why the electrical  
10 corporation may exceed its annual cost limitation.

11 (B) Notify the appropriate policy and fiscal committees of the  
12 Legislature that the electrical corporation may exceed its cost  
13 limitation, and include the reasons why the electrical corporation  
14 may exceed its cost limitation.

15 ~~(h)~~

16 (f) The establishment of a renewables portfolio standard shall  
17 not constitute implementation by the commission of the federal  
18 Public Utility Regulatory Policies Act of 1978 (Public Law  
19 95-617).

20 SEC. 10. Section 399.16 of the Public Utilities Code is  
21 amended to read:

22 399.16. (a) Various electricity products from eligible renewable  
23 energy resources located within the WECC transmission network  
24 service area shall be eligible to comply with the renewables  
25 portfolio standard procurement requirements in Section 399.15.  
26 These electricity products may be differentiated by their impacts  
27 on the operation of the grid in supplying electricity, as well as,  
28 meeting the requirements of this article.

29 (b) Consistent with the goals of procuring the least-cost and  
30 best-fit electricity products from eligible renewable energy  
31 resources that meet project viability principles adopted by the  
32 commission pursuant to paragraph (4) of subdivision (a) of Section  
33 399.13 and that provide the benefits set forth in Section 399.11, a  
34 balanced portfolio of eligible renewable energy resources shall be  
35 procured consisting of the following portfolio content categories:

36 (1) Eligible renewable energy resource electricity products that  
37 meet either of the following criteria:

38 (A) Have a first point of interconnection with a California  
39 balancing authority, have a first point of interconnection with  
40 distribution facilities used to serve end users within a California

1 balancing authority area, or are scheduled from the eligible  
2 renewable energy resource into a California balancing authority  
3 without substituting electricity from another source. The use of  
4 another source to provide real-time ancillary services required to  
5 maintain an hourly or subhourly import schedule into a California  
6 balancing authority shall be permitted, but only the fraction of the  
7 schedule actually generated by the eligible renewable energy  
8 resource shall count toward this portfolio content category.

9 (B) Have an agreement to dynamically transfer electricity to a  
10 California balancing authority.

11 (2) Firmed and shaped eligible renewable energy resource  
12 electricity products providing incremental electricity and scheduled  
13 into a California balancing authority.

14 (3) Eligible renewable energy resource electricity products, or  
15 any fraction of the electricity generated, including unbundled  
16 renewable energy credits, that do not qualify under the criteria of  
17 paragraph (1) or (2).

18 (c) In order to achieve a balanced portfolio, all retail sellers  
19 shall meet the following requirements for all procurement credited  
20 toward each compliance period:

21 (1) Not less than 50 percent for the compliance period ending  
22 December 31, 2013, 65 percent for the compliance period ending  
23 December 31, 2016, and 75 percent ~~thereafter~~ *for the compliance*  
24 *period ending December 31, 2020*, of the eligible renewable energy  
25 resource electricity products associated with contracts executed  
26 after June 1, 2010, shall meet the product content requirements of  
27 paragraph (1) of subdivision (b). *Each retail seller shall continue*  
28 *to satisfy the product content requirements applicable to*  
29 *procurement quantities associated with the compliance period*  
30 *ending December 31, 2020, and ensure that, for compliance*  
31 *periods ending after December 31, 2020, not less than 75 percent*  
32 *of the incremental renewable procurement requirements in each*  
33 *compliance period shall be satisfied with eligible renewable energy*  
34 *resource electricity products meeting the requirements of*  
35 *paragraph (1) of subdivision (b).*

36 (2) Not more than 25 percent for the compliance period ending  
37 December 31, 2013, 15 percent for the compliance period ending  
38 December 31, 2016, and 10 percent ~~thereafter~~ *for compliance*  
39 *period ending December 31, 2020*, of the eligible renewable energy  
40 resource electricity products associated with contracts executed



1 after June 1, 2010, shall meet the product content requirements of  
2 paragraph (3) of subdivision (b). *For the compliance periods*  
3 *ending after December 31, 2020, not more than 10 percent of the*  
4 *incremental renewable procurement requirements in each*  
5 *compliance period shall be satisfied with eligible renewable energy*  
6 *resource electricity products meeting the requirements of*  
7 *paragraph (3) of subdivision (b).*

8 (3) Any renewable energy resources contracts executed on or  
9 after June 1, 2010, not subject to the limitations of paragraph (1)  
10 or (2), shall meet the product content requirements of paragraph  
11 (2) of subdivision (b).

12 (4) For purposes of electric service providers only, the  
13 restrictions in this subdivision on crediting eligible renewable  
14 energy resource electricity products to each compliance period  
15 shall apply to contracts executed after January 13, 2011.

16 (d) Any contract or ownership agreement originally executed  
17 prior to June 1, 2010, shall count in full toward the procurement  
18 requirements established pursuant to this article, if all of the  
19 following conditions are met:

20 (1) The renewable energy resource was eligible under the rules  
21 in place as of the date when the contract was executed.

22 (2) For an electrical corporation, the contract has been approved  
23 by the commission, even if that approval occurs after June 1, 2010.

24 (3) Any contract amendments or modifications occurring after  
25 June 1, 2010, do not increase the nameplate capacity or expected  
26 quantities of annual generation, or substitute a different renewable  
27 energy resource. The duration of the contract may be extended if  
28 the original contract specified a procurement commitment of 15  
29 or more years.

30 (e) A retail seller may apply to the commission for a reduction  
31 of a procurement content requirement of subdivision (c). The  
32 commission may reduce a procurement content requirement of  
33 subdivision (c) to the extent the retail seller demonstrates that it  
34 cannot comply with that subdivision because of conditions beyond  
35 the control of the retail seller as provided in paragraph (5) of  
36 subdivision (b) of Section 399.15. The commission shall not, under  
37 any circumstance, reduce the obligation specified in paragraph (1)  
38 of subdivision (c) below 65 percent for any compliance *period*  
39 obligation after December 31, 2016.

1 SEC. 11. Section 399.18 of the Public Utilities Code is  
2 amended to read:

3 399.18. (a) This section applies to an electrical corporation  
4 that as of January 1, 2010, met either of the following conditions:

5 (1) Served 30,000 or fewer customer accounts in California and  
6 had issued at least four solicitations for eligible renewable energy  
7 resources prior to June 1, 2010.

8 (2) Had 1,000 or fewer customer accounts in California and was  
9 not connected to any transmission system or to the Independent  
10 System Operator.

11 (b) For an electrical corporation or its successor, electricity  
12 products from eligible renewable energy resources may be used  
13 for compliance with this article, notwithstanding any procurement  
14 content limitation in Section 399.16, provided that ~~both~~ *all* of the  
15 following conditions are met:

16 (1) The electrical corporation or its successor participates in,  
17 and complies with, the accounting system administered by the  
18 Energy Commission pursuant to subdivision (b) of Section 399.25.

19 (2) The Energy Commission verifies that the electricity  
20 generated by the facility is eligible to meet the requirements of  
21 Section 399.15.

22 (3) *The electrical corporation continues to satisfy either of the*  
23 *conditions described in subdivision (a).*

24 SEC. 12. Section 399.21 of the Public Utilities Code is  
25 amended to read:

26 399.21. (a) The commission, by rule, shall authorize the use  
27 of renewable energy credits to satisfy the renewables portfolio  
28 standard procurement requirements established pursuant to this  
29 article, subject to the following conditions:

30 ~~(1) Prior to authorizing any renewable energy credit to be used~~  
31 ~~toward satisfying the renewables portfolio standard procurement~~  
32 ~~requirements, the~~ *The* commission and the Energy Commission  
33 shall ~~conclude~~ *ensure* that the tracking system established pursuant  
34 to subdivision (c) of Section 399.25, is operational, is capable of  
35 independently verifying that electricity earning the credit is  
36 generated by an eligible renewable energy resource, and can ensure  
37 that renewable energy credits shall not be double counted by any  
38 seller of electricity within the service territory of the WECC.

39 (2) Each renewable energy credit shall be counted only once  
40 for compliance with the renewables portfolio standard of this state

1 or any other state, or for verifying retail product claims in this state  
2 or any other state.

3 (3) All revenues received by an electrical corporation for the  
4 sale of a renewable energy credit shall be credited to the benefit  
5 of ratepayers.

6 (4) Renewable energy credits shall not be created for electricity  
7 generated pursuant to any electricity purchase contract with a retail  
8 seller or a local publicly owned electric utility executed before  
9 January 1, 2005, unless the contract contains explicit terms and  
10 conditions specifying the ownership or disposition of those credits.  
11 Procurement under those contracts shall be tracked through the  
12 accounting system described in subdivision (b) of Section 399.25  
13 and included in the quantity of eligible renewable energy resources  
14 of the purchasing retail seller pursuant to Section 399.15.

15 (5) Renewable energy credits shall not be created for electricity  
16 generated under any electricity purchase contract executed after  
17 January 1, 2005, pursuant to the federal Public Utility Regulatory  
18 Policies Act of 1978 (16 U.S.C. Sec. 2601 et seq.). Procurement  
19 under the electricity purchase contracts shall be tracked through  
20 the accounting system implemented by the Energy Commission  
21 pursuant to subdivision (b) of Section 399.25 and count toward  
22 the renewables portfolio standard procurement requirements of  
23 the purchasing retail seller.

24 (6) A renewable energy credit shall not be eligible for  
25 compliance with a renewables portfolio standard procurement  
26 requirement unless it is retired in the tracking system established  
27 pursuant to subdivision (c) of Section 399.25 by the retail seller  
28 or local publicly owned electric utility within 36 months from the  
29 initial date of generation of the associated electricity.

30 (b) The commission shall allow an electrical corporation to  
31 recover the reasonable costs of purchasing, selling, and  
32 administering renewable energy credit contracts in rates.

33 SEC. 13. Section 399.30 of the Public Utilities Code is  
34 amended to read:

35 399.30. (a) To fulfill unmet long-term generation resource  
36 needs, each local publicly owned electric utility shall adopt and  
37 implement a renewable energy resources procurement plan that  
38 requires the utility to procure a minimum quantity of electricity  
39 products from eligible renewable energy resources, including  
40 renewable energy credits, as a specified percentage of total

1 kilowatthours sold to the utility’s retail end-use customers, each  
2 compliance period, to achieve the targets of subdivision (c).

3 (b) The governing board shall implement procurement targets  
4 for a local publicly owned electric utility that require the utility to  
5 procure a minimum quantity of eligible renewable energy resources  
6 for each of the following compliance periods:

7 (1) January 1, 2011, to December 31, 2013, inclusive.

8 (2) January 1, 2014, to December 31, 2016, inclusive.

9 (3) January 1, 2017, to December 31, 2020, inclusive.

10 (D) *January 1, 2021, to December 31, 2024, inclusive.*

11 (E) *January 1, 2025, to December 31, 2027, inclusive.*

12 (D) *January 1, 2028, to December 31, 2030, inclusive.*

13 (c) The governing board of a local publicly owned electric utility  
14 shall ensure all of the following:

15 (1) The quantities of eligible renewable energy resources to be  
16 procured for the compliance period from January 1, 2011, to  
17 December 31, 2013, inclusive, are equal to an average of 20 percent  
18 of retail sales.

19 (2) The quantities of eligible renewable energy resources to be  
20 procured for all other compliance periods reflect reasonable  
21 progress in each of the intervening years sufficient to ensure that  
22 the procurement of electricity products from eligible renewable  
23 energy resources achieves 25 percent of retail sales by December  
24 31, 2016, ~~and 33 percent of retail sales by December 31, 2020.~~  
25 *2020, 40 percent by December 31, 2024, 45 percent by December*  
26 *31, 2027, and 50 percent by December 31, 2030. The local*  
27 ~~governing board shall~~ *Energy Commission shall establish*  
28 *appropriate multiyear compliance periods for all subsequent years*  
29 *that require the local publicly owned electric utilities utility to*  
30 *procure not less than* ~~33~~ *50 percent of retail sales of electricity*  
31 *products from eligible renewable energy resources in all subsequent*  
32 ~~years.~~ *resources.*

33 (3) A local publicly owned electric utility shall adopt  
34 procurement requirements consistent with Section 399.16.

35 (d) The governing board of a local publicly owned electric utility  
36 may adopt the following measures:

37 (1) Rules permitting the utility to apply excess procurement in  
38 one compliance period to subsequent compliance periods in the  
39 same manner as allowed for retail sellers pursuant to Section  
40 399.13.

1 (2) Conditions that allow for delaying timely compliance  
2 consistent with subdivision (b) of Section 399.15.

3 (3) Cost limitations for procurement expenditures consistent  
4 with subdivision (c) of Section 399.15.

5 (e) The governing board of the local publicly owned electric  
6 utility shall adopt a program for the enforcement of this ~~article on~~  
7 ~~or before January 1, 2012.~~ *article*. The program shall be adopted  
8 at a publicly noticed meeting offering all interested parties an  
9 opportunity to comment. Not less than 30 days' notice shall be  
10 given to the public of any meeting held for purposes of adopting  
11 the program. Not less than 10 days' notice shall be given to the  
12 public before any meeting is held to make a substantive change to  
13 the program.

14 (f) (1) Each local publicly owned electric utility shall annually  
15 post notice, in accordance with Chapter 9 (commencing with  
16 Section 54950) of Part 1 of Division 2 of Title 5 of the Government  
17 Code, whenever its governing body will deliberate in public on its  
18 renewable energy resources procurement plan.

19 (2) Contemporaneous with the posting of the notice of a public  
20 meeting to consider the renewable energy resources procurement  
21 plan, the local publicly owned electric utility shall notify the  
22 Energy Commission of the date, time, and location of the meeting  
23 in order to enable the Energy Commission to post the information  
24 on its Internet Web site. This requirement is satisfied if the local  
25 publicly owned electric utility provides the uniform resource  
26 locator (URL) that links to this information.

27 (3) Upon distribution to its governing body of information  
28 related to its renewable energy resources procurement status and  
29 future plans, for its consideration at a noticed public meeting, the  
30 local publicly owned electric utility shall make that information  
31 available to the public and shall provide the Energy Commission  
32 with an electronic copy of the documents for posting on the Energy  
33 Commission's Internet Web site. This requirement is satisfied if  
34 the local publicly owned electric utility provides the uniform  
35 resource locator (URL) that links to the documents or information  
36 regarding other manners of access to the documents.

37 (g) A public utility district that receives all of its electricity  
38 pursuant to a preference right adopted and authorized by the United  
39 States Congress pursuant to Section 4 of the Trinity River Division

1 Act of August 12, 1955 (Public Law 84-386) shall be in compliance  
2 with the renewable energy procurement requirements of this article.

3 (h) For a local publicly owned electric utility that was in  
4 existence on or before January 1, 2009, that provides retail electric  
5 service to 15,000 or fewer customer accounts in California, and is  
6 interconnected to a balancing authority located outside this state  
7 but within the WECC, an eligible renewable energy resource  
8 includes a facility that is located outside California that is  
9 connected to the WECC transmission system, if all of the following  
10 conditions are met:

11 (1) The electricity generated by the facility is procured by the  
12 local publicly owned electric utility, is delivered to the balancing  
13 authority area in which the local publicly owned electric utility is  
14 located, and is not used to fulfill renewable energy procurement  
15 requirements of other states.

16 (2) The local publicly owned electric utility participates in, and  
17 complies with, the accounting system administered by the Energy  
18 Commission pursuant to this article.

19 (3) The Energy Commission verifies that the electricity  
20 generated by the facility is eligible to meet the renewables portfolio  
21 standard procurement requirements.

22 (i) Notwithstanding subdivision (a), for a local publicly owned  
23 electric utility that is a joint powers authority of districts established  
24 pursuant to state law on or before January 1, 2005, that furnish  
25 electric services other than to residential customers, and is formed  
26 pursuant to the Irrigation District Law (Division 11 (commencing  
27 with Section 20500) of the Water Code), the percentage of total  
28 kilowatthours sold to the district's retail end-use customers, upon  
29 which the renewables portfolio standard procurement requirements  
30 in subdivision (b) are calculated, shall be based on the authority's  
31 average retail sales over the previous seven years. If the authority  
32 has not furnished electric service for seven years, then the  
33 calculation shall be based on average retail sales over the number  
34 of completed years during which the authority has provided electric  
35 service.

36 (j) A local publicly owned electric utility in a city and county  
37 that only receives greater than 67 percent of its electricity sources  
38 from hydroelectric generation located within the state that it owns  
39 and operates, and that does not meet the definition of a "renewable  
40 electrical generation facility" pursuant to Section 25741 of the

1 Public Resources Code, shall be required to procure eligible  
2 renewable energy resources, including renewable energy credits,  
3 to meet only the electricity demands unsatisfied by its hydroelectric  
4 generation in any given year, in order to satisfy its renewable  
5 energy procurement requirements.

6 (k) (1) A local publicly owned electric utility that receives  
7 greater than 50 percent of its annual retail sales from its own  
8 hydroelectric generation that is not an eligible renewable energy  
9 resource shall not be required to procure additional eligible  
10 renewable energy resources in excess of either of the following:

11 (A) The portion of its retail sales not supplied by its own  
12 hydroelectric generation. For these purposes, retail sales supplied  
13 by an increase in hydroelectric generation resulting from an  
14 increase in the amount of water stored by a dam because the dam  
15 is enlarged or otherwise modified after December 31, 2012, shall  
16 not count as being retail sales supplied by the utility's own  
17 hydroelectric generation.

18 (B) The cost limitation adopted pursuant to this section.

19 (2) For the purposes of this subdivision, "hydroelectric  
20 generation" means electricity generated from a hydroelectric  
21 facility that satisfies all of the following:

22 (A) Is owned solely and operated by the local publicly owned  
23 electric utility as of 1967.

24 (B) Serves a local publicly owned electric utility with a  
25 distribution system demand of less than 150 megawatts.

26 (C) Involves a contract in which an electrical corporation  
27 receives the benefit of the electric generation through June of 2014,  
28 at which time the benefit reverts back to the ownership and control  
29 of the local publicly owned electric utility.

30 (D) Has a maximum penstock flow capacity of no more than  
31 3,200 cubic feet per second and includes a regulating reservoir  
32 with a small hydroelectric generation facility producing fewer than  
33 20 megawatts with a maximum penstock flow capacity of no more  
34 than 3,000 cubic feet per second.

35 (3) This subdivision does not reduce or eliminate any renewable  
36 procurement requirement for any compliance period ending prior  
37 to January 1, 2014.

38 (4) This subdivision does not require a local publicly owned  
39 electric utility to purchase additional eligible renewable energy

1 resources in excess of the procurement requirements of subdivision  
2 (c).

3 (l) A local publicly owned electric utility shall retain discretion  
4 over both of the following:

5 (1) The mix of eligible renewable energy resources procured  
6 by the utility and those additional generation resources procured  
7 by the utility for purposes of ensuring resource adequacy and  
8 reliability.

9 (2) The reasonable costs incurred by the utility for eligible  
10 renewable energy resources owned by the utility.

11 (m) ~~On or before July 1, 2011, the~~ *The Energy Commission*  
12 *shall adopt regulations specifying the requirements under this*  
13 *article and require local governing boards to adopt timely*  
14 *requirements consistent with this article. The Energy Commission*  
15 *shall adopt regulations specifying procedures for enforcement of*  
16 ~~this article. these requirements, including the adoption of a~~  
17 ~~schedule of penalties to be imposed pursuant to subdivision (n).~~  
18 The regulations shall include a public process under which the  
19 Energy Commission may issue a notice of violation and correction  
20 against a local publicly owned electric utility for failure to comply  
21 with this ~~article, and for referral of violations to the State Air~~  
22 ~~Resources Board for penalties pursuant to subdivision (o).~~ *article*  
23 *and assess penalties pursuant to subdivision (n).*

24 (n) ~~(1)~~ Upon a determination by the Energy Commission that  
25 a local publicly owned electric utility has failed to comply with  
26 this article, the Energy Commission shall ~~refer the failure to comply~~  
27 ~~with this article to the State Air Resources Board, which may~~  
28 ~~impose penalties to enforce this article consistent with Part 6~~  
29 ~~(commencing with Section 38580) of Division 25.5 of the Health~~  
30 ~~and Safety Code. Any penalties imposed shall be comparable to~~  
31 those adopted by the commission for noncompliance by retail  
32 sellers. *Any penalties collected under this article shall be deposited*  
33 *into the Electric Program Investment Charge Fund and used for*  
34 *the purposes described in Chapter 8.1 (commencing with Section*  
35 *25710) of Division 15 of the Public Resources Code.*

36 ~~(2) If Division 25.5 (commencing with Section 38500) of the~~  
37 ~~Health and Safety Code is suspended or repealed, the State Air~~  
38 ~~Resources Board may take action to enforce this article on local~~  
39 ~~publicly owned electric utilities consistent with Section 41513 of~~  
40 ~~the Health and Safety Code, and impose penalties on a local~~



1 ~~publicly owned electric utility consistent with Article 3~~  
2 ~~(commencing with Section 42400) of Chapter 4 of Part 4 of, and~~  
3 ~~Chapter 1.5 (commencing with Section 43025) of Part 5 of,~~  
4 ~~Division 26 of the Health and Safety Code.~~

5 ~~(3) For the purpose of this subdivision, this section is an~~  
6 ~~emissions reduction measure pursuant to Section 38580 of the~~  
7 ~~Health and Safety Code.~~

8 ~~(4) If the State Air Resources Board has imposed a penalty upon~~  
9 ~~a local publicly owned electric utility for the utility’s failure to~~  
10 ~~comply with this article, the State Air Resources Board shall not~~  
11 ~~impose an additional penalty for the same infraction, or the same~~  
12 ~~failure to comply, with any renewables procurement requirement~~  
13 ~~imposed upon the utility pursuant to the California Global Warming~~  
14 ~~Solutions Act of 2006 (Division 25.5 (commencing with Section~~  
15 ~~38500) of the Health and Safety Code).~~

16 ~~(5) Any penalties collected by the State Air Resources Board~~  
17 ~~pursuant to this article shall be deposited in the Air Pollution~~  
18 ~~Control Fund and, upon appropriation by the Legislature, shall be~~  
19 ~~expended for reducing emissions of air pollution or greenhouse~~  
20 ~~gases within the same geographic area as the local publicly owned~~  
21 ~~electric utility.~~

22 ~~(e) The commission has no authority or jurisdiction to enforce~~  
23 ~~any of the requirements of this article on a local publicly owned~~  
24 ~~electric utility.~~

25 SEC. 14. Article 17 (commencing with Section 400) is added  
26 to Chapter 2.3 of Part 1 of Division 1 of the Public Utilities Code,  
27 to read:

28

29 Article 17. Clean Energy and Pollution Reduction

30

31 400. The commission and the Energy Commission shall do all  
32 of the following in furtherance of meeting the state’s clean energy  
33 and pollution reduction objectives:

34 (a) Take into account the benefits of distributed generation and  
35 promote the use of distributed generation where it provides  
36 economic and environmental benefits, particularly in disadvantaged  
37 communities as identified pursuant to Section 39711 of the Health  
38 and Safety Code.

39 (b) Allow for consideration of costs and benefits of grid  
40 integration in proceedings associated with meeting the objectives.

1 (c) Where feasible, adopt rules for integrating renewable energy  
2 that minimize system power and fossil fuel purchases and, where  
3 feasible and consistent with other state policy objectives, increase  
4 the use of energy storage, demand response, and other  
5 low-emission or zero- technologies to protect system reliability.

6 (d) Review technology incentive programs overseen by the  
7 commission and the Energy Commission and make  
8 recommendations for adjustments that more effectively and  
9 consistently align with state clean energy and pollution reduction  
10 objectives, and that provide benefits to disadvantaged communities  
11 as identified pursuant to Section 39711 of the Health and Safety  
12 Code.

13 (e) To the extent feasible, give first priority to the manufacture  
14 and deployment of clean energy and pollution reduction  
15 technologies that create employment opportunities, including high  
16 wage, highly skilled employment opportunities, and increased  
17 investment in the state.

18 SEC. 15. Section 454.51 is added to the Public Utilities Code,  
19 to read:

20 454.51. The commission shall direct each electrical corporation  
21 to include in its proposed procurement plan a strategy for procuring  
22 a diverse portfolio of resources that provide a reliable electricity  
23 supply, including renewable energy integration needs, using zero  
24 carbon-emitting resources to the maximum extent reasonable. The  
25 net capacity costs of those resources shall be allocated on a fully  
26 nonbypassable basis consistent with the treatment of costs  
27 identified in paragraph (2) of subdivision (c) of Section 365.1.

28 SEC. 16. No reimbursement is required by this act pursuant to  
29 Section 6 of Article XIII B of the California Constitution because  
30 a local agency or school district has the authority to levy service  
31 charges, fees, or assessments sufficient to pay for the program or  
32 level of service mandated by this act or because costs that may be  
33 incurred by a local agency or school district will be incurred  
34 because this act creates a new crime or infraction, eliminates a  
35 crime or infraction, or changes the penalty for a crime or infraction,  
36 within the meaning of Section 17556 of the Government Code, or  
37 changes the definition of a crime within the meaning of Section 6  
38 of Article XIII B of the California Constitution.

O

## ATTACHMENT 3

### SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

#### LEGISLATIVE REPORT FROM HOME RULE ADVISORY GROUP MEETING OF FEBRUARY 18, 2015

HRAG members present:

Dr. Joseph Lyou, Chairman

Elaine Chang, SCAQMD

Elizabeth Adams, EPA

Mike Carroll, Latham & Watkins on behalf of the Regulatory Flexibility Group

Curt Coleman, Southern California Air Quality Alliance

Chris Gallenstein, CARB (participated by phone)

Bill LaMarr, California Small Business Alliance

Art Montez, AMA International

Diane Moss, Renewables 100 Policy Institute

Rongsheng Luo, SCAG (participated by phone)

Bill Quinn, CCEEB (participated by phone)

Terry Roberts, American Lung Association of California (participated by phone)

David Rothbart, Los Angeles County Sanitation Districts

Larry Rubio, Riverside Transit Agency (participated by phone)

Larry Smith, Riverside Cement

TyRon Turner, We Care About You

Lee Wallace, So Cal Gas and SDG&E

Mike Wang, WSPA

Others: Mark Abramowitz (Board Consultant to Dr. Lyou); Earl Elrod (Board Consultant to Mayor Yates); Daniel McGivney (SoCalGas/SDG&E); Rita Loof (RadTech); Susan Stark (Tesoro)

AQMD Staff: Guillermo Sanchez, Laki Tisopulos, Jill Whynot, Bill Wong, and Marilyn Traynor

#### LEGISLATIVE UPDATE

Guillermo Sanchez reported on the following items that were discussed at the Legislative Committee meeting on February 13, 2015:

#### *Federal*

The consultants reported as follows:

In general, progress continues to proceed at a glacial pace; however, there is a commitment to move quickly on MAP-21 reauthorization; and the relevant committees from both chambers will be coordinating their activities. Funds to continue the program still need to be identified.

State

The consultants reported as follows:

As of February 13, 2015, only 576 bills had been introduced, which is approximately 1/3 of the typical rate for this time of year. The decline has been attributed to the members now having 12 years instead of six years to make their legislative mark. As of February 17, 2015, an additional 118 bills were introduced, and a large spike is expected before the introduction deadline at the end of February. Senate pro tem de León and his colleagues unveiled the “Powering a New Clean-Energy Economy” legislative package. Consistent with the Governor’s vision, the package includes the following bills aimed to tackle climate change:

SB 350 (de León)

In line with the Governor’s vision, SB 350 would require by 2030 a 50% reduction in petroleum use, a 50% increase in the renewables portfolio standard, and a 50% increase in energy efficiency on existing public buildings. The debate continues on whether to limit the 50% increase in energy efficiency to only public buildings.

SB 32 (Pavley)

SB 32 establishes a GHG emissions reduction target of 80% below 1990 levels by 2050. SB 32 will allow CARB to establish interim targets for 2030 and 2040.

SB 189 (Hueso)

SB 189 creates a committee that will advise agencies on the most effective ways to spend money collected in clean energy and greenhouse gas reduction funds.

SB 185 (de León)

SB 185 would require retirement boards to divest public employee retirement funds of any investments in a thermal coal company,

Additionally, the Legislative Committee discussed the following bills:

Bills	Description	Legislative Committee’s Recommended Action
2015 Legislative Goals & Objectives	SCAQMD’s 2015 legislative workplan	Approve
AB 32 (Pavley)	California Global Warming Solution Act of 2006: Emissions Limit	Support
AB 156 (Perea)	California Global Warming Solution Act of 2006: Investment Plan (focuses GHG funding in disadvantaged communities)	Support

The following bills were discussed but were tabled for now:

Bills	Description
AB 14 (Waldron)	Unmanned Aircraft: Task Force
AB 37 (Campos)	Unmanned Aircraft Systems
AB 56 (Quirk)	Unmanned Aircraft Systems

AB 14, AB 37, and AB 56 are all related to unmanned drones. The Federal Aviation Administration is preparing guidelines on the use of unmanned drones. The preliminary draft primarily focuses on safety issues and includes the requirement that the unmanned drones must be operated within line of sight of the operator (<http://www.cnn.com/2015/02/15/politics/drones-new-rules/>). On the one hand, unmanned drones may be helpful for safer and more efficient environmental inspection, fence-line monitoring, and compliance purposes. On the other hand, 4<sup>th</sup> Amendment requirements, including the right to privacy, still need to be addressed. The Legislative Committee requested that staff return with a memo that outlines the relevant and specific uses of unmanned drones for the SCAQMD.

### **Discussion**

Mr. LaMarr asked what constitutes the difference between surveillance and a search. Mr. Wong responded that a search involves the required process of acquiring a search warrant from the court. Mr. Coleman added that he has read of cases involving low flying aircraft and the use of binoculars that could be cited. Mr. Sanchez noted that, in typical criminal investigations, you need probable cause; however, there are exceptions such as the plain view doctrine. He added that, under state law, air districts and CARB have right of entry, upon notice, without probable cause.

Mr. Smith was interested in the public's reaction as the drone bills move forward and stressed the importance of open lines of communication with the public to allay their fears. Mr. Sanchez responded that a bill was introduced [SB 142 (Jackson)] that clarifies the use of drones for private purposes and addresses invasion of privacy issues. Mr. Smith hoped that the current procedures for fence line monitoring, etc., will apply to the drone technology, and he stressed the importance of the notification process. Mr. Sanchez responded that SCAQMD staff's initial recommendation is that representatives from law enforcement, regulatory agencies, academia, and constitutional authorities be appointed to the task force created under AB 14 to address the wide array of issues that the public is concerned with.

Mr. Wallace asked if SCAQMD plans to sponsor any bills this year. Mr. Sanchez responded that SCAQMD does not currently plan to sponsor any bills. He added that the goals and objectives are consistent with existing Board policy directives, and the only new bill that the SCAQMD may be supporting at this time, as part of a wider coalition, would be one seeking further refinements to the Carl Moyer Program to improve program efficiencies and outcomes. Mr. Wallace asked about the status of the bill being introduced by Congressman Lowenthal. Mr. Sanchez will check with the federal consultants and report back.

Mr. Montez asked if there are any new bills that will provide funding for clean vehicles/green buildings for public agencies. Mr. Sanchez responded that the state's revised procurement

guidelines now allow the state to purchase clean vehicles. Mr. Sanchez added that a bill was passed last year that allows public agencies to purchase clean vehicles more easily because of cheaper lifespan costs, and there is a directive from the Governor's office that addresses the issue.

Ms. Moss asked if there are any new bills that will provide funding for electric charging infrastructure. Mr. Sanchez responded that there were a variety of bills from the last legislative term making funds available for alternative fuel infrastructure and to facilitate the installation of electric charging stations in commercial and public facility parking lots. Mr. Wong added that SCAQMD is proposing for the Board's consideration a protocol to allow Rule 2202 credits to be created from installing electric vehicle charging infrastructure.

Mr. Wang asked if SCAQMD has recommended a position on the de León bills. Mr. Sanchez responded that the package of bills was just announced the prior week and staff had not yet recommended a position on the bills. He added that, theoretically, the bills would be consistent with SCAQMD's efforts insofar as they continue to prioritize co-benefits and simultaneous attainment of the National Ambient Air Quality Standard (NAAQS). Staff will review the bill and monitor the related discussions and proposed amendments prior to making a recommendation to the Legislative Committee.

BOARD MEETING DATE: April 3, 2015

AGENDA NO. 22

REPORT: Mobile Source Committee

SYNOPSIS: The Mobile Source Committee met on Friday, March 20, 2015. Following is a summary of that meeting. The next Mobile Source Committee meeting is scheduled for Friday, April 17, 2015 at 9:00 a.m.

RECOMMENDED ACTION:  
Receive and file.

Dr. Clark E. Parker, Sr., Chair  
Mobile Source Committee

EC: PMF: afm

---

### **Attendance**

Committee Chair Dr. Clark E. Parker, Sr., and Committee Member Shawn Nelson attended via videoconference; Committee Members Ben Benoit, Dr. Joseph Lyou and Judith Mitchell attended the meeting at the SCAQMD Diamond Bar headquarters.

The following items were presented:

### **INFORMATIONAL ITEMS:**

#### **1) Adopt Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects**

Mr. Dean Saito, Planning and Rules Manager, provided an update on the development of a protocol for purposes of generating emission reduction credits under Rule 2202 for workplace charge stations. The protocol development was initiated based on a request from Los Angeles Department of Water and Power (LADWP) and Southern California Edison (SCE) to develop a protocol to generate credits for workplace charge stations as part of a Rule 2202(f)(6) application on January 14, 2014. Staff worked with LADWP and SCE on developing a proposed methodology and protocol. The draft protocol was released in October 2014 and underwent a public review process, which included a public consultative meeting and CEQA scoping meeting in November 2014. A CEQA Environmental Analysis was released in January 2014.

Comments received included five comment letters submitted on the draft protocol and two comment letters on the Environmental Analysis. Proposed language modifications based on comments received on the draft protocol included the following: 1) proration of credits if station received public funding assistance; 2) electric vehicle charging station eligible for credits for those installed after January 14, 2014; and 3) streamline provisions related to reporting and monitoring of electricity usage. Next steps include the release of the revised draft protocol for public review, set public hearing date at the April 2015 Board meeting, responses to CEQA comments incorporated into final EA, and Board consideration at May Board meeting.

Councilmember Mitchell asked a question regarding the relationship between the credits generated under the protocol and CARB ZEV (zero-emission vehicles) credits. Staff indicated that the credits are different in nature. The ZEV credits provide flexibility to vehicle manufacturers for the production of ZEVs. Credits generated under the proposed protocol will be used for Rule 2202 compliance and can only be used by affected Rule 2202 employers for compliance purposes.

Dr. Parker asked about the results of the CEQA Environmental Analysis. Staff indicated that the analysis concluded the impacts to be not significant with the chief impact being the construction activity associated with installation of the electric charge stations. Dr. Parker inquired as to who will be issuing the credits and if additional staff resources will be needed to evaluate the credits generated. Staff indicated that the SCAQMD will be approving any credit issuance and no additional resources are anticipated since the SCAQMD has been approving credit issuances for other mobile source projects in the past. The project proponents, which could include employers subject to Rule 2202; utilities (i.e. LADWP or SCE) promoting electric vehicles; and third-party entities who install electric charging stations (i.e. Blink, Charge Point), would submit an application to implement a project and be responsible for monitoring and reporting the electricity consumption used for vehicle charging. The project proponent will calculate the associated credits generated and submit for approval by the SCAQMD.

Councilmember Mitchell inquired as to how the prorated credits would work based upon amount of public funding. Staff indicated that the credits will be discounted based on the amount of public funding compared to the total cost of the charging stations.

Dr. Lyou asked what staff thought the value of the credits would be. Staff responded that it is difficult to anticipate the value of the credits at this time since there have not been any projects of this nature. However, staff did do an analysis and verified that the credits would be less than the market value currently given for dedicated electric vehicles in the Rule 2202 AVR formula. Dr. Lyou inquired about the current status of



Rule 2202 as a SIP Rule. Staff indicated that there was a conference call with U.S. EPA to discuss outstanding SIP issues related to Rule 2202. Staff indicated that at a minimum staff can take credit retrospectively from Rule 2202 based on actual emission reductions achieved.

Mr. Marvin Moon, LADWP, commented that this is a positive step in encouraging workplace charging. LADWP believes that there are a lot of positive applications for its customers, but most important it gives businesses an economic incentive to install workplace charging in assisting them to comply with Rule 2202. Dr. Parker inquired if LADWP is considering lowering the rate for electric vehicle charging. LADWP responded that it does offer a lower rate for electric vehicle charging for those entities with separate meters and that LADWP is considering other programs which will lower the rate for EV charging.

Mr. Tom Gross, Southern California Edison, commented that this program fits nicely with SCE's "Charge Readiness Program" that is currently before the California Public Utilities Commission. This program is an added tool to incentivize workplace charging and SCE sees this as added incentive to employers to install workplace charging. Dr. Parker asked SCE whether they would allow separate metering of the charging stations and SCE responded that they thought they would allow sub-metering of the electric charging stations.

Mr. Rick Teebay, County of Los Angeles, commented that L.A. County has installed 116 electric vehicle supply equipment (EVSE) since July of 2014. Recently, L.A. County staff estimated the kilowatt usage associated with the current EVSE and it equated to 100,000 miles per month of gasoline usage eliminated. L.A. County installed revenue-grade meters to recoup the cost of electrical charges and as they take this before their Board, staff believed it would be critical to be able to explain to the board that credits would be able to help offset the initial cost of the electric charge stations.

## **2) Amend Rule 2202 Employee Commute Reduction Program Guidelines**

Ms. Carol Gomez, Planning and Rules Manager, presented a summary of proposed Rule 2202 Employee Commute Reduction Program (ECRP) Guidelines amendments as a follow-up to the Board's June 2014 direction to recommend an ECRP streamlining proposal.

Staff's proposal contains two new Average Vehicle Ridership (AVR) incentive programs. The first is a High AVR program which would replace the current High AVR No-Fault Inspection program. The second is an AVR Improvement Program. Both programs would offer a reduced filing fee and streamline the plan submittal requirements.

In addition to these AVR incentive programs, staff is also proposing to streamline the ECRP program by removing the Employer Clean Fleet Purchase/Lease Program and the Mobile Source Diesel PM/NOX Emission Minimization Program requirements. Staff is proposing to remove the Clean Fleet requirement, as CARB's vehicle emission standards have risen to a point where the vehicles purchased for fleet vehicles meet the rule's certification standards. Similarly, in regards to the diesel PM/NOX emission program, since the inclusion of this requirement, CARB has adopted an In-Use Off-Road Diesel Vehicle Regulation and an Off-Road Compression-Ignition Engines and Equipment Regulation, both of which go beyond the requirements of Rule 2202 and apply to a broader audience.

Key comments received from the regulated community include a request to drop the High AVR fee below the Emission Reduction Strategy fee level. While the current proposal reflects cost recovery, staff is evaluating the request. Additionally a request was made to amend the annual AVR survey requirement to every other year. Rule 2202 is an emission reduction rule; therefore annual surveys are needed as an indicator of performance.

[Supervisor Shawn Nelson arrived at the Hall of Administration videoconference location at 10:15 a.m.]

Dr. Lyou asked about metrics to measure increases in ridesharing activity. How do we know that ridesharing has been increasing over time? Ms. Gomez replied that employers have a menu of options and can voluntarily switch from one compliance option to another at any time; staff can, however, take a look at the AVR data collected from ECRP submittals. Dr. Parker inquired about the impacts of commute vs. non-commute trips, and asked how many trips have been reduced since the inception of the program. He suggested setting baseline data to determine the total trip reductions accomplished over time. Dr. Parker asked Supervisor Nelson to provide an insight on trip reduction data available at Metrolink. Supervisor Nelson stated that SCAG has detailed regional transportation data. He further stated that it is critical to build rail transit stations very close to jobs centers for employees to get to work by transit. DEO Elaine Chang suggested that SCAG give a presentation on this topic at a future Mobile Source Committee Meeting.

Staff will bring the proposed amendments to the Rule 2202 ECRP Guidelines to the May 1, 2015 Board meeting.

### **3) Overview of the PM2.5 Impact at Mira Loma**

Mr. Joe Cassmassi, Planning and Rules Manager, provided an overview of PM2.5 levels observed at Mira Loma, describing the history behind establishing a monitoring

site in the area, the emissions and mechanisms contributing to high concentrations, and several of the analyses conducted to assess potential controls that will lead to attainment of the 24-hour standard as well as the revised annual standard.

During the presentation Dr. Lyou inquired about the optimal means to reduce PM2.5. Mr. Cassmassi responded that we were focusing on directly emitted particulates as well as precursors, including NO<sub>x</sub>, SO<sub>x</sub>, VOC and ammonia. He pointed out that controls on dairy farms, fleet turnover, composting and RECLAIM were among the mechanisms at hand to reduce the precursors identified by U.S. EPA for PM2.5 control. Dr. Philip Fine, Assistant Deputy Executive Officer/Planning, Rule Development & Area Sources added that only biogenic emissions (VOC) are not controllable. Dr. Lyou also commented on the use of backward trajectories to establish source contribution areas to the Mira Loma impact. Dr. Fine responded that the areas adjacent to Mira Loma have a greater impact on the observed concentrations.

Dr. Parker asked how the relative emission reduction factors for PM2.5 were derived. He further inquired as to whether they were developed from monitoring data or from regional simulations and chemical assessments? Mr. Cassmassi responded that the relative emission reduction factors were derived from assessing regional modeling in conjunction with emissions data. Dr. Parker asked if the impact to Mira Loma was a function of the residence time of particulates in the atmosphere. Mr. Cassmassi commented that staff could assess the impact of controls on residential wood burning and can quantify the reduction of ambient PM2.5 due to burning restrictions. He also commented that under multiday episodes, carryover from one day to the next could mask the impact of controls.

Dr. Fine pointed to the slides depicting the source apportionment analysis and the emission-weighted contribution chart to illustrate that cooking-related emissions were a significant factor for PM2.5 in the area. Dr. Lyou asked what other agencies have done to control particulate emissions from cooking activities. Dr. Fine said the rules in the Bay Area and San Joaquin air districts address a portion of the problem. He then focused on ongoing research being conducted at the University of California Riverside addressing emissions from commercial charbroilers. Dr. Fine pointed out that while it may be desirable to control 80-90 percent of the emissions from cooking, 50 percent or lower may be achievable and contribute to solving the problem. Mayor Benoit asked if animal feed ammonia management was an effective control. Dr. Fine responded that it was as one measure, but area spray applications are also possible to reduce ammonia.

Mr. Henry Hogo, Assistant Deputy Executive Officer/Science & Technology Advancement, added that the source apportionment chart really focused on nitrates as the key to attainment. The committee asked what control strategy would reduce the

nitrate and staff responded that the current NOx-heavy reduction strategy should achieve the result.

**WRITTEN REPORTS:**

4) **Rule 2202 Activity Report**

The report was received as submitted.

5) **Monthly Report on Environmental Justice Initiatives – CEQA Document Commenting Update**

The report was received as submitted.

**OTHER BUSINESS:**

None

**PUBLIC COMMENT:**

None

The meeting was adjourned at 11:03 a.m.

**Attachment**

Attendance Roster

**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT  
MOBILE SOURCE COMMITTEE MEETING  
Attendance Roster- March 20, 2015**

NAME	AFFILIATION
Dr. Clark E. Parker, Sr.	SCAQMD Governing Board ( <i>via videoconference</i> )
Dr. Joseph Lyou	SCAQMD Governing Board
Mayor Ben Benoit	SCAQMD Governing Board
Councilmember Judith Mitchell	SCAQMD Governing Board
Supervisor Shawn Nelson	SCAQMD Governing Board ( <i>via videoconference</i> )
Board Consultant Mark Abramowitz/	SCAQMD Governing Board (Lyou)
Board Consultant Chung Liu	SCAQMD Governing Board (Mitchell)
Ruthanne Taylor-Berger	SCAQMD Governing Board (Benoit)
Tom Gross	Southern California Edison
Rongsheng Luo	Southern California Association of Governments
Marvin Moon	Los Angeles Department of Water and Power
Bill Pearco	Boeing
Dat Quach	Los Angeles Department of Water and Power
David Rothbart	Los Angeles County Sanitation Districts
Claire Spencer	Tesoro
Susan Stark	Tesoro
Rick Teebay	County of Los Angeles
Christine Truong	Los Angeles Department of Water and Power
Elaine Chang	SCAQMD Staff
Philip Fine	SCAQMD Staff
Barbara Baird	SCAQMD Staff
Matt Miyasato	SCAQMD Staff
Henry Hogo	SCAQMD Staff
Dean Saito	SCAQMD Staff
Joe Cassmassi	SCAQMD Staff
Carol Gomez	SCAQMD Staff
Chris Marlia	SCAQMD Staff
Sam Atwood	SCAQMD Staff
Kim White	SCAQMD Staff

[↑ Back to Agenda](#)

BOARD MEETING DATE: April 3, 2015

AGENDA NO. 23

REPORT: Technology Committee

SYNOPSIS: The Technology Committee met on March 20, 2015. Major topics included Technology Advancement items reflected in the regular Board Agenda for the April Board meeting. A summary of these topics with the Committee's comments is provided. The next Technology Committee meeting will be on April 17, 2015.

RECOMMENDED ACTION:  
Receive and file.

John J. Benoit  
Technology Committee Chair

MMM:pmk

---

**Attendance:** Supervisor John J. Benoit participated by videoconference. Councilmember Judith Mitchell, Supervisor Janice Rutherford and Mayor Dennis Yates were in attendance at SCAQMD headquarters. Councilmember Joe Buscaino and Mayor Miguel Pulido were absent due to a conflict with their schedule.

#### **APRIL BOARD AGENDA ITEMS**

##### **1. Recognize Funds and Issue Program Announcement for Heavy-Duty Vehicle and Transport Refrigeration Unit Engine Replacement Projects**

In October 2014, U.S. EPA notified SCAQMD that an award had been approved under a Fiscal Year 14 Diesel Emissions Reduction Act (DERA) solicitation in the amount of \$753,476 for on-road heavy-duty vehicle and school bus replacement projects. In addition, in a prior U.S. EPA award, \$480,833 remains unspent. Staff is proposing that the unspent funds be used to solicit projects to replace transport refrigeration units (TRUs). These actions are to recognize \$753,476 from the U.S. EPA DERA award and issue a Program Announcement to solicit proposals for on-road heavy-duty vehicle and TRU engine replacement projects with funding of up to \$920,833. This action is also to reimburse the General Fund for administrative costs of up to \$38,476 necessary to implement the U.S. EPA DERA grant. School bus

replacement awards using the remaining \$275,000 will be considered by the Board separately at a later date.

*Mayor Yates asked if one large company could apply and get all the funding for trucks. Staff responded that each truck is evaluated based on its mileage and engine model year, so that a single owner operator has as much chance of receiving funds as a large fleet.*

*Moved by Mitchell; seconded by Yates; unanimously approved.*

**2. Adopt Resolution Recognizing Funds and Accepting Terms and Conditions for FY 2013-14 Carl Moyer Multidistrict Program Award, and Issue Program Announcement for Carl Moyer Multidistrict Program**

As agreed in a Memorandum of Understanding signed between CAPCOA and CARB on May 1, 2013, the Carl Moyer Multidistrict Program funds will be alternatively designated between the Bay Area and the South Coast AQMD from FY 2012-13 (Year 15) through FY 2015-16 (Year 18). As such, the SCAQMD is to implement the FY 2013-14 Multidistrict Program. These actions are to adopt a resolution recognizing \$3 million in Carl Moyer Multidistrict Program grant awards from CARB with its terms and conditions for FY 2013-14 and to approve the release of a Program Announcement for the FY 2013-14 Carl Moyer Multidistrict Program.

*Supervisor Benoit asked for an explanation regarding the MOA between CAPCOA and CARB for the multidistrict funds. Staff responded that it was an agreement to distribute the funds among the districts fairly in the northern parts of the state implemented by Bay Area AQMD and the districts in the southern part of the state implemented by SCAQMD.*

*Moved by Mitchell; seconded by Rutherford; unanimously approved.*

**3. Cosponsor Regional Universities for U.S. DOE EcoCAR 3 Competition and Solar Decathlon **

EcoCAR 3 is an advanced plug-in hybrid passenger vehicle design-and-build competition sponsored by U.S. DOE and General Motors and managed by Argonne National Laboratory. California State University Los Angeles (CSULA) is the only competitor in California of 16 North American universities chosen to redesign a stock 2016 gasoline Chevrolet Camaro into a hybrid vehicle. The 2015 U.S. DOE Solar Decathlon challenges 17 U.S. and international university teams to create solar-powered houses that are cost-effective, energy efficient, attractive and incorporate EV charging into their energy use profile. This year's event will be held at the Great Park in Irvine and Team OC is the only Southern California competitor consisting of students from University of California Irvine (UCI) plus three local colleges. These actions are to execute agreements from the Clean Fuels Fund (31) with CSULA to

enter the DOE EcoCAR 3 competition in an amount not to exceed \$100,000 over four years and UCI to compete in the 2015 DOE Solar Decathlon in an amount not to exceed \$50,000.

*Moved by Yates; seconded by Mitchell; unanimously approved.*

**4. Recognize and Transfer Funds and Execute Contracts to Develop and Demonstrate Warehouse Rooftop Solar Systems, Energy Storage and EV Charging** 

The SCAQMD applied for and anticipates receiving a \$500,000 award from U.S. EPA under Section 105 of the Clean Air Act to sponsor Clean Air Technology Initiative projects. Staff proposes to utilize these funds to cosponsor the development and demonstration of advanced warehouse rooftop solar systems with storage and chargers for electric drayage truck operations. This action is to recognize \$500,000 from U.S. EPA and transfer \$598,908 from the Clean Fuels Fund (31), which includes SCAQMD's cost-share of \$98,908 and \$500,000 as a temporary loan, into the Advanced Technology, Outreach and Education Fund (17). This action is also to execute contracts from the Advanced Technology, Outreach and Education Fund (17) with the University of California San Diego to develop and demonstrate warehouse rooftop solar systems in an amount not to exceed \$498,908 and with Transportation Power, Inc. to develop and demonstrate EV charging infrastructure for electric drayage trucks at a cost not to exceed \$100,000.

*Supervisor Benoit mentioned solar panels should be able to provide voltage support to the grid to help with stability. Staff responded a regulation in place within California currently does not allow the inverters to provide grid voltage support like they do in Europe and confirmed the warehouse systems being developed will be able to provide this capability when allowed. Mayor Yates noted that warehouse owners have questioned the cost effectiveness of solar panels. Staff replied that solar panel costs in the past couple of years have dramatically reduced and adding these other capabilities, such as demand response and energy storage, may make warehouse PV more viable.*

*Mayor Yates also asked if the electric catenary trucks had the capability to use stationary chargers. Staff confirmed that these trucks can charge on the catenary system and using stationary chargers.*

*Moved by Rutherford; seconded by Mitchell; unanimously approved.*

**5. Other Business**

*Staff mentioned that the Technology Advancement Office Clean Fuels Program Annual Report and Plan Update reviewed at last month's Technology Committee*



*was pulled from the March Board Meeting for minor adjustments and will be going back to the Board in April.*

**6. Public Comment Period**

*There was no public comment.*

**Next Meeting: April 17, 2015**

**Attachment**

Attendance

## Attachment A – Attendance

Supervisor John J. Benoit.....	SCAQMD Governing Board (via VT)
Councilmember Judith Mitchell.....	SCAQMD Governing Board
Supervisor Janice Rutherford.....	SCAQMD Governing Board
Mayor Dennis Yates.....	SCAQMD Governing Board
Mark Abramowitz.....	Board Consultant (Lyou)
Buford Crites.....	Board Consultant (JBenoit)
Marisa Perez.....	Board Consultant (Mitchell)
Andrew Silva.....	Board Consultant (Rutherford)
Bob Ulloa.....	Board Consultant (Yates)
John Olvera, Principal Deputy District Counsel.....	SCAQMD
Matt Miyasato, STA.....	SCAQMD
Henry Hogo, STA.....	SCAQMD
Fred Minassian, STA.....	SCAQMD
Laki Tisopulos, STA.....	SCAQMD
Dean Saito, STA.....	SCAQMD
Brian Choe, STA.....	SCAQMD
Lisa Mirisola, STA.....	SCAQMD
Aaron Katzenstein, PRDAS.....	SCAQMD
Mary Leonard, FIN.....	SCAQMD
Robert Paud, IM.....	SCAQMD
Penny Shaw Cedillo, STA.....	SCAQMD
Pat Krayser, STA.....	SCAQMD
Andy Takata.....	County of San Bernardino
Tom Gross.....	SCE
Susan Stark.....	Tesoro

BOARD MEETING DATE: April 3, 2015

AGENDA NO. 24

REPORT: Mobile Source Air Pollution Reduction Review Committee

SYNOPSIS: Below is a summary of key issues addressed at the MSRC's meeting on March 19, 2015. The MSRC met as a committee of the whole because a quorum was not present; actions will be ratified at their next meeting, scheduled for Thursday, April 16, 2015, at 2:00 p.m., in Conference Room CC8.

RECOMMENDED ACTION:  
Receive and file.

Michael D. Antonovich  
SCAQMD Representative on MSRC

MMM:HH:AP

---

### **FYs 2014-16 Local Government Match Program**

The MSRC approved release of a Local Government Match Program Announcement under the FYs 2014-16 Work Program. The Program Announcement, with a targeted funding level of \$13.0 million, provides funding for alternative fuel infrastructure, including both new and expanded stations as well as upgrade of existing vehicle maintenance facilities, up to a maximum amount per project of \$500,000. The purchase of heavy-duty alternative fuel vehicles can receive up to \$30,000 per vehicle, while the purchase of qualifying medium-duty alternative fuel vehicles is eligible for a maximum MSRC contribution of \$10,000 per vehicle. Electric vehicle charging infrastructure can receive funding up to a maximum of \$500,000 per entity. Active transportation projects including, but not limited to, pedestrian and bicycle infrastructure projects can also receive funding up to a maximum per entity of \$500,000, while active transportation outreach and education projects can receive up to \$50,000 per entity. Qualifying AB 2766 Subvention Fund recipients in the Coachella Valley can receive funding to support regional street sweeping programs, up to a maximum of \$250,000 per entity. The final category, new this year, provides funding for commercial electric riding lawnmowers, up to a maximum of \$5,000 per lawnmower depending upon size. In all categories funding will be provided on a dollar-for-dollar match basis, and funding for all eligible entities will be distributed on a first-come, first-served basis with a geographic minimum per county of \$1,625,000. Program opening and closing dates must be adjusted, and this

action must be ratified at the MSRC's next meeting in April and will be brought to the SCAQMD Board for consideration at its May 1, 2015 meeting.

### **FYs 2014-16 Alternative Fuel Infrastructure Program**

The MSRC approved release of an Alternative Fuel Infrastructure Program Announcement under the FYs 2014-16 Work Program. The Program Announcement, with a targeted funding level of \$5.0 million, provides funds for new and expanded alternative fuel stations, as well as for the upgrade of existing vehicle maintenance facilities. Stations will be eligible for up to 50 percent of station capital equipment, site construction, signage, and reasonable project management costs, not to exceed the specified maximum award amounts. The maximum MSRC funding per project varies from \$100,000 to \$275,000 depending upon whether the applicant is a public or private entity, accessibility level of the proposed project, and the number of fuels offered. Proposals meeting requirements will be funded on a first-come, first-served basis. Program opening and closing dates must be adjusted, and this action must be ratified at the MSRC's next meeting in April and will be brought to the SCAQMD Board for consideration at its May 1, 2015 meeting.

### **FYs 2014-16 Major Event Center Transportation Program**

The MSRC approved release of a Major Event Center Transportation Program Announcement under the FYs 2014-16 Work Program. The Program Announcement solicits applications from qualifying major event centers and/or transportation providers to provide transportation service for venues not currently served by sufficient transportation service. To qualify, an event center must have an occupancy capacity of at least 5,000, and an average event attendance of at least 2,000. The applicant must demonstrate that the center is impacted by traffic to the extent that the design capacity of the surrounding streets is exceeded. The maximum total funding award to any entity shall not exceed \$2,250,000, and the maximum amount which can be applied to transportation programs at any one event center is \$1,350,000. The MSRC can waive these maximum funding restrictions in the event the MSRC does not receive sufficient meritorious proposals from other bidders to utilize the remaining funds, or if the MSRC allocates additional funds to the Program. Program opening and closing dates must be adjusted, and this action must be ratified at the MSRC's next meeting in April and will be brought to the SCAQMD Board for consideration at its May 1, 2015 meeting.

### **FYs 2014-16 Transportation Control Measure CTC Partnership Program**

One element of the MSRC's FYs 2014-16 Work Program is a program to partner with the region's County Transportation Commissions (CTCs), either in their own right or on behalf of their member cities, county, and possibly others. The goal is to stimulate the demonstration of innovative transportation control measure (TCM) strategies, as well as expand the implementation of "tried and true" TCM strategies. The MSRC views the CTCs as the appropriate partners because the CTCs typically solicit and co-fund the majority of such projects within their respective regions. The MSRC has allocated \$10 million to the CTC Partnership Program, with each CTC eligible for a maximum of \$2.5

million. In order to provide guidance to CTCs in requesting funding, the MSRC has developed an Invitation to Negotiate (ITN). The ITN lays out the necessary proposal elements. The proposal submission timeframe must be adjusted, and this action must be ratified at the MSRC's next meeting in April. Any awards made by the MSRC will be submitted to the SCAQMD Board for consideration as sole-source awards at that time.

### **Received and Approved Final Reports**

As a committee of the whole, subject to ratification at its next meeting, the MSRC received and unanimously approved two final report summaries this month as follows:

1. City of Ontario, Contract #MS12076, which provided \$75,000 for maintenance facility modifications; and
2. Roland Unified School District, Contract #MS11060, which provided \$175,000 toward the installation of a CNG fueling station.

### **Contract Modification Requests**

As a committee of the whole, subject to ratification at its next meeting, the MSRC considered two contract modification requests and took the following unanimous actions:

1. For Waste Management Collection and Recycling, Contract #MS14039, which provides \$75,000 to modify their vehicle maintenance facility in Irvine, approval to substitute the installation of occupancy sensors for some of the fans specified in the contract, with no change in the contract value;
2. For Waste Management Collection and Recycling, Contract #MS14040, which provides \$75,000 to modify their vehicle maintenance facility in Santa Ana, approval to substitute the installation of occupancy sensors for the backup power generator, gas detection system, and alarms specified in the contract, with no change in the contract value; and
3. For USA Waste of California, Contract #MS14041, which provides \$175,000 towards the installation of a limited access CNG station and modification of their vehicle maintenance facility in Compton, approval to substitute the installation of occupancy sensors and gas detectors for some of the lighting fixtures and fans specified in the contract, with no change in the contract value.

### **Contracts Administrator's Report**

The MSRC's AB 2766 Contracts Administrator provides a written status report on all open contracts from FY 2004-05 through the present. The Contracts Administrator's Report for March 2015 is attached (*Attachment 1*) for your information.

### **Attachments**

Attachment 1 – March 2015 Contracts Administrator's Report



MSRC Agenda Item No. 3

**DATE:** March 19, 2015

**FROM:** Cynthia Ravenstein

**SUBJECT:** AB 2766 Contracts Administrator's Report

**SYNOPSIS:** This report covers key issues addressed by MSRC staff, status of open contracts, and administrative scope changes from January 1 to February 25, 2015.

**RECOMMENDATION:** Receive and file report

**WORK PROGRAM IMPACT:** None

**Contract Execution Status**

**2014-16 Work Program**

On December 5, 2014, the SCAQMD Governing Board approved an award under the AB118 Enhanced Fleet Maintenance Program. This contract is executed.

**2012-14 Work Program**

On April 5, 2013, the SCAQMD Governing Board approved three awards under the Event Center Transportation Program. These contracts are with the SCAQMD Board Chair for signature or executed.

On July 5, 2013, the SCAQMD Governing Board approved an additional award to Orange County Transportation Authority under the Event Center Transportation Program. This contract is executed.

On September 6, 2013, the SCAQMD Governing Board approved an award to Transit Systems Unlimited under the Event Center Transportation Program. This contract is executed.

On November 1, 2013, the SCAQMD Governing Board approved two awards under the Event Center Transportation Program. These contracts are executed.

On December 6, 2013, the SCAQMD Governing Board approved 25 awards under the Local Government Match Program, 12 awards under the Alternative Fuel Infrastructure Program, one award under the Alternative Fuel School Bus Incentives Program, and one award under the Event Center Transportation Program. These contracts are awaiting responses from the prospective contractor, with the prospective contractor for signature, or executed.

On January 10, 2014, the SCAQMD Governing Board approved three awards under the Local Government Match Program, one award under the Alternative Fuel Infrastructure Program, and one award under the Alternative Fuel School Bus Incentives Program. These contracts are executed.

On February 7, 2014, the SCAQMD Governing Board approved two awards under the Local Government Match Program and one award under the Alternative Fuel Infrastructure Program. These contracts are executed.

On April 4, 2014, the SCAQMD Governing Board approved two awards under the Local Government Match Program and three awards under the Traffic Signal Synchronization Partnership Program. These contracts are executed.

On May 2, 2014, the SCAQMD Governing Board approved 12 awards under the Local Government Match Program. These contracts are awaiting responses from the prospective contractor, undergoing internal review, with the prospective contractor for signature, or executed.

On June 6, 2014, the SCAQMD Governing Board approved an award under the Traffic Signal Synchronization Partnership Program. This contract is executed.

On July 11, 2014, the SCAQMD Governing Board approved an award under the Traffic Signal Synchronization Partnership Program. This contract is executed.

On September 5, 2014, the SCAQMD Governing Board approved an award under the Event Center Transportation Program. This contract is executed.

On October 3, 2014, the SCAQMD Governing Board approved an award under the Alternative Fuel Infrastructure Program. This contract is executed.

On December 5, 2014, the SCAQMD Governing Board approved 12 awards under the Alternative Fuel Infrastructure Program and two awards under the Event Center Transportation Program. These contracts are awaiting responses from the prospective contractor, under development or undergoing internal review.

On February 6, 2015, the SCAQMD Governing Board approved 3 awards under the Alternative Fuel Infrastructure Program. These contracts are under development.

#### **Work Program Status**

Contract Status Reports for work program years with open and pending contracts are attached. MSRC or MSRC-TAC members may request spreadsheets covering any other work program year.

#### ***FY 2004-05 Work Program Contracts***

One contract from this work program year is open.

#### ***FY 2004-05 Invoices Paid***

No invoices were paid during this period.

***FY 2005-06 Work Program Contracts***

5 contracts from this work program year are open; and 2 are in “Open/Complete” status, having completed all obligations save ongoing operation. One contract closed during this period: City of Santa Monica, Contract #ML06025 – Purchase 12 Heavy-Duty CNG Vehicles.

***FY 2005-06 Work Program Invoices Paid***

No invoices were paid during this period.

***FY 2006-07 Work Program Contracts***

5 contracts from this work program year are open; and 21 are in “Open/Complete” status.

***FY 2006-07 Invoices Paid***

No invoices were paid during this period.

***FY 2007-08 Work Program Contracts***

11 contracts from this work program year are open; and 37 are in “Open/Complete” status. 3 contracts closed during this period: City of Gardena, Contract #ML08029 – Purchase 1 Heavy-Duty Propane Vehicle; ABC Unified School District, Contract #MS08071 – Install New CNG Station; and Disneyland Resort, Contract #MS08075 – Expand Existing CNG Station.

***FY 2007-08 Invoices Paid***

No invoices were paid during this period.

***FY 2008-09 Work Program Contracts***

6 contracts from this work program year are open; and 15 are in “Open/Complete” status.

***FY 2008-09 Invoices Paid***

No invoices were paid during this period.

***FY 2009-10 Work Program Contracts***

2 contracts from this work program year are open; and 14 are in “Open/Complete” status. One contracts passed into “Open/Complete” status during this period: Linde LLC, Contract #MS10004 – Purchase Six Heavy-Duty Natural Gas Vehicles.

***FY 2009-10 Invoices Paid***

One invoice in the amount of \$5,693.10 was paid during this period.

***FY 2010-11 Work Program Contracts***

32 contracts from this work program year are open; and 22 are in “Open/Complete” status. 2 contracts passed into “Open/Complete” status during this period: City of Los Angeles, Department of General Services, Contract #ML11034 – Purchase 21 Heavy-Duty CNG Vehicles; and KEC Engineering, Contract #MS11055 – Repower 5 Heavy-Duty Off-Road Vehicles. One proposed contract with the Los Angeles Unified School District is still with them for signature following MSRC approval of modifications. Lastly, one proposed contract with Ivanhoe Energy Services and Development is still with the prospective contractor for signature. In October, the MSRC-TAC recommended that Ivanhoe come back with a report in March 2015.

***FY 2010-11 Invoices Paid***

4 invoices totaling \$24,350.00 were paid during this period.



***FY 2011-12 Work Program Contracts***

53 contracts from this work program year are open, and 15 are in “Open/Complete” status. One contract closed during this period: City of Baldwin Park, Contract #ML12050 – Install EV Charging Infrastructure.

***FY 2011-12 Invoices Paid***

4 invoices totaling \$560,363.00 were paid during this period.

***FYs 2012-14 Work Program Contracts***

43 contracts from this work program year are open, and 2 are in “Open/Complete” status. One contract passed into “Open/Complete” status during this period: City of Cathedral City, Contract #ML14010 – Street Sweeping Operations.

***FYs 2012-14 Invoices Paid***

4 invoices totaling \$365,000.00 were paid during this period.

***FYs 2014-16 Work Program Contracts***

One contract from this work program year is open.

***FYs 2014-16 Invoices Paid***

One invoice in the amount of \$55,015.00 was paid during this period.

***Administrative Scope Changes***

2 administrative scope changes were initiated during the period of January 1 to February 25, 2015:

- ML14011 – City of Palm Springs (Bicycle Projects) – Modify scope to allow greater flexibility in specific bicycle parking types, while increasing the total number of spaces to be provided, with no change in contract value
- ML12013 – City of Pasadena (Install EV Charging Stations) – Six-month no-cost term extension

***Attachments***

- FY 2004-05 through FYs 2014-16 Contract Status Reports



## AB2766 Discretionary Fund Program Invoices

January 1, 2015 to February 25, 2015

Contract Admin.	MSRC Chair	MSRC Liaison	Finance	Contract #	Contractor	Invoice #	Amount
<i>2009-2010 Work Program</i>							
1/15/2015	1/16/2015	1/20/2015	1/20/2015	MS10004	Linde LLC	Final	\$5,693.10
<b>Total: \$5,693.10</b>							
<i>2010-2011 Work Program</i>							
2/19/2015	2/20/2015	2/20/2015	2/24/2015	MS11001	Mineral LLC	101001	\$300.00
2/19/2015	2/20/2015	2/20/2015	2/24/2015	MS11001	Mineral LLC	100985	\$3,750.00
2/3/2015	2/4/2015	2/6/2015	2/10/2015	MS11055	KEC Engineering	1-RET-Final	\$20,000.00
1/16/2015	1/16/2015	1/20/2015	1/20/2015	MS11001	Mineral LLC	100976	\$300.00
<b>Total: \$24,350.00</b>							
<i>2011-2012 Work Program</i>							
2/4/2015	2/4/2015	2/6/2015	2/10/2015	MS12073	FirstCNG, LLC	1	\$135,000.00
2/4/2015	2/4/2015	2/6/2015	2/10/2015	ML12022	City of La Puente	15-05	\$30,000.00
1/6/2015	1/16/2015	1/20/2015	1/20/2015	ML12050	City of Baldwin Park	1 and Final	\$385,363.00
1/6/2015	1/16/2015	1/20/2015	1/20/2015	ML12022	City of La Puente	14-20	\$10,000.00
<b>Total: \$560,363.00</b>							
<i>2012-2014 Work Program</i>							
2/12/2015	2/13/2015	2/13/2015	2/17/2015	MS14048	BusWest	BW005606	\$62,000.00
2/6/2015	2/13/2015	2/13/2015	2/17/2015	ML14010	City of Cathedral City	1-Final	\$25,000.00
1/27/2015	2/4/2015	2/6/2015	2/10/2015	ML14049	City of Moreno Valley	7401	\$30,000.00
1/16/2015	1/16/2015	1/20/2015	1/20/2015	MS14048	BusWest	BW005574	\$248,000.00
<b>Total: \$365,000.00</b>							
<i>2014-2016 Work Program</i>							
2/13/2015	2/13/2015	2/13/2015	2/17/2015	MS14089	Top Shelf Consulting, LLC	001	\$55,015.00
<b>Total: \$55,015.00</b>							

**Total This Period: \$1,010,421.10**

## FYs 2004-05 Through 2012-14 AB2766 Contract Status Report

3/12/2015

Cont.#	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
<b>FY 2004-2005 Contracts</b>									
<b>Open Contracts</b>									
ML05014	Los Angeles County Department of	5/21/2007	11/20/2008	3/20/2016	\$204,221.00	\$0.00	Traffic Signal Synchronization	\$204,221.00	No
<b>Total: 1</b>									
<b>Declined/Cancelled Contracts</b>									
ML05005	City of Highland				\$20,000.00	\$0.00	2 Medium Duty CNG Vehicles	\$20,000.00	No
ML05008	Los Angeles County Department of				\$140,000.00	\$0.00	7 Heavy Duty LPG Street Sweepers	\$140,000.00	No
ML05010	Los Angeles County Department of				\$20,000.00	\$0.00	1 Heavy Duty CNG Bus	\$20,000.00	No
<b>Total: 3</b>									
<b>Closed Contracts</b>									
ML05006	City of Colton Public Works	7/27/2005	7/26/2006		\$30,000.00	\$30,000.00	3 Medium Duty CNG Vehicles	\$0.00	Yes
ML05011	Los Angeles County Department of	8/10/2006	12/9/2007	6/9/2008	\$52,409.00	\$51,048.46	3 Heavy Duty LPG Shuttle Vans	\$1,360.54	Yes
ML05013	Los Angeles County Department of	1/5/2007	7/4/2008	1/4/2013	\$313,000.00	\$313,000.00	Traffic Signal Synchronization	\$0.00	Yes
ML05015	City of Lawndale	7/27/2005	7/26/2006		\$10,000.00	\$10,000.00	1 Medium Duty CNG Vehicle	\$0.00	Yes
ML05016	City of Santa Monica	9/23/2005	9/22/2006	9/22/2007	\$350,000.00	\$350,000.00	6 MD CNG Vehicles, 1 LPG Sweep, 13 CNG	\$0.00	Yes
ML05017	City of Signal Hill	1/16/2006	7/15/2007		\$126,000.00	\$126,000.00	Traffic Signal Synchronization	\$0.00	Yes
ML05018	City of San Bernardino	4/19/2005	4/18/2006		\$40,000.00	\$40,000.00	4 M.D. CNG Vehicles	\$0.00	Yes
ML05019	City of Lakewood	5/6/2005	5/5/2006		\$10,000.00	\$10,000.00	1 M.D. CNG Vehicle	\$0.00	Yes
ML05020	City of Pomona	6/24/2005	6/23/2006		\$10,000.00	\$10,000.00	1 M.D. CNG Vehicle	\$0.00	Yes
ML05021	City of Whittier	7/7/2005	7/6/2006	4/6/2008	\$100,000.00	\$80,000.00	Sweeper, Aerial Truck, & 3 Refuse Trucks	\$20,000.00	Yes
ML05022	City of Claremont	9/23/2005	9/22/2006		\$20,000.00	\$20,000.00	2 M.D. CNG Vehicles	\$0.00	Yes
ML05024	City of Cerritos	4/18/2005	3/17/2006		\$10,000.00	\$10,000.00	1 M.D. CNG Vehicle	\$0.00	Yes
ML05025	City of Malibu	5/6/2005	3/5/2006		\$10,000.00	\$10,000.00	1 Medium-Duty CNG Vehicle	\$0.00	Yes
ML05026	City of Inglewood	1/6/2006	1/5/2007	2/5/2009	\$60,000.00	\$60,000.00	2 CNG Transit Buses, 1 CNG Pothole Patch	\$0.00	Yes
ML05027	City of Beaumont	2/23/2006	4/22/2007	6/22/2010	\$20,000.00	\$20,000.00	1 H.D. CNG Bus	\$0.00	Yes
ML05028	City of Anaheim	9/8/2006	9/7/2007	5/7/2008	\$85,331.00	\$85,331.00	Traffic signal coordination & synchronization	\$0.00	Yes
ML05029	Los Angeles World Airports	5/5/2006	9/4/2007		\$140,000.00	\$140,000.00	Seven CNG Buses	\$0.00	Yes
ML05071	City of La Canada Flintridge	1/30/2009	1/29/2011		\$20,000.00	\$20,000.00	1 CNG Bus	\$0.00	Yes
ML05072	Los Angeles County Department of	8/24/2009	5/23/2010	1/23/2011	\$349,000.00	\$349,000.00	Traffic Signal Synchronization (LADOT)	\$0.00	Yes
<b>Total: 19</b>									
<b>Closed/Incomplete Contracts</b>									

<b>Cont.#</b>	<b>Contractor</b>	<b>Start Date</b>	<b>Original End Date</b>	<b>Amended End Date</b>	<b>Contract Value</b>	<b>Remitted</b>	<b>Project Description</b>	<b>Award Balance</b>	<b>Billing Complete?</b>
ML05007	Los Angeles County Dept of Beache	6/23/2006	6/22/2007	12/22/2007	\$50,000.00	\$0.00	5 Medium Duty CNG Vehicles	\$50,000.00	No
ML05009	Los Angeles County Department of	6/22/2006	12/21/2007	9/30/2011	\$56,666.00	\$0.00	2 Propane Refueling Stations	\$56,666.00	No
ML05012	Los Angeles County Department of	11/10/2006	5/9/2008	1/9/2009	\$349,000.00	\$0.00	Traffic Signal Synchronization (LADOT)	\$349,000.00	No
ML05023	City of La Canada Flintridge	3/30/2005	2/28/2006	8/28/2008	\$20,000.00	\$0.00	1 CNG Bus	\$20,000.00	No

**Total: 4**

Cont.#	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
--------	------------	------------	-------------------	------------------	----------------	----------	---------------------	---------------	-------------------

### **FY 2005-2006 Contracts**

#### **Open Contracts**

ML06031	City of Inglewood	4/4/2007	6/3/2013	9/3/2015	\$150,000.00	\$65,602.40	Purchase 4 H-D LPG Vehicles & Install LPG	\$84,397.60	No
ML06035	City of Hemet, Public Works	11/10/2006	12/9/2012	1/9/2017	\$338,107.00	\$175,000.00	7 Nat Gas Trucks & New Nat Gas Infrastruct	\$163,107.00	No
ML06054	Los Angeles County Department of	6/17/2009	6/16/2016		\$150,000.00	\$0.00	3 CNG & 3 LPG HD Trucks	\$150,000.00	No
ML06070	City of Colton	4/30/2008	2/28/2015	4/30/2015	\$50,000.00	\$0.00	Two CNG Pickups	\$50,000.00	No
ML06071	City of Santa Monica	6/13/2014		11/30/2016	\$149,925.00	\$149,925.00	3 H.D. CNG Trucks & CNG Fueling Station	\$0.00	No

**Total: 5**

#### **Declined/Cancelled Contracts**

ML06018	Los Angeles County Dept of Beache				\$375,000.00	\$0.00	New CNG Station & 2 CNG Dump Trucks	\$375,000.00	No
ML06019	Los Angeles County Dept of Beache				\$250,000.00	\$0.00	New CNG Station & 2 CNG Dump Trucks	\$250,000.00	No
ML06023	City of Baldwin Park	6/16/2006	9/15/2012		\$20,000.00	\$0.00	CNG Dump Truck	\$20,000.00	No
ML06024	City of Pomona	8/3/2007	7/2/2013	7/2/2014	\$286,450.00	\$0.00	New CNG Station	\$286,450.00	No
ML06030	City of Burbank	3/19/2007	9/18/2011		\$287,700.00	\$0.00	New CNG Fueling Station	\$287,700.00	No
ML06037	City of Lynwood				\$25,000.00	\$0.00	1 Nat Gas Dump Truck	\$25,000.00	No
ML06039	City of Inglewood	2/9/2007	2/8/2008	4/8/2011	\$50,000.00	\$0.00	Modify Maintenance Facility for CNG Vehicle	\$50,000.00	No
ML06055	City of Los Angeles, Dept. of Genera				\$125,000.00	\$0.00	5 Gas-Electric Hybrid Buses	\$125,000.00	No
ML06059	City of Fountain Valley				\$25,000.00	\$0.00	One H.D. CNG Truck	\$25,000.00	No
MS06009	Clean Energy Fuels Corp.	6/23/2006	12/22/2012		\$250,000.00	\$0.00	New CNG Station - Laguna Niguel	\$250,000.00	Yes
MS06040	Capistrano Unified School District				\$136,000.00	\$0.00	New CNG Fueling Station	\$136,000.00	No
MS06041	Clean Energy Fuels Corp.	12/1/2006	3/31/2013	6/18/2009	\$250,000.00	\$0.00	New CNG Station-Newport Beach	\$250,000.00	No
MS06046	City of Long Beach, Dept. of Public				\$250,000.00	\$0.00	LNG Fueling Station	\$250,000.00	No
MS06051	Menifee Union School District	3/2/2007	7/1/2014		\$150,000.00	\$0.00	CNG Fueling Station	\$150,000.00	No

**Total: 14**

#### **Closed Contracts**

ML06016	City of Whittier	5/25/2006	5/24/2012	11/24/2012	\$50,000.00	\$50,000.00	2 CNG Refuse Trucks	\$0.00	Yes
ML06017	City of Claremont	8/2/2006	4/1/2012		\$50,000.00	\$50,000.00	2 CNG Refuse Trucks	\$0.00	Yes
ML06020	Los Angeles Department of Water a	3/19/2007	9/18/2013	4/18/2014	\$25,000.00	\$25,000.00	CNG Aerial Truck	\$0.00	Yes
ML06021	Los Angeles World Airports	9/13/2006	5/12/2013		\$150,000.00	\$150,000.00	6 CNG Buses	\$0.00	Yes
ML06022	City of Los Angeles, Bureau of Sanit	5/4/2007	1/3/2014		\$1,250,000.00	\$1,250,000.00	50 LNG Refuse Trucks	\$0.00	Yes
ML06025	City of Santa Monica	1/5/2007	11/4/2012	12/14/2014	\$300,000.00	\$300,000.00	12 H.D. CNG Vehicles	\$0.00	Yes
ML06026	City of Cerritos	10/27/2006	9/26/2010		\$60,500.00	\$60,500.00	CNG Station Upgrade	\$0.00	Yes
ML06027	City of Redondo Beach	9/5/2006	5/4/2012	10/4/2012	\$50,000.00	\$50,000.00	2 Heavy-Duty CNG Trucks	\$0.00	Yes
ML06028	City of Pasadena	9/29/2006	11/28/2012	3/28/2014	\$245,000.00	\$245,000.00	New CNG Station & Maint. Fac. Upgrades	\$0.00	Yes
ML06029	City of Culver City Transportation De	9/29/2006	8/28/2012	12/28/2012	\$50,000.00	\$50,000.00	2 CNG Heavy-Duty Trucks	\$0.00	Yes
ML06032	City of Rancho Cucamonga	2/13/2007	3/12/2013	2/12/2014	\$237,079.00	\$237,079.00	New CNG Station & 2 CNG Dump Trucks	\$0.00	Yes

Cont.#	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
ML06033	City of Cathedral City	11/17/2006	12/16/2012	12/16/2013	\$125,000.00	\$125,000.00	5 Heavy-Duty CNG Trucks	\$0.00	Yes
ML06034	City of South Pasadena	9/25/2006	9/24/2012		\$16,422.42	\$16,422.42	2 Nat. Gas Transit Buses	\$0.00	Yes
ML06036	City of Riverside	3/23/2007	3/22/2013		\$200,000.00	\$200,000.00	8 Heavy-Duty Nat Gas Vehicles	\$0.00	Yes
ML06038	City of Los Angeles, Department of	5/21/2007	1/20/2014		\$625,000.00	\$625,000.00	25 CNG Street Sweepers	\$0.00	Yes
ML06044	City of Pomona	12/15/2006	3/14/2013		\$50,000.00	\$50,000.00	2 CNG Street Sweepers	\$0.00	Yes
ML06052	City of Hemet, Public Works	4/20/2007	2/19/2013		\$25,000.00	\$25,000.00	Purchase One CNG Dump Truck	\$0.00	Yes
ML06053	City of Burbank	5/4/2007	7/3/2013		\$125,000.00	\$125,000.00	Five Nat. Gas Refuse Trucks	\$0.00	Yes
ML06056	City of Los Angeles, Dept. of Genera	11/30/2007	11/29/2008		\$350,000.00	\$350,000.00	Maintenance Facility Mods.	\$0.00	Yes
ML06057	City of Rancho Cucamonga	8/28/2007	6/27/2013	8/27/2014	\$100,000.00	\$100,000.00	4 H.D. Nat. Gas Vehicles	\$0.00	Yes
ML06058	City of Santa Monica	7/12/2007	7/11/2013		\$149,925.00	\$0.00	3 H.D. CNG Trucks & CNG Fueling Station	\$149,925.00	No
ML06060	City of Temple City	6/12/2007	6/11/2013		\$31,885.00	\$0.00	Upgrade existing CNG infrastructure	\$31,885.00	No
ML06061	City of Chino Hills	4/30/2007	4/29/2013		\$25,000.00	\$25,000.00	One H.D. CNG Vehicle	\$0.00	Yes
ML06062	City of Redlands	5/11/2007	5/10/2013		\$100,000.00	\$100,000.00	4 H.D. LNG Vehicles	\$0.00	Yes
ML06063	City of Moreno Valley	3/23/2007	11/22/2012		\$25,000.00	\$25,000.00	One H.D. CNG Vehicle	\$0.00	Yes
ML06064	City of South Pasadena	1/25/2008	11/24/2013	11/24/2014	\$50,000.00	\$50,000.00	2 H.D. CNG Vehicles	\$0.00	Yes
ML06065	City of Walnut	6/29/2007	6/28/2013		\$44,203.00	\$44,203.00	Upgrade Existing CNG Infrastructure	\$0.00	Yes
ML06066	City of Ontario, Housing & Municipal	5/30/2007	1/29/2013		\$125,000.00	\$125,000.00	5 H.D. CNG Vehicles	\$0.00	Yes
ML06067	City of El Monte	3/17/2008	5/16/2014	11/16/2014	\$157,957.00	\$157,957.00	Upgrade existing CNG infrastructure	\$0.00	Yes
ML06068	City of Claremont	8/28/2007	6/27/2013		\$60,000.00	\$60,000.00	Expand existing CNG infrastructure	\$0.00	Yes
ML06069	City of Palos Verdes Estates	11/19/2007	11/18/2013		\$25,000.00	\$25,000.00	One H.D. CNG Vehicle	\$0.00	Yes
MS06001	Riverside County Transportation Co	8/3/2007	9/2/2011		\$825,037.00	\$825,037.00	New Freeway Service Patrol	\$0.00	Yes
MS06002	Orange County Transportation Autho	11/7/2007	11/6/2013		\$928,740.00	\$925,091.00	New Freeway Service Patrol	\$3,649.00	Yes
MS06003	San Bernardino Associated Govern	10/19/2006	6/18/2010		\$804,240.00	\$804,239.87	New Freeway Service Patrol	\$0.13	Yes
MS06004	Los Angeles County MTA	8/10/2006	7/9/2010		\$1,391,983.00	\$1,391,791.98	New Freeway Service Patrol	\$191.02	Yes
MS06010	US Airconditioning Distributors	12/28/2006	6/27/2012		\$83,506.00	\$83,506.00	New CNG Station - Industry	\$0.00	Yes
MS06011	County Sanitation Districts of L.A. C	6/1/2006	7/31/2012		\$150,000.00	\$150,000.00	New CNG Station - Carson	\$0.00	Yes
MS06012	Consolidated Disposal Service	7/14/2006	9/13/2012	9/13/2014	\$297,981.00	\$297,981.00	New LNG Station & Facility Upgrades	\$0.00	Yes
MS06042	Clean Energy Fuels Corp.	1/5/2007	1/4/2013		\$150,000.00	\$150,000.00	New CNG Station-Baldwin Park	\$0.00	Yes
MS06043X	Westport Fuel Systems, Inc.	2/3/2007	12/31/2010	9/30/2011	\$2,000,000.00	\$2,000,000.00	Advanced Natural Gas Engine Incentive Pro	\$0.00	Yes
MS06045	Orange County Transportation Autho	8/17/2007	12/16/2013		\$200,000.00	\$200,000.00	CNG Fueling Station/Maint. Fac. Mods	\$0.00	Yes
MS06047	Hemet Unified School District	9/19/2007	11/18/2013		\$125,000.00	\$125,000.00	CNG Refueling Station	\$0.00	Yes
MS06048	Newport-Mesa Unified School Distric	6/25/2007	8/24/2013	8/24/2014	\$50,000.00	\$50,000.00	CNG Fueling Station	\$0.00	Yes
MS06050	Rossmoor Pastries	1/24/2007	10/23/2012		\$18,750.00	\$14,910.50	CNG Fueling Station	\$3,839.50	Yes
<b>Total: 44</b>									
<b>Open/Complete Contracts</b>									
MS06013	City of Commerce	1/9/2008	7/8/2014	7/8/2015	\$350,000.00	\$350,000.00	New L/CNG Station - Commerce	\$0.00	Yes
MS06049	Clean Energy Fuels Corp.	4/20/2007	7/19/2013	11/30/2015	\$250,000.00	\$228,491.18	CNG Fueling Station - L.B.P.D.	\$21,508.82	Yes

Cont.#	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
--------	------------	------------	-------------------	------------------	----------------	----------	---------------------	---------------	-------------------

## FY 2006-2007 Contracts

### Open Contracts

ML07044	City of Santa Monica	9/8/2008	3/7/2015	3/7/2017	\$600,000.00	\$50,000.00	24 H.D. Nat. Gas Vehicles	\$550,000.00	No
ML07045	City of Inglewood	2/6/2009	4/5/2015		\$75,000.00	\$25,000.00	3 H.D. Nat. Gas Vehicles	\$50,000.00	No
MS07022	CSULA Hydrogen Station and Resea	10/30/2009	12/29/2015	10/29/2019	\$250,000.00	\$0.00	New Hydrogen Fueling Station	\$250,000.00	No
MS07070	Griffith Company	4/30/2008	2/28/2010	8/28/2012	\$168,434.00	\$125,504.00	Off-Road Diesel Equipment Retrofit Program	\$42,930.00	No
MS07080	City of Los Angeles, Bureau of Sanit	10/31/2008	8/30/2010	8/28/2016	\$63,192.00	\$62,692.00	Off-Road Diesel Equipment Retrofit Program	\$500.00	No

**Total: 5**

### Declined/Cancelled Contracts

ML07031	City of Santa Monica				\$180,000.00	\$0.00	Upgrade N.G. Station to Add Hythane	\$180,000.00	No
ML07032	City of Huntington Beach Public Wor				\$25,000.00	\$0.00	One H.D. CNG Vehicle	\$25,000.00	No
ML07035	City of Los Angeles, General Service				\$350,000.00	\$0.00	New CNG Refueling Station/Southeast Yard	\$350,000.00	No
ML07038	City of Palos Verdes Estates				\$25,000.00	\$0.00	One H.D. LPG Vehicle	\$25,000.00	No
MS07010	Palos Verdes Peninsula Transit Auth				\$80,000.00	\$0.00	Repower 4 Transit Buses	\$80,000.00	No
MS07014	Clean Energy Fuels Corp.				\$350,000.00	\$0.00	New L/CNG Station - SERRF	\$350,000.00	No
MS07015	Baldwin Park Unified School District				\$57,500.00	\$0.00	New CNG Station	\$57,500.00	No
MS07016	County of Riverside Fleet Services D				\$36,359.00	\$0.00	New CNG Station - Rubidoux	\$36,359.00	No
MS07017	County of Riverside Fleet Services D				\$33,829.00	\$0.00	New CNG Station - Indio	\$33,829.00	No
MS07018	City of Cathedral City				\$350,000.00	\$0.00	New CNG Station	\$350,000.00	No
MS07021	City of Riverside				\$350,000.00	\$0.00	New CNG Station	\$350,000.00	No
MS07050	Southern California Disposal Co.				\$320,000.00	\$0.00	Ten Nat. Gas Refuse Trucks	\$320,000.00	No
MS07062	Caltrans Division of Equipment				\$1,081,818.00	\$0.00	Off-Road Diesel Equipment Retrofit Program	\$1,081,818.00	No
MS07065	ECCO Equipment Corp.				\$174,525.00	\$0.00	Off-Road Diesel Equipment Retrofit Program	\$174,525.00	No
MS07067	Recycled Materials Company of Calif				\$99,900.00	\$0.00	Off-Road Diesel Equipment Retrofit Program	\$99,900.00	No
MS07069	City of Burbank	5/9/2008	3/8/2010	9/8/2011	\$8,895.00	\$0.00	Off-Road Diesel Equipment Retrofit Program	\$8,895.00	No
MS07074	Albert W. Davies, Inc.	1/25/2008	11/24/2009		\$39,200.00	\$0.00	Off-Road Diesel Equipment Retrofit Program	\$39,200.00	No
MS07081	Clean Diesel Technologies, Inc.				\$240,347.00	\$0.00	Off-Road Diesel Equipment Retrofit Program	\$240,347.00	No
MS07082	DCL International, Inc.				\$153,010.00	\$0.00	Off-Road Diesel Equipment Retrofit Program	\$153,010.00	No
MS07083	Dinex Exhausts, Inc.				\$52,381.00	\$0.00	Off-Road Diesel Equipment Retrofit Program	\$52,381.00	No
MS07084	Donaldson Company, Inc.				\$42,416.00	\$0.00	Off-Road Diesel Equipment Retrofit Program	\$42,416.00	No
MS07085	Engine Control Systems Limited				\$155,746.00	\$0.00	Off-Road Diesel Equipment Retrofit Program	\$155,746.00	No
MS07086	Huss, LLC				\$84,871.00	\$0.00	Off-Road Diesel Equipment Retrofit Program	\$84,871.00	No
MS07087	Mann+Hummel GmbH				\$189,361.00	\$0.00	Off-Road Diesel Equipment Retrofit Program	\$189,361.00	No
MS07088	Nett Technologies, Inc.				\$118,760.00	\$0.00	Off-Road Diesel Equipment Retrofit Program	\$118,760.00	No
MS07089	Rypos, Inc.				\$68,055.00	\$0.00	Off-Road Diesel Equipment Retrofit Program	\$68,055.00	No
MS07090	Sud-Chemie				\$27,345.00	\$0.00	Off-Road Diesel Equipment Retrofit Program	\$27,345.00	No

Cont.#	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
<b>Total: 27</b>									
<b>Closed Contracts</b>									
ML07025	City of San Bernardino	8/12/2008	7/11/2010		\$350,000.00	\$350,000.00	Maintenance Facility Modifications	\$0.00	Yes
ML07026	City of South Pasadena	6/13/2008	6/12/2014		\$25,000.00	\$25,000.00	One H.D. CNG Vehicle	\$0.00	Yes
ML07027	Los Angeles World Airports	6/3/2008	7/2/2014		\$25,000.00	\$25,000.00	One H.D. LNG Vehicle	\$0.00	Yes
ML07028	City of Los Angeles, General Service	3/13/2009	3/12/2014		\$350,000.00	\$350,000.00	New CNG Refueling Station/Hollywood Yard	\$0.00	Yes
ML07029	City of Los Angeles, General Service	3/13/2009	3/12/2014		\$350,000.00	\$350,000.00	New CNG Refueling Station/Venice Yard	\$0.00	Yes
ML07033	City of La Habra	5/21/2008	6/20/2014	11/30/2013	\$25,000.00	\$25,000.00	One H.D. Nat Gas Vehicle	\$0.00	Yes
ML07034	City of Los Angeles, General Service	3/13/2009	3/12/2014		\$350,000.00	\$350,000.00	New CNG Refueling Station/Van Nuys Yard	\$0.00	Yes
ML07036	City of Alhambra	1/23/2009	2/22/2015		\$50,000.00	\$50,000.00	2 H.D. CNG Vehicles	\$0.00	Yes
ML07040	City of Moreno Valley	6/3/2008	9/2/2014		\$25,000.00	\$25,000.00	One Heavy-Duty CNG Vehicle	\$0.00	Yes
ML07041	City of La Quinta	6/6/2008	6/5/2014		\$25,000.00	\$25,000.00	One CNG Street Sweeper	\$0.00	Yes
ML07042	City of La Quinta	8/15/2008	9/14/2010		\$100,000.00	\$100,000.00	Street Sweeping Operations	\$0.00	Yes
ML07046	City of Culver City Transportation De	5/2/2008	5/1/2014		\$25,000.00	\$25,000.00	One H.D. Nat. Gas Vehicle	\$0.00	Yes
ML07048	City of Cathedral City	9/19/2008	10/18/2010		\$100,000.00	\$84,972.45	Street Sweeping Operations	\$15,027.55	Yes
MS07001	A-Z Bus Sales, Inc.	12/28/2006	12/31/2007	2/29/2008	\$1,920,000.00	\$1,380,000.00	CNG School Bus Buydown	\$540,000.00	Yes
MS07002	BusWest	1/19/2007	12/31/2007	3/31/2008	\$840,000.00	\$840,000.00	CNG School Bus Buydown	\$0.00	Yes
MS07003	Westport Fuel Systems, Inc.	11/2/2007	12/31/2011	6/30/2013	\$1,500,000.00	\$1,499,990.00	Advanced Nat. Gas Engine Incentive Progra	\$10.00	Yes
MS07005	S-W Compressors	3/17/2008	3/16/2010		\$60,000.00	\$7,500.00	Mountain CNG School Bus Demo Program-	\$52,500.00	Yes
MS07006	Coachella Valley Association of Gov	2/28/2008	10/27/2008		\$400,000.00	\$400,000.00	Coachella Valley PM10 Reduction Street Sw	\$0.00	Yes
MS07011	L A Service Authority for Freeway E	3/12/2010	5/31/2011	9/30/2011	\$700,000.00	\$700,000.00	"511" Commuter Services Campaign	\$0.00	Yes
MS07012	City of Los Angeles, General Service	6/13/2008	6/12/2009	6/12/2010	\$50,000.00	\$50,000.00	Maintenance Facility Modifications	\$0.00	Yes
MS07013	Rainbow Disposal Company, Inc.	1/25/2008	3/24/2014	9/24/2014	\$350,000.00	\$350,000.00	New High-Volume CNG Station	\$0.00	Yes
MS07019	City of Cathedral City	1/9/2009	6/8/2010		\$32,500.00	\$32,500.00	Maintenance Facility Modifications	\$0.00	Yes
MS07055	City of Culver City Transportation De	7/8/2008	9/7/2014		\$192,000.00	\$192,000.00	Six Nat. Gas Refuse Trucks	\$0.00	Yes
MS07058	The Better World Group	11/17/2007	11/16/2009	11/16/2011	\$247,690.00	\$201,946.21	MSRC Programmatic Outreach Services	\$45,743.79	Yes
MS07059	County Sanitation Districts of L.A. C	9/5/2008	9/4/2010	7/14/2012	\$231,500.00	\$231,500.00	Off-Road Diesel Equipment Retrofit Program	\$0.00	Yes
MS07060	Community Recycling & Resource R	3/7/2008	1/6/2010	7/6/2011	\$177,460.00	\$98,471.00	Off-Road Diesel Equipment Retrofit Program	\$78,989.00	Yes
MS07061	City of Los Angeles, Department of	10/31/2008	8/30/2010	2/28/2013	\$40,626.00	\$40,626.00	Off-Road Diesel Equipment Retrofit Program	\$0.00	Yes
MS07063	Shimmick Construction Company, In	4/26/2008	2/25/2010	8/25/2011	\$80,800.00	\$11,956.37	Off-Road Diesel Equipment Retrofit Program	\$68,843.63	No
MS07064	Altfillisch Contractors, Inc.	9/19/2008	7/18/2010	1/18/2011	\$160,000.00	\$155,667.14	Off-Road Diesel Equipment Retrofit Program	\$4,332.86	Yes
MS07068	Sukut Equipment Inc.	1/23/2009	11/22/2010	5/22/2012	\$26,900.00	\$26,900.00	Off-Road Diesel Equipment Retrofit Program	\$0.00	Yes
MS07071	Tiger 4 Equipment Leasing	9/19/2008	7/18/2010	1/18/2013	\$210,937.00	\$108,808.97	Off-Road Diesel Equipment Retrofit Program	\$102,128.03	Yes
MS07072	City of Culver City Transportation De	4/4/2008	2/3/2010	8/3/2011	\$72,865.00	\$72,865.00	Off-Road Diesel Equipment Retrofit Program	\$0.00	Yes
MS07075	Dan Copp Crushing	9/17/2008	7/16/2010	1/16/2012	\$73,600.00	\$40,200.00	Off-Road Diesel Equipment Retrofit Program	\$33,400.00	No
MS07076	Reed Thomas Company, Inc.	8/15/2008	6/14/2010	3/14/2012	\$339,073.00	\$100,540.00	Off-Road Diesel Equipment Retrofit Program	\$238,533.00	No
MS07079	Riverside County Transportation Co	1/30/2009	7/29/2013	12/31/2011	\$20,000.00	\$15,165.45	BikeMetro Website Migration	\$4,834.55	Yes



Cont.#	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
MS07091	BusWest	10/16/2009	3/15/2010		\$33,660.00	\$33,660.00	Provide Lease for 2 CNG School Buses	\$0.00	Yes
MS07092	Riverside County Transportation Co	9/1/2010	10/31/2011		\$350,000.00	\$350,000.00	"511" Commuter Services Campaign	\$0.00	Yes

**Total: 37**

**Closed/Incomplete Contracts**

MS07004	BusWest	7/2/2007	7/1/2009		\$90,928.00	\$68,196.00	Provide Lease for 2 CNG School Buses	\$22,732.00	No
MS07066	Skanska USA Civil West California D	6/28/2008	4/27/2010	10/27/2010	\$111,700.00	\$36,128.19	Off-Road Diesel Equipment Retrofit Program	\$75,571.81	No
MS07073	PEED Equipment Co.	10/31/2008	8/30/2010		\$11,600.00	\$0.00	Off-Road Diesel Equipment Retrofit Program	\$11,600.00	No

**Total: 3**

**Open/Complete Contracts**

ML07023	City of Riverside	6/20/2008	10/19/2014	7/19/2016	\$462,500.00	\$461,476.42	CNG Station Expansion/Purch. 14 H.D. Vehi	\$1,023.58	No
ML07024	City of Garden Grove	3/7/2008	9/6/2014	7/6/2016	\$75,000.00	\$75,000.00	Three H.D. CNG Vehicles	\$0.00	Yes
ML07030	County of San Bernardino Public Wo	7/11/2008	9/10/2015		\$200,000.00	\$200,000.00	8 Natural Gas H.D. Vehicles	\$0.00	Yes
ML07037	City of Los Angeles, General Service	10/8/2008	10/7/2015		\$255,222.00	\$255,222.00	Upgrade LNG/LCNG Station/East Valley Yar	\$0.00	Yes
ML07039	City of Baldwin Park	6/6/2008	6/5/2014	8/5/2015	\$50,000.00	\$50,000.00	Two N.G. H.D. Vehicles	\$0.00	Yes
ML07043	City of Redondo Beach	9/28/2008	7/27/2014	10/27/2016	\$125,000.00	\$125,000.00	Five H.D. CNG Transit Vehicles	\$0.00	Yes
ML07047	City of Cathedral City	6/16/2008	9/15/2014	3/15/2015	\$225,000.00	\$225,000.00	Two H.D. Nat. Gas Vehicles/New CNG Fueli	\$0.00	Yes
MS07007	Los Angeles World Airports	5/2/2008	11/1/2014		\$420,000.00	\$420,000.00	Purchase CNG 21 Transit Buses	\$0.00	Yes
MS07008	City of Los Angeles, Department of T	9/18/2009	5/17/2020	9/17/2017	\$1,900,000.00	\$1,900,000.00	Purchase 95 Transit Buses	\$0.00	Yes
MS07009	Orange County Transportation Autho	5/14/2008	4/13/2016		\$800,000.00	\$800,000.00	Purchase 40 Transit Buses	\$0.00	Yes
MS07020	Avery Petroleum	5/20/2009	7/19/2015		\$250,000.00	\$250,000.00	New CNG Station	\$0.00	Yes
MS07049	Palm Springs Disposal Services	10/23/2008	11/22/2014	9/22/2016	\$96,000.00	\$96,000.00	Three Nat. Gas Refuse Trucks	\$0.00	Yes
MS07051	City of San Bernardino	8/12/2008	12/11/2014		\$480,000.00	\$480,000.00	15 Nat. Gas Refuse Trucks	\$0.00	Yes
MS07052	City of Redlands	7/30/2008	11/29/2014		\$160,000.00	\$160,000.00	Five Nat. Gas Refuse Trucks	\$0.00	Yes
MS07053	City of Claremont	7/31/2008	12/30/2014		\$96,000.00	\$96,000.00	Three Nat. Gas Refuse Trucks	\$0.00	Yes
MS07054	Republic Services, Inc.	3/7/2008	9/6/2014	9/6/2016	\$1,280,000.00	\$1,280,000.00	40 Nat. Gas Refuse Trucks	\$0.00	Yes
MS07056	City of Whittier	9/5/2008	3/4/2015		\$32,000.00	\$32,000.00	One Nat. Gas Refuse Trucks	\$0.00	Yes
MS07057	CR&R, Inc.	7/31/2008	8/30/2014	6/30/2015	\$896,000.00	\$896,000.00	28 Nat. Gas Refuse Trucks	\$0.00	No
MS07077	USA Waste of California, Inc.	5/1/2009	12/31/2014		\$160,000.00	\$160,000.00	Five Nat. Gas Refuse Trucks (Santa Ana)	\$0.00	Yes
MS07078	USA Waste of California, Inc.	5/1/2009	12/31/2014	12/31/2015	\$256,000.00	\$256,000.00	Eight Nat. Gas Refuse Trucks (Dewey's)	\$0.00	Yes

**Total: 20**

Cont.#	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
--------	------------	------------	-------------------	------------------	----------------	----------	---------------------	---------------	-------------------

### **FY 2007-2008 Contracts**

#### **Open Contracts**

ML08028	City of Santa Monica	9/11/2009	9/10/2016	5/10/2019	\$600,000.00	\$0.00	24 CNG Heavy-Duty Vehicles	\$600,000.00	No
ML08030	City of Azusa	5/14/2010	3/13/2016		\$25,000.00	\$0.00	1 LPG Heavy-Duty Vehicle	\$25,000.00	No
ML08040	City of Riverside	9/11/2009	9/10/2016	3/10/2019	\$455,500.00	\$28,124.80	16 CNG Vehicles, Expand CNG Station & M	\$427,375.20	No
ML08043	City of Desert Hot Springs	9/25/2009	3/24/2016		\$25,000.00	\$0.00	1 CNG Heavy-Duty Vehicle	\$25,000.00	No
ML08080	City of Irvine	5/1/2009	5/31/2015		\$50,000.00	\$0.00	Two Heavy-Duty Nat. Gas Vehicles	\$50,000.00	No
MS08007	United Parcel Service West Region	12/10/2008	10/9/2014	4/9/2019	\$300,000.00	\$0.00	10 H.D. Nat. Gas Vehicles	\$300,000.00	No
MS08013	United Parcel Service West Region	12/10/2008	10/9/2014	3/9/2019	\$480,000.00	\$216,000.00	12 H.D. Nat. Gas Yard Tractors	\$264,000.00	No
MS08015	Yosemite Waters	5/12/2009	5/11/2015		\$180,000.00	\$117,813.60	11 H.D. Propane Vehicles	\$62,186.40	No
MS08018	Los Angeles County Department of	8/7/2009	10/6/2016	4/6/2018	\$60,000.00	\$0.00	2 CNG Vehicles	\$60,000.00	No
MS08058	Clean Energy Fuels Corp.	11/26/2009	3/25/2016	3/25/2017	\$400,000.00	\$240,000.00	New CNG Station - Ontario Airport	\$160,000.00	No
MS08068	Regents of the University of Californi	11/5/2010	11/4/2017	11/4/2019	\$400,000.00	\$0.00	Hydrogen Station	\$400,000.00	No

**Total: 11**

#### **Declined/Cancelled Contracts**

ML08032	City of Irvine	5/1/2009	8/31/2010		\$9,000.00	\$0.00	36 Vehicles (Diagnostic)	\$9,000.00	No
ML08041	City of Los Angeles, Dept of Transpo	8/6/2010	7/5/2011	12/5/2011	\$8,800.00	\$0.00	73 Vehicles (Diagnostic)	\$8,800.00	No
ML08049	City of Cerritos	3/20/2009	1/19/2015	2/19/2017	\$25,000.00	\$0.00	1 CNG Heavy-Duty Vehicle	\$25,000.00	No
ML08051	City of Colton				\$75,000.00	\$0.00	3 CNG Heavy-Duty Vehicles	\$75,000.00	No
MS08002	Orange County Transportation Autho				\$1,500,000.00	\$0.00	Big Rig Freeway Service Patrol	\$1,500,000.00	No
MS08008	Diversified Truck Rental & Leasing				\$300,000.00	\$0.00	10 H.D. Nat. Gas Vehicles	\$300,000.00	No
MS08010	Orange County Transportation Autho				\$10,000.00	\$0.00	20 H.D. Nat. Gas Vehicles	\$10,000.00	No
MS08011	Green Fleet Systems, LLC				\$10,000.00	\$0.00	30 H.D. Nat. Gas Vehicles	\$10,000.00	No
MS08052	Burrtec Waste Industries, Inc.	12/24/2008	11/23/2014	11/23/2015	\$100,000.00	\$0.00	New CNG Station - Fontana	\$100,000.00	No
MS08054	Clean Energy Fuels Corp.				\$400,000.00	\$0.00	New LNG Station - Fontana	\$400,000.00	No
MS08055	Clean Energy Fuels Corp.	11/26/2009	3/25/2016	3/25/2017	\$400,000.00	\$0.00	New LNG Station - Long Beach-Pier S	\$400,000.00	No
MS08059	Burrtec Waste Industries, Inc.	12/24/2008	11/23/2014		\$100,000.00	\$0.00	New CNG Station - San Bernardino	\$100,000.00	No
MS08060	Burrtec Waste Industries, Inc.	12/24/2008	11/23/2014		\$100,000.00	\$0.00	New CNG Station - Azusa	\$100,000.00	No
MS08062	Go Natural Gas	9/25/2009	1/24/2016	1/24/2017	\$400,000.00	\$0.00	New CNG Station - Rialto	\$400,000.00	No
MS08074	Fontana Unified School District	11/14/2008	12/13/2014		\$200,000.00	\$0.00	Expansion of Existing CNG station	\$200,000.00	No
MS08077	Hythane Company, LLC				\$144,000.00	\$0.00	Upgrade Station to Hythane	\$144,000.00	No

**Total: 16**

#### **Closed Contracts**

ML08023	City of Villa Park	11/7/2008	10/6/2012		\$6,500.00	\$5,102.50	Upgrade of Existing Refueling Facility	\$1,397.50	Yes
ML08027	Los Angeles County Department of	7/20/2009	1/19/2011	1/19/2012	\$6,901.00	\$5,124.00	34 Vehicles (Diagnostic)	\$1,777.00	No
ML08029	City of Gardena	3/19/2009	1/18/2015		\$25,000.00	\$25,000.00	1 Propane Heavy-Duty Vehicle	\$0.00	Yes

Cont.#	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
ML08033	County of San Bernardino Public Wo	4/3/2009	2/2/2010		\$14,875.00	\$14,875.00	70 Vehicles (Diagnostic)	\$0.00	Yes
ML08035	City of La Verne	3/6/2009	11/5/2009		\$11,925.00	\$11,925.00	53 Vehicles (Diagnostic)	\$0.00	Yes
ML08036	City of South Pasadena	5/12/2009	7/11/2013		\$169,421.00	\$169,421.00	New CNG Station	\$0.00	Yes
ML08045	City of Santa Clarita	2/20/2009	6/19/2010		\$3,213.00	\$3,150.00	14 Vehicles (Diagnostic)	\$63.00	Yes
ML08046	City of Paramount	2/20/2009	2/19/2015		\$25,000.00	\$25,000.00	1 CNG Heavy-Duty Vehicle	\$0.00	Yes
MS08001	Los Angeles County MTA	12/10/2010	6/9/2014		\$1,500,000.00	\$1,499,999.66	Big Rig Freeway Service Patrol	\$0.34	Yes
MS08003	A-Z Bus Sales, Inc.	5/2/2008	12/31/2008	2/28/2009	\$1,480,000.00	\$1,400,000.00	Alternative Fuel School Bus Incentive Progr	\$80,000.00	Yes
MS08004	BusWest	5/2/2008	12/31/2008		\$1,440,000.00	\$1,440,000.00	Alternative Fuel School Bus Incentive Progr	\$0.00	Yes
MS08016	TransVironmental Solutions, Inc.	1/23/2009	12/31/2010	9/30/2011	\$227,198.00	\$80,351.34	Rideshare 2 School Program	\$146,846.66	Yes
MS08065	Pupil Transportation Cooperative	11/20/2008	7/19/2014		\$10,500.00	\$10,500.00	Existing CNG Station Modifications	\$0.00	Yes
MS08071	ABC Unified School District	1/16/2009	1/15/2015		\$63,000.00	\$63,000.00	New CNG Station	\$0.00	Yes
MS08075	Disneyland Resort	12/10/2008	2/1/2015		\$200,000.00	\$200,000.00	Expansion of Existing CNG Infrastructure	\$0.00	Yes
MS09002	A-Z Bus Sales, Inc.	11/7/2008	12/31/2009	12/31/2010	\$2,520,000.00	\$2,460,000.00	Alternative Fuel School Bus Incentive Progr	\$60,000.00	No
MS09004	A-Z Bus Sales, Inc.	1/30/2009	3/31/2009		\$156,000.00	\$156,000.00	Alternative Fuel School Bus Incentive Progr	\$0.00	Yes
MS09047	BusWest	7/9/2010	12/31/2010	4/30/2011	\$480,000.00	\$480,000.00	Alternative Fuel School Bus Incentive Progr	\$0.00	Yes

**Total: 18**

**Closed/Incomplete Contracts**

ML08025	Los Angeles County Department of	10/30/2009	3/29/2011		\$75,000.00	\$0.00	150 Vehicles (Diagnostic)	\$75,000.00	No
MS08079	ABC Unified School District	1/16/2009	12/15/2009	12/15/2010	\$50,000.00	\$0.00	Maintenance Facility Modifications	\$50,000.00	No

**Total: 2**

**Open/Complete Contracts**

ML08024	City of Anaheim	7/9/2010	7/8/2017	1/8/2018	\$425,000.00	\$425,000.00	9 LPG Buses and 8 CNG Buses	\$0.00	No
ML08026	Los Angeles County Department of	7/20/2009	7/19/2016		\$250,000.00	\$250,000.00	10 LPG Heavy-Duty Vehicles	\$0.00	Yes
ML08031	City of Claremont	3/27/2009	3/26/2013	3/26/2015	\$97,500.00	\$97,500.00	Upgrade of Existing CNG Station, Purchase	\$0.00	Yes
ML08034	County of San Bernardino Public Wo	3/27/2009	7/26/2015		\$150,000.00	\$150,000.00	8 CNG Heavy-Duty Vehicles	\$0.00	Yes
ML08037	City of Glendale	5/20/2009	5/19/2015		\$325,000.00	\$325,000.00	13 CNG Heavy-Duty Vehicles	\$0.00	Yes
ML08038	Los Angeles Department of Water a	7/16/2010	7/15/2017		\$1,050,000.00	\$1,050,000.00	42 CNG Heavy-Duty Vehicles	\$0.00	Yes
ML08039	City of Rancho Palos Verdes	6/5/2009	8/4/2015		\$50,000.00	\$50,000.00	2 LPG Transit Buses	\$0.00	Yes
ML08042	City of Ontario, Housing & Municipal	5/1/2009	1/31/2016		\$175,000.00	\$175,000.00	7 CNG Heavy-Duty Vehicles	\$0.00	Yes
ML08044	City of Chino	3/19/2009	3/18/2015		\$25,000.00	\$25,000.00	1 CNG Heavy-Duty Vehicle	\$0.00	Yes
ML08047	City of Culver City Transportation De	5/12/2009	8/11/2015		\$150,000.00	\$150,000.00	6 CNG Heavy-Duty Vehicles	\$0.00	Yes
ML08048	City of Santa Clarita	2/20/2009	6/19/2015		\$25,000.00	\$25,000.00	1 CNG Heavy-Duty Vehicle	\$0.00	Yes
ML08050	City of Laguna Beach Public Works	8/12/2009	4/11/2016	10/11/2016	\$75,000.00	\$75,000.00	3 LPG Trolleys	\$0.00	Yes
MS08005	Burrtec Waste Industries, Inc.	10/23/2008	11/22/2014	10/22/2015	\$450,000.00	\$450,000.00	15 H.D. Nat. Gas Vehicles - Azusa	\$0.00	Yes
MS08006	Burrtec Waste Industries, Inc.	10/23/2008	11/22/2014	10/22/2015	\$450,000.00	\$450,000.00	15 H.D. Nat. Gas Vehicles - Saugus	\$0.00	Yes
MS08009	Los Angeles World Airports	12/24/2008	12/23/2014		\$870,000.00	\$870,000.00	29 H.D. Nat. Gas Vehicles	\$0.00	Yes
MS08012	California Cartage Company, LLC	12/21/2009	10/20/2015	4/20/2016	\$480,000.00	\$480,000.00	12 H.D. Nat. Gas Yard Tractors	\$0.00	Yes

Cont.#	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
MS08014	City of San Bernardino	12/5/2008	6/4/2015		\$390,000.00	\$360,000.00	13 H.D. Nat. Gas Vehicles	\$30,000.00	Yes
MS08017	Omnitrans	12/13/2008	12/12/2015	12/12/2016	\$900,000.00	\$900,000.00	30 CNG Buses	\$0.00	Yes
MS08019	Enterprise Rent-A-Car Company of L	2/12/2010	7/11/2016		\$300,000.00	\$300,000.00	10 CNG Vehicles	\$0.00	Yes
MS08020	Ware Disposal Company, Inc.	11/25/2008	2/24/2016		\$900,000.00	\$900,000.00	30 CNG Vehicles	\$0.00	Yes
MS08021	CalMet Services, Inc.	1/9/2009	1/8/2016	7/8/2016	\$900,000.00	\$900,000.00	30 CNG Vehicles	\$0.00	Yes
MS08022	SunLine Transit Agency	12/18/2008	3/17/2015		\$311,625.00	\$311,625.00	15 CNG Buses	\$0.00	Yes
MS08053	City of Los Angeles, Bureau of Sanit	2/18/2009	12/17/2015		\$400,000.00	\$400,000.00	New LNG/CNG Station	\$0.00	Yes
MS08056	Clean Energy Fuels Corp.	11/26/2009	2/25/2015		\$400,000.00	\$400,000.00	New LNG Station - POLB-Anah. & I	\$0.00	Yes
MS08057	Orange County Transportation Autho	5/14/2009	7/13/2015		\$400,000.00	\$400,000.00	New CNG Station - Garden Grove	\$0.00	Yes
MS08061	Clean Energy Fuels Corp.	12/4/2009	3/3/2015		\$400,000.00	\$400,000.00	New CNG Station - L.A.-La Cienega	\$0.00	Yes
MS08063	Go Natural Gas	9/25/2009	1/24/2016	1/24/2017	\$400,000.00	\$400,000.00	New CNG Station - Moreno Valley	\$0.00	Yes
MS08064	Hemet Unified School District	1/9/2009	3/8/2015		\$75,000.00	\$75,000.00	Expansion of Existing Infrastructure	\$0.00	Yes
MS08066	Clean Energy Fuels Corp.	11/26/2009	2/25/2015		\$400,000.00	\$400,000.00	New CNG Station - Palm Spring Airport	\$0.00	Yes
MS08067	Trillium CNG	3/19/2009	6/18/2015	6/18/2016	\$311,600.00	\$254,330.00	New CNG Station	\$57,270.00	Yes
MS08069	Perris Union High School District	6/5/2009	8/4/2015	8/4/2016	\$225,000.00	\$225,000.00	New CNG Station	\$0.00	Yes
MS08070	Clean Energy Fuels Corp.	11/26/2009	2/25/2015		\$400,000.00	\$400,000.00	New CNG Station - Paramount	\$0.00	Yes
MS08072	Clean Energy Fuels Corp.	12/4/2009	3/3/2015		\$400,000.00	\$354,243.38	New CNG Station - Burbank	\$45,756.62	Yes
MS08073	Clean Energy Fuels Corp.	11/26/2009	2/25/2015		\$400,000.00	\$400,000.00	New CNG Station - Norwalk	\$0.00	Yes
MS08076	Azusa Unified School District	10/17/2008	11/16/2014	1/31/2017	\$172,500.00	\$172,500.00	New CNG station and maint. Fac. Modificati	\$0.00	Yes
MS08078	SunLine Transit Agency	12/10/2008	6/9/2015	2/9/2016	\$189,000.00	\$189,000.00	CNG Station Upgrade	\$0.00	Yes

**Total: 36**

Cont.#	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
--------	------------	------------	-------------------	------------------	----------------	----------	---------------------	---------------	-------------------

### **FY 2008-2009 Contracts**

#### **Open Contracts**

ML09010	City of Palm Springs	1/8/2010	2/7/2016		\$25,000.00	\$0.00	1 Nat. Gas Heavy-Duty Vehicle	\$25,000.00	No
ML09026	Los Angeles County Department of	10/15/2010	10/14/2017	4/14/2019	\$150,000.00	\$0.00	3 Off-Road Vehicles Repowers	\$150,000.00	No
ML09032	Los Angeles World Airports	4/8/2011	4/7/2018		\$175,000.00	\$0.00	7 Nat. Gas Heavy-Duty Vehicles	\$175,000.00	No
ML09033	City of Beverly Hills	3/4/2011	5/3/2017	5/3/2018	\$550,000.00	\$100,000.00	10 Nat. Gas Heavy-Duty Vehicles & CNG St	\$450,000.00	No
ML09036	City of Long Beach Fleet Services B	5/7/2010	5/6/2017	5/6/2020	\$875,000.00	\$525,000.00	Purchase 35 LNG Refuse Trucks	\$350,000.00	No
ML09047	Los Angeles County Department of	8/13/2014	8/12/2015		\$400,000.00	\$0.00	Maintenance Facility Modifications	\$400,000.00	No

**Total: 6**

#### **Declined/Cancelled Contracts**

ML09017	County of San Bernardino Public Wo	1/28/2010	7/27/2016		\$200,000.00	\$0.00	8 Nat. Gas Heavy-Duty Vehicles	\$200,000.00	No
ML09018	Los Angeles Department of Water a	7/16/2010	9/15/2012		\$850,000.00	\$0.00	Retrofit 85 Off-Road Vehicles w/DECS	\$850,000.00	No
ML09019	City of San Juan Capistrano Public	12/4/2009	11/3/2010		\$10,125.00	\$0.00	Remote Vehicle Diagnostics/45 Vehicles	\$10,125.00	No
ML09022	Los Angeles County Department of				\$8,250.00	\$0.00	Remote Vehicle Diagnostics/15 Vehicles	\$8,250.00	No
ML09025	Los Angeles County Department of	10/15/2010	12/14/2012	6/14/2013	\$50,000.00	\$0.00	Remote Vehicle Diagnostics/85 Vehicles	\$50,000.00	No
ML09028	Riverside County Waste Manageme				\$140,000.00	\$0.00	Retrofit 7 Off-Road Vehicles w/DECS	\$140,000.00	No
ML09039	City of Inglewood				\$310,000.00	\$0.00	Purchase 12 H.D. CNG Vehicles and Remot	\$310,000.00	No
ML09040	City of Cathedral City				\$83,125.00	\$0.00	Purchase 3 H.D. CNG Vehicles and Remote	\$83,125.00	No
ML09044	City of San Dimas				\$425,000.00	\$0.00	Install CNG Station and Purchase 1 CNG S	\$425,000.00	No
ML09045	City of Orange				\$125,000.00	\$0.00	Purchase 5 CNG Sweepers	\$125,000.00	No
MS09003	FuelMaker Corporation				\$296,000.00	\$0.00	Home Refueling Apparatus Incentives	\$296,000.00	No

**Total: 11**

#### **Closed Contracts**

ML09007	City of Rancho Cucamonga	2/26/2010	4/25/2012		\$117,500.00	\$62,452.57	Maintenance Facility Modification	\$55,047.43	Yes
ML09013	City of Riverside Public Works	9/10/2010	12/9/2011	7/31/2013	\$144,470.00	\$128,116.75	Traffic Signal Synchr./Moreno Valley	\$16,353.25	Yes
ML09014	City of Riverside Public Works	9/10/2010	12/9/2011	7/31/2013	\$113,030.00	\$108,495.94	Traffic Signal Synchr./Corona	\$4,534.06	Yes
ML09015	City of Riverside Public Works	9/10/2010	12/9/2011	7/31/2013	\$80,060.00	\$79,778.52	Traffic Signal Synchr./Co. of Riverside	\$281.48	Yes
ML09016	County of San Bernardino Public Wo	1/28/2010	3/27/2014		\$50,000.00	\$50,000.00	Install New CNG Station	\$0.00	Yes
ML09020	County of San Bernardino	8/16/2010	2/15/2012		\$49,770.00	\$49,770.00	Remote Vehicle Diagnostics/252 Vehicles	\$0.00	Yes
ML09021	City of Palm Desert	7/9/2010	3/8/2012		\$39,450.00	\$38,248.87	Traffic Signal Synchr./Rancho Mirage	\$1,201.13	Yes
ML09024	Los Angeles County Department of	10/15/2010	12/14/2012	6/14/2013	\$400,000.00	\$0.00	Maintenance Facility Modifications	\$400,000.00	No
ML09027	Los Angeles County Department of	7/23/2010	3/22/2012	6/22/2012	\$150,000.00	\$150,000.00	Freeway Detector Map Interface	\$0.00	Yes
ML09030	City of Los Angeles GSD/Fleet Servi	6/18/2010	6/17/2011		\$22,310.00	\$22,310.00	Remote Vehicle Diagnostics/107 Vehicles	\$0.00	No
MS09001	Administrative Services Co-Op/Long	3/5/2009	6/30/2012	12/31/2013	\$225,000.00	\$150,000.00	15 CNG Taxicabs	\$75,000.00	Yes
MS09005	Gas Equipment Systems, Inc.	6/19/2009	10/18/2010		\$71,000.00	\$71,000.00	Provide Temp. Fueling for Mountain Area C	\$0.00	Yes

**Total: 12**

Cont.#	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
<b>Open/Complete Contracts</b>									
ML09008	City of Culver City Transportation De	1/19/2010	7/18/2016	7/18/2017	\$175,000.00	\$175,000.00	8 Nat. Gas Heavy-Duty Vehicles	\$0.00	No
ML09009	City of South Pasadena	11/5/2010	12/4/2016	3/4/2019	\$137,500.00	\$125,930.00	CNG Station Expansion	\$11,570.00	No
ML09011	City of San Bernardino	2/19/2010	5/18/2016		\$250,000.00	\$250,000.00	10 Nat. Gas Heavy-Duty Vehicles	\$0.00	Yes
ML09012	City of Gardena	3/12/2010	11/11/2015		\$25,000.00	\$25,000.00	1 Nat. Gas Heavy-Duty Vehicle	\$0.00	Yes
ML09023	Los Angeles County Department of	12/10/2010	12/9/2017		\$50,000.00	\$50,000.00	2 Heavy-Duty Alternative Fuel Transit Vehic	\$0.00	No
ML09029	City of Whittier	11/6/2009	4/5/2016		\$25,000.00	\$25,000.00	1 Nat. Gas Heavy-Duty Vehicle	\$0.00	Yes
ML09031	City of Los Angeles, Department of	10/29/2010	10/28/2017		\$825,000.00	\$825,000.00	33 Nat. Gas Heavy-Duty Vehicles	\$0.00	Yes
ML09034	City of La Palma	11/25/2009	6/24/2015		\$25,000.00	\$25,000.00	1 LPG Heavy-Duty Vehicle	\$0.00	Yes
ML09035	City of Fullerton	6/17/2010	6/16/2017	12/16/2018	\$450,000.00	\$450,000.00	2 Heavy-Duty CNG Vehicles & Install CNG	\$0.00	Yes
ML09037	City of Redondo Beach	6/18/2010	6/17/2016		\$50,000.00	\$50,000.00	Purchase Two CNG Sweepers	\$0.00	Yes
ML09038	City of Chino	9/27/2010	5/26/2017		\$250,000.00	\$250,000.00	Upgrade Existing CNG Station	\$0.00	Yes
ML09041	City of Los Angeles, Bureau of Sanit	10/1/2010	9/30/2017		\$875,000.00	\$875,000.00	Purchase 35 H.D. Nat. Gas Vehicles	\$0.00	Yes
ML09042	Los Angeles Department of Water a	12/10/2010	12/9/2017		\$1,400,000.00	\$1,400,000.00	Purchase 56 Dump Trucks	\$0.00	Yes
ML09043	City of Covina	10/8/2010	4/7/2017	10/7/2018	\$179,591.00	\$179,591.00	Upgrade Existing CNG Station	\$0.00	Yes
ML09046	City of Newport Beach	5/20/2010	5/19/2016		\$162,500.00	\$162,500.00	Upgrade Existing CNG Station, Maintenance	\$0.00	Yes

**Total: 15**

Cont.#	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
--------	------------	------------	-------------------	------------------	----------------	----------	---------------------	---------------	-------------------

### **FY 2009-2010 Contracts**

#### **Open Contracts**

MS10005	Domestic Linen Supply Company, In	10/8/2010	7/7/2016		\$47,444.00	\$0.00	Purchase 5 Gas-Electric Hybrid Vehicles	\$47,444.00	No
MS10015	County of Los Angeles Department o	3/14/2014	5/13/2016		\$37,955.00	\$0.00	Purchase 2 H.D. CNG Vehicles	\$37,955.00	No

**Total: 2**

#### **Declined/Cancelled Contracts**

MS10003	City of Sierra Madre	5/11/2012	3/10/2018		\$13,555.00	\$0.00	Purchase 1 H.D. CNG Vehicle	\$13,555.00	No
MS10013	City of San Bernardino				\$68,834.00	\$0.00	Purchase 9 H.D. LNG Vehicles	\$68,834.00	No
MS10014	Serv-Wel Disposal				\$18,977.00	\$0.00	Purchase 2 H.D. CNG Vehicles	\$18,977.00	No
MS10018	Shaw Transport Inc.				\$81,332.00	\$0.00	Purchase 6 H.D. LNG Vehicles	\$81,332.00	No
MS10022	Los Angeles World Airports				\$123,353.00	\$0.00	Purchase 13 H.D. CNG Vehicles	\$123,353.00	No
MS10023	Dix Leasing				\$105,000.00	\$0.00	Purchase 3 H.D. LNG Vehicles	\$105,000.00	No

**Total: 6**

#### **Closed Contracts**

MS10001	Los Angeles County MTA	3/19/2010	2/28/2011	4/28/2011	\$300,000.00	\$196,790.61	Clean Fuel Transit Bus Service to Dodger St	\$103,209.39	Yes
MS10002	Coachella Valley Association of Gov	6/18/2010	2/17/2011		\$400,000.00	\$400,000.00	Coachella Valley PM10 Reduction Street Sw	\$0.00	Yes
MS10025	Elham Shirazi	2/18/2011	10/17/2012	2/17/2014	\$199,449.00	\$188,413.05	Telework Demonstration Program	\$11,035.95	No

**Total: 3**

#### **Open/Complete Contracts**

MS10004	Linde LLC	3/2/2012	6/1/2018		\$56,932.00	\$56,931.00	Purchase 6 H.D. CNG Vehicles	\$1.00	Yes
MS10006	Nationwide Environmental Services	11/19/2010	4/18/2017	9/18/2019	\$94,887.00	\$94,887.00	Purchase Three Street Sweepers	\$0.00	Yes
MS10007	Enterprise Rent-A-Car Company of L	7/15/2011	10/14/2017		\$18,976.00	\$18,976.00	Purchase 2 H.D. CNG Vehicles	\$0.00	No
MS10008	Republic Services, Inc.	12/10/2010	5/9/2017		\$123,354.00	\$123,354.00	Purchase 4 CNG Refuse Collection Vehicles	\$0.00	Yes
MS10009	Ware Disposal Company, Inc.	10/29/2010	3/28/2017		\$123,353.00	\$123,352.00	Purchase 4 CNG Refuse Trucks	\$1.00	No
MS10010	New Bern Transport Corporation	10/29/2010	3/28/2017		\$113,864.00	\$113,864.00	Repower 4 Heavy-Duty Vehicles	\$0.00	Yes
MS10011	Foothill Transit Agency	3/9/2012	2/8/2018		\$113,865.00	\$113,865.00	Purchase 12 H.D. CNG Vehicles	\$0.00	Yes
MS10012	Foothill Transit Agency	3/9/2012	3/8/2019		\$85,392.00	\$85,392.00	Purchase 9 H.D. Electric Vehicles	\$0.00	Yes
MS10016	Rio Hondo Community College	11/5/2010	5/4/2017		\$16,077.00	\$16,077.00	Purchase 1 CNG Shuttle Bus	\$0.00	Yes
MS10017	Ryder System Inc.	12/30/2011	6/29/2018	12/29/2018	\$651,377.00	\$651,377.00	Purchase 19 H.D. Natural Gas Vehicles	\$0.00	Yes
MS10019	EDCO Disposal Corporation	11/19/2010	2/18/2017		\$379,549.00	\$379,283.81	Purchase 11 H.D. CNG Refuse Trucks	\$265.19	Yes
MS10020	American Reclamation, Inc.	5/6/2011	2/5/2018		\$18,977.00	\$18,977.00	Purchase 1 H.D. CNG Vehicle	\$0.00	Yes
MS10021	City of Glendora	10/29/2010	11/28/2016		\$9,489.00	\$9,489.00	Purchase 1 H.D. CNG Vehicle	\$0.00	Yes
MS10024	Frito-Lay North America	7/29/2011	9/28/2017		\$47,444.00	\$47,444.00	Purchase 5 Electric Vehicles	\$0.00	Yes

**Total: 14**



Cont.#	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
--------	------------	------------	-------------------	------------------	----------------	----------	---------------------	---------------	-------------------

## FY 2010-2011 Contracts

### Open Contracts

ML11020	City of Indio	2/1/2013	3/31/2019	9/30/2019	\$30,000.00	\$0.00	Retrofit one H.D. Vehicles w/DECS, repower	\$30,000.00	No
ML11023	City of Rancho Cucamonga	4/20/2012	12/19/2018	9/19/2020	\$260,000.00	\$60,000.00	Expand Existing CNG Station, 2 H.D. Vehicl	\$200,000.00	No
ML11024	County of Los Angeles, Dept of Publi	12/5/2014	6/4/2022		\$90,000.00	\$0.00	Purchase 3 Nat. Gas H.D. Vehicles	\$90,000.00	No
ML11025	County of Los Angeles Department o	3/14/2014	9/13/2021		\$150,000.00	\$0.00	Purchase 5 Nat. Gas H.D. Vehicles	\$150,000.00	No
ML11027	City of Los Angeles, Dept. of Genera	5/4/2012	7/3/2015		\$300,000.00	\$0.00	Maintenance Facility Modifications	\$300,000.00	No
ML11029	City of Santa Ana	9/7/2012	3/6/2020		\$262,500.00	\$0.00	Expansion of Existing CNG Station, Install N	\$262,500.00	No
ML11032	City of Gardena	3/2/2012	9/1/2018		\$102,500.00	\$0.00	Modify Maint. Facility, Expand CNG station,	\$102,500.00	No
ML11036	City of Riverside	1/27/2012	1/26/2019	3/26/2021	\$670,000.00	\$0.00	Install New CNG Station, Purchase 9 H.D. N	\$670,000.00	No
ML11038	City of Santa Monica	5/18/2012	7/17/2018		\$400,000.00	\$0.00	Maintenance Facility Modifications	\$400,000.00	No
ML11040	City of South Pasadena	5/4/2012	1/3/2019		\$30,000.00	\$0.00	Purchase 1 Nat. Gas H.D. Vehicle	\$30,000.00	No
ML11041	City of Santa Ana	9/7/2012	11/6/2018	5/6/2020	\$265,000.00	\$34,651.86	Purchase 7 LPG H.D. Vehicles, Retrofit 6 H.	\$230,348.14	No
ML11045	City of Newport Beach	2/3/2012	8/2/2018	8/2/2020	\$30,000.00	\$0.00	Purchase 1 Nat. Gas H.D. Vehicle	\$30,000.00	No
MS11001	Mineral LLC	4/22/2011	4/30/2013	4/30/2015	\$111,827.00	\$102,536.83	Design, Develop, Host and Maintain MSRC	\$9,290.17	No
MS11010	Border Valley Trading	8/26/2011	10/25/2017	4/25/2020	\$150,000.00	\$0.00	New LNG Station	\$150,000.00	No
MS11016	CR&R Incorporated	4/12/2013	10/11/2019		\$100,000.00	\$90,000.00	New CNG Station - Perris	\$10,000.00	No
MS11019	City of Corona	11/29/2012	4/28/2020		\$225,000.00	\$0.00	Expansion of Existing CNG Station	\$225,000.00	No
MS11056	The Better World Group	12/30/2011	12/29/2013	12/29/2015	\$206,836.00	\$137,172.69	Programmatic Outreach Services	\$69,663.31	No
MS11060	Rowland Unified School District	8/17/2012	1/16/2019	1/16/2020	\$175,000.00	\$0.00	New Limited Access CNG Station	\$175,000.00	No
MS11061	Eastern Municipal Water District	3/29/2012	5/28/2015		\$11,659.00	\$1,450.00	Retrofit One Off-Road Vehicle under Showc	\$10,209.00	No
MS11062	Load Center	9/7/2012	1/6/2016	12/6/2016	\$175,384.00	\$169,883.00	Retrofit Six Off-Road Vehicles under Showc	\$5,501.00	No
MS11065	Temecula Valley Unified School Distr	8/11/2012	1/10/2019		\$50,000.00	\$0.00	Expansion of Existing CNG Station	\$50,000.00	No
MS11067	City of Redlands	5/24/2012	11/23/2018	11/23/2019	\$85,000.00	\$0.00	Expansion of Existing CNG Station	\$85,000.00	No
MS11068	Ryder System Inc.	7/28/2012	10/27/2018		\$175,000.00	\$157,500.00	New Public Access L/CNG Station (Fontana	\$17,500.00	No
MS11069	Ryder System Inc.	7/28/2012	8/27/2018		\$175,000.00	\$157,500.00	New Public Access L/CNG Station (Orange)	\$17,500.00	No
MS11071	City of Torrance Transit Department	12/22/2012	1/21/2019	1/21/2020	\$175,000.00	\$0.00	New Limited Access CNG Station	\$175,000.00	No
MS11076	SA Recycling, LLC	5/24/2012	9/23/2015		\$424,801.00	\$0.00	Retrofit of 13 Off-Road Diesel Vehicles with	\$424,801.00	No
MS11081	Metropolitan Stevedore Company	9/7/2012	1/6/2016		\$45,416.00	\$0.00	Install DECS on Two Off-Road Vehicles	\$45,416.00	No
MS11082	Baumot North America, LLC	8/2/2012	12/1/2015		\$65,958.00	\$4,752.38	Install DECS on Four Off-Road Vehicles	\$61,205.62	No
MS11085	City of Long Beach Fleet Services B	8/23/2013	12/22/2016		\$159,012.00	\$0.00	Retrofit Seven H.D. Off-Road Vehicles Unde	\$159,012.00	No
MS11086	DCL America Inc.	6/7/2013	10/6/2016		\$500,000.00	\$0.00	Retrofit Eight H.D. Off-Road Vehicles Under	\$500,000.00	No
MS11091	California Cartage Company, LLC	4/5/2013	8/4/2016	2/4/2018	\$55,000.00	\$0.00	Retrofit Two H.D. Off-Road Vehicles Under	\$55,000.00	No
MS11092	Griffith Company	2/15/2013	6/14/2016	12/14/2017	\$390,521.00	\$0.00	Retrofit 17 H.D. Off-Road Vehicles Under Sh	\$390,521.00	No

**Total: 32**

### Pending Execution Contracts



Cont.#	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
MS11073	Los Angeles Unified School District				\$175,000.00	\$0.00	Expansion of Existing CNG Station	\$175,000.00	No
MS11084	Ivanhoe Energy Services and Develo				\$66,750.00	\$0.00	Retrofit One H.D. Off-Road Vehicle Under S	\$66,750.00	No

**Total: 2**

**Declined/Cancelled Contracts**

MS11013	Go Natural Gas, Inc.				\$150,000.00	\$0.00	New CNG Station - Huntington Beach	\$150,000.00	No
MS11014	Go Natural Gas, Inc.				\$150,000.00	\$0.00	New CNG Station - Santa Ana	\$150,000.00	No
MS11015	Go Natural Gas, Inc.				\$150,000.00	\$0.00	New CNG Station - Inglewood	\$150,000.00	No
MS11046	Luis Castro				\$40,000.00	\$0.00	Repower One Heavy-Duty Vehicle	\$40,000.00	No
MS11047	Ivan Borjas				\$40,000.00	\$0.00	Repower One Heavy-Duty Vehicle	\$40,000.00	No
MS11048	Phase II Transportation				\$1,080,000.00	\$0.00	Repower 27 Heavy-Duty Vehicles	\$1,080,000.00	No
MS11049	Ruben Caceras				\$40,000.00	\$0.00	Repower One Heavy-Duty Vehicle	\$40,000.00	No
MS11050	Carlos Arrue				\$40,000.00	\$0.00	Repower One Heavy-Duty Vehicle	\$40,000.00	No
MS11051	Francisco Vargas				\$40,000.00	\$0.00	Repower One Heavy-Duty Vehicle	\$40,000.00	No
MS11053	Jose Ivan Soltero				\$40,000.00	\$0.00	Repower One Heavy-Duty Vehicle	\$40,000.00	No
MS11054	Albino Meza				\$40,000.00	\$0.00	Repower One Heavy-Duty Vehicle	\$40,000.00	No
MS11059	Go Natural Gas				\$150,000.00	\$0.00	New Public Access CNG Station - Paramou	\$150,000.00	No
MS11063	Standard Concrete Products				\$310,825.00	\$0.00	Retrofit Two Off-Road Vehicles under Show	\$310,825.00	No
MS11070	American Honda Motor Company				\$100,000.00	\$0.00	Expansion of Existing CNG Station	\$100,000.00	No
MS11072	Trillium USA Company DBA Californi				\$150,000.00	\$0.00	New Public Access CNG Station	\$150,000.00	No
MS11077	DCL America Inc.				\$263,107.00	\$0.00	Retrofit of 13 Off-Road Diesel Vehicles with	\$263,107.00	No
MS11083	Catrac Construction, Inc.				\$500,000.00	\$0.00	Install DECS on Eight Off-Road Vehicles	\$500,000.00	No
MS11088	Diesel Emission Technologies				\$32,750.00	\$0.00	Retrofit Three H.D. Off-Road Vehicles Under	\$32,750.00	No
MS11089	Diesel Emission Technologies				\$9,750.00	\$0.00	Retrofit One H.D. Off-Road Vehicle Under S	\$9,750.00	No
MS11090	Diesel Emission Technologies				\$14,750.00	\$0.00	Retrofit One H.D. Off-Road Vehicle Under S	\$14,750.00	No

**Total: 20**

**Closed Contracts**

ML11007	Coachella Valley Association of Gov	7/29/2011	7/28/2012		\$250,000.00	\$249,999.96	Regional PM10 Street Sweeping Program	\$0.04	Yes
ML11035	City of La Quinta	11/18/2011	11/17/2012		\$25,368.00	\$25,368.00	Retrofit 3 On-Road Vehicles w/DECS	\$0.00	Yes
MS11002	A-Z Bus Sales, Inc.	7/15/2011	12/31/2011	6/30/2013	\$1,705,000.00	\$1,705,000.00	Alternative Fuel School Bus Incentive Progr	\$0.00	Yes
MS11003	BusWest	7/26/2011	12/31/2011	12/31/2012	\$1,305,000.00	\$1,305,000.00	Alternative Fuel School Bus Incentive Progr	\$0.00	Yes
MS11004	Los Angeles County MTA	9/9/2011	2/29/2012		\$450,000.00	\$299,743.34	Clean Fuel Transit Service to Dodger Stadiu	\$150,256.66	Yes
MS11006	Orange County Transportation Autho	10/7/2011	2/29/2012	8/31/2012	\$268,207.00	\$160,713.00	Metrolink Service to Angel Stadium	\$107,494.00	Yes
MS11018	Orange County Transportation Autho	10/14/2011	1/31/2012		\$211,360.00	\$211,360.00	Express Bus Service to Orange County Fair	\$0.00	Yes
MS11052	Krisda Inc	9/27/2012	6/26/2013		\$120,000.00	\$120,000.00	Repower Three Heavy-Duty Vehicles	\$0.00	Yes
MS11057	Riverside County Transportation Co	7/28/2012	3/27/2013		\$100,000.00	\$89,159.40	Develop and Implement 511 "Smart Phone"	\$10,840.60	Yes
MS11058	L A Service Authority for Freeway E	5/31/2013	4/30/2014		\$123,395.00	\$123,395.00	Implement 511 "Smart Phone" Application	\$0.00	No
MS11074	SunLine Transit Agency	5/11/2012	7/31/2012		\$41,849.00	\$22,391.00	Transit Service for Coachella Valley Festival	\$19,458.00	Yes

Cont.#	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
MS11080	Southern California Regional Rail Au	4/6/2012	7/31/2012		\$26,000.00	\$26,000.00	Metrolink Service to Auto Club Speedway	\$0.00	Yes
<b>Total: 12</b>									
<b>Closed/Incomplete Contracts</b>									
MS11064	City of Hawthorne	7/28/2012	8/27/2018	8/27/2019	\$175,000.00	\$0.00	New Limited Access CNG Station	\$175,000.00	No
<b>Total: 1</b>									
<b>Open/Complete Contracts</b>									
ML11021	City of Whittier	1/27/2012	9/26/2018	6/26/2019	\$210,000.00	\$210,000.00	Purchase 7 Nat. Gas H.D. Vehicles	\$0.00	No
ML11022	City of Anaheim	3/16/2012	7/15/2018		\$150,000.00	\$150,000.00	Purchase of 5 H.D. Vehicles	\$0.00	No
ML11026	City of Redlands	3/2/2012	10/1/2018		\$90,000.00	\$90,000.00	Purchase 3 Nat. Gas H.D. Vehicles	\$0.00	Yes
ML11028	City of Glendale	1/13/2012	5/12/2018		\$300,000.00	\$300,000.00	Purchase 10 H.D. CNG Vehicles	\$0.00	Yes
ML11030	City of Fullerton	2/3/2012	3/2/2018		\$109,200.00	\$109,200.00	Purchase 2 Nat. Gas H.D. Vehicles, Retrofit	\$0.00	Yes
ML11031	City of Culver City Transportation De	12/2/2011	12/1/2018		\$300,000.00	\$300,000.00	Purchase 10 H.D. Nat. Gas Vehicles	\$0.00	Yes
ML11033	City of Los Angeles, Bureau of Sanit	3/16/2012	1/15/2019		\$1,080,000.00	\$1,080,000.00	Purchase 36 LNG H.D. Vehicles	\$0.00	Yes
ML11034	City of Los Angeles, Department of	5/4/2012	1/3/2019		\$630,000.00	\$630,000.00	Purchase 21 H.D. CNG Vehicles	\$0.00	No
ML11037	City of Anaheim	12/22/2012	12/21/2019		\$300,000.00	\$300,000.00	Purchase 12 Nat. Gas H.D. Vehicles	\$0.00	Yes
ML11039	City of Ontario, Housing & Municipal	1/27/2012	9/26/2018		\$180,000.00	\$180,000.00	Purchase 6 Nat. Gas H.D. Vehicles	\$0.00	Yes
ML11042	City of Chino	2/17/2012	4/16/2018		\$30,000.00	\$30,000.00	Purchase 1 Nat. Gas H.D. Vehicle, Repower	\$0.00	No
ML11043	City of Hemet Public Works	2/3/2012	2/2/2019		\$60,000.00	\$60,000.00	Purchase 2 H.D. Nat. Gas Vehicles	\$0.00	No
ML11044	City of Ontario, Housing & Municipal	1/27/2012	6/26/2019		\$400,000.00	\$400,000.00	Expand Existing CNG Station	\$0.00	Yes
MS11008	USA Waste of California, Inc.	10/24/2013	4/23/2020		\$125,000.00	\$125,000.00	Expansion of Existing LCNG Station	\$0.00	Yes
MS11009	USA Waste of California, Inc.	10/24/2013	4/23/2020		\$125,000.00	\$125,000.00	Expansion of Existing LCNG Station	\$0.00	Yes
MS11011	EDCO Disposal Corporation	12/30/2011	4/29/2019		\$100,000.00	\$100,000.00	New CNG Station - Signal Hill	\$0.00	Yes
MS11012	EDCO Disposal Corporation	12/30/2011	4/29/2019		\$100,000.00	\$100,000.00	New CNG Station - Buena Park	\$0.00	Yes
MS11017	CR&R, Inc.	3/2/2012	2/1/2018		\$100,000.00	\$100,000.00	Expansion of existing station - Garden Grov	\$0.00	Yes
MS11055	KEC Engineering	2/3/2012	8/2/2018	8/2/2019	\$200,000.00	\$200,000.00	Repower 5 H.D. Off-Road Vehicles	\$0.00	Yes
MS11066	Torrance Unified School District	11/19/2012	9/18/2018		\$42,296.00	\$42,296.00	Expansion of Existing CNG Station	\$0.00	Yes
MS11079	Bear Valley Unified School District	2/5/2013	10/4/2019		\$175,000.00	\$175,000.00	New Limited Access CNG Station	\$0.00	Yes
MS11087	Cemex Construction Material Pacific,	10/16/2012	2/15/2016		\$448,766.00	\$448,760.80	Retrofit 13 H.D. Off-Road Vehicles Under Sh	\$5.20	Yes
<b>Total: 22</b>									

Cont.#	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
<b>FY 2011-2012 Contracts</b>									
<b>Open Contracts</b>									
ML12013	City of Pasadena	10/19/2012	3/18/2015	9/18/2015	\$200,000.00	\$0.00	Electric Vehicle Charging Infrastructure	\$200,000.00	No
ML12014	City of Santa Ana	11/8/2013	8/7/2020		\$384,000.00	\$4,709.00	9 H.D. Nat. Gas & LPG Trucks, EV Charging	\$379,291.00	No
ML12015	City of Fullerton	4/25/2013	11/24/2020		\$40,000.00	\$10,000.00	HD CNG Vehicle, Expand CNG Station	\$30,000.00	No
ML12016	City of Cathedral City	1/4/2013	10/3/2019		\$60,000.00	\$0.00	CNG Vehicle & Electric Vehicle Infrastructur	\$60,000.00	No
ML12017	City of Los Angeles, Bureau of Sanit	6/26/2013	5/25/2020	11/25/2021	\$950,000.00	\$0.00	32 H.D. Nat. Gas Vehicles	\$950,000.00	No
ML12018	City of West Covina	10/18/2013	10/17/2020		\$300,000.00	\$0.00	Expansion of Existing CNG Station	\$300,000.00	No
ML12019	City of Palm Springs	9/6/2013	7/5/2015		\$38,000.00	\$0.00	EV Charging Infrastructure	\$38,000.00	No
ML12020	City of Los Angeles, Department of	9/27/2012	3/26/2019		\$450,000.00	\$0.00	15 H.D. Nat. Gas Vehicles	\$450,000.00	No
ML12021	City of Rancho Cucamonga	9/14/2012	1/13/2020		\$40,000.00	\$30,000.00	Four Medium-Duty Nat. Gas Vehicles	\$10,000.00	No
ML12022	City of La Puente	12/6/2013	6/5/2020		\$110,000.00	\$100,000.00	2 Medium-Duty and Three Heavy-Duty CNG	\$10,000.00	No
ML12023	County of Los Angeles Internal Servi	8/1/2013	2/28/2015		\$250,000.00	\$0.00	EV Charging Infrastructure	\$250,000.00	No
ML12041	City of Anaheim Public Utilities Depa	4/4/2014	10/3/2015		\$68,977.00	\$0.00	EV Charging Infrastructure	\$68,977.00	No
ML12043	City of Hemet	6/24/2013	9/23/2019		\$60,000.00	\$0.00	Two Heavy-Duty Nat. Gas Vehicles	\$60,000.00	No
ML12045	City of Baldwin Park DPW	2/14/2014	12/13/2020		\$400,000.00	\$0.00	Install New CNG Station	\$400,000.00	No
ML12046	City of Irvine	8/11/2013	3/10/2021		\$30,000.00	\$0.00	One Heavy-Duty Nat. Gas Vehicle	\$30,000.00	No
ML12048	City of La Palma	1/4/2013	11/3/2018		\$20,000.00	\$0.00	Two Medium-Duty LPG Vehicles	\$20,000.00	No
ML12049	City of Rialto Public Works	7/14/2014	9/13/2015		\$30,432.00	\$0.00	EV Charging Infrastructure	\$30,432.00	No
ML12051	City of Bellflower	2/7/2014	2/6/2016		\$270,000.00	\$0.00	EV Charging Infrastructure	\$270,000.00	No
ML12052	City of Whittier	3/14/2013	7/13/2019		\$165,000.00	\$0.00	Expansion of Existing CNG Station	\$165,000.00	No
ML12054	City of Palm Desert	9/30/2013	2/28/2015		\$77,385.00	\$77,385.00	EV Charging Infrastructure	\$0.00	No
ML12057	City of Coachella	8/28/2013	8/27/2019		\$57,456.00	\$0.00	Purchase One Nat. Gas H.D. Vehicle/Street	\$57,456.00	No
ML12066	City of Manhattan Beach	1/7/2014	4/6/2015		\$5,900.00	\$0.00	Electric Vehicle Charging Infrastructure	\$5,900.00	No
MS12001	Los Angeles County MTA	7/1/2012	4/30/2013		\$300,000.00	\$0.00	Clean Fuel Transit Service to Dodger Stadiu	\$300,000.00	No
MS12004	USA Waste of California, Inc.	10/24/2013	11/23/2019		\$175,000.00	\$0.00	Construct New Limited-Access CNG Station	\$175,000.00	No
MS12008	Bonita Unified School District	7/12/2013	12/11/2019		\$175,000.00	\$0.00	Construct New Limited-Acess CNG Station	\$175,000.00	No
MS12009	Sysco Food Services of Los Angeles	1/7/2014	4/6/2020		\$150,000.00	\$0.00	Construct New Public-Access CNG Station	\$150,000.00	No
MS12011	Southern California Gas Company	6/14/2013	6/13/2019	6/13/2020	\$150,000.00	\$0.00	Construct New Public-Access CNG Station -	\$150,000.00	No
MS12024	Southern California Gas Company	6/13/2013	12/12/2019		\$150,000.00	\$0.00	Construct New Public-Access CNG Station -	\$150,000.00	No
MS12027	C.V. Ice Company, Inc.	5/17/2013	11/16/2019		\$75,000.00	\$0.00	Purchase 3 Medium-Heavy Duty Vehicles	\$75,000.00	No
MS12029	Community Action Partnership of Or	11/2/2012	11/1/2018		\$25,000.00	\$14,850.00	Purchase 1 Medium-Heavy Duty Vehicle	\$10,150.00	No
MS12031	Final Assembly, Inc.	11/2/2012	11/1/2018		\$100,000.00	\$29,201.40	Purchase 4 Medium-Heavy Duty Vehicles	\$70,798.60	No
MS12033	Mike Diamond/Phace Management	12/22/2012	12/21/2018		\$500,000.00	\$21,735.00	Purchase 20 Medium-Heavy Duty Vehicles	\$478,265.00	No
MS12034	Ware Disposal Company, Inc.	11/2/2012	11/1/2018	11/1/2020	\$133,070.00	\$74,763.00	Purchase 8 Medium-Heavy Duty Vehicles	\$58,307.00	No
MS12060	City of Santa Monica	4/4/2014	8/3/2017		\$500,000.00	\$0.00	Transit-Oriented Bicycle Sharing Program	\$500,000.00	No

Cont.#	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
MS12061	Orange County Transportation Autho	3/14/2014	3/13/2017		\$224,000.00	\$81,604.80	Transit-Oriented Bicycle Sharing Program	\$142,395.20	No
MS12064	Anaheim Transportation Network	3/26/2013	12/31/2014		\$127,296.00	\$46,944.56	Implement Anaheim Circulator Service	\$80,351.44	No
MS12067	Leatherwood Construction, Inc.	11/8/2013	3/7/2017		\$122,719.00	\$0.00	Retrofit Six Vehicles w/DECS - Showcase III	\$122,719.00	No
MS12072	99 Cents Only Stores	4/5/2013	9/4/2019		\$100,000.00	\$0.00	Construct New CNG Station	\$100,000.00	No
MS12073	FirstCNG, LLC	7/27/2013	12/26/2019		\$150,000.00	\$135,000.00	Construct New CNG Station	\$15,000.00	No
MS12075	CR&R Incorporated	7/27/2013	1/26/2021		\$100,000.00	\$0.00	Expansion of Existing CNG Infrastructure	\$100,000.00	No
MS12076	City of Ontario, Housing & Municipal	3/8/2013	4/7/2015		\$75,000.00	\$0.00	Maintenance Facilities Modification	\$75,000.00	No
MS12077	City of Coachella	6/14/2013	6/13/2020		\$225,000.00	\$0.00	Construct New CNG Station	\$225,000.00	No
MS12078	Penske Truck Leasing Co., L.P.	1/7/2014	1/6/2016		\$75,000.00	\$0.00	Maintenance Facility Modifications - Vernon	\$75,000.00	No
MS12079	Penske Truck Leasing Co., L.P.	1/7/2014	1/6/2016		\$75,000.00	\$0.00	Maintenance Facility Modifications - Boyle H	\$75,000.00	No
MS12080	City of Pasadena	11/8/2013	8/7/2020	8/7/2021	\$225,000.00	\$0.00	Expansion of Existing CNG Infrastructure	\$225,000.00	No
MS12081	Penske Truck Leasing Co., L.P.	1/7/2014	1/6/2016		\$75,000.00	\$0.00	Maintenance Facility Modifications - Santa A	\$75,000.00	No
MS12082	City of Los Angeles, Bureau of Sanit	11/20/2013	2/19/2021		\$175,000.00	\$0.00	Install New CNG Infrastructure	\$175,000.00	No
MS12084	Airport Mobil Inc.	12/6/2013	5/5/2020		\$150,000.00	\$0.00	Install New CNG Infrastructure	\$150,000.00	No
MS12086	SuperShuttle International, Inc.	3/26/2013	3/25/2019		\$225,000.00	\$202,500.00	Purchase 23 Medium-Heavy Duty Vehicles	\$22,500.00	No
MS12087	Los Angeles County MTA	8/29/2013	11/28/2015		\$125,000.00	\$125,000.00	Implement Rideshare Incentives Program	\$0.00	Yes
MS12088	Orange County Transportation Autho	12/6/2013	3/5/2016		\$125,000.00	\$0.00	Implement Rideshare Incentives Program	\$125,000.00	No
MS12089	Riverside County Transportation Co	10/18/2013	9/17/2015		\$250,000.00	\$0.00	Implement Rideshare Incentives Program	\$250,000.00	No
MS12Hom	Mansfield Gas Equipment Systems				\$296,000.00	\$0.00	Home Refueling Apparatus Incentive Progra	\$296,000.00	No

**Total: 53**

#### Pending Execution Contracts

MS12083	Brea Olinda Unified School District				\$59,454.00	\$0.00	Install New CNG Infrastructure	\$59,454.00	No
---------	-------------------------------------	--	--	--	-------------	--------	--------------------------------	-------------	----

**Total: 1**

#### Declined/Cancelled Contracts

ML12038	City of Long Beach Public Works				\$26,000.00	\$0.00	Electric Vehicle Charging Infrastructure	\$26,000.00	No
ML12040	City of Duarte Transit				\$30,000.00	\$0.00	One Heavy-Duty Nat. Gas Vehicle	\$30,000.00	No
ML12044	County of San Bernardino Public Wo				\$250,000.00	\$0.00	Install New CNG Station	\$250,000.00	No
ML12053	City of Mission Viejo				\$60,000.00	\$0.00	EV Charging Infrastructure	\$60,000.00	No
MS12007	WestAir Gases & Equipment				\$100,000.00	\$0.00	Construct New Limited-Access CNG Station	\$100,000.00	No
MS12030	Complete Landscape Care, Inc.				\$150,000.00	\$0.00	Purchase 6 Medium-Heavy Duty Vehicles	\$150,000.00	No
MS12070	Valley Music Travel/CID Entertainme				\$99,000.00	\$0.00	Implement Shuttle Service to Coachella Mus	\$99,000.00	No

**Total: 7**

#### Closed Contracts

ML12037	Coachella Valley Association of Gov	3/14/2013	3/13/2014		\$250,000.00	\$250,000.00	Street Sweeping Operations	\$0.00	Yes
ML12050	City of Baldwin Park	4/25/2013	4/24/2014	10/24/2014	\$402,400.00	\$385,363.00	EV Charging Infrastructure	\$17,037.00	No
ML12056	City of Cathedral City	3/26/2013	5/25/2014		\$25,000.00	\$25,000.00	Regional Street Sweeping Program	\$0.00	Yes
MS12002	Orange County Transportation Autho	9/7/2012	4/30/2013		\$342,340.00	\$333,185.13	Express Bus Service to Orange County Fair	\$9,154.87	Yes

Cont.#	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
MS12003	Orange County Transportation Autho	7/20/2012	2/28/2013		\$234,669.00	\$167,665.12	Implement Metrolink Service to Angel Stadiu	\$67,003.88	Yes
MS12005	USA Waste of California, Inc.	10/19/2012	8/18/2013		\$75,000.00	\$75,000.00	Vehicle Maintenance Facility Modifications	\$0.00	Yes
MS12006	Waste Management Collection & Re	10/19/2012	8/18/2013		\$75,000.00	\$75,000.00	Vehicle Maintenance Facility Modifications	\$0.00	Yes
MS12012	Rim of the World Unified School Dist	12/20/2012	5/19/2014		\$75,000.00	\$75,000.00	Vehicle Maintenance Facility Modifications	\$0.00	Yes
MS12059	Orange County Transportation Autho	2/28/2013	12/27/2014		\$75,000.00	\$75,000.00	Maintenance Facilities Modifications	\$0.00	No
MS12062	Fraser Communications	12/7/2012	5/31/2014		\$998,669.00	\$989,218.49	Develop & Implement "Rideshare Thursday"	\$9,450.51	Yes
MS12065	Orange County Transportation Autho	7/27/2013	11/30/2013		\$43,933.00	\$14,832.93	Ducks Express Service to Honda Center	\$29,100.07	Yes
MS12068	Southern California Regional Rail Au	3/1/2013	9/30/2013		\$57,363.00	\$47,587.10	Implement Metrolink Service to Autoclub Sp	\$9,775.90	Yes
MS12069	City of Irvine	8/11/2013	2/28/2014		\$45,000.00	\$26,649.41	Implement Special Transit Service to Solar	\$18,350.59	Yes
MS12085	Bear Valley Unified School District	4/25/2013	6/24/2014		\$75,000.00	\$75,000.00	Maintenance Facility Modifications	\$0.00	Yes

**Total: 14**

**Open/Complete Contracts**

ML12039	City of Redlands	2/8/2013	10/7/2019		\$90,000.00	\$90,000.00	Three Heavy-Duty Nat. Gas Vehicles	\$0.00	No
ML12042	City of Chino Hills	1/18/2013	3/17/2017		\$87,500.00	\$87,500.00	Expansion of Existing CNG Station	\$0.00	Yes
ML12047	City of Orange	2/1/2013	1/31/2019		\$30,000.00	\$30,000.00	One Heavy-Duty Nat. Gas Vehicle	\$0.00	No
ML12055	City of Manhattan Beach	3/1/2013	12/31/2018		\$10,000.00	\$10,000.00	One Medium-Duty Nat. Gas Vehicle	\$0.00	Yes
MS12010	Murrieta Valley Unified School Distric	4/5/2013	9/4/2019		\$242,786.00	\$242,786.00	Construct New Limited-Access CNG Station	\$0.00	No
MS12025	Silverado Stages, Inc.	11/2/2012	7/1/2018		\$150,000.00	\$150,000.00	Purchase Six Medium-Heavy Duty Vehicles	\$0.00	Yes
MS12026	U-Haul Company of California	3/14/2013	3/13/2019		\$500,000.00	\$353,048.26	Purchase 23 Medium-Heavy Duty Vehicles	\$146,951.74	Yes
MS12028	Dy-Dee Service of Pasadena, Inc.	12/22/2012	1/21/2019		\$45,000.00	\$40,000.00	Purchase 2 Medium-Duty and 1 Medium-He	\$5,000.00	Yes
MS12032	Fox Transportation	12/14/2012	12/13/2018		\$500,000.00	\$500,000.00	Purchase 20 Medium-Heavy Duty Vehicles	\$0.00	Yes
MS12035	Disneyland Resort	1/4/2013	7/3/2019		\$25,000.00	\$18,900.00	Purchase 1 Medium-Heavy Duty Vehicle	\$6,100.00	Yes
MS12036	Jim & Doug Carter's Automotive/VS	1/4/2013	11/3/2018		\$50,000.00	\$50,000.00	Purchase 2 Medium-Heavy Duty Vehicles	\$0.00	Yes
MS12058	Krisda Inc	4/24/2013	1/23/2019		\$25,000.00	\$25,000.00	Repower One Heavy-Duty Off-Road Vehicle	\$0.00	Yes
MS12063	Custom Alloy Light Metals, Inc.	8/16/2013	2/15/2020		\$100,000.00	\$100,000.00	Install New Limited Access CNG Station	\$0.00	Yes
MS12071	Transit Systems Unlimited, Inc.	5/17/2013	12/16/2018		\$21,250.00	\$21,250.00	Expansion of Existing CNG Station	\$0.00	Yes
MS12074	Arcadia Unified School District	7/5/2013	9/4/2019		\$175,000.00	\$175,000.00	Expansion of Existing CNG Infrastructure	\$0.00	No

**Total: 15**

Cont.#	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
<b>FY 2012-2014 Contracts</b>									
<b>Open Contracts</b>									
ML14011	City of Palm Springs	6/13/2014	1/12/2016		\$79,000.00	\$0.00	Bicycle Racks, Bicycle Outreach & Educatio	\$79,000.00	No
ML14012	City of Santa Ana	2/13/2015	10/12/2021		\$244,000.00	\$0.00	EV Charging and 7 H.D. LPG Vehicles	\$244,000.00	No
ML14014	City of Torrance	9/5/2014	12/4/2019		\$56,000.00	\$0.00	EV Charging Infrastructure	\$56,000.00	No
ML14015	Coachella Valley Association of Gov	6/6/2014	9/5/2015		\$250,000.00	\$250,000.00	Street Sweeping Operations	\$0.00	Yes
ML14019	City of Corona Public Works	12/5/2014	6/4/2020		\$178,263.00	\$0.00	EV Charging, Bicycle Racks, Bicycle Locker	\$178,263.00	No
ML14020	County of Los Angeles Dept of Publi	8/13/2014	1/12/2018		\$150,000.00	\$0.00	San Gabriel BikeTrail Underpass Improvem	\$150,000.00	No
ML14021	Riverside County Regional Park and	7/24/2014	12/23/2016		\$250,000.00	\$0.00	Bicycle Trail Improvements	\$250,000.00	No
ML14028	City of Fullerton	9/5/2014	1/4/2022		\$126,950.00	\$0.00	Expansion of Existing CNG Infrastructure	\$126,950.00	No
ML14029	City of Irvine	7/11/2014	6/10/2017		\$90,500.00	\$0.00	Bicycle Trail Improvements	\$90,500.00	No
ML14030	County of Los Angeles Internal Servi	1/9/2015	3/8/2018		\$425,000.00	\$0.00	Bicycle Racks, Outreach & Education	\$425,000.00	No
ML14031	Riverside County Waste Manageme	6/13/2014	12/12/2020		\$90,000.00	\$0.00	Purchase 3 H.D. CNG Vehicles	\$90,000.00	No
ML14032	City of Rancho Cucamonga	1/9/2015	1/8/2022		\$226,770.00	\$0.00	Expansion of Existing CNG Infras., Bicycle L	\$226,770.00	No
ML14033	City of Irvine	7/11/2014	2/10/2021		\$60,000.00	\$0.00	Purchase 2 H.D. CNG Vehicles	\$60,000.00	No
ML14034	City of Lake Elsinore	9/5/2014	5/4/2021		\$56,700.00	\$0.00	EV Charging Stations	\$56,700.00	No
ML14049	City of Moreno Valley	7/11/2014	3/10/2021		\$105,000.00	\$30,000.00	One HD Nat Gas Vehicle, EV Charging, Bicy	\$75,000.00	No
ML14050	City of Yucaipa	7/11/2014	9/10/2015		\$84,795.00	\$0.00	Installation of Bicycle Lanes	\$84,795.00	No
ML14051	City of Brea	9/5/2014	1/4/2017		\$450,000.00	\$0.00	Installation of Bicycle Trail	\$450,000.00	No
ML14054	City of Torrance	11/14/2014	4/13/2017		\$350,000.00	\$0.00	Upgrade Maintenance Facility	\$350,000.00	No
ML14055	City of Highland	10/10/2014	3/9/2018		\$500,000.00	\$0.00	Bicycle Lanes and Outreach	\$500,000.00	No
ML14056	City of Redlands	9/5/2014	5/4/2016	5/4/2017	\$125,000.00	\$0.00	Bicycle Lanes	\$125,000.00	No
ML14064	City of Claremont	7/11/2014	7/10/2020	1/10/2021	\$60,000.00	\$0.00	Purchase Two Heavy-Duty Nat. Gas Vehicle	\$60,000.00	No
ML14065	City of Orange	9/5/2014	8/4/2015		\$10,000.00	\$0.00	Electric Vehicle Charging Infrastructure	\$10,000.00	No
ML14066	City of South Pasadena	9/12/2014	7/11/2016		\$142,096.00	\$0.00	Bicycle Trail Improvements	\$142,096.00	No
ML14068	City of South Pasadena	9/12/2014	10/11/2015		\$10,183.00	\$0.00	Electric Vehicle Charging Infrastructure	\$10,183.00	No
ML14071	City of Manhattan Beach	1/9/2015	11/8/2018		\$22,485.00	\$0.00	Electric Vehicle Charging Infrastructure	\$22,485.00	No
ML14072	City of Cathedral City	8/13/2014	1/12/2021		\$136,000.00	\$0.00	Medium & H.D. Vehicles, EV Charging, Bike	\$136,000.00	No
MS14002	Orange County Transportation Autho	9/6/2013	4/30/2014		\$576,833.00	\$576,833.00	Clean Fuel Transit Service to Orange Count	\$0.00	No
MS14004	Orange County Transportation Autho	9/24/2013	4/30/2014		\$36,800.00	\$35,485.23	Implement Express Bus Service to Solar De	\$1,314.77	No
MS14005	Transit Systems Unlimited, Inc.	4/11/2014	2/28/2016		\$515,200.00	\$253,920.00	Provide Expanded Shuttle Service to Hollyw	\$261,280.00	No
MS14007	Orange County Transportation Autho	6/6/2014	4/30/2015		\$208,520.00	\$0.00	Implement Special Metrolink Service to Ang	\$208,520.00	No
MS14008	Orange County Transportation Autho	8/13/2014	5/31/2015		\$601,187.00	\$0.00	Implement Clean Fuel Bus Service to Orang	\$601,187.00	No
MS14009	A-Z Bus Sales, Inc.	1/17/2014	12/31/2014	3/31/2015	\$343,000.00	\$250,000.00	Alternative Fuel School Bus Incentive Progr	\$93,000.00	No
MS14042	Grand Central Recycling & Transfer	6/6/2014	9/5/2021		\$150,000.00	\$0.00	Expansion of Existing CNG Station	\$150,000.00	No
MS14045	TIMCO CNG Fund I, LLC	6/6/2014	12/5/2020		\$150,000.00	\$0.00	New Public-Access CNG Station in Inglewoo	\$150,000.00	No



Cont.#	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
MS14046	Ontario CNG Station Inc.	5/15/2014	5/14/2020		\$150,000.00	\$0.00	Expansion of Existing CNG Infrastructure	\$150,000.00	No
MS14048	BusWest	3/14/2014	12/31/2014	3/31/2015	\$878,850.00	\$785,850.00	Alternative Fuel School Bus Incentive Progr	\$93,000.00	No
MS14052	Arcadia Unified School District	6/13/2014	10/12/2020		\$78,000.00	\$0.00	Expansion of an Existing CNG Fueling Statio	\$78,000.00	No
MS14053	Upland Unified School District	1/9/2015	7/8/2021		\$175,000.00	\$0.00	Expansion of Existing CNG Infrastructure	\$175,000.00	No
MS14057	Los Angeles County MTA	11/7/2014	10/6/2019		\$1,250,000.00	\$0.00	Implement Various Signal Synchronization P	\$1,250,000.00	No
MS14058	Orange County Transportation Autho	11/7/2014	4/6/2016		\$1,250,000.00	\$0.00	Implement Various Signal Synchronization P	\$1,250,000.00	No
MS14059	Riverside County Transportation Co	9/5/2014	3/4/2018		\$939,625.00	\$0.00	Implement Various Signal Synchronization P	\$939,625.00	No
MS14073	Anaheim Transportation Network	1/9/2015	4/30/2017		\$221,312.00	\$0.00	Anaheim Resort Circulator Service	\$221,312.00	No
MS14074	Midway City Sanitary District	1/9/2015	3/8/2021		\$250,000.00	\$0.00	Limited-Access CNG Station & Facility Modif	\$250,000.00	No

**Total: 43**

**Pending Execution Contracts**

ML14013	City of Los Angeles, Bureau of Sanit				\$3,840,000.00	\$0.00	Purchase 128 H.D. Nat. Gas Vehicles	\$3,840,000.00	No
ML14016	City of Anaheim				\$380,000.00	\$0.00	Purchase 2 H.D. Vehicles, Expansion of Exi	\$380,000.00	No
ML14018	City of Los Angeles, Department of				\$810,000.00	\$0.00	Purchase 27 H.D. Nat. Gas Vehicles	\$810,000.00	No
ML14022	County of Los Angeles Department o				\$300,000.00	\$0.00	Purchase 10 H.D. Nat. Gas Vehicles	\$300,000.00	No
ML14023	County of Los Angeles Department o				\$230,000.00	\$0.00	Maintenance Fac. Modifications-Westcheste	\$230,000.00	No
ML14024	County of Los Angeles Department o				\$230,000.00	\$0.00	Maintenance Fac. Modifications-Baldwin Par	\$230,000.00	No
ML14025	County of Los Angeles Dept of Publi				\$500,000.00	\$0.00	Construct New CNG Station in Malibu	\$500,000.00	No
ML14026	County of Los Angeles Dept of Publi				\$500,000.00	\$0.00	Construct New CNG Station in Castaic	\$500,000.00	No
ML14027	County of Los Angeles Dept of Publi				\$500,000.00	\$0.00	Construct New CNG Station in Downey	\$500,000.00	No
ML14060	County of Los Angeles Internal Servi				\$104,400.00	\$0.00	Electric Vehicle Charging Infrastructure	\$104,400.00	No
ML14061	City of La Habra				\$60,000.00	\$0.00	Purchase Two Heavy-Duty Nat. Gas Vehicle	\$60,000.00	No
ML14062	City of San Fernando				\$387,091.00	\$0.00	Expand Existing CNG Fueling Station	\$387,091.00	No
ML14067	City of Duarte Transit				\$60,000.00	\$0.00	Purchase Two Heavy-Duty Nat. Gas Vehicle	\$60,000.00	No
ML14069	City of Beaumont				\$200,000.00	\$0.00	Construct New CNG Infrastructure	\$200,000.00	No
ML14070	City of Rancho Cucamonga				\$365,245.00	\$0.00	Bicycle Trail Improvements	\$365,245.00	No
MS14001	Los Angeles County MTA				\$1,227,450.00	\$0.00	Clean Fuel Transit Service to Dodger Stadiu	\$1,227,450.00	No
MS14035	Penske Truck Leasing Co., L.P.				\$75,000.00	\$0.00	Vehicle Maint. Fac. Modifications - Sun Valle	\$75,000.00	No
MS14036	Penske Truck Leasing Co., L.P.				\$75,000.00	\$0.00	Vehicle Maint. Fac. Modifications - La Mirad	\$75,000.00	No
MS14037	Penske Truck Leasing Co., L.P.				\$75,000.00	\$0.00	Vehicle Maint. Fac. Modifications - Carson	\$75,000.00	No
MS14038	Penske Truck Leasing Co., L.P.				\$75,000.00	\$0.00	Vehicle Maint. Fac. Modifications - Fontana	\$75,000.00	No
MS14039	Waste Management Collection and				\$75,000.00	\$0.00	Vehicle Maint. Fac. Modifications - Irvine	\$75,000.00	No
MS14040	Waste Management Collection and				\$75,000.00	\$0.00	Vehicle Maint. Fac. Modifications - Santa An	\$75,000.00	No
MS14041	USA Waste of California, Inc.				\$175,000.00	\$0.00	Limited-Access CNG Station, Vehicle Maint.	\$175,000.00	No
MS14072	San Bernardino Associated Govern				\$1,250,000.00	\$0.00	Implement Various Signal Synchronization P	\$1,250,000.00	No
MS14075	Fullerton Joint Union High School Di				\$300,000.00	\$0.00	Expansion of Existing CNG Infrastructure/M	\$300,000.00	No
MS14076	Rialto Unified School District				\$225,000.00	\$0.00	New Public Access CNG Station	\$225,000.00	No

Cont.#	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
MS14077	County Sanitation Districts of L.A. C				\$175,000.00	\$0.00	New Limited Access CNG Station	\$175,000.00	No
MS14078	American Honda Motor Co., Inc.				\$150,000.00	\$0.00	New Public Access CNG Station	\$150,000.00	No
MS14079	Waste Resources, Inc.				\$100,000.00	\$0.00	New Limited Access CNG Station	\$100,000.00	No
MS14080	CR&R Incorporated				\$249,954.00	\$0.00	Expansion of Existing CNG Infrastructure/M	\$249,954.00	No
MS14081	CR&R Incorporated				\$175,000.00	\$0.00	Expansion of Existing CNG Infrastructure/M	\$175,000.00	No
MS14082	Grand Central Recycling & Transfer				\$150,000.00	\$0.00	Expansion of Existing CNG Infrastructure	\$150,000.00	No
MS14083	Hacienda La Puente Unified School				\$175,000.00	\$0.00	New Limited Access CNG Station	\$175,000.00	No
MS14084	US Air Conditioning Distributors				\$100,000.00	\$0.00	Expansion of Existing CNG Infrastructure	\$100,000.00	No
MS14085	Prologis, L.P.				\$100,000.00	\$0.00	New Limited Access CNG Station	\$100,000.00	No
MS14086	San Gabriel Valley Towing I				\$150,000.00	\$0.00	New Public Access CNG Station	\$150,000.00	No
MS14087	Orange County Transportation Autho				\$239,645.00	\$0.00	Implement Special Metrolink Service to Ang	\$239,645.00	No
MS14088	Southern California Regional Rail Au				\$83,960.00	\$0.00	Special Metrolink Service to Autoclub Speed	\$83,960.00	No
MS14090	City of Monterey Park				\$225,000.00	\$0.00	Expansion of Existing CNG Infrastructure	\$225,000.00	No
MS14091	Serv-Wel Disposal				\$100,000.00	\$0.00	New Limited-Access CNG Infrastructure	\$100,000.00	No
MS14092	West Covina Unified School District				\$124,000.00	\$0.00	Expansion of Existing CNG Infrastructure	\$124,000.00	No

**Total: 41**

**Declined/Cancelled Contracts**

ML14063	City of Hawthorne				\$32,000.00	\$0.00	Expansion of Existng CNG Infrastructure	\$32,000.00	No
MS14043	City of Anaheim				\$175,000.00	\$0.00	Expansion of Existing CNG Station	\$175,000.00	No

**Total: 2**

**Closed Contracts**

MS14003	Orange County Transportation Autho	8/1/2013	4/30/2014	10/30/2014	\$194,235.00	\$184,523.00	Implement Metrolink Service to Angel Stadiu	\$9,712.00	Yes
MS14047	Southern California Regional Rail Au	3/7/2014	9/30/2014		\$49,203.00	\$32,067.04	Special Metrolink Service to Autoclub Speed	\$17,135.96	Yes

**Total: 2**

**Open/Complete Contracts**

ML14010	City of Cathedral City	8/13/2014	10/12/2015		\$25,000.00	\$25,000.00	Street Sweeping Operations	\$0.00	No
MS14044	TIMCO CNG Fund I, LLC	5/2/2014	11/1/2020		\$150,000.00	\$150,000.00	New Public-Access CNG Station in Santa A	\$0.00	Yes

**Total: 2**



Cont.#	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
--------	------------	------------	-------------------	------------------	----------------	----------	---------------------	---------------	-------------------

***FY 2014-2016 Contracts***

***Open Contracts***

MS14089	Top Shelf Consulting, LLC	2/5/2015	8/4/2016		\$200,000.00	\$55,015.00	Enhanced Fleet Modernization Program	\$144,985.00	No
---------	---------------------------	----------	----------	--	--------------	-------------	--------------------------------------	--------------	----

**Total: 1**

 Back to Agenda

BOARD MEETING DATE: April 3, 2015

AGENDA NO. 25

PROPOSAL: Annual Meeting of the Brain & Lung Tumor and Air Pollution Foundation

SYNOPSIS: This item is to conduct the annual meeting of the Brain & Lung Tumor and Air Pollution Foundation. The Foundation staff will present an annual report detailing the research supported by the Foundation over the past year, the Foundation's plans for the future, and a financial report.

COMMITTEE: No Committee Review

RECOMMENDED ACTIONS:

1. Receive and file the annual report and ratify the Foundation disbursements described in the annual report.
2. Ratify the appointment of Dr. William A. Burke as a Foundation Director, replacing former Board Member Josie Gonzales.

Barry R. Wallerstein, D.Env.  
Executive Officer

KRW:ML

---

## **2015 Annual Report**

### **1. Background**

In February 2003, the Board established the Brain Tumor and Air Pollution Foundation. In March 2004 the Foundation amended its Articles of Incorporation to change its name to Brain & Lung Tumor and Air Pollution Foundation (Foundation) and to specify that its purpose is related to the effects of air pollution on brain tumors and lung cancer. The mission of the Foundation is to support research studies on the association between air pollution and brain and lung tumors, as well as research for the development of novel therapeutics for such tumors. To date the dollar amount of the funding received is \$5,722,568. The current projects are described below.

## 2. Directors and Officers

The Directors of the Foundation are: Michael D. Antonovich, Chairman  
Dennis R. Yates, Vice Chairman  
Dr. Clark E. Parker, Sr.  
Dr. William A. Burke

The Foundation's staff is: Barry Wallerstein, Chief Executive Officer  
Denise Whitcher, Secretary  
Michael O'Kelly, Treasurer

## 3. Report on the Foundation's Activities

### Current Research Projects

Chronic Exposure of Mice to Ambient Particles to Study Cancer-Related Stem Cell Activation in the Brain  
Principal Investigator: Keith Black, M.D., Cedars-Sinai Medical Center  
Approved Funding: \$1,000,000  
Allocated Funding: \$500,000

This project was approved by the Foundation Board in September 2013 as a follow-up to previous laboratory studies conducted by Cedars-Sinai. In the current study, laboratory animals are exposed to ambient particulate matter, including ultrafine particles, for a period of one year for additional investigation of potential stem cell activation into cancer precursor cells. The elucidation of such molecular pathways involved in survival, proliferation, and differentiation of cancer stem cells may be fundamental information to help develop therapies for brain tumors and to develop potential preventive measures. The research is being done in collaboration with the UC Irvine School of Medicine. The project is ongoing and scheduled to be completed by the end of 2015.

## 4. Financial Report

As of February 28, 2015, the Foundation had a cash balance of \$559,698. Following is an accounting of the Foundation's operations since its inception (7/23/03):

<b>Revenue from Operations</b>	
Contributions	\$5,722,568
Interest Income	39,511
<b><i>Total Revenue from Operations</i></b>	<b>\$5,762,079</b>

#### 4. Financial Report (Cont'd)

<b>Operating Expenses</b>	
Grants Awarded	
-Cedars-Sinai	\$4,809,250
-USC	377,967
Corporation Filing Costs	1,390
Bank charges	574
Professional fees-audit	13,200
<b>Total Operating Expenses</b>	<b>\$5,202,381</b>
<b>Cash Balance</b>	<b>\$559,698</b>

#### 5. Plans for Upcoming Year

The Foundation will continue monitoring the progress of existing research projects. The Foundation will evaluate new projects and provide funding when additional funds become available. The Foundation hopes to receive approximately \$2,500,000 from the Health Effects Research Fund from the SCAQMD for which it will release an RFP to solicit research proposals within the purpose of the Foundation.

#### 6. Replacement of Foundation Director

Dr. William Burke has replaced former Board member Josie Gonzales as a Foundation Director.

BOARD MEETING DATE: April 3, 2015

AGENDA NO. 26

**PROPOSAL:** Approve and Adopt Technology Advancement Office Clean Fuels Program Annual Report and Plan Update and Resolution and Receive and File Revised Membership of Technology Advancement Advisory Group 

**SYNOPSIS:** Each year, the Technology Advancement Office must submit to the California Legislative Analyst an approved Annual Report for the past year and a Plan Update for the current calendar year. Staff has reviewed the Clean Fuels Program with the Clean Fuels Advisory Group, the Technology Advancement Advisory Group and other technical experts. Additionally, the 2015 Clean Fuels Program Draft Plan Update was presented to the Board for review and comment at its December 5, 2014 meeting. This action is to approve and adopt the final Technology Advancement Clean Fuels Program Annual Report for 2014 and 2015 Plan Update as well as the resolution finding that proposed projects do not duplicate any past or present programs and to receive and file the revised membership of the Technology Advancement Advisory Group.

**COMMITTEE:** Technology, February 20, 2015; Recommended for Approval

**RECOMMENDED ACTIONS:**

1. Adopt the attached Technology Advancement Office Clean Fuels Program Plan Update for 2015 and include it in the SCAQMD's Clean Fuels Program;
2. Approve the attached Technology Advancement Office Annual Report for 2014;
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. Receive and file membership changes to the Technology Advancement Advisory Group.

Barry R. Wallerstein, D.Env.  
Executive Officer

## **Background**

Achieving federal and state ambient air quality 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 technologies 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<sub>x</sub> reductions to be adopted by 2020 for full implementation by 2023 and in large part focuses on control measures for zero and near-zero emission transportation technologies and clean fuels in order to achieve these reductions. The SCAQMD Clean Fuels Program more than ever before must encourage and accelerate advancement of transformative transportation technologies and commercialization of zero and near-zero emission vehicle and fuel technologies.

The SCAQMD Clean Fuels Program, first initiated in 1988 along with establishment of the Technology Advancement Office (TAO), 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 review by an advisory group and approval by the Board, prior to submittal to specified offices of the California Legislature each year. This legislation also specifies the make-up of the 13-member Clean Fuels Advisory Group (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. 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. Membership changes

to both advisory groups were approved by the Board and Technology Committee, respectively, last year in conjunction with approval of the prior reports.

### **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 2014 Annual Report and 2015 Plan Update (Attachment C). This action is for the Board to approve and adopt the TAO Clean Fuels Program Annual Report and Plan Update. Additionally, 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 Technology Committee approve, and the Board receive and file, one membership change, which was necessitated by a staff departure, to the Technology Advancement Advisory Group. That change is reflected in Attachment B.

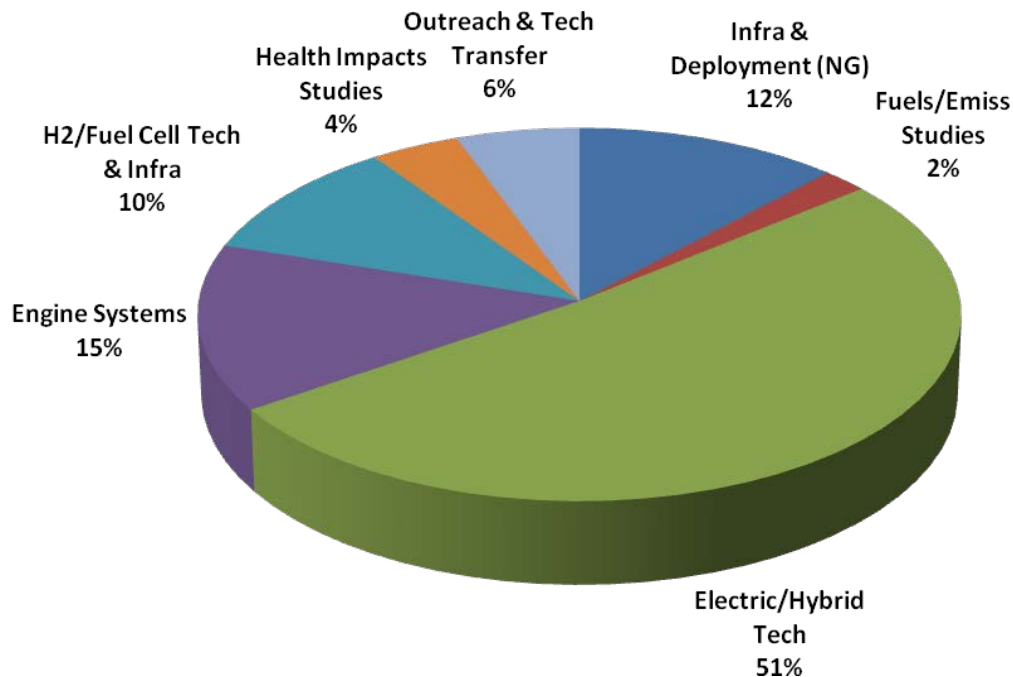
### ***Clean Fuels Program Annual Report 2014***

The Annual Report covers projects and progress of the Program for Calendar Year (CY) 2014. 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 2014, the Clean Fuels Program executed 65 new projects or studies and modified 7 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 \$14.3 million, with total project costs of nearly \$64.7 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 2014. 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 2014 (\$14.3 Million)**

During CY 2014, 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 executed in CY 2014 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, development and demonstration of hydrogen technologies and infrastructure, and three important health studies.

In addition to the new projects, 40 research, development and demonstration projects or studies and 6 technology assessment and transfer projects were completed in CY 2014. Summaries for each of the technical projects are provided in Appendix C of the Annual Report.

The Clean Fuels Program in CY 2014 has continued to leverage other outside opportunities, with the SCAQMD securing awards totaling nearly \$20 million from federal and state funding for projects that will be included in the Clean Fuels Program or which 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 2015***

Every year, TAO staff re-evaluates the Clean Fuels Program to craft a Plan Update which essentially serves to re-calibrate the technical direction of the Program. The attached Plan Update for the Clean Fuels Program identifies potential projects to be considered for funding during 2015 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. Some of the proposed projects for 2015 include but are not limited to: 1) the second phase of demonstrations for Zero Emission Container Transport (ZECT II) technology; 2) medium-duty fuel cell truck development; 3) further evaluation of biofuels including dimethyl ether; 4) partnering with the National Renewable Energy Laboratory (NREL) on fleet and technology matching analysis; 5) development and demonstration of advanced natural gas engines and zero emission technologies for high horsepower applications; and 6) lease of fuel cell vehicles (FCVs) for use in Technology Advancement's demonstration fleet to promote marketability and demand of FCVs. Projects not funded in 2015 may be considered for funding in future years.

In addition to identifying proposed projects to be considered for funding, this Plan Update confirms nine key technical areas of highest priority to the SCAQMD. These high priority areas are listed below based on the proposed funding distribution shown in Figure 2:

- Hydrogen and Mobile Fuel Cell Technologies and Infrastructure

- Electric and Hybrid Vehicle Technologies and Related Infrastructure (emphasizing electric and hybrid electric trucks and zero-emission container transport technologies)
- 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
- Outreach and Technology Transfer
- Health Impacts Studies
- Stationary Clean Fuels Technologies (including renewables)
- Emission Control Technologies

It should be noted that these priorities represent the areas where SCAQMD funding is thought to have the greatest impact. In keeping with the diverse and flexible “technology portfolio” approach, however, these priorities may shift during the year to: (1) capture opportunities such as cost-sharing by the state government, the federal government or other entities, (2) address specific technology issues which affect residents within the SCAQMD jurisdiction; (3) incorporate findings from recent studies; or (4) further accelerate technology development, commercialization or market acceptance of promising technologies.

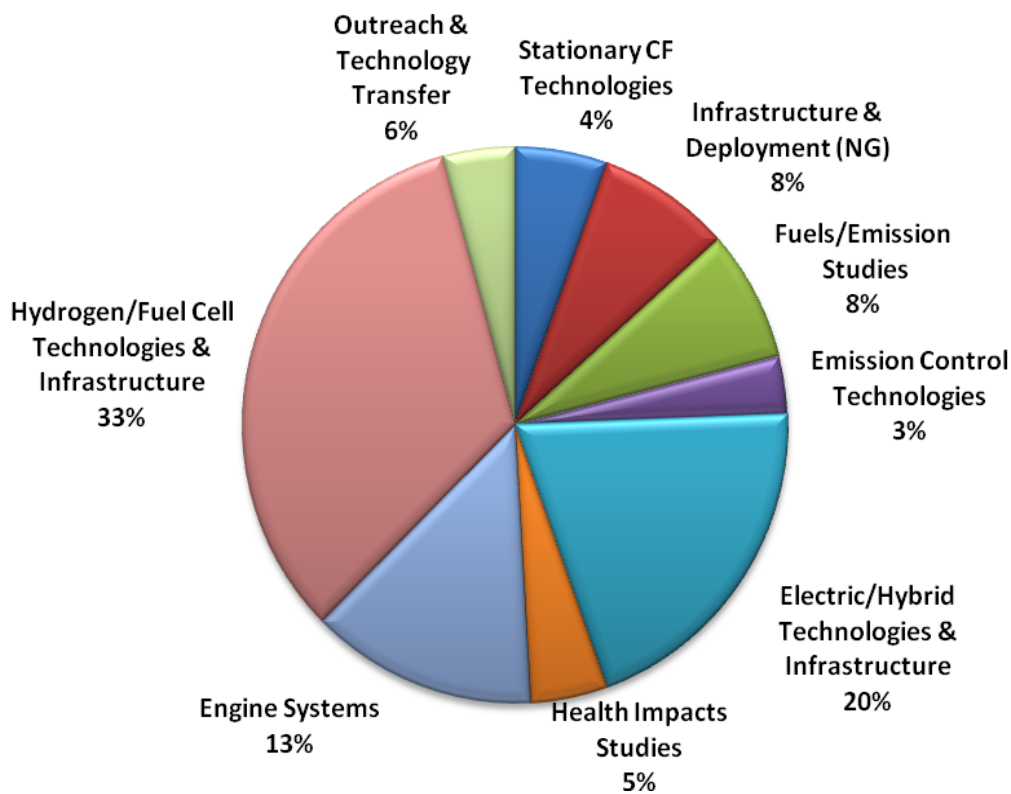
These technical priorities will necessarily be balanced by funding availability and the availability of qualified projects. Revenues from several sources support the SCAQMD’s Technology Advancement program. The principal revenue source is the Clean Fuels Program which, under H&SC Section 40448.5 and 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 CARB, CEC, NREL and the U.S. Departments of Energy and Transportation, also support technology advancement efforts.

The Plan Update is the result of a comprehensive planning and review process. This process included consideration of the 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 that capture the co-benefits of reduced GHG emissions and criteria pollutants. As part of this process, staff hosted two meetings in August 2014 and January 2015 to solicit input from the Clean Fuels Advisory Group, the Technology Advancement Advisory Group and other technical experts. During these meetings, the participants reviewed the current Technology Advancement projects and discussed near-term and long-term technologies as potential projects. In November 2014, the SCAQMD also hosted a technology forum on air quality sensors to discuss sensor

technology, performance and data quality, including technology demonstrations. Additionally, staff attended meetings with CARB, CEC, the California Fuel Cell Partnership, the California Plug-in Electric Vehicle Collaborative, the Transportation Research Board 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 2015 Clean Fuels Program Plan Update to the Technology Committee on November 21, 2014, and submitted it to the full SCAQMD Board to receive and file at its December 5, 2014 meeting. 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 2015 (\$16.4 million)**

The expected actual program expenditures for 2015 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 2015 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 2014 and adopt the Clean Fuels Plan Update for 2015 as well as find that the proposed projects do not duplicate programs of other organizations specified in the H&SC provision. And as required, the Annual Report and Plan Update have been reviewed by the SB 98 Clean Fuels Advisory Group.

**Attachments**

- A. Resolution
- B. Qualifications and Expertise of Proposed New Advisory Group Members
- C. TAO Clean Fuels Program 2014 Annual Report and 2015 Plan Update

## **ATTACHMENT A**

### **RESOLUTION NO. 15-**

**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 2014 and adopting the Clean Fuels Program Plan Update for 2015.**

**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 2014.

**BE IT FURTHER RESOLVED**, that the Board adopts the Technology Advancement Office Clean Fuels Program Plan Update for 2015.

**BE IT FURTHER RESOLVED**, that the Board hereby directs staff to forward the Technology Advancement Office Clean Fuels Program Annual Report 2014 and Plan Update 2015 to the California Legislature and the Legislative Analyst.

---

Dated:

---

Sandra McDaniel, Clerk of the Board

**ATTACHMENT B**  
**Qualifications and Expertise of Proposed New Advisory Group Members**

**Technology Advancement Advisory Group\*\***

<p>Fabiola P. Lao, Coalition for Clean Air</p>	<p>Fabiola P. Lao is the Deputy Policy Director for the Coalition for Clean Air (CCA). Prior to joining CCA, Fabiola served as Associate Organizing Representative for the Sierra Club working on the San Gabriel Mountains Forever campaign. The San Gabriel Mountains were designated a National Monument by President Obama on October 2014, and Fabiola’s leadership as chair of the campaign’s outreach committee was instrumental in achieving this success. Before working on public lands issues, Fabiola worked on developing policy advocacy campaigns in California for environmental health and environmental justice non-profit organizations. She was Program Coordinator at the Breast Cancer Fund, and Policy Analyst at the Latino Issues Forum. During graduate school she was a Governing Board intern at the South Coast Air Quality Management District. Fabiola has a Master of Public Administration degree from the University of Southern California. She also has dual Bachelor in Arts degrees in Interdisciplinary Studies (Public Health concentration) and Spanish from UC Berkeley. She was also a Fellow of the Women’s Policy Institute, a program of the Women’s Foundation of California.</p>
<p><i>WSPA rep</i></p>	<p><i>Appointment Pending</i></p>

*\*\*The charter of the TAAG requires membership changes to be approved by the Board’s Technology Committee.*

**ATTACHMENT C**

**TECHNOLOGY ADVANCEMENT OFFICE  
CLEAN FUELS PROGRAM  
2014 ANNUAL REPORT AND  
2015 PLAN UPDATE**

**South Coast Air Quality Management District  
March 2015**



# 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

Janice Rutherford\*  
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\*  
Councilmember, City of Rolling Hills  
Estates  
Los Angeles County, Western Region

Miguel A. Pulido\*  
Mayor, City of Santa Ana  
Orange County Cities

Ben Benoit  
Mayor, 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, Assistant Deputy Executive Officer, Technology Advancement Office  
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  
Vicki White, Program Supervisor

Vasken Yardemian, Sr. Staff Specialist

Walter Shen, Staff Specialist

Brian Choe, Air Quality Specialist  
Mark Coleman, 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

**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

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  
Penny Shaw Cedillo, Administrative Secretary  
Marjorie Eaton, Secretary  
Donna Vernon, Secretary  
Lani Montojo, Staff Assistant  
Michelle White, Staff Assistant  
Benigna Taylor, Contracts Assistant  
Ana Troccoli, Contracts Assistant  
Deanna Doerr, Senior Office Assistant  
Lizette Acosta, Office Assistant

## Table of Contents

<b>EXECUTIVE SUMMARY .....</b>	<b>EX-1</b>
<b>Clean Fuels Program Background &amp; Overview .....</b>	<b>1</b>
Program Background .....	1
Program Review .....	1
The Need for Advanced Technologies & Clean Fuels.....	2
Program Funding .....	6
2014 Overview .....	7
Core Technologies .....	7
<b>Clean Fuels Program Barriers, Scope and Impact .....</b>	<b>13</b>
Overcoming Barriers.....	13
Scope and Benefits of the Clean Fuels Program.....	14
Strategy and Impact .....	15
Research, Development and Demonstration.....	16
Technology Deployment and Commercialization .....	21
<b>2014 Funding &amp; Financial Summary .....</b>	<b>25</b>
Funding Commitments by Core Technologies .....	25
Review of Audit Findings .....	26
Project Funding Detail by Core Technologies.....	27
Project Summaries by Core Technologies .....	35
Electric/Hybrid Technologies .....	35
Engine Systems.....	40
Infrastructure & Deployment.....	40
Hydrogen Technology and Infrastructure .....	42
Mobile Fuel Cell Technologies.....	45
Health Impacts Studies .....	46
Fuels/Emissions Studies .....	48
Outreach and Technology Transfer .....	49
<b>Progress and Results in 2014 .....</b>	<b>55</b>
Key Projects Completed.....	55
<b>2015 Plan Update .....</b>	<b>65</b>
Overall Strategy .....	65
Funding Scope .....	66
Core Technologies .....	68
Target Allocations to Core Technology Areas.....	74
<b>Program Plan Update for 2015.....</b>	<b>75</b>
Funding Summary of Potential Projects .....	75
Technical Summaries of Potential Projects.....	80
Hydrogen and Fuel Cell Technologies & Infrastructure.....	80
Electric/Hybrid Technologies & Infrastructure .....	85
Engine Systems.....	91
Infrastructure and Deployment (NG).....	93
Fuels/Emission Studies .....	96
Health Impacts Studies .....	100
Stationary Clean Fuel Technologies .....	103
Emission Control Technologies.....	106
Outreach and Technology Transfer .....	108

**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, 2015 ..... B-1

**Appendix C**

Final Reports for 2014..... C-1

**Appendix D**

Acronyms ..... D-1

**Figures**

Figure 1: 2023 NO<sub>x</sub> Emissions by Category .....3  
 Figure 2: NO<sub>x</sub> Contributors by Sector.....3  
 Figure 3: Directly Emitted PM<sub>2.5</sub> Emissions (71 tons/day) .....4  
 Figure 4: Stages of Clean Fuels Program Projects .....14  
 Figure 5: Catenary-Accessible Trucks on the Siemens' Test Track in Berlin, Germany .....17  
 Figure 6: TransPower Electric Drayage Truck.....18  
 Figure 7: Class 7 Bucket Truck Equipped with Odyne Plug-In Hybrid Drive System .....19  
 Figure 8: Heavy-Duty NG Engine.....20  
 Figure 9: Typical Heavy-Duty Drayage Truck.....20  
 Figure 10: NREL's Fleet DNA Project Logo .....22  
 Figure 11: Hydrogen Dispenser at SCAQMD.....23  
 Figure 12: CDFA/DMS Testing .....23  
 Figure 13: Testing Fuel Cell Vehicles with the New Hydrogen Station .....23  
 Figure 14: LNG Station at Truck Stop Center on Valley Blvd. in Fontana .....24  
 Figure 15: LNG Station at Love's Travel Stop on Dillon Road in Coachella .....24  
 Figure 16: LNG Station under Construction at Arco Truck Stop on Cajalco Expressway  
 in Perris .....24  
 Figure 17: Distribution of Funds for Executed Clean Fuels Projects CY 2014 (\$14.3 million) ....26  
 Figure 18: Truck #2 with loaded container provided by Port of LA.....55  
 Figure 19: Location of the sampling sites .....56  
 Figure 20: Seasonal variation in source apportionment of quasi-ultrafine particles  
 (dp<0.25 µm) by site .....57  
 Figure 21: Variation in mass-based ROS Activity (ug Zymosan/mg PM) at different sampling  
 sites during: (a) spring, (b) summer, (c) fall and (d) winter. Error bars correspond to  
 one standard deviation. Dashed lines indicate the average of 9 sampling sites .....58  
 Figure 22: PDU SHR-WGS system .....59  
 Figure 23: SHR-WGS Process Diagram .....60  
 Figure 24: Projected Cost Distribution for Potential SCAQMD Projects in 2015 (\$16.4M).....74

**Tables**

Table 1: SCAQMD Major Funding Partners in CY 2014.....16  
 Table 2: Contracts Executed or Amended (w/\$) between January 1 & December 31, 2014 .....28  
 Table 3: Supplemental Grants/Revenue Received into the Clean Fuels Fund (31) in CY 2014....31  
 Table 4: Summary of Federal & State Funding Awarded between Jan. 1 & Dec. 31, 2014 .....32  
 Table 5: Projects Completed between January 1 & December 31, 2014 .....61  
 Table 6: Summary of Potential Projects for 2015 .....77

## EXECUTIVE SUMMARY

### Introduction

The South Coast Air Quality Management District (SCAQMD) is the air pollution control agency for all of Orange County and the urban portions of Los Angeles, Riverside and San Bernardino counties. This region, which encompasses all of the South Coast Air Basin plus small portions of the Mojave Desert and Salton Sea Air Basins, historically experiences the worst air quality in the nation due to the natural geographic and atmospheric conditions of the region coupled with the high population density and associated mobile and stationary source emissions. Recognizing this challenge, in 1988 the state established the SCAQMD's Clean Fuels Program (Program), along with the SCAQMD's Technology Advancement Office (TAO). The Clean Fuels Program affords the SCAQMD the ability to fund the development, demonstration and accelerated deployment of clean fuels and transportation technologies. For over 20 years, using funding received through a \$1 motor vehicle registration fee, the Clean Fuels Program has encouraged, fostered and supported clean fuels and transportation technologies such as hydrogen and fuel cells, natural gas engines and infrastructure, battery electric vehicles, plug-in hybrid electric vehicles and related fueling infrastructure. A key strategy of the Program is its implementation as a public-private partnership in conjunction with private industry, technology developers, academic institutions, research institutions and government agencies. The SCAQMD Clean Fuels Program has traditionally supported a portfolio of technologies, in different stages of maturity, to provide a continuum of emission reductions and health benefits over time.

Health & Safety Code (H&SC) 40448.5.1 requires the SCAQMD to annually prepare, and submit to the Legislative Analyst each year, a Clean Fuels Annual Report and Plan Update. The Clean Fuels Annual Report looks at what the Program accomplished in the prior calendar year (CY) and the Clean Fuels Plan Update looks ahead at proposed expenditures for the next CY, essentially re-calibrating the technical direction of the Program. This document comprises both the 2014 Clean Fuels Annual Report and the 2015 Plan Update.

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 identified the need for 200 tons/day oxides of nitrogen (NO<sub>x</sub>) reductions to be adopted by 2020 for full implementation by 2023 and in large part focused control measures on transportation technologies and cleaner fuels. 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."<sup>1</sup> 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). Ozone (smog) is created by a chemical reaction between NO<sub>x</sub> and volatile organic compounds (VOC) emissions at ground level. This is especially noteworthy because the largest contributor to ozone is NO<sub>x</sub> emissions, and mobile sources

---

<sup>1</sup> [http://www.arb.ca.gov/planning/vision/docs/vision\\_for\\_clean\\_air\\_public\\_review\\_draft.pdf](http://www.arb.ca.gov/planning/vision/docs/vision_for_clean_air_public_review_draft.pdf)

(on- and off-road as well as aircraft and ships) contribute to more than three-fourths of the NO<sub>x</sub> emissions in this region.

The daunting challenge to reduce ozone and NO<sub>x</sub> requires the Clean Fuels Program to encourage and accelerate advancement of transformative fuel and transportation technologies, leading the way for commercialization of progressively lower-emitting fuels and vehicles. If this region hopes to meet the 8-hour ozone standard (80 ppb) by 2023, it is projected that a 65% reduction in NO<sub>x</sub> is required. The NO<sub>x</sub> 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. In addition to NO<sub>x</sub> and VOCs, fine particulate matter (PM<sub>2.5</sub>) produced from mobile sources must also be reduced. . Given the relationship between NO<sub>x</sub>, ozone and PM<sub>2.5</sub>, the 2015 Plan Update must emphasize emission reductions in these areas.

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 is emphasized in the 2015 Plan Update portion of the report. The 2014 Annual Report highlights the projects contracted during the previous calendar year and reflects the current status of the program.

## **2014 Annual Report**

During CY 2014 the SCAQMD executed 65 new contracts, projects or studies and modified 7 continuing projects adding additional dollars toward research, development, demonstration and deployment (RDD&D) of alternative fuel and clean fuel technologies. Table 2 (page 28) lists these 72 projects or studies, which are further described in this report. The SCAQMD Clean Fuels Program contributed approximately \$14.3 million in partnership with other governmental organizations, private industry, academia and research institutes, and interested parties, with total project costs of nearly \$64.7 million. Table 3 (page 31) provides information on outside funding received into the Clean Fuels Fund (almost \$6 million in 2014) as cost-share passed through the SCAQMD for the contracts executed in CY 2014. Table 4 (page 32) provides a comprehensive summary of federal and state revenue awarded to the SCAQMD during CY 2014 (nearly \$20 million) for projects to be included within the Clean Fuels Program or which align well with and are complementary to the Clean Fuels Program.

The projects or studies executed in 2014 addressed a wide range of issues and opportunities with a diverse mix of advanced technologies. The following core areas of technology advancement for 2014 executed projects (in order of funding percentage) include:

- Electric and Hybrid Vehicle Technologies and Related Infrastructure (emphasizing electric and hybrid electric trucks and zero emission container transport technologies)
- Engine Systems (particularly heavy-duty natural gas engines for truck and rail applications)
- Fueling Infrastructure and Deployment (predominantly compressed and liquid natural gas)
- Hydrogen and Mobile Fuel Cell Technologies and Infrastructure
- Health Impacts Studies

- Fuels and Emission Studies
- Outreach and Technology Transfer

During CY 2014, 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 executed in CY 2014 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, natural gas fueling infrastructure, and development and demonstration of hydrogen technologies and infrastructure.

As of January 1, 2015, there were 121 open contracts in the Clean Fuels Program; these are summarized in Appendix B.

Forty research, development, demonstration and deployment projects or studies and six technology assessment and transfer contracts were completed in 2014, as listed in Table 5 (page 61). Appendix C comprises two-page summaries of the technical projects completed in 2014. 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, 2015, after approval by the SCAQMD Governing Board.

## **2015 Plan Update**

Every year TAO staff re-evaluates the Clean Fuels 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. As the state and federal governments have turned a great deal of their attention to climate change, the SCAQMD has remained committed to developing, demonstrating and commercializing zero and near-zero emission technologies. Fortunately many, if not the majority, of technology sectors that address our need for NO<sub>x</sub> reductions also garner greenhouse gas (GHG) reductions. Due to these “co-benefits,” the SCAQMD has been successful in partnering with the state and federal government. 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. These range 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<sub>x</sub>, 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<sub>x</sub> and PM<sub>2.5</sub> reductions will be needed to meet the federal PM<sub>2.5</sub> standard in 2015, significant NO<sub>x</sub> and PM<sub>2.5</sub> reductions will be necessary to meet the federal 8-hour ozone standards by 2023 and 2032, in addition to 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<sub>2.5</sub> standard of 12 µg/m<sup>3</sup>. 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 6 lists the potential projects across the core technologies identified in this report. Potential projects for 2015 total more than \$16.4 million, with anticipated leveraging of approximately \$79 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**

## **Background & Overview**

### **Program Background**

The Basin, which comprises all of Orange County and the urban portions of Los Angeles, San Bernardino and Riverside Counties, has the worst air quality in the nation due to a combination of factors, including high vehicle population, high vehicle miles traveled within the 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 to the Legislature, on or before March 31 of each year, an annual report that includes:

1. A description of the core technologies that the SCAQMD considers critical to ensure attainment and maintenance of ambient air quality standards and a description of the efforts made to overcome barriers to commercialization of those technologies;
2. An analysis of the impact of the SCAQMD's Clean Fuels Program on the private sector and on research, development and commercialization efforts by major automotive and energy firms, as determined by the SCAQMD;
3. A description of projects funded by the SCAQMD, including a list of recipients, subcontractors, 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.

Furthermore, H&SC section 40448.5.1(a)(2) requires the SCAQMD to find that the proposed program and projects funded as part of the Clean Fuels Program will not duplicate any other past or present program or project funded by the state board and other government and utility entities. This finding does not prohibit funding for programs or projects jointly funded with another public or private agency where there is no duplication. The following section describes the panel of external experts that helps review the Clean Fuels Program.

### **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. Current membership changes to both advisory groups, if required, will be considered by the SCAQMD Board and its Technology Committee, respectively, as part of consideration of the 2014 Annual Report and 2015 Plan Update. The current members of the SB 98 Clean Fuels Advisory Group and Technology Advancement Advisory Group are listed in Appendix A, with any proposed changes, subject to SCAQMD Board approval, duly noted.

The review process of the Clean Fuels Program now includes at least two full-day retreats of the two Advisory Groups, typically in the summer and winter, 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, along with adoption of a resolution finding that the proposed program and projects funded as part of the Clean Fuels Program will not duplicate any other past or present program or project funded by the state board and other government and utility entities, as required by the H&SC, and finally submittal of the Annual Report and Plan Update to the Legislature by March 31 of every year.

## **The Need for Advanced Technologies & Clean Fuels**

Achieving federal and state clean air standards in Southern California will require emission reductions from both mobile and stationary sources beyond those expected using current technologies. The need for advanced technologies and clean fuels is best illustrated by Figure 1 below, which identifies NO<sub>x</sub> emissions by category and identifies just how far those emissions must be reduced to meet federal standards by 2023 and 2032.

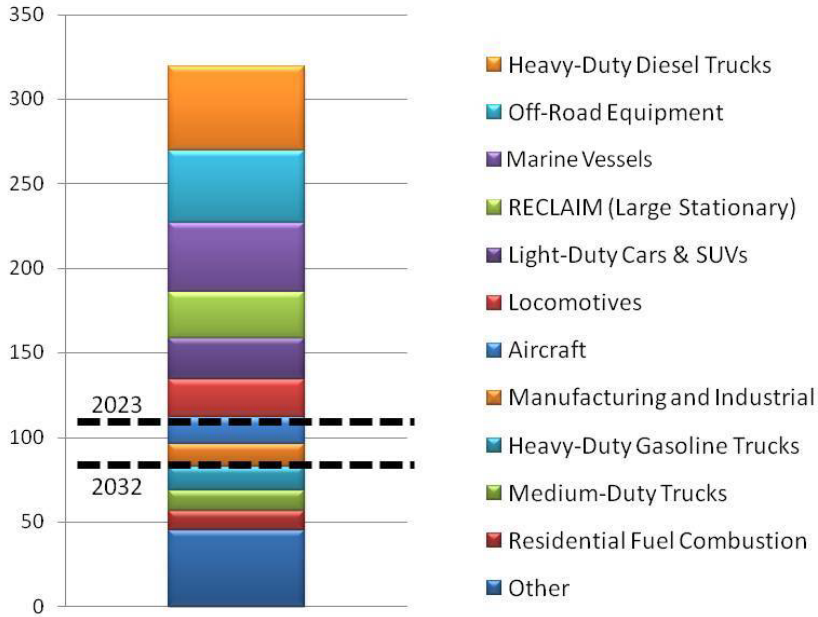


Figure 1: 2023 NO<sub>x</sub> Emissions by Category

Additionally, the following piechart reflects NO<sub>x</sub> 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<sub>x</sub> by 2020 as well as why this region is recognized as an extreme ozone nonattainment area.

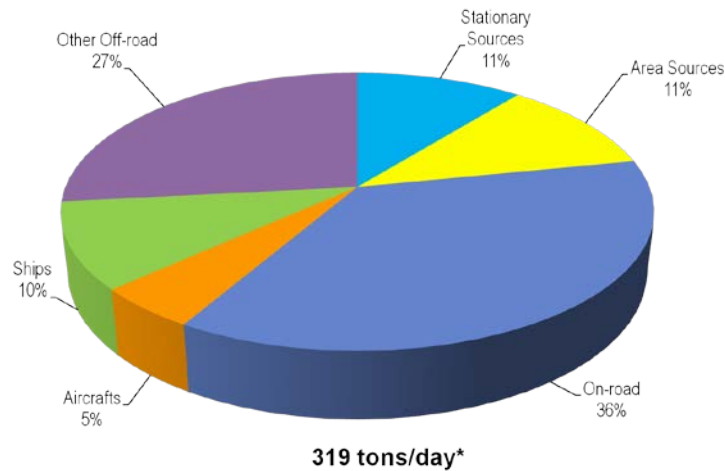
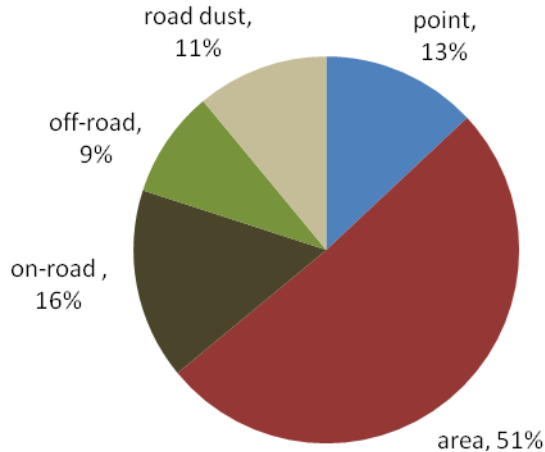


Figure 2: NO<sub>x</sub> Contributors by Sector

Finally, the following piechart reflects the relative contribution of PM<sub>2.5</sub> by source category to the 2023 emission inventory for an average annual day. A supplement to the 24-hour PM<sub>2.5</sub> SIP will address further PM reductions since preliminary 2014 data indicates that the 24-hour PM<sub>2.5</sub> standard was not attained in 2014 due to extreme drought conditions but attainment is anticipated in 2015.



**Figure 3: Directly Emitted PM<sub>2.5</sub> Emissions (71 tons/day)**

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 (80 ppb, 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<sub>x</sub> and VOC. The 2012 AQMP's estimate of needed NO<sub>x</sub> reductions, as well as the 2016 AQMP currently being drafted to meet federal ozone standards, 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<sub>x</sub> 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 showed 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. While the goal of MATES IV, like the prior studies, was to assess air toxic levels, update risk characterization, and determine gradients from selected sources, MATES IV added ultrafine PM and black carbon monitoring components as well. A draft report on the findings was released for public review in October 2014. The study found a dramatic decrease in ambient levels of diesel particulate matter and other air toxics. Diesel PM was still the major driver of air toxics health

risks. While the levels and exposures decreased, a revision to the methods used to estimate cancer risk from toxics developed by the California Office of Health Hazard Identification will increase the calculated risk estimates from these exposures by a factor of up to three.

There are many federal and state activities, most of which focus on energy security and GHG reductions, which complement and amplify the Clean Fuels Program. For example, the federal government has launched several programs (EV Everywhere Grand Challenge and Zero Emission Cargo Transport or ZECT 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 2007 Low Carbon Fuel Standard (LCFS) required producers of petroleum-based fuels to reduce their product's carbon intensity, beginning in 2011 and culminating in a 10 percent total reduction by 2020. However, CARB is currently revising the LCFS regulation and proposed provisions are designed to foster investments in the production of low carbon intensity fuels. Hopefully, this will accelerate research into alternatives to oil and traditional fuels. 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 directing regional planning agencies to develop land-use strategies to meet the targets. While the landmark Global Warming Solutions Act of 2006 (AB 32) required California's greenhouse gas emissions to be capped at 1990 levels by 2020, 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.

Also 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 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 zero emission 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. The Governor followed up his 2012 Executive Order by issuing a ZEV Action Plan in early 2013 to establish milestones to reach his goal of 1.5 million ZEVs in California by 2025.

In early January 2015, Governor Brown's state-of-the-state address included ambitious goals to help meet California climate targets for 2030 and beyond, including increasing the amount of electricity generated from renewable sources from 33 to 50 percent and reducing the use of petroleum in cars and trucks by up to 50 percent from today's levels.

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).

The Clean Fuels 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 program funding, provide a 2014 overview and describe core technologies of the Clean Fuels Program.

## Program Funding

The Clean Fuels Program is established under California H&SC Sections 40448.5 and 40512 and Vehicle Code Section 9250.11. This legislation establishes mechanisms to collect revenues from mobile and stationary sources to support the program objectives and identifies the constraints on the use of funds. In 2008, these funding mechanisms were reauthorized under SB 1646 (Padilla), which removed the funding sunset of January 1, 2010, and established the five percent administrative cap instead of the 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 2014 the funds available through each of these mechanisms were as follows:

- |   |              |
|---|--------------|
| • Mobile sources (DMV revenues)               | \$12,742,599 |
| • Stationary sources (emission fee surcharge) | \$345,016    |

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 31) lists supplemental grants and revenues totaling nearly \$6 million for contracts executed in CY 2014. Table 4 (page 32) lists federal and state revenue totaling nearly \$20 million awarded to the SCAQMD in 2014 for projects that will be part of the Clean Fuels Program or align well and will 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 2014, the Clean Fuels Program leveraged each \$1 to approximately \$5 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 2014 are listed in Table 1 (page 16).

## **2014 Overview**

This report summarizes the progress of the SCAQMD Clean Fuels Program for CY 2014. The SCAQMD Clean Fuels 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.

This report also highlights achievements and summarizes project costs of the SCAQMD Clean Fuels Program in this period. During the period between January 1 and December 31, 2014, the SCAQMD executed 65 new contracts, projects or studies and modified 7 continuing projects adding additional dollars during CY 2014 that support clean fuels and advanced zero, near-zero and low emission technologies. The SCAQMD Clean Fuels Program contribution for these projects was approximately \$14.3 million, inclusive of nearly \$6 million received into the Clean Fuels Program as cost-share for contracts executed in this reporting period, with total project costs of nearly \$64.7 million. These projects address a wide range of issues with a diverse technology mix. The report not only provides information on outside funding received into the Clean Fuels Fund as cost-share for contracts executed in this period (summarized in Table 3), but also funds awarded to the SCAQMD for projects to be included in the Clean Fuels Program or which align well and are complementary to the Clean Fuels Program (\$20 million in 2014). More details on this financial summary can be found later in this report. The SCAQMD will continue to pursue federal and state funding opportunities in 2015 to amplify leverage, while acknowledging that support of a promising technology is not contingent on outside cost-sharing.

## **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)
- Engine Systems (particularly heavy-duty natural gas engines for truck and rail applications)
- Infrastructure and Deployment (predominantly compressed and liquid natural gas)
- Hydrogen and Fuel Cell Technologies and Infrastructure
- Emissions, Fuels and Health Impacts Studies
- Stationary Clean Fuels Technologies
- Emission Control Technologies
- Outreach and Technology Transfer

The SCAQMD continually seeks to support the deployment of lower-emitting technologies. The Clean Fuels Program is shaped by two basic factors:

1. Low, near-zero and zero emission technologies needed to achieve clean air standards in the Basin; and
2. Available funding to support technology development within the constraints imposed by that funding.

The SCAQMD strives to maintain a flexible program to address dynamically evolving technologies and the latest progress in the state of the technology while balancing the needs in the various technology sectors with technology readiness, emissions reduction potential and co-funding opportunities. Although the SCAQMD program is significant, national and international activities affect the direction of technology trends. As a result, the SCAQMD program must be flexible in order to leverage and accommodate these changes in state, national and international priorities. Nonetheless, while the state and federal governments have turned a great deal of their attention to climate change, the SCAQMD has remained committed to developing, demonstrating and commercializing zero and near-zero emission technologies. Fortunately many, if not the majority, of technology sectors that address our need for NO<sub>x</sub> reductions also garner greenhouse gas (GHG) reductions. Due to these “co-benefits,” the SCAQMD has been successful in partnering with the state and federal government. 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. To do this, the SCAQMD employs a number of outreach and networking activities. These range 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. 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. Every year TAO staff re-evaluates the Clean Fuels Program to craft a comprehensive plan (referred to as the 2015 Plan Update within this document) essentially recalibrating the compass for 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<sub>x</sub> technologies and clean energy alternatives such as fuel cells, solar power and other renewable energy systems. The focus on recent years has been on zero and near-zero emission technologies to reduce emissions from mobile sources, which contribute to more than three-fourths of the NO<sub>x</sub> emissions in this region. And while mobile sources include both on- and off-road vehicles as well as aircraft and ships, only the federal government has the authority to regulate emissions from aircraft and ships. As previously mentioned, however, in 2011, CARB adopted amendments to low-sulfur marine fuel requirements to extend the nautical zone out from the ports.

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 impacts or benefits, 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. 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 2014-15 Goals and Priority Objectives, which is to continue demonstration and deployment of projects achieving zero tailpipe emissions for container transport.

### **Engine Systems**

Medium- and heavy-duty on-road vehicles contributed approximately 36 percent of the Basin's NO<sub>x</sub> based on 2007 AQMP data. More importantly, on-road heavy-duty diesel engines contributed almost 60 percent of the on-road mobile source PM<sub>2.5</sub>, 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<sub>x</sub> and 7.5 tons per day of PM emissions in the Basin. Furthermore, while MATES IV found a dramatic decrease in ambient levels of diesel PM and other air toxics, diesel PM is still the major driver of air toxics health risks. Clearly, significant emission reductions will be required from mobile sources, especially from the heavy-duty sector, to attain the federal clean air standards.

The use of alternative fuels in heavy-duty vehicles can provide significant reductions in NO<sub>x</sub> and particulate emissions. The current NO<sub>x</sub> emissions standard for heavy-duty engines is 0.2 g/bhp-hr. The SCAQMD, along with various local, state and federal agencies, continues to support the development and demonstration of alternative fueled low-emission heavy-duty engine technologies, using 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.

### **Infrastructure and Deployment (NG)**

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. Having said that, there is a concern that falling oil prices may cause a resurgence in diesel fuel desirability and movement away from natural gas use. 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. AB 8 requires CARB to annually assess current and future FCVs and hydrogen stations in the marketplace. Their findings dated June 2014 report that there are 125 FCVs registered with DMV, and major automakers estimate there will be approximately 6,650 FCVs by 2017 and 18,500 by the end of 2020. CARB further finds that a total of 51 stations will be operational statewide by the end of 2015, but that another 49 will be needed to meet the expected vehicles out to 2020. Clearly, the SCAQMD must continue to support the infrastructure required to refuel the 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.

### **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 because of the methyl ester compound contained in the hydrocarbon chain, can contribute to higher NO<sub>x</sub> emissions while reducing other criteria pollutant emissions. Renewable diesel, on the other hand, may achieve reductions in NO<sub>x</sub> because of its different composition. Additionally, despite recent advancements in toxicological research related to air pollution, the relationship between particle chemical composition and health effects is still not completely understood, especially for biofuels. Therefore, a couple of years ago the SCAQMD funded studies to investigate the physical and chemical composition and toxicological potential of tailpipe PM emissions from biodiesel and ethanol fueled vehicles to better understand their impact on public health. Studies continued in 2014 to further investigate the toxicological potential of emissions, such as ultrafine particles and vapor phase substances, and to determine whether or not other substances such as volatile or semi-volatile organic compounds are being emitted in lower mass

emissions that could pose harmful health effects. Given CARB's recent Alternative Diesel Fuel regulation, new biofuel blends may come into the marketplace and the SCAQMD should not only be part of the discussion surrounding commercialization of these fuels, but continue to assess their impact on criteria pollutants and air quality in this region.

### **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.

### **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.

### **Outreach and Technology Transfer**

Since the value of the Clean Fuels Program depends on the deployment and adoption of the demonstrated technologies, outreach and technology transfer efforts are essential to its success. This core area encompasses assessment of advanced technologies, including retaining outside technical assistance as needed, efforts to expedite the implementation of low emission and clean fuels technologies, coordination of these activities with other organizations and information dissemination to educate the end user. Technology transfer efforts include support for various clean fuel vehicle incentive programs as well.



# CLEAN FUELS PROGRAM

## Barriers, Scope and Impact

### Overcoming Barriers

Commercialization and implementation of advanced technologies come with a variety of challenges and barriers. A combination of real-world demonstrations, education, outreach and regulatory impetus and incentives is necessary to catalyze new, clean technologies. 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. Barriers 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
- Fuel availability/convenience issues
- Certification, safety and regulatory barriers
- Quantifying emissions benefits
- Sustainability of market and technology

#### Project-Specific Issues

- Identifying a committed demonstration site
- Overall project cost and cost-share using public monies
- Securing the fuel
- Identifying and resolving real & perceived safety issues
- Quantifying the actual emissions benefits
- Viability of the technology provider

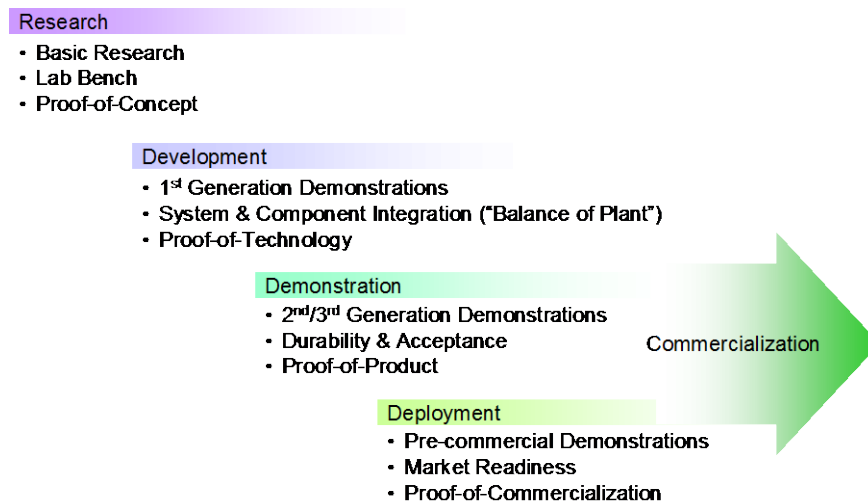
Other barriers include reduced or shrinking research budgets, infrastructure and energy uncertainties and risks, sensitivity to multi-media environmental impacts and the need to find balance between environmental needs and economic constraints. The SCAQMD seeks to address these barriers by establishing relationships through unique public-private partnerships with key stakeholders; e.g., industry, end-users and other government agencies with a stake in developing clean technologies. Partnerships that involve all the key stakeholders have become essential to address these challenges in bringing advanced technologies from development to commercialization.

Each of these stakeholders and partners contributes more than just funding. Industry, for example, can contribute technology production expertise as well as the experience required for compatibility with process operations. Academic and research institutes bring state-of-the-technology knowledge and testing proficiency. Governmental and regulatory agencies can provide guidance in identifying sources with the greatest potential for emissions reduction, assistance in permitting and compliance issues, coordinating of infrastructure needs and facilitation of standards setting and educational outreach. Often, there is considerable synergy in developing technologies that address multiple goals of public and private bodies regarding the environment, energy and transportation.

## Scope and Benefits of the Clean Fuels Program

Since the time needed to overcome barriers can be long and the costs high, both manufacturers and end-users tend to be discouraged from considering advanced technologies. The Clean Fuels Program addresses these needs by co-funding research, development, demonstration and deployment projects to share the risk of emerging technologies with their developers and eventual users.

Figure 4 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 4: 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 (as well as their renewable hydrogen station).
- 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 NO<sub>x</sub> 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.

## Strategy and Impact

In addition to the feedback and input detailed in Program Review (pages 1-2), the SCAQMD actively seeks additional partners for its program through participation in various working groups, committees and task forces. This participation has resulted in coordination of the SCAQMD program with a number of state and federal government organizations, including CARB, CEC, U.S. EPA and 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 California Fuel Cell Partnership (CaFCP), the California Stationary Fuel Cell Collaborative, the California Natural Gas Vehicle Partnership (CNGVP), the California Plug-In Electric Vehicle (PEV) Collaborative, the Electric Power Research Institute (EPRI), the West Coast Collaborative, which is part of the National Clean Diesel Campaign, and the Manufacturers of Emission

Controls Association (MECA). The coordination efforts with these various stakeholders have resulted in a number of cosponsored projects.

Descriptions of some of the key contracts executed in CY 2014 are provided in the next section of this report. It is noteworthy that most of the projects are cosponsored by various funding organizations and include the active involvement of original equipment manufacturers. 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 2014 Project Summaries (beginning page 28) contained within this report.

**Table 1: SCAQMD Major Funding Partners in CY 2014**

<b>Research Funding Organizations</b>	<b>Major Manufacturers/Providers</b>
California Air Resources Board	Ports of Los Angeles & Long Beach
California Energy Commission	Southern California Gas Company
National Renewable Energy Laboratory	University of California Riverside/ CE-CERT
U.S. Department of Energy	Other California Universities (Davis, Irvine, LA)
U.S. Environmental Protection Agency	Siemens Industry Inc.
	Transportation Power Inc.

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 2014. Such examples are provided in the following sections on the Technology Advancement Office’s Research, Development and Demonstration projects and Technology Deployment and Commercialization efforts.

### ***Research, Development and Demonstration***

Important examples of the impact of the SCAQMD research and development coordination efforts include: (a) development and demonstration of a catenary zero emissions goods movement system in conjunction with development and demonstration of diesel catenary hybrid electric trucks; (b) development of Class 8 zero emission electric trucks; (c) development of a plug-in hybrid electric retrofit system for Class 6-8 trucks; (b) development, integration and demonstration of ultra-low emission natural gas engines for heavy-duty vehicle applications; and (e) a health study to develop quantitative cellular assays for use in understanding the chemical basis of air pollutant toxicity.

#### **Develop and Demonstrate Catenary Zero Emissions Goods Movement System**

The SCAQMD has identified the development and deployment of zero-emissions goods movement transportation systems as one of the agency’s top priorities in order to attain federal air quality standards. Zero-emission transportation and goods movement technologies are also being proposed in SCAG’s 2012 Goods Movement Appendix to the Regional Transportation Plan as



well as the joint CARB, SCAQMD and SJVAPCD “Vision for Clean Air: A Framework for Air Quality and Climate Planning”. Zero-emission truck lanes are also being considered for the I-710 freeway expansion, which is an approximately 20 mile north-south trade corridor.

The primary goal of this project is to promote the implementation of zero-emission goods movement technologies, and the secondary goal is to demonstrate the most viable technology to be adopted for a future, regional zero-emissions corridor. Although this project is for a one-mile demonstration, the potential next phase is to build out the remaining route from the ports to the near-dock rail yard which is approximately 5 miles. Subsequent phases would be to initiate the design and build the same or similar technology for the I-710 expansion and an east-west trade corridor for containers going to the Inland Empire warehouses.

Siemens Industry Inc. (Siemens) has designed and demonstrated a catenary truck technology, eHighway, in Germany on a European truck chassis. For this project, Siemens proposes to bring the eHighway technology to southern California with their partner Volvo and to develop and demonstrate a catenary plug-in hybrid electric truck technology. The hybrid drive system will extend the operating range of the truck beyond the all-electric range of the catenary system, enabling the truck to perform regional drayage operations and bridge gaps in catenary infrastructure as it is deployed on a regional level. Siemens and Volvo propose to develop and integrate a Mack Granite Vision diesel hybrid electric class 8 truck configured to operate on the catenary system. The vehicle will use Volvo’s current hybrid 150 kW electro-mobility propulsion system, upgraded with a pantograph to operate on the eHighway system. The Siemens’ pantograph system will allow for seamless connection and detachment from the catenary power source. When entering the catenary system corridor, the pantograph system will verify the



**Figure 5: Catenary-Accessible Trucks on the Siemens' Test Track in Berlin, Germany**

presence of catenary lines and allow the driver to raise the pantograph from within the cab of the truck. Upon leaving the catenary lane, the pantograph will automatically retract and the truck will switch to on-board power systems. The on-board power systems could be a range of technologies, including batteries, fuel cells or internal combustion engines.

There will be a total of four trucks operating on the catenary system. There will be the one from Volvo mentioned above plus three more from other projects initiated by SCAQMD. TransPower, a local integrator, will develop two trucks--a CNG hybrid and battery electric truck, and Kenworth, with its partner BAE Systems, will develop and test a CNG hybrid.

### **Develop and Demonstrate Additional Class 8 Zero Emission Battery Electric Trucks**

Heavy-duty diesel trucks in the South Coast Air Basin remain a significant source of emissions with adverse health effects, especially in the surrounding communities along the goods movement corridors near the Ports of Los Angeles and Long Beach and next to major freeways. In order to mitigate the impact and attain stringent federal ozone standards, SCAQMD has been aggressively promoting and supporting the development and deployment of advanced zero-emission cargo transport technologies, including battery electric trucks.

In October 2012, Transportation Power Inc. (TransPower) was awarded \$1.14 million, as part of a DOE grant, to develop and demonstrate four Class 8 zero emission battery electric drayage trucks

in real world operations, transporting cargo containers from the Ports of Los Angeles and Long Beach to local warehouses and intermodal facilities. Subsequent to the award, TransPower received additional funding from CEC and the San Pedro Bay Ports' Technology Advancement Program to develop three more electric drayage trucks to demonstrate a total of seven trucks. This project is to cost-share the development and demonstration of the three additional trucks and also to fund related engineering design upgrades. These upgrades are based on lessons learned from the manufacture and operation of a prototype electric truck, which was also previously cost shared by the SCAQMD. TransPower anticipates the upgrades will collectively increase the operating efficiency and reduce vehicle assembly costs by approximately 25 percent, significantly improving the commercial value of the drive system.

Some of the key advances to be developed and incorporated in this project include the following:

- Automated manual transmission – a development of proprietary software to precisely match powertrain gearing to vehicle torque requirements, improving performance and operating efficiency. It will also achieve significant cost savings through the use of a lower-cost off-the-shelf manual transmission.
- Advanced energy storage subsystem – a major redesign of the battery pack to simplify the assembly and servicing of the trucks with a larger and more rugged battery enclosures, requiring much less wiring and connectors. A new battery management system (BMS) will be also developed to communicate more reliably and balance cells faster and more efficiently than competing BMS boards, improving the operating range and battery life.
- Power control and accessory subsystem – an innovative concept to pre-integrate most vehicle controllers and electrically driven accessories on a module before vehicle installation. Previously, these components were mounted directly onto the vehicle in various locations, requiring complex wiring and hundreds of hours for installation. This new pre-integration approach will not only be easier and safer but will also reduce significant time and costs in assembly and servicing of production vehicles.



**Figure 6: TransPower Electric Drayage Truck**

TransPower will partner with Total Transportation Services, Inc., a licensed motor carrier operating at the Ports of Los Angeles and Long Beach and other fleet operators, to demonstrate these trucks in revenue drayage service for two years or more to evaluate their performance and reliability.

### **Develop and Demonstrate Plug-In Hybrid Electric Retrofit System for Class 6 to 8 Trucks**

The objectives of this project are to develop and design a retrofit plug-in hybrid electric system for work truck applications, such as bucket trucks, digger derricks, and underground utility trucks. During the two-year period of the project, the Odyne Systems will develop and evaluate concept designs, produce a selected concept, and evaluate one plug-in hybrid-electric medium-

and heavy-duty work truck with extended stationary engine-off technology. The one vehicle will be deployed in the South Coast Air Basin. The primary objectives of this project are:

- To improve specific aspects of the existing system through the use of smaller, lower cost components.
- To optimize the system and selected powertrain components for high volume production to enhance commercial appeal through lower-cost products and components.
- To match the size of the power electronics and energy storage device to customer duty cycle and work practice.

To quantify improvements in fuel economy and emissions the project will gather vehicle and component performance data during deployment that will enable the operating cost and environmental impact of the vehicle to be assessed. The Odyne hybrid retrofit solution will



**Figure 7: Class 7 Bucket Truck Equipped with Odyne Plug-In Hybrid Drive System**

provide fleets an option in the SCAQMD to address the emissions that are being created from existing diesel vehicles within the fleet. This option will provide an immediate impact on the emissions being created and will not require the fleets to turn over the entire fleet to have a significant impact on emissions. On new vehicles the fleets can continue to purchase vehicles with the Odyne plug-in hybrid solution and retire the oldest, highest emission producing vehicles in the fleet. The Odyne retrofit solution will also provide an economical solution to address the existing vehicles within the South Coast Air Quality District. With retrofit vehicles having a shorter life before they are retired, the retrofit solution needs to

provide a payback within three to five years. With fuel and maintenance savings of \$5,000 to \$8,000 per year and a targeted sell price of less than \$30,000.00, the Odyne retrofit solution should provide those benefits for many applications.

### **Develop, Integrate and Demonstrate Ultra-Low Emission Natural Gas Engines from On-Road Heavy-Duty Engines**

Heavy-duty on-road diesel vehicles are currently one of the largest sources of NO<sub>x</sub> emissions in the South Coast Air Basin. This source category is still projected to be one of the largest contributors to NO<sub>x</sub> emissions, even as the legacy fleet of older and higher polluting vehicles are retired from operation and replaced by the vehicles meeting the most stringent emission levels required by 2010 emissions standards. The 2012 AQMP showed that NO<sub>x</sub> reductions in excess of 60% will be needed from all source categories to meet future federal ambient air quality standards for ozone. The development of ultra-low emission natural gas engines would significantly reduce emissions from this source category and assist the region in meeting federal ambient air quality standards in the future.

SCAQMD worked closely with the California Energy Commission, Southern California Gas Company and the U.S. Department of Energy to craft a Request for Proposals to solicit proposals for the development of an ultra-low NO<sub>x</sub> emissions engine. CARB also adopted optional

emission standards of 0.02 g/bhp-hr to enable incentive funding which improves market opportunity.

Cummins, Inc. proposed to develop, integrate and demonstrate in typical operations a 15L natural gas engine meeting the optional standard of 0.02 g/bhp-hr NO<sub>x</sub>, which is 90% lower than current 2010 emission standards, 0.01 g/bhp-hr PM, 0.14 g/bhp-hr NMHC, and 15.5 g/bhp-hr CO with a maximum average of 10 ppm ammonia during the U.S EPA Heavy-Duty Engine Federal Test Procedure (HD-FTP).

NO<sub>x</sub> emissions 90% lower than current production engines will require improved and



**Figure 8: Heavy-Duty NG Engine**



**Figure 9: Typical Heavy-Duty Drayage Truck**

more uniform combustion cycle to cycle within each cylinder and from cylinder to cylinder as well as improved low temperature NO<sub>x</sub> control during engine startup and engine idling periods. As a result, the project provides for extensive theoretical engine and after treatment computer modeling, component bench testing, and prototype engine tests during the first year. A design review after the first year determines whether the project should continue to development of a pre-production engine for optimizing calibrations and emission certification tests.

Upon successful HD-FTP tests, two production-intent engines will be integrated into commercial trucks for a six month field demonstration in typical service including chassis dynamometer tests. The goal of this project is to achieve a production-intent ultra-low NO<sub>x</sub> emission natural gas heavy-duty engine that could enter the market by 2020. The target vehicle applications include Class 8 refuse, goods movement and drayage trucks.

### **Develop Quantitative Cellular Assays for Use in Understanding the Chemical Basis of Air Pollutant Toxicity**

The objective of this research is to develop a biological mechanism-based analytical procedure to characterize the toxicity air pollutants. The study is developing and characterizing a standard in quantities sufficient to be employed in subsequent toxicity analyses of vehicle emissions and ambient pollutants. The project aims to collect a large quantity of diesel exhaust, including both particulate and vapor phase, from a well-characterized engine using low-sulfur fuel as the standard. Quantitative dose response toxicity assays can then be conducted with, for example, emissions from advanced technology engines to compare with results from assays using the standard diesel emissions. This will provide a measure of the relative toxic potency of vehicle emissions that can be directly compared in standard assays.



This project builds upon the toxicity assays developed under the auspices of the Southern California Particle Center, which was sponsored by U.S. EPA. The assays target specific biochemical pathways and proteins that are thought to be involved in the toxicity of pollutants. The pathways include inflammation, cellular oxidation potential and chemical reactions with cellular proteins. Specific chemical assays will be used, as well as specific macrophage cell lines that have been used in previous air pollution toxicity studies. Standard protocols are being developed that can be applied to collected pollutant samples.

The results of this project will provide information to help understand the linkage between sources, chemical composition and the toxicity of emissions from motor vehicles, which will provide a strong scientific basis on which to develop and to assess strategies designed to protect the public from exposure to motor vehicle emissions. This study will provide advanced tools for assessing the relative toxicity of emissions sources and which technologies may be more important in reducing potential health effects from exposures to particles as well as to semi-volatile organic substances. These tools can then be used to quantify the benefits of using alternate and advanced technology to reduce emissions derived from motor vehicles and from other emissions sources. Additionally, development of these toxicity assays will be an invaluable resource to particulate matter exposure and health studies in the Los Angeles Basin.

### ***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 2014 reporting period illustrate the impact of the SCAQMD’s technology deployment and commercialization efforts and include: (a) participation in NREL’s Fleet DNA Study; (b) construction of eight retail hydrogen fueling stations; and (c) continuing support for natural gas fueling stations.

#### **Fleet DNA Study**

On-road medium- and heavy-duty trucks are a significant source of NO<sub>x</sub> emissions in the South Coast Air Basin (SCAB). Consequently, research is needed to determine how this source of emissions can be significantly reduced at minimum cost to facilitate attainment of ambient air quality standards by 2023 and 2032. The SCAQMD is cost-sharing National Renewable Energy Laboratory (NREL)’s Fleet DNA Project to collect and analyze data on truck fleet operations in the SCAB in order to determine the best approach for the deployment of advanced technologies in this sector.

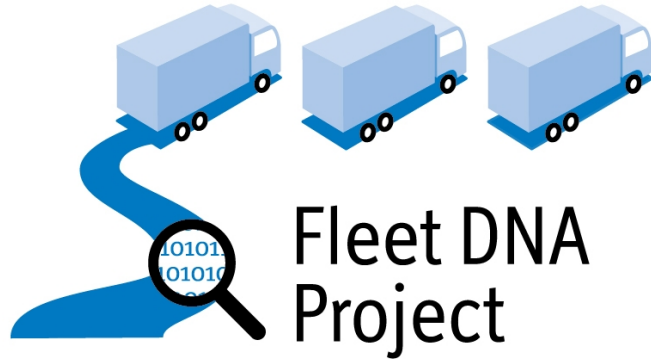


Figure 10: NREL's Fleet DNA Project Logo

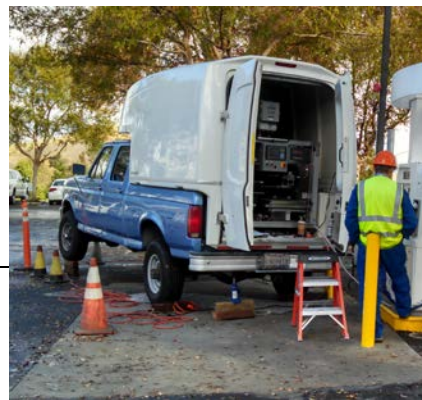
This project will be divided into three tasks. The first task is the identification of appropriate fleet vocations by using existing databases to determine emissions inventory contribution. This will involve, for example, the analysis of population, age distribution, annual vehicle miles traveled, and estimated fuel usage for specific fleet vocations. Fleet vocation categories that may be analyzed as part of this task include refuse, urban delivery, drayage and long haul applications. At the conclusion of this task, the highest ranking fleet vocations will be recommended for further data collection and analysis of operational characteristics. The second task is the collection of operational data on three selected fleets representing different vocations. Sufficient operational data will be collected to 'bracket' the range of operation for each vocation, using NREL's Drive-cycle Rapid Investigation, Visualization and Evaluation Tool (DRIVE). The final task entails the use of NREL's Future Automotive Systems Technology Simulator Tool (FASTSim), utilizing drive cycle information generated with DRIVE in the previous task, to evaluate the impact of technology improvements on emissions, vehicle efficiency, performance, cost and operating economics where applicable. Examples of technologies to be assessed include electrification, natural gas, biofuels, aerodynamic improvements, mass reduction and engine sizing.

### Construction of Eight Hydrogen Fueling Stations including SCAQMD's Diamond Bar Station

In late 2010, the CEC released a Notice of Proposed Award (NOPA) recommending funding for eight projects that would develop hydrogen fueling infrastructure within the South Coast Air Basin. The eight stations will be strategically located and will play a significant role by providing hydrogen in Southern California in areas with high fuel cell vehicle densities. The SCAQMD cost-shared this project to offset high initial costs and investment for production and distribution of hydrogen infrastructure.

The eight proposed hydrogen fueling stations will be new, publicly accessible, next generation (35 MPa and 70 MPa) hydrogen fueling stations located throughout Southern California, including the construction and upgrade of an existing station at SCAQMD Headquarters in Diamond Bar. They will utilize improved delivery technologies to reduce the cost of transporting low-priced hydrogen made in centrally located facilities with high availability. The station

concepts are simple, modular, expandable to full-sized station capacities, and reduce initial capital costs and overall site maintenance costs. The modular design incorporates a minimized station footprint to utilize existing retail gasoline forecourt locations and can be readily duplicated at a majority



of existing gasoline retail stations in a number of markets for the broadest deployment. Due to the requirements of SB 1505, 33% of hydrogen dispensed will be made from renewable resources.

The first station at SCAQMD will serve as the model for other modularly constructed delivered-hydrogen stations and will accept major credit cards. EPC LLC entered into a license agreement to operate SCAQMD’s hydrogen fueling station in Diamond Bar. The license allows EPC to assign or sublet with SCAQMD’s written permission; Air Products and Chemicals, Inc. will be providing equipment maintenance. EPC LLC obtained all permits for construction, maintenance and operation and will be operating the station for three years, including installation and operation of a point-of-sale (credit card) system. The California Department of Food and Agriculture, Division of Measurement Standards (CDFA/DMS) conducted accuracy testing and issued a permit on February 11, 2015. The City of Diamond Bar subsequently issued an operating permit on February 17, 2015, and a Dedication Ceremony is scheduled for March 25, 2015. When final Type Evaluation for accuracy and consistency is successfully completed, this dispenser can be used at multiple stations with reduced testing cost and time.

Figure 11: Hydrogen Dispenser at SCAQMD

Figure 12: CDFA/DMS Testing



Figure 13: Testing Fuel Cell Vehicles with the New Hydrogen Station

### Continuing Support for Natural Gas Fueling Stations

Goods movement throughout Southern California and the increased number of heavy-duty Class 8 LNG-powered trucks used for moving these goods has increased the demand for LNG refueling in this region. One contract modification executed in 2014 was to provide an additional \$1 million in funding to Clean Energy using funds from a CEC AB 118 grant. The \$1 million brought the contract with Clean Energy to \$1.4 million to provide funding for construction, operation and maintenance of three public access LNG projects. All three Clean Energy LNG sites are positioned near major highway corridors which serve as goods movement conduits for many heavy-duty vehicles in the South Coast and the Coachella Valley Air Basins. The three stations are located as follows: Fontana (San Bernardino County) which is adjacent to the I-10 corridor; Coachella (eastern portion of Riverside County) which is at the junction of Interstate 10 and highway 86, a main thoroughfare to Imperial County; and Perris (western Riverside County) which is adjacent to Interstate 215 and which serves as a thoroughfare to San Diego County.

Two of the three stations, Fontana and Coachella, were completed in 2013 and are now in operation. The Perris station was commissioned at the end of February 2015. All three stations are located at existing and established conventional truck fueling stops.



**Figure 14: LNG Station at Truck Stop Center on Valley Blvd. in Fontana**

CNG and 20,000 DGE of LNG per month. Coachella is currently dispensing 36,000 DGE of LNG and completing nearly 1,200 vehicle fueling transactions per month.

The Perris station is expected to have a starting annual throughput of 300,000 DGE of LNG.

The Fontana location also includes CNG refueling and is dispensing 45,000 GGE of



**Figure 16: LNG Station under Construction at Arco Truck Stop on Cajalco Expressway in Perris**

**Figure 15: LNG Station at Love's Travel Stop on Dillon Road in Coachella**

These three stations will increase the public access LNG facility count by 20% in SCAQMD's jurisdiction and demonstrate the viability of natural gas as an alternative fuel for the goods movement sector.



## 2014 FUNDING & FINANCIAL SUMMARY

The SCAQMD Clean Fuels Program supports clean fuels and technologies that appear to offer the most promise in reducing emissions, promoting energy diversity, and in the long term, providing cost-effective alternatives to current technologies. In order to address the wide variety of pollution sources in the Basin and the need for reductions now and in the future, using revenue from a \$1 motor vehicle registration fee (see Program Funding on page 6), the SCAQMD seeks to fund a wide variety of projects to establish a diversified technology portfolio to proliferate choices with the potential for different commercial maturity timing. Given the evolving nature of technology and changing market conditions, such a representation is only a “snapshot-in-time,” as reflected by the projects approved by the SCAQMD Governing Board.

As projects are approved by the SCAQMD Governing Board and executed into contracts throughout the year, the finances may change to reflect updated information provided during the contract negotiation process. As such, the following represents the status of the Clean Fuels Fund as of December 31, 2014.

### 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, 2014, a total of 72 contracts, projects or studies that support clean fuels were executed or amended, as shown in Table 2 (page 28). The major technology areas summarized are (listed in order of funding priority during the CY): hybrid/electric technologies and infrastructure, engine systems, natural gas infrastructure and deployment, hydrogen technology and infrastructure, mobile fuel cell technologies, health impacts studies, fuels and emission studies, and outreach and technology transfer. The distribution of funds based on technology area is shown graphically in Figure 17 (page 26). 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 2014 reporting period are shown below with the total projected project costs:

- |  |              |
|--|--------------|
| • SCAQMD Clean Fuels Fund Contribution | \$14,268,944 |
| • Total Cost of Clean Fuels Projects   | \$64,666,588 |

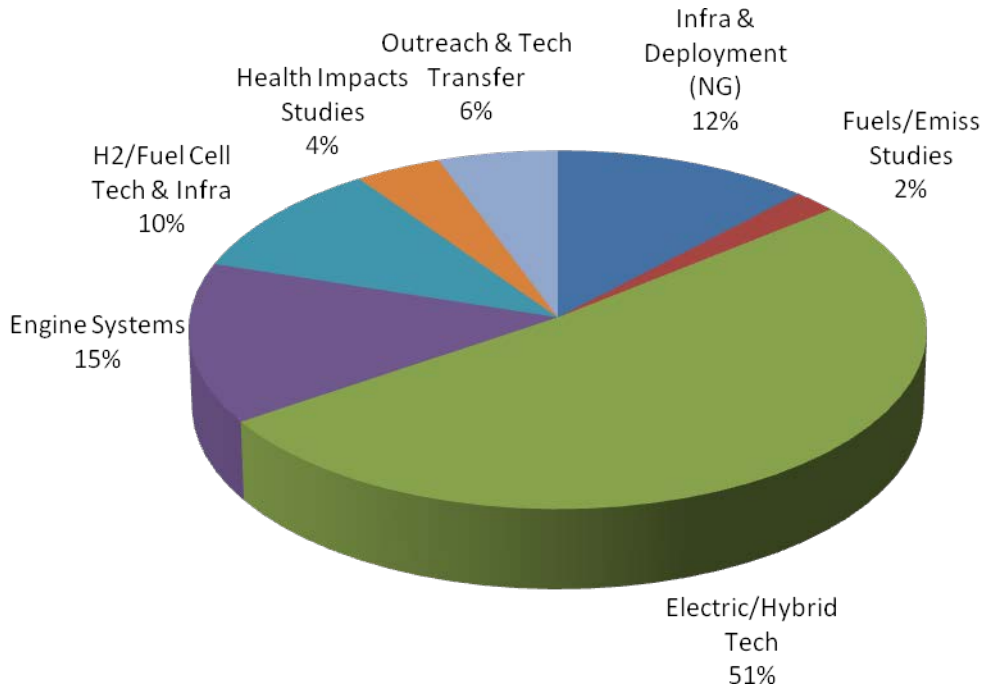
Each year, the SCAQMD Governing Board approves funds to be transferred to the General Fund Budget for Clean Fuels administration. For 2014, the Board transferred \$850,000 for workshops, conferences, co-sponsorships and outreach activities as well as postage, supplies and miscellaneous costs for participation in special conferences. Only the funds committed by December 31, 2014, are included within this report. Any portion of the Clean Fuels Funds not spent by the end of Fiscal Year 2014-15 ending June 30, 2015, 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 2014 totaling \$5,963,707 is listed within Table 3 (page 31).

Appendix B lists the 121 Clean Fuels Fund contracts that were open and active as of January 1, 2015.

For Clean Fuels executed and amended contracts, projects and studies in 2014, the average SCAQMD contribution is approximately 22 percent of the total cost of the projects, identifying that each dollar from the SCAQMD was leveraged with nearly five dollars of outside investment. The typical leverage amount is \$3-\$4 for every \$1 of SCAQMD Clean Fuels funds, but 2014 notably had a couple of significant contracts, significant both in funding and in the impact they hopefully will make in strides toward developing and commercializing clean transportation technologies.

During 2014, the distribution of funds for SCAQMD executed contracts, purchases and contract amendments with additional funding for the Clean Fuels Program totaling approximately \$14.3 million are shown in Figure 17 below.



**Figure 17: Distribution of Funds for Executed Clean Fuels Projects CY 2014 (\$14.3 million)**

Table 2 (page 28) provides a breakdown of these \$14.3 million awards. Table 3 (page 31) provides information on outside funding recognized and received into the Clean Fuels Fund (nearly \$6 million) for contracts executed in CY 2014. Additionally, the SCAQMD continued to seek funding opportunities and Table 4 (page 32) lists the additional \$19,956,690 awarded in 2014 for projects that will be implemented as part of the Clean Fuels Program or which align well or will be complementary to the Clean Fuels Program.

## 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, 2014, 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 “unmodified opinion,” the

highest obtainable. Notably, the SCAQMD has achieved this rating on all prior annual financial audits.

## **Project Funding Detail by Core Technologies**

The 72 new and continuing contracts, projects and studies that received SCAQMD funding in 2014 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, 2014**

Contract	Contractor	Project Title	Start Term	End Term	SCAQMD \$	Project Total \$
<b>Electric/Hybrid Technologies &amp; Infrastructure</b>						
13396	Transportation Power Inc.	Develop & Demonstrate Class 8 Zero-Emission Electric Trucks	04/19/13	12/31/16	375,000	2,285,368
14062	Siemens Industry Inc.	Develop & Demonstrate Catenary Zero Emissions Goods Movement System & Develop & Demonstrate Diesel Catenary Hybrid Electric Trucks	07/14/14	07/13/18	5,500,000	14,780,000
14156	Galpin Motors Inc. (Galpin Ford)	Lease of Two Fusion Energi & One C-Max Energi PHEVs for a Three-Year Period	01/28/14	01/27/17	49,298	49,298
14184	Clean Fuel Connection, Inc.	DC Fast Charging Network Provider	04/04/14	06/30/20	250,000	1,268,000
14222	Odyne Systems, LLC	Develop & Demonstrate Plug-In Hybrid Electric Retrofit System for Class 6 to 8 Trucks	04/24/14	04/23/16	389,000	2,226,571
14224	Complete Coach Works	Develop & Demonstrate Long Range All-Electric Transit Bus	04/24/14	07/30/15	395,000	867,182
14256	National Strategies LLC	Develop & Demonstrate Vehicle-To-Grid Technology	09/05/14	03/04/18	250,000	3,377,689
14323	Selman Chevrolet Company	Lease Two 2014 Chevrolet Volt Extended-Range Electric Vehicles for Three Years	03/28/14	03/27/17	30,932	30,932
15021	Transportation Power Inc.	Upgrade & Demonstrate Two Electric Yard Tractors	07/14/14	12/31/15	75,000	405,000
Various	Various	Install & Upgrade EV Charging Infrastructure (Administer SoCalEV Infrastructure Project)	01/22/14	10/10/14	0	0
Direct Pay	ATVLS, Inc.	Install Electric Vehicle Chargers	TBD	TBD	7,306	7,306
Direct Pay	Clean Fuel Connection, Inc.	Install Electric Vehicle Chargers	TBD	TBD	5,388	5,388
Direct Pay	Croxton Electric	Install Electric Vehicle Chargers	TBD	TBD	6,685	6,685

**Engine Systems**

14364	Cummins Inc.	Develop, Integrate & Demonstrate Ultra-Low Emission Natural Gas Engines for On-Road Heavy-Duty Vehicles	07/14/14	08/20/16	2,061,000	3,869,000
-------	--------------	---	----------	----------	-----------	-----------

**Infrastructure and Deployment (NG)**

09308	Trillium CNG	Maintain & Manage SCAQMD's Fast-Fill CNG Refueling Station	06/17/09	11/30/14	54,000	54,000
12851	Clean Energy	Install, Operate & Maintain Three LNG Fueling Stations (Fontana, Coachella & Perris)	10/05/12	12/31/18	1,000,000	3,477,323
14219	City of West Covina	Upgrade CNG Station at City Yard	05/15/14	06/15/17	200,000	618,429
14311	Southern California Gas Company	Construct & Operate CNG Fueling Station in Murrieta for SoCalGas	07/11/14	12/31/17	217,000	1,385,000

**Table 2: Contracts Executed or Amended (w/\$) between January 1 & December 31, 2014**

<b>Contract</b>	<b>Contractor</b>	<b>Project Title</b>	<b>Start Term</b>	<b>End Term</b>	<b>SCAQMD \$</b>	<b>Project Total \$</b>
<b>Infrastructure and Deployment (cont'd)</b>						
15438	United Parcel Service, Inc.	Refurbish & Upgrade Ontario UPS LCNG Infrastructure	12/31/14	06/30/18	246,707	484,535
<b>Hydrogen Technologies &amp; Infrastructure</b>						
13259	Air Products and Chemicals, Inc.	Hydrogen Station Operation & Maintenance for Five Cities Hydrogen Program	03/26/13	03/31/15	90,000	90,000
15020	University of California Irvine	Develop Sampling & Testing Protocols for Analyzing Impurities in Hydrogen	08/13/14	04/12/15	114,500	114,500
15150	Air Products and Chemicals, Inc.	Install & Upgrade Eight Hydrogen Fueling Stations (including SCAQMD's Diamond Bar Station)	10/10/14	04/09/19	1,000,000	17,044,216
15366	EPC LLC	Operate & Maintain Publicly Accessible Hydrogen Fueling Station at SCAQMD Headquarters	10/10/14	09/14/17	0	0
15419	SunLine Transit Agency	Disposition of Dispenser from Electrolyzer Hydrogen Station Demonstration at SCAQMD Headquarters	12/24/14	12/23/15	0	0
Direct Pay	Smart Chemistry Corp.	Conduct Hydrogen Quality Sampling & Analysis at Three Hydrogen Stations (Diamond Bar, Burbank & Newport Beach)	11/19/13	1/19/14	10,350	10,350
Direct Pay	Hydrogen Fueling Station	Additional Support for California Fuel Cell Partnership's Hydrogen Fueling Activities	01/01/14	06/04/14	10,000	127,000
Purchase Order	MKS Instruments	Purchase FTIR to Perform Hydrogen Fuel Quality Testing	08/07/14	1/23/15	91,768	91,768
<b>Mobile Fuel Cell Technologies</b>						
14622	California State University Long Beach Foundation	CSULB CEERS Student Educational Project to Demonstrate Graphene Fuel Cell Catalysts	08/05/14	05/31/15	28,000	28,000
15388	Bevilacqua-Knight Inc.	Participate in California Fuel Cell Partnership for CY 2014 & Provide Support for Regional Coordinator	01/01/14	12/31/14	137,800	1,676,800
<b>Health Impacts Studies</b>						
12865	University of California Los Angeles	Develop Quantitative Cellular Assays for Use in Understanding the Chemical Basis of Air Pollutant Toxicity	06/08/12	07/31/15	319,553	319,553
14171	Southern California Research Center/Allergy & Asthma Associates of Southern California	Risk of Incident Asthma among Children from In-Utero Exposures to Traffic Related Pollutants	09/22/14	03/21/16	99,670	317,119
14172	University of California Irvine	The Relation of Airway & Systemic Oxidative Stress to Particulate Air Pollution Exposures in an Elderly Cohort	02/17/14	08/16/15	159,974	376,368

**Table 2: Contracts Executed or Amended (w/\$) between January 1 & December 31, 2014**

<b>Contract</b>	<b>Contractor</b>	<b>Project Title</b>	<b>Start Term</b>	<b>End Term</b>	<b>SCAQMD \$</b>	<b>Project Total \$</b>
<b>Fuels/Emissions Studies</b>						
13402	University of California Davis-Office of Research	Next Sustainable Transportation Energy Pathways (STEPS) Program	05/02/14	07/01/16	120,000	2,760,000
14162	National Renewable Energy Laboratory	Utilization of Fleet DNA Approach & Capabilities to Provide Vehicle Vocational Analysis in SCAQMD	02/26/14	12/30/15	174,985	199,985
<b>Outreach &amp; Technology Transfer</b>						
12376	University of California Riverside/CE-CERT	Technical Assistance with Alternative Fuels, Biofuels, Emissions Testing & Zero-Emission Transportation Technology	06/13/14	05/31/16	75,000	75,000
12381	Integra Environmental Consulting Inc.	Technical Assistance with Alternative Fuels, Fuel Cells, Emissions Analysis & Aftertreatment Technologies	06/21/12	05/31/16	75,000	75,000
13194	Clean Fuel Connection, Inc.	Technical Assistance with Alternative Fuels, Renewable Energy & EVs, Program-Related Activities for AFVs, Lawn Mower Exchange, Conferences & Outreach	12/07/12	06/30/15	50,000	50,000
14185	Three Squares Inc.	Conduct Education Outreach for the Basin DC Fast Charging Network Project	04/11/14	06/30/15	49,183	49,183
15344	Clean Fuel Connection, Inc.	Technical Assistance with Alternative Fuels, Electric Vehicles, Charging & Fueling Infrastructure & Renewable Energy	09/22/14	09/22/16	60,000	60,000
15369	Breakthrough Technologies Institute, Inc.	Technical Assistance with Low- & Zero-Emission Vehicles, Fuel Cells, Stationary Applications & Emissions Analyses	11/07/14	11/06/16	30,000	30,000
15380	ICF Resources LLC	Technical Assistance with Goods Movement, Alternative Fuels & Zero-Emission Transportation Technologies	12/12/14	12/11/16	30,000	30,000
15415	Gladstein, Neandross & Associates, LLC	Technical Assistance with Alternative Fuels & Fueling Infrastructure, Emissions Analysis & On-Road Sources	11/07/14	11/06/16	60,000	60,000
Transfer	Transfer from Clean Fuels	Participation in California Natural Gas Vehicle Partnership for Fiscal Years 2014-15 & 2015-16	07/11/14	07/11/14	25,000	145,000
Direct Pay	Three Squares, Inc.	Technical Assistance for EV Charging Infrastructure Grant Preparation	02/01/14	02/06/14	15,307	15,307
Direct Pay	Transportation Research Board	Participation for CY 2014 Membership in Transportation Research Board & Support Minority Student Fellows Program	01/01/14	12/31/14	36,500	260,000

**Table 2: Contracts Executed or Amended (w/\$) between January 1 & December 31, 2014**

Contract	Contractor	Project Title	Start Term	End Term	SCAQMD \$	Project Total \$
<b>Outreach &amp; Technology Transfer (cont'd)</b>						
Direct Pay	Various	Cosponsor 22 Conferences, Workshops & Events plus 5 Memberships	01/01/14	12/31/14	294,038	5,462,933

**Table 3: Supplemental Grants/Revenue Received into the Clean Fuels Fund (31) in CY 2014**

Revenue Agreement #	Revenue Source	Project Title	Contractor	SCAQMD Contract #	Award Total \$
#10685	U.S. DOE Clean Cities DE-EE0002545	Refurbish & Upgrade Ontario UPS LCNG Infrastructure	United Parcel Service, Inc.	#15438	150,000
#12152 (Amd #2)	CEC AB 118 Program ARV-10-054	Install Three New LNG Stations	Clean Energy	#12851	1,000,000
#12286	CEC AB 118 Program ARV-10-035	Refurbish & Upgrade Ontario UPS LCNG Infrastructure	United Parcel Service, Inc.	#15438	96,707
#13034	CEC AB 118 Program ARV-11-025	Construct CNG Fueling Station in Murrieta for SoCalGas	Southern California Gas Company	#14311	217,000
#14024 & #15517	CEC AB 118 Program 600-12-011 & 600- 14-003	Develop & Demonstrate Catenary Zero Emissions Goods Movement System	Seimens Industry Inc.	#14062	3,000,000
#14051	CEC AB 118 Program ARV-12-053	Implement South Coast Air Basin DC Fast Charging Network	Clean Fuel Connection, Inc.	#14184	250,000
#14146	Southern California Gas Company	Develop, Integrate & Demonstrate Ultra-Low Emission Natural Gas Engines for On-Road Heavy-Duty Vehicles	Cummins Inc.	#14364	250,000
#15022	CEC 600-13-018	Develop, Integrate & Demonstrate Ultra-Low Emission Natural Gas Engines for On-Road Heavy-Duty Vehicles	Cummins Inc.	#14364	\$1,000,000
<i>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 (2014).</i>					<b>\$5,963,707</b>

**Table 4: Summary of Federal & State Funding Awarded between Jan. 1 & Dec. 31, 2014**

<b>Awarding Entity or Program</b>	<b>Award Date</b>	<b>Purpose</b>	<b>Contractors</b>	<b>Award Total \$/Fund</b>
CEC AB 118 Program ARV-12-053 (#14051 Amd #1)	Exe 12/15/14	Implement South Coast Air Basin DC Fast Charging Network	Clean Fuel Connection Inc.	420,000 Fund 31 (Clean Fuels)
CEC AB 118 Program ARV-13-026 (#15441)	07/03/14	Implement South Coast Air Basin DC Fast Charging Network	Clean Fuel Connection Inc.	500,000 Fund 31 (Clean Fuels)
U.S. DOE/NETL (#15390)	08/21/14	Develop & Demonstrate Zero Emission Fuel Cell Range Extended Electric & Hybrid Electric Drayage Trucks	U.S. Hybrid, TransPower, CTE, GTI and International Rectifier	9,725,000 Fund 61
CEC	12/05/14 Brd Mtg	Develop and Demonstrate Zero Emission Fuel Cell Range Extended Electric and Hybrid Electric Drayage Trucks	U.S. Hybrid, TransPower, CTE, GTI and International Rectifier	2,400,000 Fund 61
LADWP	12/05/14 Brd Mtg	Develop and Demonstrate Zero Emission Fuel Cell Range Extended Electric and Hybrid Electric Drayage Trucks	U.S. Hybrid, TransPower, CTE, GTI and International Rectifier	1,000,000 Fund 61
San Pedro Bay Ports' Technical Advancement Program	12/05/14 Brd Mtg	Develop and Demonstrate Zero Emission Fuel Cell Range Extended Electric and Hybrid Electric Drayage Trucks	U.S. Hybrid, TransPower, CTE, GTI and International Rectifier	1,133,979 Fund 61
Southern California Gas Company	12/05/14 Brd Mtg	Develop and Demonstrate Zero Emission Fuel Cell Range Extended Electric and Hybrid Electric Drayage Trucks	U.S. Hybrid, TransPower, CTE, GTI and International Rectifier	250,000 Fund 61
CARB/BAR AB 118	12/05/14 Brd Mtg	Implement the Retirement and Replacement Component of the Enhanced Fleet Modernization Program	Foundation for California Community Colleges; Gladstein, Neandross & Associates; and Opus Inspection	1,400,000 Fund 56
U.S. EPA CATI A-00909414-1 (Amd #1)	07/21/14	Install and Test Air Filtration Systems in School Buses and Upgrade and Demonstrate Two Electric Yard Tractors	IQAir & TransPower	500,000 Fund 17
CEC AB 118 ARV-13-056 (#14685)	03/12/14	Support Hydrogen Readiness in Early Market Communities	Bevilacqua-Knight, Inc.	297,460 Fund 55
POLB/City of Long Beach (#14359)	04/04/14 Brd Mtg	Demonstrate Barge-Mounted Emission Control System	Advanced Cleanup Technologies, Inc.	2,063,624 Fund 17
U.S. EPA/ DERA	02/07/14 Brd Mtg	Convert and Demonstrate Two Diesel School Buses to Electric Buses with V2G Capability and Replace One Diesel School Bus with an Electric School Bus	Torrance and Newport-Mesa Unified School Districts	156,000 Fund 33



**Table 4: Summary of Federal & State Funding Awarded between Jan. 1 & Dec. 31, 2014**

Awarding Entity or Program	Award Date	Purpose	Contractors	Award Total \$/Fund
U.S. EPA/ DERA	08/21/14	Replace Diesel School Buses with Electric School Buses	Colton and Los Angeles Unified School Districts	110,627 Fund 33
<p><i>Table 4 provides a comprehensive summary of revenue <u>awarded</u> to SCAQMD during the reporting CY (2014) if it will be considered part of, or complementary to, the Clean Fuels Program, regardless of whether the pass-through contract has been executed.</i></p>				<b>\$19,956,690</b>



## Project Summaries by Core Technologies

The following represents summaries of the contracts, projects and studies executed, or amended with additional dollars, in 2014. 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, cosponsors and their respective contributions, contract term and a description of the projects as required by H&SC Section 40448.5.1(d).

### ***Electric/Hybrid Technologies***

#### **13396: Develop & Demonstrate Class 8 Zero Emission Electric Trucks**

Contractor: Transportation Power Inc.	SCAQMD Cost-Share	\$ 375,000
	Cosponsors	
	California Energy Commission	1,450,364
	San Pedro Bay Ports' Technology Advancement Program	300,000
	Transportation Power Inc.	160,004
Term: 04/19/13 – 12/3/16	Total Cost:	\$ 2,285,368

In October 2012, TransPower was awarded \$1,142,070, as part of a DOE grant, to develop and demonstrate four Class 8 battery electric drayage trucks in real world drayage operations at the Ports of Los Angeles and Long Beach. Subsequent to the award, TransPower received additional funding from CEC and the San Pedro Bay Ports' Technology Advancement Program to develop three more electric drayage trucks for the demonstration. This contract modification is to cost-share the development of the three additional trucks for a total of seven demonstration trucks. In addition, this modification also includes design upgrades to the electric drive system incorporating technology advancements and improvements gained from the operations of earlier prototypes. The upgrades will help to enhance the vehicle performance and operating efficiency as well as to reduce assembly costs, making the vehicles more viable and well-positioned for commercialization.

#### **14062: Develop & Demonstrate Catenary Zero Emissions Goods Movement System & Develop & Demonstrate Diesel Catenary Hybrid Electric Trucks**

Contractor: Siemens Industry Inc.	SCAQMD Cost-Share <i>(partially received as pass-through funds)</i>	\$ 5,500,000
	Cosponsors	
	Port of Long Beach	2,000,000
	Los Angeles County Metropolitan Transportation Authority "Metro"	2,000,000
	Port of Los Angeles China Shipping Settlement	4,000,000
	Siemens Industry Inc.	1,280,000
Term: 07/14/14 – 07/13/18	Total Cost:	\$ 14,780,000

Siemens Industry Inc. (Siemens) has designed and demonstrated a catenary truck technology, eHighway, in Germany on a European truck chassis. For this project, Siemens proposes to bring the eHighway technology to southern California with their partner Volvo and develop and demonstrate a catenary plug-in hybrid electric truck technology. The hybrid drive system will extend the operating range of the truck beyond the all-electric range of the catenary system, enabling the truck to perform regional drayage operations and bridge gaps in catenary infrastructure as it is deployed on a regional level. Siemens and Volvo propose to develop and integrate two Mack Granite Vision diesel hybrid electric class 8 trucks configured to operate on the catenary system. The first truck will be used for integration and testing of the pantograph and electrical hybrid drive and will be evaluated on Siemens catenary test track in Germany. The second truck will leverage the same plug-in hybrid electric architecture being developed by Volvo under a separate SCAQMD project. The vehicle will use Volvo’s current hybrid 150kW electro-mobility propulsion system will be upgraded with a pantograph to operate on the eHighway system.

**14156: Lease of Two Fusion Energi & One C-Max Energi PHEVs for a Three-Year Period**

Contractor: Galpin Motors Inc. (Galpin Ford)	SCAQMD Cost-Share	\$ 49,298
	Cosponsors	
	Federal Tax credit \$3,750 partially offset by Ford lease financing plus California Clean Vehicle Rebate of \$1500 per PHEV	
Term: 01/28/14 01/27/17	Total Cost:	\$ 49,298

The SCAQMD operates a number of alternative fuel vehicles, including electric vehicles, fuel cell vehicles and plug-in hybrid-electric vehicles (PHEVs). The primary objective of having these vehicles as part of the SCAQMD Fleet Demonstration Program is to continue to support the use of zero-emission vehicles. The three Ford PHEVs provide 19 miles all electric range in a five-passenger sedan (Fusions) or hatchback (C-Max), with over 500 miles total range including gasoline.

**14184: DC Fast Charging Network Provider**

Contractor: Clean Fuel Connection, Inc.	SCAQMD Cost-Share <i>(received as pass-through funds)</i>	\$ 250,000
	Cosponsors	
	Clean Fuel Connection, Inc.	25,000
	eVgo	693,800
	Nissan	300,000
Term: 04/04/14 – 06/30/20	Total Cost:	\$ 1,268,800

Clean Fuel Connection, Inc. (CFCI) was selected as the network provider for the 26-site DC fast charging network. CFCI is working in partnership with NRG/eVgo to serve as the installer and network provider. CFCI has installed over 8,000 EVSE since 1999 and is one of the most experienced installers of EVSE in the U.S. The 26 sites will be in addition to NRG/eVgo’s CPUC

settlement of installing 200 DC fast chargers in California and will be integrated into the eVgo network. CFCI will operate the network for five years beyond the date of installation and will provide pay per use and subscription payment models to users. Installation at sites will begin in 2015 and be completed in early 2016. Subsequent to the execution of this contract with CFCI, the CEC issued a Notice of Proposed Award (NOPA) announcing the SCAQMD had been awarded \$500,000 to implement six additional sites to their DC fast charging network and also amended their original award increasing it to a total of \$720,000. CFCI's contract will be amended in 2015 to add these additional funds. Total CEC funding is \$1.22 million for a 26-site network.

**14222: Develop & Demonstrate Plug-In Hybrid Electric Retrofit System for Class 6 to 8 Trucks**

Contractor: Odyne Systems, LLC	SCAQMD Cost-Share	\$ 389,000
	Cosponsors	
	California Energy Commission	916,000
	Odyne Systems, LLC	921,000
Term: 04/24/14 – 04/23/16	Total Cost:	\$ 2,226,000

The objectives of this project are to develop and design a retrofit plug-in hybrid electric system for work truck applications, such as bucket trucks, digger derricks, and underground utility trucks. During the two-year period of the project, the Odyne Systems will develop and evaluate concept designs, produce a selected concept, and evaluate one plug-in hybrid-electric medium- and heavy-duty work truck with extended stationary engine-off technology. The one vehicle will be deployed in the South Coast Air Basin. The primary objectives of this project are: 1) to improve specific aspects of the existing system through the use of smaller, lower cost components; 2) to optimize the system and selected powertrain components for high volume production to enhance commercial appeal through lower-cost products and components; 3) to match the size of the power electronics and energy storage device to customer duty cycle and work practice; 4) to quantify improvements in fuel economy and emissions. The project will gather vehicle and component performance data during deployment that will enable the operating cost and environmental impact of the vehicle to be assessed.

**14224: Develop & Demonstrate Long Range All-Electric Transit Bus**

Contractor: Complete Coach Works	SCAQMD Cost-Share	\$ 395,000
	Cosponsors	
	U.S. Hybrid	44,500
	EV Grid	27,000
	Complete Coach Works	390,200
Term: 04/24/14 – 07/30/15	Total Cost:	\$ 856,700

Complete Coach Works is one of the largest bus remanufacturing companies in the nation and has undertaken initial development efforts to produce an electric bus for transit applications. Leveraging their previous work, Complete Coach Works will design, develop and demonstrate their third generation electric bus concept in this project. The bus would be built off of a refurbished chassis incorporating significant improvements to the electric drive system. The improvements would be focused on making the bus more competitive with conventional transit buses on the initial purchase cost as well as on operating costs. The drive system is locally

sourced from U.S. Hybrid with a higher power output and the battery pack will be manufactured by EV Grid applying a more power dense lithium ion chemistry to trim system weight and utilizing high-volume cylindrical battery cells to further reduce the production cost. Complete Coach Works is targeting a driving range of 150 miles, which would satisfy the needs of approximately 80% of their customer base and still be a commercially marketable product. The electric bus will be demonstrated in revenue service with different transit agencies in the South Coast Air Basin to evaluate its performance and reliability as well as to quantify its operating cost relative to traditional vehicles in their fleets.

**14256: Develop & Demonstrate Vehicle-To-Grid Technology**

Contractor: National Strategies, LLC	SCAQMD Cost-Share	\$ 250,000
	Cosponsors	
	California Energy Commission	1,473,488
	National Strategies, LLC	1,654,201
Term: 09/05/14 – 03/04/18	Total Cost:	\$ 3,377,689

National Strategies proposed a Vehicle-to-Grid (V2G) Electric School Bus Demonstration Project that seeks to demonstrate if V2G capable school buses can overcome the capital cost barriers associated with EV technology and be financially viable on a total cost-of-ownership basis. In October 2013, the CEC made an award to National Strategies to develop and demonstrate six electric school buses with vehicle-to-grid and vehicle-to-building functionality (V2G/B) in school districts across California. School buses are ideal for V2G/B operation since they typically operate in the morning and afternoon for a few hours but remain parked most of the day. In this proposed project, two of the zero-emission school buses will be demonstrated in the South Coast Air Basin with Torrance Unified School District. National Strategies will convert two type C school buses for Torrance Unified School District that will utilize electric drive systems installed into existing OEM school bus chassis.

**14323: Lease Two 2014 Chevrolet Volt Extended-Range Electric Vehicles for Three Years**

Contractor: Selman Chevrolet Company	SCAQMD Cost-Share	\$ 30,932
	Cosponsors	
	Federal Tax credit \$7,500 partially offset by Chevy lease financing plus CA Clean Vehicle Rebate of \$1500 per PHEV	
Term: 03/28/14 - 03/27/17	Total Cost:	\$ 30,932

The SCAQMD operates a number of alternative fuel vehicle (AFVs), including electric vehicles (EV), fuel cell vehicles (FCVs) and plug-in hybrid-electric vehicles (PHEVs). The primary objective of having these vehicles as part of the SCAQMD’s Fleet Demonstration Program is to continue to support the use of zero emission vehicles. The Chevy Volts provide 38 miles all electric range with about 300 miles total range including gasoline.

**15021: Upgrade & Demonstrate Two Electric Yard Tractors**

Contractor: Transportation Power Inc.	SCAQMD Cost-Share	\$ 75,000
	Cosponsor	330,000
	U.S. EPA FY14 CATI Grant (received as pass-through funds-- but not into Clean Fuels Fund)	
Term: 07/14/14 – 12/31/15	Total Cost:	\$ 405,000

The objectives of this project are to: (i) upgrade two prototype electric yard tractors to reflect lessons learned during a previous demonstration and incorporate Transportation Power Inc.'s TransPower latest ElecTruck™ technology; and (ii) demonstrate the upgraded tractors at container/trailer handling locations in the SCAQMD. During this demonstration, the tractors will be equipped with data logging instruments to record vehicle, drive system and battery system data. This demonstration will help encourage deployment of electric yard tractors and other cargo handling equipment.

**Various: Install & Upgrade EV Charging Infrastructure (Administer SoCalEV Infrastructure Project)**

Contractor: Various	SCAQMD Cost-Share	\$ 0
Term: 08/05/13 – 06/30/15	Total Cost	\$ 0

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. In 2013, the LADWP asked the SCAQMD to administer this project, which was previously awarded \$840,750 by CEC. During that same CY, the SCAQMD executed the first five agreements - Memorandum of Agreement (MOA) - with members of the SoCalEV Regional Collaborative to install as well as upgrade existing public EV charging infrastructure at key Southern California locations. In 2014 the SCAQMD executed another 12 agreements with members of the SoCalEV Regional Collaborative. Data will be collected on charger utilization, charging use patterns, operating costs, electricity used and real world electric range of EVs. The work with all the members will be completed in 2015. (A complete listing of these MOAs can be found in Appendix B-Open Contracts.)

**Direct Pay: Load Testing & Repair of Electric Vehicle Chargers**

Contractor: ATVLS, Inc.	SCAQMD Cost-Share	\$ 7,306
Term: 01/15/14 – 03/07/14	Total Cost	\$ 7,306

This project provides funds for conducting load testing at several sections of the SCAQMD's Headquarters parking lot to determine electrical demand and need to replace or upgrade transformers, electrical panels and circuit breakers as part of a preliminary site assessment to increase the number of electric vehicle chargers onsite. A Clipper Creek Level 2 charger was also replaced in the parking area near the front lobby entrance after two years of service. The warranty on the charger had expired and the charger could not be repaired. This charger had originally been installed under a CEC Reconnect California grant awarded to Clipper Creek to upgrade old electric vehicle chargers to Level 2 chargers with J1772 connectors.

**Direct Pay: Procure Electric Vehicle Chargers**

Contractor: Clean Fuel Connection, Inc.	SCAQMD Cost-Share	\$ 5,388
Term: 02/25/14 – 03/04/14	Total Cost	\$ 5,388

This project provides funds for the demonstration of Level 2 electric vehicle charging infrastructure from several manufacturers including Coulomb Technologies, ECotality, Clipper Creek and Schneider Electric. Clean Fuel Connection, Inc. purchased and installed two Level 2 charging stations in SCAQMD’s parking lot behind Conference Room CC8 to provide additional charging for SCAQMD Board Members and staff as part of SCAQMD’s Fleet Demonstration Program.

**Direct Pay: Install Electric Vehicle Chargers**

Contractor: Croxton Electric	SCAQMD Cost-Share	\$ 6,685
Term: 03/3/14 – 03/4/14	Total Cost	\$ 6,685

This project provides funds for the demonstration of Level 2 electric vehicle charging infrastructure from several manufacturers including Coulomb Technologies, ECotality, Clipper Creek and Schneider Electric. Croxton Electric installed two Level 2 charging stations in the SCAQMD’s parking lot behind Conference Room CC8 to provide additional charging for SCAQMD Board Members and staff as part of SCAQMD’s Fleet Demonstration Program.

**Engine Systems**

**14364: Develop, Integrate & Demonstrate Ultra-Low Emission Natural Gas Engines from On-Road Heavy-Duty Engines**

Contractor: Cummins Inc.	SCAQMD Cost-Share <i>(partially received as pass-through funds)</i>	\$ 2,061,000
	Cosponsor	
	Cummins Inc.	1,808,000
Term: 07/14/14 – 08/20/16	Total Cost:	\$ 3,869,000

The objective of this project is to develop, integrate and demonstrate a natural gas engine suitable for on-road Class 8 heavy-heavy duty vehicle applications. The emissions targets are 0.02 g/bhp-hr NO<sub>x</sub>, 0.01 g/bhp-hr PM, 0.14 g/bhp-hr NMHC, and 15.5 g/bhp-hr CO or lower, as measured using the U.S. EPA heavy-duty engine certification test procedure. Ammonia emissions will also be measured and methods to attain 10 ppm or lower are to be incorporated in the engine design. In addition, the engine design shall achieve minimal, if any, fuel economy penalties compared to similar 2010 diesel engines.

**Infrastructure & Deployment**

**09308: Maintain & Manage SCAQMD’s Fast-Fill CNG Refueling Station**

Contractor: Trillium CNG	SCAQMD Cost-Share	\$ 54,000
Term: 06/17/09 – 11/30/14	Total Cost:	\$ 54,000



In late 2014, the SCAQMD Board authorized execution of a consecutive contract with Trillium CNG to ensure continued operation of the public access CNG station at SCAQMD headquarters. Concurrently, the Board approved the release of an RFP to solicit bids from contractors interested in assuming ownership and improving the now 12 year old CNG refueling facility. This contract, originally executed in 2009 with Trillium CNG (formerly Pinnacle), was allowed to expire so a new interim contract could be negotiated with Trillium CNG. The CNG station is currently operating without interruption and the RFP for a new owner/operator has closed and proposals are being evaluated. This station currently dispenses about 14,000 GGE/month and fuels about 2000 vehicles per month. Approximately 80% of the fuel dispensed is to non-SCAQMD vehicles.

**12851: Install, Operate & Maintain Three LNG Fueling Stations (Fontana, Coachella & Perris)**

Contractor: Clean Energy	SCAQMD Cost-Share (received as pass-through funds)	\$ 1,000,000
	Cosponsor	
	Clean Energy	2,477,323
Term: 10/05/12 - 12/31/18	Total Cost:	\$ 3,477,323

In late 2011 the SCAQMD received and executed a \$2.6 million grant from CEC after applying for funding under AB 118 Program PON-09-006 for multiple natural gas stations. This grant was subsequently amended in 2013 and 2014. This modification executed in 2014 provides an additional \$1 million to Clean Energy for three public access LNG projects. The Fontana and Coachella stations were both new stations completed in 2013 and are now in operation. Fontana adds LNG fueling capabilities to an existing conventional truck stop and is dispensing 45,000 GGE CNG and 20,000 DGE LNG per month. Coachella is designed to support heavy-duty trucks off Interstate 10 and has also undergone site improvements. Coachella is currently dispensing 36,000 DGE of LNG and completing 1,150 vehicle fueling transactions per month. The Perris station, which is expected to be commissioned in the first quarter of 2015, will be a new public access LNG fueling station established at an existing Arco Truck Stop and is expected to have a starting annual throughput of 300,000 DGE.

**14219: Upgrade CNG Station at City Yard**

Contractor: City of West Covina	SCAQMD Cost-Share	\$ 200,000
	Cosponsors	
	MSRC/AB 2766 Discretionary Fund	300,000
	City of West Covina	118,429
Term: 05/15/14 – 06/15/17	Total Cost:	\$ 618,429

The City of West Covina will upgrade the CNG station located at their West Covina City Yard. Upgrading the system will include the removal of the existing inoperable compressor with duplex compressors and controls, new storage vessels, dispensers and all associated electrical and mechanical equipment. The City has 15 natural gas vehicles, comprised of 13 trucks and vans and

2 buses. Nearby public agencies including several cities and school districts will refuel their natural gas fleets once the station upgrades are complete.

**14311: Install & Maintain CNG Fueling Station in Murrieta for SoCalGas**

Contractor: Southern California Gas Company	SCAQMD Cost-Share <i>(received as pass-through funds)</i>	\$ 217,000
	Cosponsor	
	Southern California Gas Company	1,168,000
Term: 07/11/14 - 12/31/17	Total Cost:	\$ 1,385,000

The SCAQMD received a CEC grant under AB 118 Program PON-11-602 to assist the Southern California Gas Company to install a new public/private access CNG station located at the Southern California Gas Company facility in Murrieta. This station will be positioned near the junction of the I-15 and I-215 freeways. The station will serve the needs of the SoCalGas’s growing natural gas-powered vehicle fleet as well incentivize local fleets to purchase natural gas powered vehicles, e.g. school districts, water agencies and municipal fleets, as well as provide fueling for vehicles used in goods movement. The facility will include a 600 scfm compressor capable of fueling at 5 GGE/minute as well as 41,000 scf of storage and the public dispenser will include two hoses rated at 3600 psi, a universal card reader and will have 24/7 accessibility.

**15438: Refurbish & Upgrade UPS Ontario LCNG Infrastructure**

Contractor: United Parcel Service, Inc.	SCAQMD Cost-Share <i>(received as pass-through funds)</i>	\$ 246,707
	Cosponsor	
	United Parcel Service, Inc.	237,828
Term: 12/31/14 – 06/30/18	Total Cost:	\$ 484,535

The United Parcel Service, Inc. (UPS) LCNG station in Ontario, California, was first established in 1997 and continues to provide CNG and LNG refueling to many vehicles, including an expanded fleet of UPS LNG-powered heavy-duty vehicles. The station is located near the Ontario International Airport and is adjacent to both the SR-60 and I-15 freeways, providing a convenient and established source of both CNG and LNG fuel to a wide variety of NGVs and fleets that regularly operate or pass through this region. Nearly 900,000 DGE of LNG and 400,000 DGE CNG are dispensed annually from this facility with demand of both fuel types expected to increase in the near future. SCAQMD applied for and was awarded infrastructure funding through CEC’s AB 118 Program as well as DOE’s Clean Cities Program for this project. The \$96,707 from CEC and \$150,000 from DOE were recognized into the Clean Fuels Fund.

**Hydrogen Technology and Infrastructure**

**13259: Hydrogen Station Operation & Maintenance for Five Cities Hydrogen Program**

Contractor: Air Products and Chemicals, Inc.	SCAQMD Cost-Share	\$ 90,000
Term: 03/26/13 – 03/31/15	Total Cost:	\$ 90,000

SCAQMD embarked on an ambitious project to demonstrate hydrogen fueling and hydrogen ICE vehicles throughout the South Coast Air Basin. In 2004, SCAQMD also awarded a contract to Air Products and Chemicals, Inc. (APCI) to build hydrogen stations at the Five Cities sites (Burbank, Ontario, Riverside, Santa Ana and Santa Monica), which included three electrolyzer stations and two mobile fueling stations. The contract for operation and maintenance was extended to March 31, 2015, to provide funding for operation and maintenance of the Riverside, Santa Ana and Santa Monica stations through mid-2014, closing costs for the Ontario station through 2013, and closing and removal of hydrogen fueling equipment at Riverside and Santa Monica in early 2015.

### **15020: Develop Sampling & Testing Protocols for Analyzing Impurities in Hydrogen**

Contractor: University of California Irvine	SCAQMD Cost-Share	\$ 114,500
	Cosponsors	
	AirUCI previously installed analytical instruments	In-kind
Term: 08/13/14 - 04/12/15	Total Cost:	\$ 114,500

Proper codes and standards are essential for the commercial deployment of hydrogen and fuel cell technologies. The SAE J2719 fuel quality standard has been adopted for hydrogen fuel quality; however, testing protocols, along with equipment that can measure hydrogen fuel quality at those levels, need to be assessed. AirUCI will conduct an evaluation of current protocols and propose enhanced protocols as well as develop and implement method(s) to identify and quantify trace contaminants present in hydrogen fuel at hydrogen vehicle fueling stations located within the South Coast Air Basin.

### **15150: Install or Upgrade Eight Hydrogen Fueling Stations throughout SCAB (including SCAQMD's Diamond Bar Hydrogen Station)**

Contractor: Air Products and Chemicals, Inc.	SCAQMD Cost-Share	\$ 1,000,000
	Cosponsors	
	California Energy Commission PON-09-608	11,231,733
	Air Products and Chemicals, Inc.	4,812,483
Term: 10/10/14 - 04/09/19	Total Cost:	\$ 17,044,216

On November 16, 2010, the California Energy Commission released a revised Notice of Proposed Award (NOPA) recommending funding for eight projects that will develop hydrogen fueling infrastructure within the South Coast Air Basin. Additional funds were needed to offset high initial costs and investment for production and distribution of hydrogen for these projects so the SCAQMD stepped in to cost-share these projects. The eight stations are strategically located and will play a significant role by providing hydrogen in Southern California in areas with high vehicle densities. The first station at SCAQMD Headquarters in Diamond Bar will serve as the model for the other modularly constructed delivered-hydrogen stations and will accept major credit cards.

**15366: Operate & Maintain Publicly Accessible Hydrogen Fueling Station at SCAQMD Headquarters**

Contractor: EPC LLC	SCAQMD Cost-Share	\$ 0
Term: 10/10/14 - 09/14/17	Total Cost:	\$ 0

EPC LLC entered into a license agreement to operate SCAQMD’s new hydrogen fueling station in Diamond Bar. The license allows EPC to assign or sublet with SCAQMD’s written permission; Air Products and Chemicals, Inc. will be providing equipment maintenance under their contract #15150 in coordination with EPC. EPC LLC obtained all permits for construction, maintenance and operation and will be operating the station for three years, including installation and operation of the point-of-sale (POS) credit card system.

**15419: Disposition of Dispenser from Electrolyzer Hydrogen Station Demonstration at SCAQMD Headquarters**

Contractor: SunLine Transit Agency	SCAQMD Cost-Share	\$ 0
	Cosponsor	
	Sunline Transit Agency	In-kind
Term: 12/24/14 - 12/23/15	Total Cost:	\$ 0

At the end of the useful life of the original Stuart Energy electrolysis-generated hydrogen fueling station at SCAQMD, Hydrogenics decommissioned the station and removed all the obsolete equipment under contract #10061. SunLine Transit has the only known remaining identical FTI hydrogen dispenser in our region at their hydrogen fueling station and it requires spare parts in order to continue operation until their station can be upgraded. SunLine Transit agreed to indemnify SCAQMD and provided labor and equipment to relocate the dispenser to their station.

**Direct Payment: Conduct Hydrogen Quality Sampling & Analysis at Three Hydrogen Stations (Diamond Bar, Burbank and Newport Beach)**

Contractor: Smart Chemistry Corporation	SCAQMD Cost-Share	\$ 10,350
Term: 11/19/13 – 01/19/14	Total Cost:	\$ 10,350

The SCAQMD maintains a hydrogen station at its Headquarters in Diamond Bar, and every few years there is a need to conduct sampling and analysis of particulates and gaseous content in the hydrogen fuel. Smart Chemistry is one of the few qualified independent laboratories that can perform sampling and analysis of hydrogen gas streams to the low levels SAE J2719. Smart Chemistry first assisted SCAQMD back in 2008 with performing gas sampling and chemical analysis of the electrolyzer-based hydrogen fueling station. Additionally, in 2014 the SCAQMD also tasked Smart Chemistry with sampling and analysis at the Newport Beach and Burbank hydrogen stations, which are scheduled for upgrades to begin retail sales of hydrogen sometime in 2015-16. The work conducted was for determining hydrogen purity in order to present to the various OEMs assuring them the quality met the SAE J2719 standards.

**Direct Pay: Additional Support for California Fuel Cell Partnership's Hydrogen Fueling Activities**

Contractor: Hydrogen Fueling Station	SCAQMD Cost-Share	\$ 10,000
	Cosponsors	
	Several automotive and government members	117,000
Term: 01/01/14 - 06/04/14	Total Cost:	\$ 127,000

The successful passage of AB 8, which dedicates funding for hydrogen infrastructure, was the result of the efforts of many entities including outreach ride-and-drive activities by CaFCP staff and member organizations. This additional support will continue to provide hydrogen fueling for CaFCP outreach activities until the new West Sacramento and SCAQMD hydrogen fueling stations are operational.

**Purchase Order: Purchase FTIR to Perform Hydrogen Fuel Quality Testing**

Contractor: MKS Instruments	SCAQMD Cost-Share	\$ 91,768
Term: 08/07/14 – 01/23/15	Total Cost:	\$ 91,768

Proper codes and standards are essential for the commercial deployment of hydrogen and fuel cell technologies. The SAE J2719 fuel quality standard has been adopted for hydrogen fuel quality; however, testing protocols, along with equipment that can measure hydrogen fuel quality at those levels, need to be assessed. The fuel quality required by SAE J2719 must be quantified at the vehicle-fueling station interface and a determination made as to how the presence of small amounts of contaminants may affect the performance and durability of proton exchange membrane (PEM) fuel cells. Current analyses of hydrogen fuel quality have to be enhanced or developed for approximately half of the fuel cell specifications. SCAQMD laboratory staff have investigated the applicability of various instruments and determined a purpose-designed FTIR gas analyzer for measuring certain contaminants within hydrogen fuel would be most cost-efficient. The equipment cost includes software, operational calibration recipes and training. A significant cost savings is realized by the purchase of this equipment. If this equipment were not acquired, separate analyses would have to be developed for sampling of acid halides (no known method for halogens such as chlorine or bromine), formaldehyde (HPLC analysis for formaldehyde at four hours per sample), and ammonia (impinger sampling and IC analysis for ammonia at four hours). Halogen gas sampling and analysis has yet to be scoped. This equipment will act as the cornerstone for analyzing hydrogen fuel purity.

**Mobile Fuel Cell Technologies**

**14622: CSULB CEERS Student Education Project to Demonstrate Graphene Fuel Cell Catalysts**

Contractor: California State University Long Beach Foundation	SCAQMD Cost-Share	\$ 28,000
Term: 08/05/14 – 05/31/15	Total Cost:	\$ 28,000

The Center for Energy and Environmental Research and Services (CEERS) at the California State University Long Beach (CSULB) proposed conducting a feasibility study

of iodine-edged graphene catalysts for Proton Exchange Membrane Fuel Cell (PEMFC). The goal is to obtain the performance of these catalysts under operating fuel cell conditions and to understand how these catalysts have improved properties versus traditional Platinum (Pt) catalysts. The motivation for this study was to find an ideal catalyst that is dramatically less expensive and has improved durability and performance than pure Pt for PEMFC.

**15388: Participate in California Fuel Cell Partnership for CY 2014 & Provide Support for Regional Coordinator**

Contractor: Bevilacqua-Knight, Inc.	SCAQMD Cost-Share	\$ 137,800
	Cosponsors	
	8 automakers; 5 government agencies; 1 fuel cell provider, and 9 associate and 14 affiliate members	1,927,200
Term: 01/01/14 - 12/31/14	Total Cost:	\$ 2,065,000

In April 1999, the California Fuel Cell Partnership (CaFCP) was formed with eight members; SCAQMD joined and has participated since 2000. The CaFCP and its members are demonstrating and deploying fuel cell passenger cars and transit buses with associated hydrogen fueling infrastructure in California. Since the CaFCP is a voluntary collaboration, each participant contracts with Bevilacqua-Knight, Inc. (BK) for their portion of the CaFCP’s administration. In 2014, the SCAQMD Board contributed \$87,800 for membership and up to \$50,000, along with four cubicles at SCAQMD Headquarters, to provide support for the CaFCP Regional Coordinator.

**Health Impacts Studies**

**12865: Develop Quantitative Cellular Assays for Use in Understanding the Chemical Basis of Air Pollutant Toxicity**

Contractor: University of California Los Angeles (UCLA)	SCAQMD Cost-Share	\$ 319,553
Term: 06/08/12 – 07/31/15	Total Cost:	\$ 319,553

The objective of this research is to develop a biological mechanism-based analytical procedure to characterize the toxicity air pollutants. The study is developing and characterizing a standard in quantities sufficient to be employed in subsequent toxicity analyses of vehicle emissions and ambient pollutants. UCLA is working with researchers at the University of California Riverside Center for Environmental Research and Technology (UCR/CE-CERT) to collect a large quantity of diesel exhaust, including both particulate and vapor phase, from a well-characterized engine using low-sulfur fuel as the standard. Quantitative dose response toxicity assays can then be conducted with, for example, emissions from advanced technology engines to compare with results from assays using the standard diesel emissions. This will provide a measure of the relative toxic potency of vehicle emissions that can be directly compared in standard assays.

**14171: Risk of Incident Asthma among Children from in-Utero Exposures to Traffic Related Pollutants**

Contractor: Southern California Research Center/Allergy & Asthma Associates of Southern California	SCAQMD Cost-Share	\$ 99,670
	Cosponsor	
	BP	217,449
Term: 09/22/14 – 03/21/16	Total Cost:	\$ 317,119

This project will estimate the association of traffic exposure during pregnancy and diagnosis of asthma during childhood. This study is among the first to evaluate potential risk of exposures near the residence, work, and in-vehicle travel during a vulnerable time of immune system development. The project uses a case control study design. The subjects with asthma are recruited from patients in a large medical practice focusing on asthma. Historical data are available including date of birth, residence history, demographic variable, and asthma severity and control. Control subjects matched for characteristics such as age, gender and ethnicity are being recruited from general pediatric clinics, preschools and other venues. The goal is to recruit 1,000 cases and an equal number of matched controls. Traffic-related exposures during pregnancy are estimated based on residence and work locations and on commute patterns. Markers of traffic emissions include NO, NO<sub>2</sub>, CO, PM<sub>2.5</sub> and ultrafine particles. Both dispersion models of nearby traffic emissions as well as regional air monitoring data will be employed. Additionally, a model developed under a previous research project will be used to estimate exposures to traffic pollutants during commuting times.

**14172: The Relation of Airway & Systemic Oxidative Stress to Particulate Air Pollution Exposures in an Elderly Cohort**

Contractor: University of California Irvine	SCAQMD Cost-Share	\$ 159,974
	Cosponsor	
	BP	216,394
Term: 02/17/14 – 08/16/15	Total Cost:	\$ 376,368

This project will be accomplished in coordination with a study funded by the National Institutes of Health on the health effects of fine particulate exposures. It includes weekly measurements of air pollutants and cardiovascular and respiratory symptoms in a group of 120 elderly subjects living in the South Coast Air Basin. Half of the subjects reside in Los Angeles, and half reside in Anaheim. The measurements are taken over two six-week periods, one in the cool season and one in the warm season. The current project adds measures for markers of oxidative stress in the breath and in the blood of the subjects. About half of the subject data have been collected during the first year of the project. The analysis will determine which pollutants are associated with specific respiratory and cardiovascular health outcomes. It is hypothesized that oxidant pollutants, such as ozone and secondary organic aerosols, which include oxidized organic substances emitted from fuel combustion associated with particulate matter, are responsible for respiratory effects. It is further hypothesized that cardiovascular effects and changes in blood markers are associated with freshly emitted traffic-related organic chemicals in particulate matter.

## Fuels/Emissions Studies

### 13402: Next Sustainable Transportation Energy Pathways (STEPS) Program

Contractor: University of California Davis-Office of Research	SCAQMD Cost-Share	\$ 120,000
	Cosponsors	
Term: 05/02/14 - 07/01/16	Total Cost:	\$ 2,760,000

### 13402: Next Sustainable Transportation Energy Pathways (STEPS) Program

Contractor: University of California Davis/Institute of Transportation Studies	SCAQMD Cost-Share	\$ 120,000
	Cosponsors	
	20 organizations from energy, automotive, and government sectors	2,640,000
Term: 05/02/14 - 07/01/16	Total Cost:	2,760,000

The University of California Davis/Institute of Transportation Studies is continuing a multi-year Next Sustainable Transportation Energy Pathways (NextSTEPS) Program to develop the theory, tools and methods for self-consistent and transparent comparisons of promising alternative energy and vehicle pathways, and to apply these tools and methods in comparative assessments of transportation energy pathways. Increased analysis of shale oil and gas will be added and models for hydrogen, electricity and biofuels will be further refined. SCAQMD identified four key subject areas for inclusion in this multi-year program: 1) Transition Scenarios for Alternative Fuels and Vehicles in California; 2) Consumer Behavior and Vehicle Choice: Longitudinal Tracking; 3) Best Policy and Incentive Strategies; and 4) Low Carbon Options for Non Light-Duty Subsectors.

### 14162: Utilization of Fleet DNA Approach and Capabilities to Provide Vehicle Vocational Analysis in SCAQMD

Contractor: National Renewable Energy Laboratory	SCAQMD Cost-Share	\$ 174,985
	Cosponsor	
	National Renewable Energy Laboratory	25,000
Term: 02/26/14 – 12/30/15	Total Cost:	\$ 199,985

The National Renewable Energy Laboratory (NREL) is collecting and analyzing data in the SCAQMD's jurisdiction to match powertrains and advanced technology with duty cycles of medium- and heavy-duty trucks. Vehicle duty cycle data will be collected from specific fleet vocations, chosen primarily by their contribution to the medium- and heavy-duty vehicle



emissions inventory. This study will provide information to optimize deployment of advanced vehicle technology in order to maximize emission reductions and fuel economy.

### **Outreach and Technology Transfer**

#### **12376: Technical Assistance with Alternative Fuels, Biofuels, Emissions Testing & Zero-Emission Transportation Technology**

Contractor: University of California Riverside/CE-CERT	SCAQMD Cost-Share	\$ 75,000
Term: 06/13/14 – 05/31/16	Total Cost:	\$ 75,000

SCAQMD seeks to implement aggressive programs to develop and demonstrate pre-commercial technologies for low- and zero-emission vehicles and equipment, alternative fuels, and renewable energy sources. Due to constant and rapid changes in technologies and the sheer breadth of potential projects, SCAQMD supplements in-house technical resources with outside expertise and assistance to evaluate and implement these demonstration projects. The College of Engineering/Center for Environmental Research and Technology (CE-CERT) is a research center at University of California Riverside dedicated to research on air quality and energy efficiency with approximately 120 investigators including 30 Ph.D. level researchers. CE-CERT will provide technical expertise to evaluate a broad range of emerging technologies in alternative and/or renewable fuels and vehicles as well as to conduct air pollution formation and control studies.

#### **12381: Technical Assistance with Alternative Fuels, Fuel Cells, Emissions Analysis & Aftertreatment Technologies**

Contractor: Integra Environmental Consulting Inc.	SCAQMD Cost-Share	\$ 75,000
Term: 06/21/12 – 05/31/16	Total Cost:	\$ 75,000

External expertise is needed to augment in-house expertise and assist staff in technical reviews of emission inventories, goods movement and off-road sources. Integra Environmental Consulting, Inc. was selected to provide technical assistance with emission inventories, goods movement sector analysis and off-road sources, especially related to availability and commercialization of near-zero and zero emission vehicles and equipment.

#### **13194: Technical Assistance with Alternative Fuels, Renewable Energy & EVs, Program Related Activities for AFVs, Lawn Mower Exchange, Conferences & Outreach**

Contractor: Clean Fuel Connection, Inc.	SCAQMD Cost-Share	\$ 50,000
Term: 12/07/12 – 06/30/15	Total Cost:	\$ 50,000

SCAQMD relies on expert input, consultation and support to manage a number of programs conducted under the Clean Fuels Program and incentive programs. Clean Fuel Connection, Inc. (CFCI) is providing technical assistance with alternative fuels, renewable energy and electric vehicles to promote, assess, expedite and deploy the development and demonstration of advanced, low- and zero-emissions mobile and stationary technologies. This modification to

increase available funds under this existing Contract is for administrative support to enable the range of activities involved in implementing the Clean Fuels Program and associated complimentary programs as needed. Support is necessary to enhance or expand existing program-related activities associated with performing or meeting program objectives such as alternative fuel vehicles (AFVs) demonstration programs, the lawn mower exchange program, participation in technical conferences and other outreach activities.

**14185: Conduct Education Outreach for the Basin DC Fast Charging Network Project**

Contractor: Three Squares, Inc.	SCAQMD Cost-Share	\$ 49,183
Term: 04/11/14 – 10/31/16	Total Cost:	\$ 49,183

Three Squares, Inc. (TSI) was selected to conduct education outreach for the DC fast charging network as each of the 26 sites were installed. TSI is an environmental consulting firm with extensive experience working with advanced technology, vehicle manufacturers and emission control technology providers. Education outreach components and social media campaign for users of the DC fast charging network will include information on the benefits of driving plug-in electric vehicles (PEVs) and having public fast charging in their communities, how to use DC fast chargers, and a list of available incentives for PEVs and infrastructure. Sites will be installed in 2015 and completed in early 2016. TSI will also produce a best practices guidelines document on education outreach and messaging, based on survey data and web traffic from network users.

**15344: Technical Assistance with Alternative Fuels, Electric Vehicles, Charging and Fueling Infrastructure and Renewable Energy**

Contractor: Clean Fuel Connection, Inc.	SCAQMD Cost-Share	\$ 60,000
Term: 09/22/14 – 09/22/16	Total Cost:	\$ 60,000

Clean Fuel Connection, Inc. (CFCI) will provide technical and administrative support for development and demonstration of advanced, low- and zero-emission mobile and stationary technologies for the Clean Fuels Program and various complementary incentive programs. CFCI's technical expertise and support enhances existing program-related activities associated with performing or meeting program objectives.

**15369: Technical Assistance with Low- and Zero-Emission Vehicles, Fuel Cells, Stationary Applications and Emissions Analyses**

Contractor: Breakthrough Technologies Institute, Inc.	SCAQMD Cost-Share	\$ 30,000
Term: 11/07/14 – 11/06/16	Total Cost:	\$ 30,000

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. Contracts with five technical experts including Breakthrough Technologies Institute were executed to provide technical assistance and outreach support. Breakthrough Technologies Institute is providing technical assistance with low- and zero-emission vehicles, fuel cells, stationary applications and emissions analyses. 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.

**15380: Technical Assistance with Goods Movement, Alternative Fuels and Zero-Emission Transportation Technologies**

Contractor: ICF Resources LLC	SCAQMD Cost-Share	\$ 30,000
Term: 12/12/14 – 12/11/16	Total Cost:	\$ 30,000

This contract is one of the five technical experts awarded funding as a result of RFP #P2014-10 which solicited proposals for technical assistance for the Clean Fuels Program and implementation of various incentive funding programs. ICF International is providing technical assistance with goods movement technologies, alternative fuels and zero-emission transportation technologies. 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.

**15415: Technical Assistance with Alternative Fuels and Fueling Infrastructure, Emissions Analysis and On-Road Sources**

Contractor: Gladstein, Neandross & Associates, LLC	SCAQMD Cost-Share	\$ 60,000
Term: 11/07/14 – 11/06/16	Total Cost:	\$ 60,000

This contract is another one of the five technical experts awarded funding as a result of RFP #P2014-10 which solicited proposals for technical assistance for the Clean Fuels Program and implementation of various incentive funding programs. Gladstein, Neandross & Associates, LLC (GNA) is providing technical expertise with alternative fuels and fueling infrastructure, emission analysis and on-road sources. 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.

**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: 07/11/14 – 07/11/14	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 July 2014 the SCAQMD approved \$25,000 for the SCAQMD’s participation in the Steering Committee for the next two years.

**Direct Pay: Technical Assistance for EV Charging Infrastructure Grant Preparation**

Contractor: Three Squares, Inc.	SCAQMD Cost-Share	\$ 15,306
Term: 01/01/14 – 02/06/14	Total Cost	\$ 15,306

CEC released PON-13-606 offering funding for EV charging infrastructure, with projects due by February 4, 2014. SCAQMD retained the expertise of Three Squares, Inc. to provide technical assistance in developing, preparing and submitting a grant proposal to expand the South Coast Air Basin DC Fast Charging Network. Three Squares, Inc. worked with staff on writing the project narrative, gathering the required CEQA and health impacts documentation and site selection. On July 3, 2014, CEC issued a NOPA announcing the SCAQMD had been awarded \$500,000 to implement six additional sites to their DC fast charging network. CEC later agreed to award an additional \$420,000 to their original grant for the first 20 DC fast charging sites for a revised award of \$720,000. Total CEC funding for the 26-site network is \$1.22 million.

**Direct Pay: Participation for CY 2014 Membership in Transportation Research Board and Support of Minority Student Fellows Program**

Contractor: Transportation Research Board	SCAQMD Cost-Share	\$ 36,500
	Cosponsors	
	SCAQMD’s Legislative & Public Affairs Office	32,500
	Core Program Participating Members	191,000
Term: 01/01/14 – 12/31/14	Total Cost	\$ 260,000

In 2014 the SCAQMD supported the Transportation Research Board (TRB) by participating as a member and sponsoring TRB’s 2014 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 22 Conferences, Workshops & Events plus 5 Memberships**

Contractor: Various	SCAQMD Cost-Share	\$ 294,038
	Cosponsors	
	Various	5,168,895
Term: 01/01/14 – 12/31/14	Total Cost	\$ 5,462,933

The SCAQMD regularly participates in and hosts or cosponsors conferences, workshops and events. These funds provide support for the 22 conferences, workshops and events sponsored throughout 2014 as follows: NAFTA NEXT Summit in April; Coordinating Research Council's 2014 Vehicle Emissions Workshop in March; UCR's 2014 Solar Energy Conference in February and 2014 PEMS Conference in April; UCI's ICEPAG 2014 in April; California Science Center Foundation's Foundation Fair Awards in April; JLP's 2014 Climate Day; EPRI's 2014 Plug-In Conference in July; The Women in Green Forum in August; CleanTechOC's 2014 Symposium: Stepping on the Gas in June; 2014 ACT Expo in Long Beach in May as well as a booth at the ACT Expo; the 7<sup>th</sup> Symposium on Global Emerging Environmental Challenges and Government in July; U.S. EPA's West Coast Collaborative Meeting in San Francisco in September; the 2014 Santa Monica AltCar Expo in August; 2014 GloSho in September; the Southern California Energy Summit in Palm Springs in October; CleanTechOC's 2014 Conference & Expo in October; the 2014 LA Auto Show, the Fuel Cell Seminar in November; Calstart's 2014 Annual Meeting & Blue Sky Awards in November; and Clean Fuel Advisory Group Participation Fees for February and August retreats. Additionally, for 2014 five memberships were renewed for participation in the PEV Collaborative, the Fuel Cell & Hydrogen Energy Association, the California Hydrogen Business Council, the Electric Drive Transportation Association, and the Air & Waste Management Association.



## PROGRESS AND RESULTS IN 2014

### 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<sub>x</sub> technologies and clean energy alternatives, such as fuel cells, solar power and other renewable energy systems.

Table 5 (page 61) provides a list of 46 projects and contracts completed in 2014. 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.

#### Demonstrate Battery Electric Heavy-Duty Trucks

CARB classified diesel exhaust as a known carcinogen in 1990 and as a toxic air contaminant in 1998, and the ports at Los Angeles and Long Beach are implementing measures to combat diesel emissions from goods movement activities. One of the major sources of criteria pollutant emissions is from diesel-fueled heavy-duty trucks. There are several measures that can be used to reduce emissions from heavy-duty trucks, such as conversion to clean fuels, hybridization and electrification. The Battery Electric Heavy-Duty Trucks project is an example of how the electrification of a drayage truck to reduce emissions from diesel-fueled trucks was accomplished.

A zero emission battery-electric drive system was installed by TransPower into two Class 8 truck tractors. Each drive system was intended to utilize network control architecture to control modular components, including high-power drive motors and inverters along with electrically-driven accessories, powered by lithium battery packs. A key technology advancement enabled by this project was development of a new onboard inverter-charger unit (ICU), which combines the functions of a motor inverter and battery charger. Other key advances included application of a new automated manual transmission and advanced battery management technologies to Class 8 electric trucks.

The ElecTruck project was highly successful in its core long term



Figure 18: Truck #2 with loaded container provided by Port of LA

objectives of achieving major technology advances in two key areas: (1) vehicle control and integration and (2) advanced energy storage. More generally, the ElecTruck project successfully advanced the state of the art in application of electric propulsion technology to Class 8 trucks, and provided valuable lessons learned that enabled TransPower to proceed to even more advanced component and integrated subsystem designs that are being incorporated into a growing fleet of fully operational electric Class 8 trucks, tractors and school buses. These vehicles are exhibiting performance characteristics beyond those of any other electric vehicles of this class.

The ElecTruck project demonstrated the essential feasibility of eliminating emissions from the largest and most polluting road vehicles - Class 8 trucks. If 5,000 electric trucks of the ElecTruck design were deployed in California by 2020, this would achieve an estimated aggregate emissions reduction of 378,500 tons of carbon per year – a significant step toward achieving the CARB 2020 limit of 427 million tons. Electric trucks of this design also eliminate criteria pollutants at the point of operation and reduce noise. By eliminating use of fossil fuels, they are also less expensive to operate and reduce our dependence on imported oil.

### Sources, Composition, Variability and Toxicological Characteristics of Ultrafine Particles in Southern California

Many of the health effects associated with exposure to particulate matter (PM) derive from the ability of PM to generate oxidative stress. There is evidence that ultrafine particles (UFP) (with diameters of  $< 0.1- 0.2 \mu\text{m}$ ), in particular, may be more toxic than coarse or fine PM. Despite their very low contribution to PM mass, UFP dominate particle number concentrations as well as have a large surface area relative to fine or coarse particles and a high pulmonary deposition efficiency. These particles can thus carry considerable amounts of toxic air pollutants, such as organic carbon and transition metals.

This project involved collecting samples of quasi-ultrafine particles ( $\text{PM}_{0.25}$ ,  $\text{dp} < 0.25 \mu\text{m}$ ) over a year's time at several locations in the South Coast Air Basin. Sites included source, near-freeway, semi-rural receptor and desert locations. Twenty-four hour time-integrated samples were concurrently collected once a week for a year-long period at 10 distinctly different areas across the Los Angeles Basin, followed by comprehensive chemical and toxicological analyses, to provide insight on the seasonal and spatial variability in the chemical composition, sources and oxidative potential. The sampling site locations are shown in the following figure.

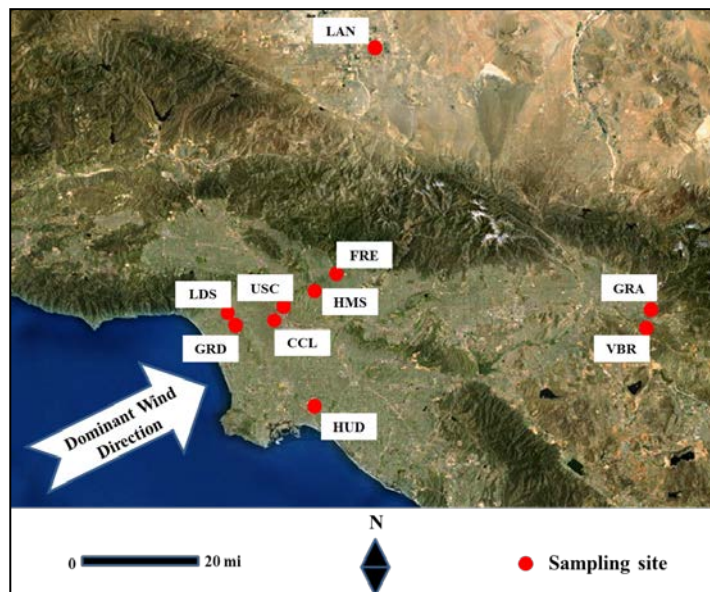
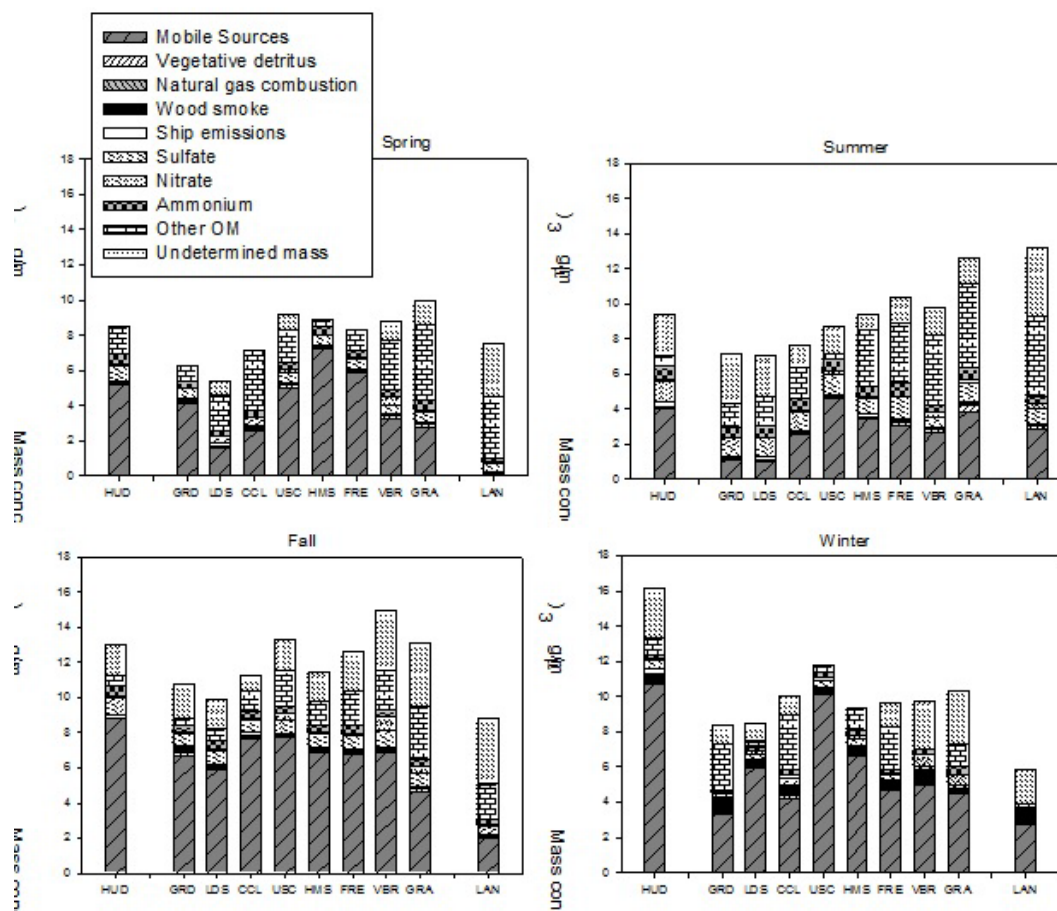


Figure 19: Location of the sampling sites

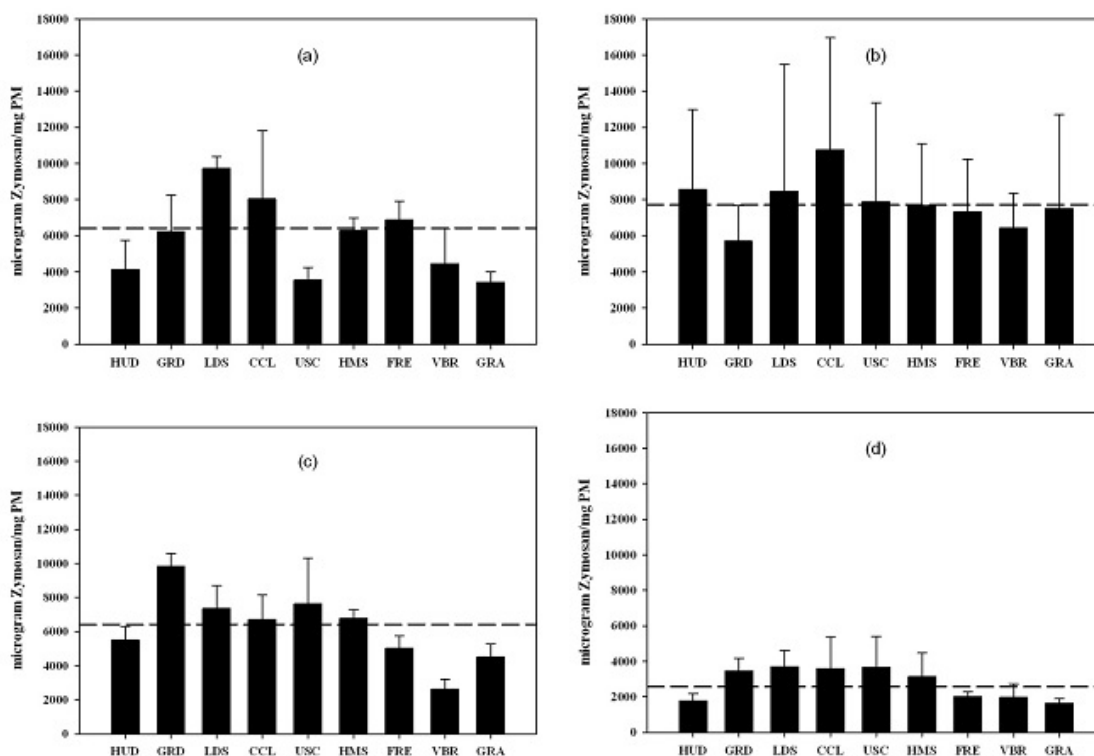


Average PM<sub>0.25</sub> mass concentration ranged from 5.9 to 16.1  $\mu\text{g}/\text{m}^3$  across the basin and seasons. Wintertime levels were highest at the source HUD site, while lowest at the desert-like LAN site. On the other hand, summertime concentrations peaked at the inland receptor locations. Chemical mass closure showed that quasi-UFP in the basin consisted of 49–64% organic matter, 3–6.4% elemental carbon (EC), 9–15% secondary ions (SI), 0.7–1.3% trace ions, and 5.7–17% crustal material and trace elements, on a yearly average basis. Seasonal variation in source apportionment of quasi-ultrafine particles by site is shown in the figure below.



**Figure 20: Seasonal variation in source apportionment of quasi-ultrafine particles ( $dp < 0.25 \mu\text{m}$ ) by site**

The redox activity (which is thought to be related to potential toxicity) of PM<sub>0.25</sub> samples was also assessed by means of a biological reactive oxygen species (ROS) assay (generation of ROS in rat alveolar macrophage cells). Seasonally, fall and summer displayed higher volume-based ROS-activity (i.e. ROS-activity per unit volume of air) compared to spring and winter. ROS levels were generally higher at near source and urban background sites compared to rural receptor locations, except for summer when comparable ROS-activity was observed at the rural receptor sites. Mass-based ROS activity, which reflects the intrinsic toxicity of particles, showed very similar trends to volume-based ROS activity, indicating that PM composition, more than PM mass concentration, was driving ROS activity. Variation in mass-based ROS Activity ( $\mu\text{g}$  Zymosan/mg PM) at different sampling sites are shown below.



**Figure 21: Variation in mass-based ROS Activity ( $\mu\text{g}$  Zymosan/ $\text{mg}$  PM) at different sampling sites during: (a) spring, (b) summer, (c) fall and (d) winter. Error bars correspond to one standard deviation. Dashed lines indicate the average of 9 sampling sites**

These findings help establish the association between sources, composition and toxicity of UFP and provide a strong scientific basis for developing more targeted and cost-effective regulatory strategies at both the federal and state level. Moreover, the extensive database on UFP, generated from this project, constitutes an invaluable resource to PM exposure and health studies in the South Coast.

#### Publications:

A. Saffari, N. Daher, M. M. Shafer, J.J. Schauer, C. Sioutas. Seasonal and spatial variation in dithiothreitol (DTT) activity of quasi-ultrafine particles in the Los Angeles Basin and its association with chemical species. *Journal of Environmental Science and Health, Part A: Toxic/Hazardous Substances and Environmental Engineering*, 49 (4), 441-451, 2014

A. Saffari, N. Daher, M. M. Shafer, J.J. Schauer, C. Sioutas. Global perspective on the oxidative potential of airborne particulate matter: a synthesis of research findings. *Environmental science and technology*, 2014, 48, 7576-7583.

A. Saffari., N. Daher, M. M. Shafer, J.J. Schauer, C. Sioutas. Seasonal and spatial variation of trace elements and metals in quasi-ultrafine (PM<sub>0.25</sub>) particles in the Los Angeles metropolitan area and characterization of their sources. *Environmental Pollution*, 181, 14-23, 2013.

A. Saffari, N. Daher, M. M. Shafer, J.J. Schauer, C. Sioutas. Seasonal and spatial variation in reactive oxygen species activity of quasi-ultrafine particles (PM<sub>0.25</sub>) in the Los Angeles metropolitan area and its association with chemical composition. *Atmospheric Environment*, 79, 566-575, 2013.

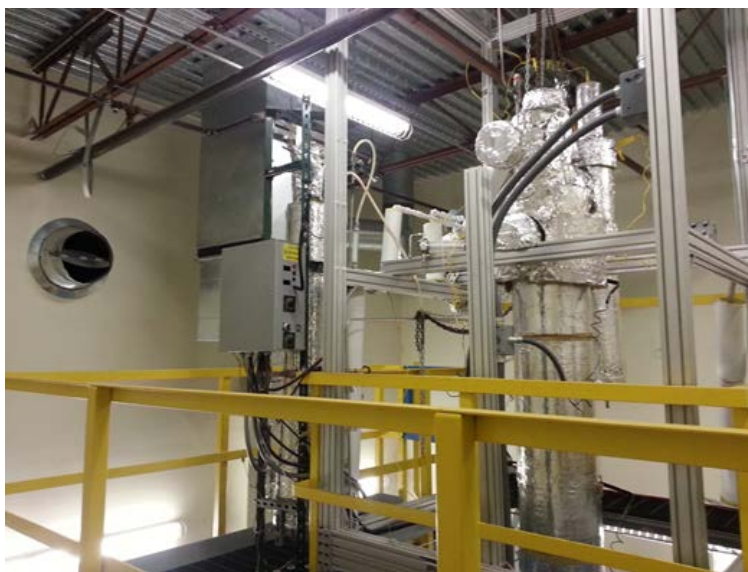
D. Wang, P. Pakbin, M. M. Shafer, D. Antkiewicz, J. J. Schauer and C. Sioutas. Macrophage Reactive Oxygen Species Activity of Water-soluble and Water-insoluble Fractions of Ambient Coarse, PM<sub>2.5</sub> and Ultrafine Particulate Matter (PM) in Los Angeles. *Atmospheric Environment*, 77, 301-310, 2013.

S. Hasheminassab, N. Daher, J.J. Schauer, C. Sioutas. Source apportionment and organic compound characterization of ambient ultrafine particulate matter (PM) in the Los Angeles Basin. *Atmospheric Environment*, 79, 529-539, 2013.

N. Daher, S. Hasheminassab, M.M. Shafer, J.J. Schauer, C. Sioutas. Seasonal and spatial variability in chemical composition and mass closure of ambient ultrafine particles in the megacity of Los Angeles. *Environmental Science: Processes and Impacts*, 15, 283-295, 2013.

### **Conversion of Biowaste to Natural Gas using Steam Hydrogasification**

Utilization of renewable energy sources is an integral part of California's strategy to reduce greenhouse gas emissions and to diversify domestic energy sources. Renewable Natural Gas (RNG) can be produced from carbonaceous and renewable feedstocks through a number of technologies including anaerobic digestion, gasification and pyrolysis. However, these technologies are often inefficient and the product gas is typically of low quality and inferior to fossil source-based natural gas. The Steam Hydrogasification Reaction (SHR), developed by the University of California Riverside/CE-CERT, is a thermo-chemical process that can produce high quality RNG from organic waste in a cost-effective and efficient manner. The SHR is also capable of handling wet feedstock providing an attractive alternative to landfilling solid wastes with high moisture contents like wastewater sludge that can pose more environmental issues in disposal. Another key benefit of this process is it uses steam to significantly increase the methane formation rate with a high carbon conversion efficiency compared to other gasification technologies. In addition, the SHR does not require an expensive oxygen plant that can be a significant barrier for smaller-scale production facilities.



**Figure 22: PDU SHR-WGS system**

The objective of this project was to demonstrate the SHR system in a Process Development Unit (PDU) scale reactor to produce RNG from organic waste in order to validate and optimize the process for a pilot plant design. A bubbling fluidized bed SHR with a 5 lb/hr feed rate was used in this project with a water gas shift (WGS) reactor integrated to maximize the methane production. As illustrated in Figure 42, biosolids comingled with food and green waste were pretreated in a hydrothermal reactor to pumpable slurry and fed into the SHR. When the slurry reached the

reaction zone, it reacted with hydrogen and water producing methane, CO and CO<sub>2</sub>. With solid particles and moisture removed through a gas clean-up process, the product gas then passed through the WGS to convert CO into hydrogen and CO<sub>2</sub>. In this project, a gas recirculation loop was added to recycle internally generated hydrogen back to the reactor for a self-sustained operation without external hydrogen supply.

The demonstration yielded a final gas composition of 73% CH<sub>4</sub> and 27% CO after CO<sub>2</sub> separation. In addition, an ASPEN modeling study showed that the methane concentration can be further increased to 90% by utilizing CO in the methanation process. Carbon conversion efficiency was 75% meaning 75% of carbon in the feedstock was utilized to produce the

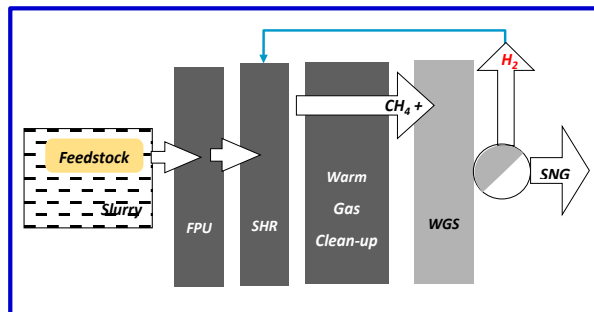


Figure 23: SHR-WGS Process Diagram

product gas. The remaining 25% was converted into char that can be utilized as fuel for heat source in a larger scale demonstration. Through this project, the process condition was optimized as follows: 1.0 H<sub>2</sub>/C mole ratio, 1.5 H<sub>2</sub>O/feedstock mass ratio, 750oC reactor temperature, 400 Psia reactor pressure, and 320-380oC WGS operation temperature. In addition, an economic analysis for a commercial-scale plant showed that the RNG production cost will range from \$5 to \$15/MMBtu depending on site capacity and applications.

Biofuels derived from waste-based feedstocks typically have lower carbon intensities compared to other biofuels and alternative fuels. The SHR process has demonstrated potentials to produce high quality RNG from biomass waste more efficiently than competing renewable energy technologies including anaerobic digesters. Based on a preliminary feedstock availability assessment, a wide-scale implementation of this technology can help to support about 5% of the natural gas consumption in California.

**Table 5: Projects Completed between January 1 & December 31, 2014**

<b>Contract</b>	<b>Contractor</b>	<b>Project Title</b>	<b>Date</b>
<b>Infrastructure and Deployment</b>			
06028	Consolidated Disposal Service, LLC	Purchase & Install CNG Fueling System at Long Beach Waste Transfer Station	Jul-14
07051	City of Pasadena	Purchase & Install New Public Access CNG Fueling Station	Mar-14
07244	SunLine Transit Agency	Upgrade Existing Public Access CNG Fueling Stations in Thousand Palms & Indio	Apr-14
07245	USA Waste of California, Inc.	Purchase & Install New LNG Production Facility Using Landfill Gas from Altamont Landfill in Livermore	Dec-14
08030	TNT Blanchard	Repower Four Off-Road Construction Vehicles	Jun-14
08101	Pupil Transportation Cooperative	Upgrade Existing Full Public Access CNG Fueling Station in Whittier	Jun-14
09308	Trillium CNG (formerly Pinnacle)	Maintain & Manage SCAQMD's Diamond Bar Headquarters' Fast-Fill CNG Refueling Station	Nov-14
10034	California Cartage Company	Install Two LNG Fueling Stations at the Ports	Nov-14
10054†	Applied LNG Technologies	Upgrade & Perform Emergency Repairs of L/CNG Refueling Facility	Dec-14
10055	Waste Management	Install New Public Access CNG Refueling Station in Santa Ana	Dec-14
11561	SuperShuttle International, Inc.	Purchase & Deploy 34 CNG Shuttle Vans	Oct-14
12259	A-1 Alternative Fuel Systems	Demonstrate Natural Gas-Powered Police Pursuit Vehicle	Oct-14
<b>Emission Control Technologies</b>			
10696	Johnson Matthey, Inc.	Optimize & Demonstrate Selective Catalytic Regenerating Technology (SCRT) for NO <sub>x</sub> & PM Emissions Control	Dec-14
10697	Johnson Matthey, Inc.	Optimize & Demonstrate Selective Catalytic Continuously Regenerating Technology (SCCRT) for NO <sub>x</sub> & PM Emissions Control	Dec-14
12113	Southern Counties Terminals dba Griley Air Freight	Retrofit Nine Heavy-Duty Diesel Trucks with DPFs	Mar-14
12114	South Bound Express, Inc.	Retrofit Three Heavy-Duty Diesel Trucks with DPFs	Mar-14
12118	National Ready Mixed Concrete, Co.	Retrofit 13 Heavy-Duty Diesel Trucks with DPFs	Mar-14
12120	Standard Concrete Products, Inc.	Retrofit 15 Heavy-Duty Diesel Trucks with DPFs	Mar-14
12121	Challenge Dairy Products, Inc.	Retrofit Three Heavy-Duty Diesel Trucks with DPFs	Mar-14

**Table 5: Projects Completed between January 1 & December 31, 2014**

<b>Contract</b>	<b>Contractor</b>	<b>Project Title</b>	<b>Date</b>
<b><i>Emission Control Technologies (cont'd)</i></b>			
12122	Bear Trucking, Inc.	Retrofit One Heavy-Duty Diesel Truck with DPFs	Mar-14
12123	RRM Properties Ltd.	Retrofit 127 Heavy-Duty Diesel Trucks with DPFs	Mar-14
12124	Gaio Trucking, Inc.	Retrofit Eight Heavy-Duty Diesel Trucks with DPFs	Mar-14
12125	Spragues Ready Mix	Retrofit Four Heavy-Duty Diesel Trucks with DPFs	Mar-14
12175	RRM Properties Ltd.	Retrofit Seven Heavy-Duty Diesel Trucks with DPFs	Mar-14
12186	Pipeline Carriers Inc.	Retrofit Ten Heavy-Duty Diesel Trucks with DPFs	Mar-14
13407	Chaffey Joint Union High School District	Demonstrate DPF Technology on Two School Buses	Mar-14
<b><i>Electric/Hybrid Technologies &amp; Infrastructure</i></b>			
11614	Transportation Power, Inc.	Demonstrate Battery Electric Heavy-Duty Trucks	Sep-14
11725†	Puente Hills Nissan	Lease Three Nissan Leaf Electric Vehicles for 39 Months	Aug-14
12020	Chargepoint	Upgrade & Install Electric Charging Infrastructure	Apr-14
12825†	BMW of Monrovia	Lease Two BMW ActiveE Electric Vehicles for Two Years	Jun-14
12889†	BMW of Monrovia	Lease Two BMW ActiveE Electric Vehicles for Two Years	Jun-14
13149	UCLA Luskin Center for Innovation	Develop Southern California PEV Readiness Plan	Mar-14
<b><i>Mobile Fuel Cell Technologies</i></b>			
15388	Bevilacqua-Knight, Inc.	Participate in California Fuel Cell Partnership for CY 2014 & Provide Support for Regional Coordinator	Dec-14
<b><i>Hydrogen Technologies &amp; Infrastructure</i></b>			
04185	Quantum Fuel Systems Technologies Worldwide Inc.	Develop & Demonstrate Hydrogen ICE Vehicles for Five Cities Program	Apr-14
13146†	California State University Los Angeles	Lease One Toyota Prius Hydrogen-Fueled Vehicle	Mar-14
<b><i>Health Impacts Studies</i></b>			
11527	University of Southern California	Study Sources, Composition, Variability & Toxicological Characteristics of Ultrafine Particles in Southern California	Dec-14

**Table 5: Projects Completed between January 1 & December 31, 2014**

<b>Contract</b>	<b>Contractor</b>	<b>Project Title</b>	<b>Date</b>
<b><i>Health Impacts Studies (cont'd)</i></b>			
12197	University of California Riverside/CE-CERT	Health Effects of PM Emissions from Heavy-Duty Vehicles—A Comparison Between Different Biodiesel Fuels	Mar-14
<b><i>Stationary Clean Fuel Technologies</i></b>			
09304	Solar Integrated Technologies, Inc.	Install & Evaluate Two 40kW (AC) PV Systems at SCAQMD Headquarters	Dec-14
11208†	Long Beach Unified School District	Long Beach USD Air Filtration MOA	Dec-14
13078	University of California Riverside/CE-CERT	Conversion of Biowaste to Natural Gas using Steam Hydrogasification	Dec-14
<b><i>Outreach and Technology Transfer</i></b>			
07060†	Don Breazeale and Associates Inc.	Technical Assistance Related to Air Quality Impacts of Regional Goods Movement	May-14
07129†	Breakthrough Technologies Institute, Inc.	Technical Assistance with Fuel Cell Technology	Mar-14
11182†	Tech Compass	Technical Assistance with Alternative Fuels, Fuel Cells, Emissions Analysis and Aftertreatment Technologies	Dec-14
12309†	TIAX LLC	Technical Assistance with Low- and Zero-Emission Vehicles, Fuel Cells and Fueling Infrastructure	Apr-14
12604†	Joseph C. Calhoun, P.E., Inc.	Technical Assistance with Low- and Zero-Emission Vehicles, Technology & Emissions Analysis	Dec-14
13081†	Burnett & Burnette	Technical Assistance in Evaluation and Assessing New Installations of Alternative Fueling Stations	Apr-14

†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 2015 PLAN UPDATE

The Clean Fuels Program (Program) was first created in 1988, along with the SCAQMD's Technology Advancement Office (TAO). Funding for the Program is received through a \$1 motor vehicle registration fee. The Clean Fuels Program 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 as well as the latest progress in the state-of-technologies, new research areas and data.

Every year the SCAQMD re-evaluates the Clean Fuels Program based on the region's ongoing need for emissions reductions and develops a Plan Update for the upcoming calendar year (CY) targeting near-term projects to help achieve those reductions. This portion of this comprehensive document is the Plan Update for 2015.

### Overall Strategy

The overall strategy of the SCAQMD's Clean Fuels Program is based primarily 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 identified the need for 200 tons/day oxides of nitrogen (NO<sub>x</sub>) reductions to be adopted by 2020 for full implementation by 2023 and in large part focuses control measures on transportation technologies and cleaner fuels. 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."<sup>2</sup> 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). Ozone (smog) is created by a chemical reaction between NO<sub>x</sub> and VOCs emissions at ground level. This is especially noteworthy because the largest contributor to ozone is NO<sub>x</sub> emissions, and mobile sources (on- and off-road as well as aircraft and ships) contribute to more than three-fourths of the NO<sub>x</sub> emissions in this region.

The daunting challenge to reduce ozone and NO<sub>x</sub> require the Clean Fuels Program to encourage and accelerate advancement of transformative fuel and transportation technologies, leading the way for commercialization of progressively lower-emitting fuels and vehicles. If this region hopes to meet the 8-hour ozone standard (80 ppb) by 2023, it is projected that a 65% reduction in NO<sub>x</sub> is required. The NO<sub>x</sub> and VOC emission sources of greatest concern to this region are

---

<sup>2</sup> [http://www.arb.ca.gov/planning/vision/docs/vision\\_for\\_clean\\_air\\_public\\_review\\_draft.pdf](http://www.arb.ca.gov/planning/vision/docs/vision_for_clean_air_public_review_draft.pdf)

heavy-duty on-road and off-road vehicles as well as to a lesser extent light- and medium-duty on-road vehicles. To underscore this concern, the 2013 Vehicle Technologies Market Report<sup>3</sup>, released in early 2014 by the Oak Ridge National Laboratory for the Department of Energy, and corroborated by EMFAC 2011 projections, notes that Class 8 trucks comprise 41% of the medium- and heavy-duty truck fleet but consume 78% of the fuel use in this sector. This is especially significant since the report also notes that Class 8 truck sales have continued to increase significantly since 2009. In addition to NO<sub>x</sub> and VOCs, fine particulate matter (PM<sub>2.5</sub>) produced from mobile sources must also be reduced. Given the relationship between NO<sub>x</sub>, ozone and PM<sub>2.5</sub>, the 2015 Plan Update must emphasize emission reductions in these areas.

In recent years, it has become increasingly clear that the effect of containers being moved 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, in the last couple of years, the SCAQMD has initiated a concerted effort to 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 preliminary findings from the Multiple Air Toxics Exposure Study (MATES) IV<sup>4</sup>, which included local scale studies near large sources such as ports and freeways, reinforce the importance of these impacts and the need for transformative transportation technologies, especially near the ports and goods movement corridor.

For over 20 years, a key strategy of the Clean Fuels Program has been its implementation as a public-private partnership in conjunction with private industry, technology developers, academic institutions, research institutions and government agencies. This public-private partnership has allowed the Program to leverage its funding with at least \$3 of spending on R&D projects to every \$1 of SCAQMD funds.

As the state and federal governments have turned a great deal of their attention to climate change, the SCAQMD has remained committed to developing, demonstrating and commercializing zero and near-zero emission technologies. Fortunately many, if not the majority, of technology sectors that address our need for NO<sub>x</sub> reductions also garner greenhouse gas (GHG) reductions. Due to these “co-benefits,” we have been successful in partnering with the state and federal grants.

## Funding Scope

This 2015 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 (1) new and changing federal requirements such as the newer 2032 ozone standard in addition to the current 2023 standard, (2) implementation of new technology measures, and (3) the continued development of economically sound compliance approaches. The scope of projects in the 2015 Plan Update also needs to remain sufficiently flexible to address new challenges and proposed methodologies that are identified in the 2012 AQMP, to consider dynamically evolving technologies, and to incorporate new research and data, such as the draft findings from the MATES IV study, which was

---

<sup>3</sup> <http://cta.ornl.gov/vtmarketreport/index.shtml>

<sup>4</sup> <http://www.aqmd.gov/home/library/air-quality-data-studies/health-studies/mates-iv>

undertaken to update the emissions inventory of toxic air contaminants and conduct a regional modeling effort to characterize risk to health across the Basin. The study included measuring ultrafine particle and black carbon concentrations, as well as the white papers under development for the 2016 AQMP, which will focus on addressing ozone standards. Finally, given the 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), coupled with 2014-15 state budget appropriations relative to reducing greenhouse gases (GHGs), the co-benefits of technologies should also be considered.

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. Some of the technologies that are developed and demonstrated in the Clean Fuels Program may serve as control measures for the "black box."

Within the core technology areas defined later in this section, 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.

- Most technology *development* projects are expected to begin during 2015 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 2018. 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 2020 or later.
- More mature technologies, those ready to begin field *demonstration* in 2015, are expected to result in a commercial product in the 2016-2017 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, in addition to government's role to reduce risk by funding technology development and testing, one of government's roles is to support and offset any incremental cost through incentives to help accelerate the transition and use of the cleaner technology. The increased use and proliferation of these cleaner technologies often depends on this initial support and funding as well as efforts intended to increase confidence of stakeholders that these technologies are real, cost-effective in the long term and will remain applicable.

## Core Technologies

As previously noted, the SCAQMD Clean Fuels Program maintains flexibility to address dynamically evolving technologies incorporating the latest state-of-the-technology 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 2023 8-hour ozone standard, the areas of zero and near-zero emission technologies need to be emphasized. The working definition of “near-zero” is an order of magnitude lower than the existing 0.2 g/bhp-hr NO<sub>x</sub>. This level is 0.02 g/bhp-hr NO<sub>x</sub> and close to a combined cycle powerplant emissions rate. This effort can be seen in the following sections and in the proposed funding distribution in Figure 24 (page 74). The major core technology areas are identified below with specific project categories discussed in more detail in the following sections. The core 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 continually made to form private partnerships to leverage Clean Fuels funds. For example, there may be an upcoming opportunity to leverage state funding since SB 1204 (Lara and Pavley), which was chaptered last month, designates money from the state’s cap-and-trade program for development, demonstration and early commercialization of zero and near-zero emission truck, bus and off-road vehicles.

It should be noted, therefore, 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 core technology areas are listed by current SCAQMD priorities based on the goals for 2015.

### ***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-2014 the CaFCP published Hydrogen Progress, Priorities and Opportunities, a report updating its 2012 roadmap describing the first network of commercial hydrogen stations in California, which calls for 68 hydrogen fueling stations in cluster communities at specific destinations by 2016. CEC funding awards over the last two years, along with some smaller cost-share support from SCAQMD, have made significant inroads to creating a growth path to 100 hydrogen stations, the state’s current goal for launching a commercially self-sustaining network to support a growing number of fuel cell vehicles to implement the state’s ZEV Action Plan. Furthermore, in September 2013 the Governor signed Assembly Bill 8 providing significant funding for hydrogen stations, which will greatly assist in making the inroads necessary toward expanding the hydrogen infrastructure network in California.

Calendar Years 2015-2017 are a critical timeframe for the introduction of FCVs. In fact, several automakers are scheduled to release products in 2015-2016, Hyundai being the first to already offer a FCV for lease in 2014. Since stations need one to two years lead time for permitting and construction, plans for stations need to be initiated now. While coordination efforts with the Division of Measurement Standards to establish standardized measurements for hydrogen fueling started in 2014, additional efforts to offer hydrogen for sale to general consumers are still needed. 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.

Commencing late 2012, the CEC, which based its AB 118 hydrogen funding strategy on CaFCP's roadmap as well as the University of California, Irvine's Advanced Power and Energy Program, has issued multiple Program Opportunity Notices for hydrogen fuel infrastructure and to date has awarded funding for 36 new hydrogen fueling stations. The CEC in mid-2013 awarded the SCAQMD \$6.7 million to implement the upgrade and refurbishment of existing hydrogen fueling stations to ensure legacy stations continue operation as FCVs become available in the market. The SCAQMD received a subsequent award of \$300,000 in 2014 from CEC to implement a plan for hydrogen readiness in early market communities. The SCAQMD will work closely with state agencies to implement these programs and continue efforts to upgrade and refurbish existing hydrogen infrastructure.

The 2015 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 engine systems for medium- and heavy-duty vehicle applications as well as stationary power applications;
- continued development and demonstration of distributed hydrogen production and fueling stations, including energy stations with electricity and hydrogen co-production and higher pressure (10,000 psi) hydrogen dispensing;
- 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
- development and implementation of strategies with government and industry to build participation in the hydrogen market including certification and testing of hydrogen as a commercial fuel to create a business case for investing.

### ***Electric/Hybrid Technologies & Infrastructure***

If the region hopes to meet the federal standards for PM<sub>2.5</sub> 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. Additionally, the impact of fast charging on battery life and infrastructure costs is not well understood.

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 is commercially available product, is not yet mainstream technology, may have applications for medium- and heavy-duty vehicles. In fact, the goal of SB 1275 (de León), chaptered in September 2014, is to bring one million zero emission electric vehicles to California over the next ten years as well as to ensure that disproportionately impacted communities benefit from this transition toward cleaner transportation.

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 and high horsepower applications;
- continued development and demonstration of alternative fuel medium-duty and heavy-duty engines and vehicles;
- development and demonstration of alternative fuel engines for off-road applications;
- evaluation of alternative engine systems such as compressed air propulsion and hydraulic plug-in hybrid vehicles;
- development and demonstration of engine systems that employ advance fuel or alternative fuels, engine design features, improved exhaust or recirculation systems, and aftertreatment devices;
- development and demonstration of engine systems that employ advance fuel or alternative fuels, engine design features, improved exhaust or recirculation systems, and aftertreatment devices.

### ***Infrastructure and Deployment (Natural Gas)***

The importance of natural gas and related refueling infrastructure cannot be overemphasized for the realization of large deployment of alternative fuel technologies. Significant demonstration and commercialization efforts funded by the Clean Fuels Program as well as other local, state and federal agencies are underway to: 1) support the upgrade and buildup of public and private infrastructure projects, 2) expand the network of public-access and fleet fueling stations based on the population of existing and anticipated vehicles, and 3) put in place infrastructure that will ultimately be needed to accommodate transportation fuels with very low gaseous emissions.

Compressed and liquefied natural gas (CNG and LNG) refueling stations are being positioned to support both public and private fleet applications. Upgrades and expansions are also needed to refurbish or increase capacity for some of the stations installed five 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 National Fire Protection Association (NFPA) fire and safety codes and standards, evaluation of the cost and economics of the new fuels, public education and training and emergency response capability are just a few areas of the funded efforts that have 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.

### ***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<sub>x</sub> emissions while reducing other criteria pollutant emissions. Furthermore, despite recent advancements in toxicological research related to air pollution, the relationship between particle chemical composition and health effects is still not completely understood, especially for biofuels. Therefore, a couple of years ago the SCAQMD funded studies to investigate the physical and chemical composition and toxicological potential of tailpipe PM emissions from biodiesel and ethanol fueled vehicles to better understand their impact on public health. Studies have continued in 2014 to further investigate the toxicological potential of emissions, such as ultrafine particles and vapor phase substances, and to determine whether or not other substances such as volatile or semi-volatile organic compounds are being emitted in lower mass emissions that could pose harmful health effects.

In 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 that the Clean Fuels Program 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 emissions of 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<sub>x</sub> than the existing standard. A study in 2015 on DME is being proposed.

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;
- lifecycle energy and emissions analyses to evaluate conventional and alternative fuels; and
- analysis of fleet composition and their associated impacts.

### ***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<sub>x</sub>, 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.

Additionally, alternative energy storage could be achieved through vehicle to grid or vehicle to building technologies. The University of California Riverside's Sustainable Integrated Grid Initiative, funded in part by the SCAQMD and launched in 2014, for example could assist in the evaluation of these technologies. Projects conducted under this category may include:

- development and demonstration of reliable, low emission stationary technologies (e.g., low NO<sub>x</sub> burners, fuel cells or microturbines);
- exploration of renewables as a source for cleaner stationary technologies;
- evaluation, development and demonstration of advanced control technologies for stationary sources; and
- vehicle-to-grid or vehicle-to-building demonstration projects to develop sustainable, low emission energy storage alternatives

### ***Emission Control Technologies***

Although engine technology and engine systems research is required to reduce the emissions at the combustion source, 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:

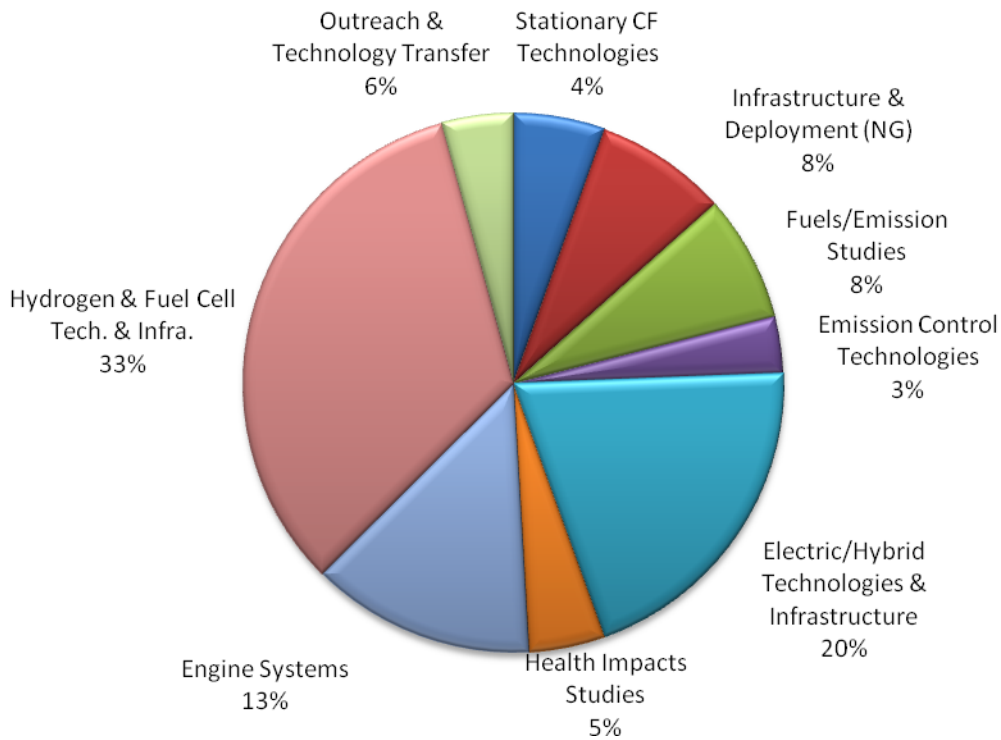
- evaluation and demonstration of new emerging liquid fuels, including alternative and renewable diesel and GTL fuels;
- development and demonstration of advanced aftertreatment technologies for mobile applications (including diesel particulate traps and selective catalytic reduction catalysts);
- development and demonstration of low-VOC and PM lubricants for diesel and natural gas engines; and

### ***Outreach and Technology Transfer***

Since the value of the Clean Fuels Program depends on the deployment and adoption of the demonstrated technologies, outreach and technology transfer efforts are essential to its success. This core area encompasses assessment of advanced technologies, including retaining outside technical assistance as needed, efforts to expedite the implementation of low emission and clean fuels technologies, coordination of these activities with other organizations and information dissemination to educate the end user. Technology transfer efforts include support for various clean fuel vehicle incentive programs as well.

## **Target Allocations to Core Technology Areas**

Figure 24 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 2015 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 2015 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 24: Projected Cost Distribution for Potential SCAQMD Projects in 2015 (\$16.4M)**

## PROGRAM PLAN UPDATE FOR 2015

This section presents the Clean Fuels Program Plan Update for 2015. The proposed projects are organized by program areas and described in further detail, consistent with the SCAQMD budget, priorities and the best available information on the state-of-the-technology. Although not required, this Plan also includes proposed projects that may be funded by revenue sources other than the Clean Fuels Program, specifically related to VOC and incentive projects.

Table 6 summarizes potential projects for 2015 as well as the distribution of SCAQMD costs in some areas as compared to 2015. 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 continue 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 2015-2016. Some additional funding has also been shifted to Fuels and Emissions Studies in order to further evaluate biofuels including DME and to partner with the National Renewable Energy Laboratory (NREL) on a fleet and technology matching analysis. Like the prior year, the funding allocations again align well with the SCAQMD's FY 2014-15 Goals and Priority Objectives. Overall, the Program is designed to 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 6 (page 77).

**Proposed Project:** A descriptive title and a designation for future reference.

**Expected SCAQMD Cost:** The estimated proposed SCAQMD cost share as required by H&SC 40448.5.1.(a)(1).

**Expected Total Cost:** The estimated total project cost including the SCAQMD cost share and the cost share of outside organizations expected to be required to complete the proposed project. This is an indication of how much SCAQMD public funds are leveraged through its cooperative efforts.

**Description of Technology and Application:** A brief summary of the proposed technology to be developed and demonstrated, including the expected vehicles, equipment, fuels, or processes that could benefit.

**Potential Air Quality Benefits:** A brief discussion of the expected benefits of the proposed project, including the expected contribution towards meeting the goals of the AQMP, as required by H&SC 40448.5.1.(a)(1). In general, the most important benefits of any technology research, development

and demonstration program are not necessarily realized in the near term. Demonstration projects are generally intended to be proof-of-concept for an advanced technology in a real-world application. While emission benefits, for example, will be achieved from the demonstration, the true benefits will be seen over a longer term, as a successfully demonstrated technology is eventually commercialized and implemented on a wide scale.

**Table 6: Summary of Potential Projects for 2015**

<b>Proposed Project</b>	<b>Expected SCAQMD Cost \$</b>	<b>Expected Total Cost \$</b>
<b>Hydrogen and Fuel Cell Technologies and Infrastructure</b>		
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 Medium- and Heavy-Duty Fuel Cell Vehicles	3,000,000	10,000,000
Demonstrate Light-Duty Fuel Cell Vehicles	100,000	100,000
Subtotal	\$5,450,000	\$20,100,000
<b>Electric/Hybrid Technologies &amp; Infrastructure</b>		
Demonstrate Light-Duty Plug-In Hybrid & Battery Electric Vehicles and Infrastructure	1,100,000	2,000,000
Develop and Demonstrate Medium- and Heavy-Duty Hybrid Vehicles and Infrastructure	600,000	1,800,000
Demonstrate Alternative Energy Storage	300,000	2,000,000
Develop and Demonstrate Electric Container Transport Technologies	1,300,000	2,600,000
Subtotal	\$3,300,000	\$8,400,000
<b>Engine Systems</b>		
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
<b>Infrastructure and Deployment (NG)</b>		
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
<b>Fuels/Emission Studies</b>		
In-Use Emissions Studies for Advanced Technology Vehicle Demonstrations	500,000	1,000,000
Conduct Emissions Studies on Biofuels and Alternative Fuels	500,000	1,300,000

**Table 6: Summary of Potential Projects for 2015 (cont'd)**

Proposed Project	Expected SCAQMD Cost \$	Expected Total Cost \$
<b>Fuels/Emission Studies (cont'd)</b>		
Identify and Demonstrate In-Use Fleet Emissions Reduction Technologies & Opportunities	250,000	2,000,000
Subtotal	\$1,250,000	\$4,300,000
<b>Health Impacts Studies</b>		
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
<b>Stationary Clean Fuel Technologies</b>		
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
<b>Emission Control Technologies</b>		
Develop and Demonstrate Advanced Aftertreatment Technologies	300,000	5,000,000
Demonstrate On-Road Technologies in Off-Road and Retrofit Applications	250,000	1,000,000
Subtotal	\$550,000	\$6,000,000
<b>Outreach and Technology Transfer</b>		
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
<b>TOTALS FOR POTENTIAL PROJECTS</b>	<b>\$16,400,000</b>	<b>\$79,050,000</b>



## Technical Summaries of Potential Projects

### ***Hydrogen and Fuel Cell Technologies & Infrastructure***

**Proposed Project:** Develop and Demonstrate Operation and Maintenance Business Case Strategies for Hydrogen Stations

**Expected SCAQMD Cost:** \$350,000

**Expected Total Cost:** \$4,000,000

**Description of Technology and Application:**

California regulations require automakers to place increasing numbers of zero emission vehicles into service every year. By 2050, CARB projects that 87% of light-duty vehicles on the road will be zero emission battery and fuel cell vehicles with fuel cell electric becoming the dominant powertrain.

In 2013, cash-flow analysis resulting in a Hydrogen Network Investment Plan and fuel cell vehicle development partnership announcements by major automakers enabled the passage of AB 8 which provides \$20 million per year for hydrogen infrastructure cofunding through the CEC. This resulted in limited fuel cell vehicle production announcements by Hyundai, Toyota and Honda for 2014-2015.

In mid-2014 the CaFCP published the *Hydrogen Progress, Priorities and Opportunities* (HyPPO) report, an update of their roadmap describing the first network of commercial hydrogen stations in California.

Additional work in this project category would develop a plan to secure long-term funding to complete the hydrogen fueling network build-out, provide details how funding can be invested, assess alternative revenue streams such as renewable incentives, propose alternative financing structures to leverage/extend CEC funding, and support station operation during the transition to commercial viability.

**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<sub>x</sub>, VOC, CO, PM and toxic compound emissions from vehicles.

**Proposed Project:**     Develop and Demonstrate Medium- and Heavy-Duty Fuel Cell Vehicles

**Expected SCAQMD Cost:**     \$3,000,000

**Expected Total Cost:**         \$10,000,000

**Description of Technology and Application:**

This proposed project would support evaluation including demonstration of promising fuel cell technologies for applications using direct hydrogen with proton exchange membrane (PEM) fuel cell technology. Battery fuel cell hybrids are another potential technology being mentioned by battery experts as a way of reducing costs and enhancing performance of fuel cell vehicles.

The California ZEV Action Plan specifies actions to help deploy an increasing number of zero emission vehicles, including medium- and heavy-duty ZEVs. Fleets are useful demonstration sites because economies of scale exist in central refueling, in training skilled personnel to operate and maintain the vehicles, in the ability to monitor and collect data on vehicle performance and for manufacturer technical and customer support. In some cases, medium- and heavy-duty fuel cell vehicles could leverage the growing network of hydrogen stations, providing an early base load of fuel consumption until the number of passenger vehicles grows. These vehicles could include hybrid-electric vehicles powered by fuel cells and equipped with batteries capable of being charged from the grid and even supplying power to the grid.

In 2012 SCAQMD launched demonstrations of Zero Emission Container Transport (ZECT) technologies. This project included development and demonstration of a fuel cell hybrid electric truck platform. In 2015 staff proposes to launch ZECT II to develop and demonstrate additional fuel cell truck platforms and vehicles.

This category may include projects in the following applications:

- |                               |                                 |
|-------------------------------|---------------------------------|
| On-Road:                      | Off-Road:                       |
| • Transit Buses               | • Vehicle Auxiliary Power Units |
| • Shuttle Buses               | • Construction Equipment        |
| • Medium- & Heavy-Duty Trucks | • 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.

**Proposed Project:**     Demonstrate Light-Duty Fuel Cell Vehicles

**Expected SCAQMD Cost:**     \$100,000

**Expected Total Cost:**     \$100,000

**Description of Technology and Application:**

This proposed project would support the demonstration of limited production and early commercial fuel cell passenger vehicles using gaseous hydrogen with proton exchange membrane (PEM) fuel cell technology. Recent designs of light-duty fuel cell vehicles include hybrid batteries to recapture regenerative braking and improve overall system efficiency.

With the implementation of the California ZEV Action Plan, supplemented by the existing and planned hydrogen refueling stations in the Southern California area, light-duty fuel cell limited-production vehicles are planned for retail deployment in early commercial markets near hydrogen stations by several automakers. Fleets are useful demonstration sites because economies of scale exist in central refueling, in training skilled personnel to operate and maintain the vehicles, in the ability to monitor and collect data on vehicle performance and for manufacturer technical and customer support. SCAQMD has included fuel cell vehicles as part of its demonstration fleet since our first hydrogen station began operation in 2005; strengthening support, education, and outreach regarding fuel cell vehicle technology on an on-going basis. In addition, demonstration vehicles could include hybrid-electric vehicles powered by fuel cells and equipped with larger batteries capable of being charged from the grid and even supplying power to the grid.

**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 deployment of zero- emission vehicles in SCAQMD’s demonstration fleet. Over the longer term, the proposed projects could help foster wide-scale implementation of zero emission fuel cell vehicles in the Basin. The proposed projects could also lead to significant fuel economy improvements, manufacturing innovations and the creation of high-tech jobs in Southern California, besides realizing the air quality benefits projected in the AQMP.

## **Electric/Hybrid Technologies & Infrastructure**

**Proposed Project:** Demonstrate Light-Duty Plug-In Hybrid & Battery Electric Vehicles and Infrastructure

**Expected SCAQMD Cost:** \$1,100,000

**Expected Total Cost:** \$2,000,000

### **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 enables passenger vehicles to charge from 110/120V AC (Level 1), 220/240V AC (Level 2), and faster 440/480V DC charging using a common conductive connector in 30 minutes or less in the U.S. and Europe. The impact of fast charging on battery life and infrastructure costs is not well understood and will be evolving as three fast DC systems (SAE combo, CHAdeMO and Tesla) compete for international market share.

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.

The SCAQMD has long been a leader in promoting early demonstrations of next generation light-duty vehicle propulsion technologies (and fuels). However, given the current and planned market offerings in this category, priorities have shifted. Nevertheless, the SCAQMD will continue to evaluate market offerings and proposed technologies in light-duty vehicles to determine if any future support is required.

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; 7) support for local government outreach and charging

installation permit streamlining; and 8) evaluation of any new promising light-duty vehicle propulsion technologies or fuels.

**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 zero and near-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:** \$600,000

**Expected Total Cost:** \$1,800,000

**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, fuel cell propulsion systems and other wayside power alternatives. 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<sub>x</sub> 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<sub>x</sub> 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- and heavy-duty vehicles and high horsepower applications;
- 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<sub>x</sub>. 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.

## **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 NO<sub>x</sub>, VOC, CO, PM and toxic compound emissions from mobile sources. Such increased penetration of NGVs will provide direct emissions reductions of NO<sub>x</sub>, VOC, CO, PM and air toxic compounds throughout the Basin.

**Proposed Project:** Demonstrate Natural Gas Manufacturing and Distribution Technologies Including Renewables

**Expected SCAQMD Cost:** \$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<sub>x</sub>, PM and toxic compound emissions.

## ***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:** \$500,000

**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. It's noteworthy to mention that in 2013 the Low-Carbon Fuel Standard was upheld by the U.S. Court of Appeals for the Ninth Circuit and subsequently in June 2014 opponents were denied further appeal by the Supreme Court. With an anticipated increase in biofuel use, it is the objective of this project to further analyze these fuels to better understand their benefits and impacts not only on greenhouse gases but also on air pollution and associated health effects.

In various diesel engine studies, replacement of petroleum diesel fuel with biodiesel fuel has demonstrated reduced PM, CO and air toxics emissions. Biodiesel also has the potential to reduce greenhouse gas emissions because it can be made from renewable feedstocks, such as soy and canola. However, certain blends of biodiesel have a tendency to increase NO<sub>x</sub> emissions, which exacerbates the ozone and PM<sub>2.5</sub> 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<sub>x</sub>, in light of Volvo's announcement that they will commercialize class 8 trucks using DME in 2015. Furthermore, CARB recently proposed a regulation on the commercialization of alternative diesel fuels, including biodiesel and renewable diesel, while noting that biodiesel in older heavy-duty vehicles can increase NO<sub>x</sub> and the need for emerging alternative diesel fuels to have clear ground rules for commercialization. The impact of natural gas fuel composition on emissions from heavy-duty trucks and transit buses is also being studied.

In order to address these concerns on potential health effects associated with biofuels, namely biodiesel and ethanol blends, this 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<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> 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 project, measurements and chemical composition of ultrafine particulates will be done, as well as studies conducted to characterize their toxicity. The composition of the particulates can further be used to determine the contribution from specific combustion sources. Additionally, engine or chassis dynamometer testing may be conducted on heavy-duty vehicles to measure, evaluate and compare ultrafine particulate matter, PAH and other relevant toxic emissions from different types of fuels such as CNG, low-sulfur diesel, biofuels and others. This project needs to be closely coordinated with the development of technologies for alternative fuels, aftertreatment and new engines in order to determine the health benefits of such technologies.

### **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 potential health impacts from mobile sources. The projects would need to be at least one year in duration in order to properly assess the air quality impacts in the area.

**Potential Air Quality Benefits:**

The proposed project will assist in the evaluation of adverse public health impacts associated with mobile sources. The information will be useful in (a) determining whether indirect sources have a relatively higher impact on residents living in close proximity; and (b) providing guidance to develop some area-specific control strategies in the future should it be necessary.

**Proposed Project:** Assess Sources and Health Impacts of Particulate Matter

**Expected SCAQMD Cost:** \$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.

MATES IV was initiated in mid-2012 and includes an air monitoring program, an updated emissions inventory of toxic air contaminants and a regional modeling effort to characterize risk across the Basin. The draft report was released for public review in October 2014. In addition to air toxics, MATES IV also measured ultrafine particle concentrations and black carbon at the monitoring sites as well as near sources such as airports, freeways, rail yards, busy intersections and warehouse operations.

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<sub>x</sub> and CO emissions meeting SCAQMD rule requirements or a RECLAIM concentration limit. However, SCAQMD-unannounced tests on engines and boilers have found that in many cases NO<sub>x</sub> and/or CO levels have increased significantly above levels that have been initially or periodically demonstrated due to equipment malfunction and/or inadequate operator attention. It is suspected that the same may be true of heaters, furnaces and ovens.

Demonstrations of newer technologies in recent years could result in a commercially viable alternative to CEMs that is both reliable and feasible in terms of lower costs. For example, manufacturers of flue gas analyzers have, in recent years, developed low-cost multi-gas analyzers suitable for portable or stack-mounted use. Some preliminary testing of a new type of AFRC, which uses a different type of O<sub>2</sub> sensor known as a wide-band O<sub>2</sub> sensor, is another alternative that can be analyzed. Another technical approach might be to deploy technology utilizing the O<sub>2</sub> signature of a post-catalyst O<sub>2</sub> sensor and additional control concepts being developed by manufacturers. Since an underlying problem has been that engine, catalyst and AFRC manufacturers have developed systems independently, a system being co-developed to perform continuous diagnostics to assist operators in keeping rich-burn engines in compliance is possibly another alternative for demonstration.

### **Potential Air Quality Benefits:**

Stationary engines, boilers, heaters, furnaces and ovens account for approximately 11 percent of total NO<sub>x</sub> emissions and about 6 percent of total CO emissions. There has been a long-standing compliance problem with rich-burn IC engines in the basin and evidence indicates that many of these devices are operating with NO<sub>x</sub> and/or CO emissions above levels required in their permits. Projects could potentially reduce a significant class of NO<sub>x</sub> and CO emissions that are in excess of the assumptions in the AQMP and further enhance SCAQMD's ability to enforce full-time compliance.

**Proposed Project:** Develop and Demonstrate Clean Stationary Technologies

**Expected SCAQMD Cost:** \$250,000

**Expected Total Cost:** \$750,000

**Description of Technology and Application:**

Stationary sources, including VOC sources such as large printing facilities and furniture manufacturers, have become cleaner and cleaner due to the regulatory requirements for low emissions and the advancements in technology to meet those requirements. Best Available Control Technology (BACT) regulations, however, are only required for new, modified, or relocated sources. This project category is to develop and demonstrate new technologies that can provide emissions reductions in new installations or as retrofit modifications. Possible technology examples include:

- low NO<sub>x</sub> technologies (burners and ICEs);
- low-Btu gas technologies (e.g., digester, landfill, or dairy gases);
- alternative fuels and hydrogen blends;
- alternative diesel fuels (emulsified, gas-to-liquids, biodiesel with aftertreatment);
- low emission refinery flares;
- catalytic combustion;
- cost-effective fuel cell and fuel cell hybrid distributed generation;
- fumes-to-fuel technology to replace thermal oxidizers and capture VOC emissions for electricity generation while ensuring no emission of air toxics; and
- boiler optimization design and strategies to improve efficiencies.

Depending on the technology, a proof-of-concept project, demonstration, or pre-commercial deployment would be considered to garner further information on the technology. Issues to investigate include viability (reliability, maintainability and durability) of the technology, cost-effectiveness and operator ease-of-use in order to assess commercialization.

**Potential Air Quality Benefits:**

The SCAQMD has a substantial number of older, small, stationary source technologies within its jurisdiction. Since these devices are not subject to continuous emissions monitoring system requirements, evidence suggests that these devices may not be operating at their permitted NO<sub>x</sub>, CO, hydrocarbon and PM emissions levels. Replacing these devices with cleaner and more reliable technologies or technology/fuel combinations can have dramatic reductions in all of these criteria pollutants. VOC emission reductions may also be achieved at larger stationary VOC sources to achieve the new federal ozone and PM<sub>2.5</sub> standards.



**Proposed Project:** Develop and Demonstrate Renewables-Based Energy Generation Alternatives

**Expected SCAQMD Cost:** \$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 potentially including vehicle to grid or vehicle to building functionalities for alternative energy storage; biomass conversion; and other renewable energy and recycling technologies. Innovative solar technologies, such as solar thermal air conditioning and photovoltaic-integrated roof shingles, are of particular interest. Also, in the agricultural sections of the Basin, wind technologies could potentially be applied to drive large electric motor-driven pumps to replace highly polluting diesel-fired pumps. Besides renewable technologies, electrolyzer technology could be used to generate hydrogen, a clean fuel. Hydrogen, when used in regular engines, can 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.

## **Emission Control Technologies**

**Proposed Project:** Develop and Demonstrate Advanced Aftertreatment Technologies

**Expected SCAQMD Cost:** \$300,000

**Expected Total Cost:** \$5,000,000

### **Description of Technology and Application:**

There are a number of aftertreatment technologies which have shown substantial emission reductions in diesel engines. These technologies include diesel particulate filters (DPFs), oxidation catalysts, selective catalytic reduction (SCR) systems and NO<sub>x</sub> adsorbers. This project category is to develop and demonstrate these aftertreatment technologies alone or in tandem with an alternative fuel to produce the lowest possible PM, ultrafine particles, nanoparticles, NO<sub>x</sub>, CO, carbonyl and hydrocarbon emissions in retrofit and new applications. With the increasing focus on zero- and near-zero emission goods movement technologies, this category should examine idle reduction concepts and technologies that can be employed at ports and airports.

Possible projects include advancing the technologies for on-road retrofit applications such as heavy-duty line-haul diesel engines, street sweepers, waste haulers and transit buses. Applications for non-road may include construction equipment, yard hostlers, gantry cranes, locomotives, marine vessels, ground support equipment and other similar industrial applications. Potential fuels to be considered in tandem are low-sulfur diesel, emulsified diesel, biodiesel, gas-to-liquids, hydrogen and natural gas. This project category will also explore the performance, economic feasibility, viability (reliability, maintainability and durability) and ease-of-use to ensure a pathway to commercialization.

### **Potential Air Quality Benefits:**

The transfer of mature emission control technologies, such as DPFs and oxidation catalysts, to the off-road sector is a potentially low-risk endeavor that can have immediate emissions reductions. Further development and demonstration of other technologies, such as SCR and NO<sub>x</sub> adsorbers, could also have NO<sub>x</sub> reductions of up to 90%.

**Proposed Project:** Demonstrate On-Road Technologies in Off-Road and Retrofit Applications

**Expected SCAQMD Cost:** \$250,000

**Expected Total Cost:** \$1,000,000

**Description of Technology and Application:**

Heavy-duty on-road engines have demonstrated progress in meeting increasingly stringent Federal and state requirements. New heavy-duty engines have progressed from 2 g/bhp-hr NO<sub>x</sub> in 2004 to 0.2 g/bhp-hr NO<sub>x</sub> in 2010, which is an order of magnitude decrease in just six years. Off-road engines, however, have considerably higher emissions limits depending on the engine size. For example, Tier-3 standards for heavy-duty engines require only 3 g/bhp-hr NO<sub>x</sub>. There are apparent opportunities to implement cleaner on-road technologies in off-road applications. There is also an opportunity to replace existing engines in both on-road and off-road applications with the cleanest available technology. Current regulations require a repower (engine exchange) to only meet the same emissions standards as the engine being retired. Unfortunately, this does not take advantage of recently developed clean technologies.

Exhaust gas cleanup strategies, such as SCR, electrostatic precipitators, baghouses and scrubbers, have been used successfully for many years on stationary sources. The exhaust from the combustion source is routed to the cleaning technology, which typically requires a large footprint for implementation. This large footprint has made installation of such technologies on some mobile sources prohibitive. However, in cases where the mobile source is required to idle for long periods of time, it may be more effective to route the emissions from the mobile source to a stationary device to clean the exhaust stream.

Projects in this category will include utilizing proven clean technologies in novel applications, such as:

- demonstrating certified LNG and CNG on-road engines in off-road applications including yard hostlers, switcher locomotives, gantry cranes, waste haulers and construction equipment;
- implementing lower emission engines in repower applications for both on-road and off-road applications; and
- 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.

## ***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<sub>x</sub> 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

\*Fabiola P. Lao ..... Coalition for Clean Air

Dr. 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 Samuelson.....	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, 2015**



Contract	Contractor	Project Title	Start Term	End Term	SCAQMD \$	Project Total \$
<b>Infrastructure and Deployment</b>						
05250	Downs Commercial Fueling, Inc.	Purchase & Install New L/CNG Fueling System at Commercial Fueling Station in Temecula	11/04/05	04/30/16	\$203,137	\$833,333
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
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
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	12/31/17	525,000	700,000
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	03/31/15	257,000	425,000
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	Clean Energy (novated from Mansfield Gas Equipment Systems)	Buydown Incentive Program for CNG Home Refueling Appliance "Phill"	09/07/12	06/30/15	60,000	356,000
12135	Placentia-Yorba Linda Unified School District	Upgrade CNG Fueling Station	11/18/11	11/30/17	60,000	60,000
12267	West Covina Unified School District	Upgrade CNG Fueling Facility	10/12/12	12/31/17	60,000	60,000
12851	Clean Energy	Install, Operate and Maintain Three LNG Fueling Stations (Fontana, Coachella and Perris)	10/05/12	12/31/18	1,400,000	4,277,323
12852	City of Covina	Construct Public Access CNG Fueling Stations	10/12/12	12/31/18	200,000	618,429
12853	Rainbow Disposal Co. Inc.	Upgrade CNG Fueling Station	03/08/13	12/31/18	200,000	400,000

Contract	Contractor	Project Title	Start Term	End Term	SCAQMD \$	Project Total \$
----------	------------	---------------	------------	----------	-----------	------------------

**Infrastructure and Deployment**

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
14219	City of West Covina	Upgrade CNG Station at City Yard	05/15/14	06/15/17	200,000	618,429
14311	Southern California Gas Company	Install and Maintain CNG Fueling Station in Murrieta for SoCalGas	07/11/14	12/31/17	217,000	1,385,000
15438	United Parcel Service, Inc.	Refurbish/Upgrade Ontario UPS LCNG Infrastructure	12/31/14	06/30/18	246,707	484,535

**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 AQMD	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	06/30/15	60,000	60,000
13402	University of California Davis-Office of Research	Next Sustainable Transportation Energy Pathways (STEPS) Program	05/02/14	07/01/16	120,000	2,760,000
14162	National Renewable Energy Laboratory	Utilization of Fleet DNA Approach and Capabilities to Provide Vehicle Vocational Analysis in SCAQMD	02/26/14	12/30/15	174,985	199,985

**Electric/Hybrid Technologies**

08063	Quantum Fuel Systems Technologies Worldwide, Inc.	Develop & Demonstrate 20 Plug-In Hybrid Electric Vehicles	01/22/08	12/31/15	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	11/30/15	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
11615	Parker Hannifin Corporation	Develop & Demonstrate Up to Four Heavy-Duty Hydraulic Hybrid Vehicles	01/18/13	12/13/16	250,000	2,000,000
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
12862	Volvo Technology of America, Inc.	Develop Class 8 Plug-In Hybrid Heavy-Duty Vehicle	12/07/12	07/31/15	1,200,000	2,400,000
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	03/30/16	360,000	1,210,000

Contract	Contractor	Project Title	Start Term	End Term	SCAQMD \$	Project Total \$
<b>Electric/Hybrid Technologies &amp; Infrastructure (cont'd)</b>						
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
13396	Transportation Power Inc.	Develop and Demonstrate Seven Class 8 Zero Emission Electric Trucks	04/19/13	12/31/16	375,000	2,285,368
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
13418	City of Claremont	SoCalEV Infrastructure MOA to Install & Upgrade EV Charging Infrastructure	08/29/13	12/30/15	0	0
13419	California State University, Los Angeles	SoCalEV Infrastructure MOA to Install & Upgrade EV Charging Infrastructure	08/05/13	12/30/15	0	0
13420	University of California Irvine	SoCalEV Infrastructure MOA to Install & Upgrade EV Charging Infrastructure	08/28/13	12/30/15	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
14053	Electric Power Research Institute	PHEV Fleet Participation Agreement	10/01/13	07/31/15	0	0
14062	Siemens Industry Inc.	Develop and Demonstrate Catenary Zero Emissions Goods Movement System and Develop and Demonstrate Diesel Catenary Hybrid Electric Trucks	07/14/14	07/13/18	5,500,000	14,780,000
14074	City of Santa Monica	SoCalEV Infrastructure MOA to Install & Upgrade EV Charging Infrastructure	12/04/13	06/30/15	0	0
14095	City of Covina	SoCalEV Infrastructure MOA to Install & Upgrade EV Charging Infrastructure	01/22/14	06/30/15	0	0
14153	University of California, Santa Babara	SoCalEV Infrastructure MOA to Install & Upgrade EV Charging Infrastructure	02/04/14	06/30/15	0	0
14156	Galpin Motors Inc. (Galpin Ford)	Lease of Two Fusion Energi and One C-Max Energi PHEVs for a Three-Year Period	01/28/14	01/27/17	49,298	49,298
14184	Clean Fuel Connection Inc.	DC Fast Charging Network Provider	04/04/14	06/30/20	250,000	1,318,000
14199	Clean Fuel Connection Inc.	SoCalEV Infrastructure MOA to Install & Upgrade EV Charging Infrastructure	04/14/14	12/30/15	0	0

Contract	Contractor	Project Title	Start Term	End Term	SCAQMD \$	Project Total \$
<b>Electric/Hybrid Technologies &amp; Infrastructure (cont'd)</b>						
14201	California State University San Bernardino	SoCalEV Infrastructure MOA to Install & Upgrade EV Charging Infrastructure	04/04/14	06/30/15	0	0
14202	Adopt-A-Charger	SoCalEV Infrastructure MOA to Install & Upgrade EV Charging Infrastructure	04/14/14	12/30/15	0	0
14204	Associated of Los Angeles	SoCalEV Infrastructure MOA to Install & Upgrade EV Charging Infrastructure	10/10/14	06/30/15	0	0
14207	City of Palmdale	SoCalEV Infrastructure MOA to Install & Upgrade EV Charging Infrastructure	07/11/14	06/30/15	0	0
14208	City of Lake Elsinore	SoCalEV Infrastructure MOA to Install & Upgrade EV Charging Infrastructure	10/15/14	06/30/15	0	0
14209	California State Polytechnic University Pomona	SoCalEV Infrastructure MOA to Install & Upgrade EV Charging Infrastructure	06/06/14	06/30/15	0	0
14210	California State University Long Beach Office of Research Programs and Sponsored Programs	SoCalEV Infrastructure MOA to Install & Upgrade EV Charging Infrastructure	07/11/14	06/30/15	0	0
14222	Odyne Systems, LLC	Develop and Demonstrate Plug-In Hybrid Electric Retrofit System for Class 6 to 78 Trucks	04/24/14	04/23/16	389,000	2,226,571
14224	Complete Coach Works	Develop and Test Retrofit All Electric Transit Bus	04/24/14	07/30/15	395,000	867,182
14236	California State University Fullerton	SoCalEV Infrastructure MOA to Install & Upgrade EV Charging Infrastructure	05/02/14	06/30/15	0	0
14256	National Strategies LLC	Develop and Demonstrate Vehicle-2-Grid Technology	09/05/14	03/04/18	250,000	3,377,689
14323	Selman Chevrolet Company	Lease Two 2014 Chevrolet Volt Extended-Range Electric Vehicles for Three Years	03/28/14	03/27/17	30,932	30,932
15021	Transportation Power Inc.	Upgrade and Demonstrate Two Electric Yard Tractors	07/14/14	12/31/15	75,000	405,000

**Engine Systems**

13168	National Renewable Energy Laboratory	Develop, Integrate and Demonstrate Heavy-Duty Natural Gas Engines and Vehicles	05/22/13	12/31/15	1,300,000	1,300,000
14364	Cummins Inc.	Develop, Integrate and Demonstrate Ultra-Low Emission Natural Gas Engines for On-Road Heavy-Duty Vehicles	07/14/14	08/20/16	2,061,000	5,308,000

**Mobile Fuel Cell Technologies**

12155	University of California Irvine	Toyota Fuel Cell Hybrid Vehicle Lease	09/27/13	12/31/15	0	0
13155	Fletcher Jones Motor Cars (Mercedes-Benz)	Lease Two F-Cell Fuel Cell 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

Contract	Contractor	Project Title	Start Term	End Term	SCAQMD \$	Project Total \$
----------	------------	---------------	------------	----------	-----------	------------------

**Mobile Fuel Cell Technologies (cont'd)**

14622	California State University Long Beach Foundation	CSULB CEERS Student Educational Project to Demonstrate Graphene Fuel Cell Catalyst	08/05/14	05/31/15	28,000	28,000
15388	Bevilacqua-Knight Inc.	Participate in California Fuel Cell Partnership for Calendar Year 2014 and Provide Support for Regional Coordinator	01/01/14	12/31/14	137,800	1,676,800

**Hydrogen Technologies and Infrastructure**

10046	Air Products and Chemicals Inc.	Develop & Demonstrate Renewable Hydrogen Energy and Refueling Station	12/21/09	04/30/15	750,000	8,436,735
10061	Hydrogenics Corporation	Maintenance & Data Management for the AQMD Hydrogen Refueling Station	10/30/09	12/30/13	368,000	368,000
11150	Hydrogen Frontier, Inc.	Maintenance & Operation of 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
13259	Air Products and Chemicals Inc.	Hydrogen Station Operation and Maintenance for Five Cities Hydrogen Program	03/26/13	03/31/15	390,000	390,000
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 Facility	12/31/13	07/16/15	200,000	688,000
15020	University of California Irvine	Develop Sampling and Testing Protocols for Analyzing Impurities in Hydrogen	08/31/14	04/12/15	114,500	114,500
15150	Air Products and Chemicals Inc.	Install and Upgrade Eight Hydrogen Fueling Stations Throughout SCAB (including SCAQMD's Diamond Bar Hydrogen Station)	10/10/14	04/09/19	1,000,000	17,335,439
15366	EPC LLC	Operate and Maintain Publicly Accessible Hydrogen Fueling Station at SCAQMD's Headquarters	10/10/14	09/14/17	0	0
15419	SunLine Transit Agency	Disposition of Dispenser from Electrolyzer Hydrogen Station Demonstration at SCAQMD's Headquarters	12/24/12	12/23/15	0	0



Contract	Contractor	Project Title	Start Term	End Term	SCAQMD \$	Project Total \$
----------	------------	---------------	------------	----------	-----------	------------------

**Health Impacts Studies**

12208	University of California Riverside/CE-CERT	Determine the Physical and Chemical Composition and Associated Health Effects of Tailpipe PM Emissions	01/21/12	01/31/16	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	07/31/15	368,457	368,457
14171	Southern California Research Center/Allergy & Asthma Associates of Southern California	Risk of Incident Asthma Among Children from In-Utero Exposures to Traffic Related Pollutants	09/22/14	03/21/16	99,670	317,119
14172	University of California Irvine	The Relation of Airway and Systemic Oxidative Stress to Particulate Air Pollution Exposures in an Elderly Cohort	02/17/14	08/16/15	159,974	376,368

**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
10723	Eastern Municipal Water District	Retrofit Digester Gas Engine with NO <sub>x</sub> Tech Aftertreatment Emission Control Technology	03/16/12	06/15/15	85,000	889,000
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
13045	ClearEdge (novated from UTC Power Corp.)	Energy Supply and Services Agreement to Install One 400 kW Phosphoric Acid Fuel Cell at SCAQMD Headquarters	09/28/12	09/27/22	450,000	4,252,680

**Outreach and Technology Transfer**

00069	Walsh Consulting	Technical Assistance Relating to the Use of Alternative Fuels in Mobile Sources	02/17/00	02/28/16	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
07062	The Tioga Group, Inc.	Technical Assistance Related to Air Quality Impacts of Regional Goods	12/19/06	11/30/16	58,000	58,000
08210	Sawyer Associates	Technical Assistance on Mobile Source Control Measures and Future Consultation on TAO Activities	02/22/08	02/28/16	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	06/30/16	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

Contract	Contractor	Project Title	Start Term	End Term	SCAQMD \$	Project Total \$
<b>Outreach and Technology Transfer (cont'd)</b>						
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
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
12376	University of California Riverside	Technical Assistance with Alternative Fuels, Biofuels, Emissions Testing and Zero-Emission Transportation Technology	06/13/14	05/31/16	75,000	75,000
12380	The Tioga Group	Technical Assistance Related to Emissions, Advanced Technologies and Goods Movement	04/13/12	04/30/16	25,000	25,000
12381	Integra Environmental Consulting Inc.	Technical Assistance Related to Emission Inventories, Goods Movement and Off-Road Sources	04/06/12	04/30/16	110,000	110,000
12453	Tech Compass	Technical Assistance with Alternative Fuels, Fuel Cells, Emissions Analysis and Aftertreatment Technologies	06/21/12	05/30/16	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
13194	Clean Fuel Connection Inc.	Technical Assistance with Alternative Fuels, Renewable Energy and Electric Vehicles	12/07/12	06/15/15	80,000	80,000
13198	Gladstein, Neandross & Associates, LLC	Technical Assistance with Alternative Fuels, Emissions Analysis and On-Road Sources	12/14/12	12/13/15	75,000	75,000
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
14185	Three Squares Inc.	Conduct Education Outreach for the Basin DC Fast Charging Network Project	04/11/15	06/30/15	49,183	49,183
15344	Clean Fuel Connection, Inc.	Technical Assistance with Alternative Fuels, Electric Vehicles, Charging and Fueling Infrastructure and Renewable Energy	09/22/14	09/22/16	60,000	60,000
15369	Breakthrough Technologies Institute, Inc.	Technical Assistance with Low- and Zero-Emission Vehicles, Fuel Cells, Stationary Applications and Emissions Analysis	11/07/14	11/06/16	30,000	30,000
15380	ICF Resources LLC	Technical Assistance with Goods Movement, Alternative Fuels and Zero-Emission Transportation Technologies	12/12/14	12/11/16	30,000	30,000
15415	Gladstein, Neandross & Associates, LLC	Technical Assistance with Alternative Fuels and Fueling Infrastructure, Emissions Analysis and On-Road Sources	11/07/14	11/06/16	60,000	60,000



## **Appendix C**

### **Final Reports for 2014**



## Purchase & Install CNG Fueling System at Long Beach Waste Transfer Station

### Contractor

Consolidated Disposal Service, LLC

### Cosponsors

CDS

MSRC/AB2766 Discretionary Fund

SCAQMD

### Project Officer

Larry Watkins

- 20,000 Gallon Vertical Storage Tank -12 Foot Diameter X 55 Foot High
- 10,000 scf Vaporizer
- Tanker Offload Pump Skid
- 2 Each LNG Fill Pump Skids
- 2 Each – 10 Gpm LNG Dispensers
- Universal card reader
- 28' X 28' X 3.5' High CMU Containment Wall
- LNG Control Panel
- LNG Electrical Panel (Power In Existing Building)
- Safety, Alarms Detection Systems

### Background

Consolidated Disposal Service (CDS), a subsidiary of Republic Services, is a solid waste collection and transfer business that operates from a 7 acre facility located on 67th and 68th Streets near Paramount Avenue in Long Beach, CA. The company has over 220 heavy duty vehicles that are used to support many local public and private customers in southern California. The facility has an existing gasoline/diesel fueling station and a maintenance repair garage originally designed for repairing heavy-duty diesel vehicles.

The SCAQMD adopted and later amended in April 2004 Rule 1193- for Clean On-Road Residential and Commercial Refuse Collection Vehicles that required any new heavy duty vehicles purchased by CDS be alternative fuel. CDS decided to purchase new LNG vehicles and consequently, to upgrade its existing repair garage to comply with California Fire Code requirements for LNG vehicles. Therefore, a new onsite LNG station must be constructed and the repair garage must be upgraded with mechanical ventilation/gas detection for LNG vehicle repair.

### Project Objective

The objective was to design, permit, install, maintain and operate a new, publicly accessible LNG fueling station at CDS's facility located at 67th Street, Long Beach, California, in order to support CDS's existing LNG fleet of 42 heavy-duty vehicles.

### Technology Description

The station features include the following:

### Status

The following tasks were completed:

1. Obtain City environmental and planning permits via city agencies and Boards
2. Provide calculations and conduct water pressure tests for the Fire Department
3. Identify all equipment components
4. Complete all engineering designs, drawings and specifications for the project using Weaver Electric as a sub-contractor
5. Obtain all City permits including electrical, mechanical, civil and fire permits
6. Fabricate the LNG tank, vaporizer and all other LNG specific equipment
7. Construct the LNG station and install equipment
8. Supervise the construction sub-contractor, General Physics, during the construction phase.
9. Connect the new LNG station to the existing CDS electric power supply system
10. Obtain approval from the City of Long Beach for a "Permit To Operate"
11. Fill the LNG tank and piping system with nitrogen and test for leaks
12. Fill the LNG tank, pumps and piping system with LNG and test the system for proper operation
13. Safety test all alarms, horns and shutdown systems

The station was completed on July 17, 2009. The 42 LNG refuse trucks in CDS's LNG fleet are now

fueling at the facility on a daily basis and public access is open.

**Results**

The new CDS LNG station has been fueling LNG vehicles since December 2009. The first month throughput was 86,000 gallons. The staff has been trained to use the new facility and CDS has negotiated competitive LNG fuel purchase contracts with local suppliers.

CDS was also responsible for the operation of the station for at least five years after commissioning, including providing annual reports and throughput data to SCAQMD through the life of this Contract.

**Table 1: Actual & Projected LNG Fuel Throughput**

Category	Current	2010	2014	2016 (Projected)
Number of CDS LNG Trucks	42	61	100	140
CDS Trucks*	655,200	951,600	1,560,000	2,184,000
Public Access Station**	50,000	50,000	100,000	100,000
<b>Total Annual Throughput</b>	<b>705,000</b>	<b>1,001,600</b>	<b>1,660,000</b>	<b>2,284,000</b>

CDS expects the emission reductions below from the LNG truck fleet:

**BY END OF 2010 WITH 61 TRUCKS**

(NOx) - 0.2 tons/year per truck = 12.2 T/yr

(PM10) - 0.01 tons/yr/ truck = 0.61 T/yr

**BY END OF 2016 WITH 140 TRUCKS**

(NOx)- = 28.0 T/yr

(PM10)- = 1.40 T/yr

There were many complex administrative, budget, permitting, design and construction obstacles during the 4 ½ year project cycle that were addressed and resolved.



**Figure 1: Original Site Layout**



**Figure 2: New LNG Facility**

**Benefits**

CDS trucks will no longer have to be driven over 15 miles roundtrip to a public LNG station for refueling nor repaired outside the garage. The new LNG station at CDS will provide LNG fuel for the CDS heavy-duty vehicle fleet, reducing both NOx and PM emissions. CDS can now purchase more LNG trucks with the goal of reaching a full LNG fleet by 2016.



**Figure 3: Modified 12 Bay Truck Repair Garage with Gas Detection, Mechanical Ventilation and Alarms**

**Project Costs**

The original projected costs were \$880,000. CDS incurred a cost increase of approximately \$370,000. Of this amount, \$270,000 is attributable to Chart’s construction costs from its subcontractors, additional technical consulting due to the complexities of the permitting process, and from additional work required by the City of Long Beach during extended permit negotiations. CDS also spent an additional \$100,000 on consulting and additional permit-required work. Final actual project costs totaled \$1,250,000. Co-funding was as follows: MSRC - \$297,981, SCAQMD - \$222,038, and CDS - \$729,981.

SCAQMD Contract #07051

March 2014

## Purchase & Install New Public Access CNG Fueling Station

### Contractor

City of Pasadena

### Cosponsors

MSRC/AB2766 Discretionary Fund  
SCAQMD

### Project Officer

Larry Watkins

### Technology Description

When the City of Pasadena began to explore the alternative fuel market, natural gas was recognized as the most popular and economical alternative fuel in this region. Utilizing natural gas powered vehicles, the City is able to significantly lower its vehicle emission levels while maintaining public service levels, lower overall fuel costs, and lower our dependence on imported oil.

### Status

On June 25, 2007, City Council authorized a contract to Gas Equipment Systems, Inc. in an amount not to exceed \$886,695 for the construction of a CNG Fueling Station. The total estimated cost for this project, including future expansion, increased from the engineers' original estimate of \$850,000 to \$1,230,520. This increase was due to rising costs of specialized equipment and services necessary for completion. To offset this overage, funds were appropriated and approved by the City Council to complete project construction. Station construction began on November 10, 2008 and passed building permit and Fire Department Compliance inspection on April 30, 2009. The station is now complete and the City has been fueling vehicles since March 12, 2009. The Final Report is being submitted at the same time of this report.

### Background

In 2001, the South Coast Air Quality Management District (SCAQMD) and the California Air Resources Board (CARB) began to adopt regulations that mandate public agencies to embark on effectively reducing vehicle Particulate Matter (PM) and Oxides of Nitrogen (NO<sub>x</sub>) emissions. These regulations pertain to On-Road medium and heavy-duty trucks; refuse collection vehicles, street sweepers, and transit buses.

In 2004, the City of Pasadena began an aggressive campaign to replace its heavy duty diesel fleet with clean CNG fueled vehicles. Since that time, the City of Pasadena has replaced 10 refuse trucks, and converted eight heavy duty diesel refuse trucks to dual fuel CNG/ diesel (a total of 60% of the refuse fleet). Also, the City has replaced two street sweepers, three sewer trucks and one aerial bucket truck with CNG powered vehicles.

### Project Objective

The objective of this project was to construct a CNG fueling facility to support the City of Pasadena natural gas powered vehicles and equipment, comply with all rules and regulations issued by CARB and the SCAQMD, while maintaining full services for the general public and to promote the use of alternative fuel. The limited access facility is also available on an emergency basis to the general public.



Figure 1: CNG Station Filter Dryer & Compressor at City Yard





**Figure 2: City CNG Refuse Trucks at Slow-fill Filling Posts**

**Results/ Benefits**

The City of Pasadena has replaced 16 and converted eight heavy-duty trucks. We also have three heavy-duty refuse collection trucks in line for replacement and are preparing to advertise a notice inviting bids in the upcoming months. By replacing these diesel vehicles with CNG powered vehicles, the City of Pasadena has reduced Nitrous Oxide emissions by more than 1.8 tons while diesel particulate matter is also being reduced.

**CNG Use by Therms**

March Therms Used	4,152
April Therms Used	8,806
May Therms Used	8,658
June Therms Used	10,130
July Therms Used	9,606
Total Therms to Date	41,352

**Funding Sources**

City of Pasadena	\$870,520
SCAQMD	\$165,000
MSRC	\$195,000
TOTAL	\$1,230,520

**Commercialization and Applications**

The City of Pasadena has been replacing its heavy-duty diesel engine fleet to vehicles powered by cleaner Compressed Natural Gas (CNG) engines. We also experienced a longer than expected construction time. We presented the contractor with the “Notice to Proceed” on September 21, 2007 with final permits signed off April 30, 2009 one year and seven months later. The initial fuel station design was based upon the 2001 California

Building Code. In January 2008, the City adopted the 2007 California Building Code. To reflect changes in the 2007 California Building Code and receive Plan Check approval, the station’s engineering design needed revisions, thus requiring additional labor and material to comply with this regulation. Additionally, data lines and conduits required an upgrade in order to transmit station data to the existing Fuel Management Database and Software System. Repairs to asphalt areas were needed due to damage caused by open trenches and normal traffic patterns at the station location. Also the installation of additional safety measures to protect the gas line necessitated additional change orders.

The City plans to operate this facility for many years while continuing to convert its heavy duty diesel fleet to CNG where available, and expand the station capacity when needed.

The City’s largest obstacle currently, is vehicle and engine manufacturers not producing an OEM product. Currently refuse chassis are available in a 50,000 – 60,000 pound Gross Vehicle Weight Rating (gvwr) chassis. Smaller 25,000 – 40,000 pound gvwr chassis are not available in an OEM CNG powered configuration such as dump trucks. Additionally, heavy duty engine manufacturers such as Detroit Diesel and John Deere have stopped producing CNG engines. The only company currently manufacturing the heavy duty CNG engine is Cummins. As the use of natural gas has become more popular and if manufacturers could produce more vehicles, state governments, municipalities, and the general public would be more likely to purchase them. This would lower emission levels and we could lower our dependence on imported oil.



**Figure 3: City CNG Street Sweeper at Fast-fill Dispenser**

## Upgrade Existing Public Access CNG Fueling Stations in Thousand Palms & Indio

### Contractor

SunLine Transit Agency

### Cosponsors

SunLine Transit Agency  
SCAQMD

### Project Officer

Larry Watkins

### Background

Over the last four years, SunLine has had complaints with 3600 psig vehicle customers because the CNG public fueling stations could not fully fill these vehicles to about 4200 psig temperature compensated during the summer months. Currently, all new CNG vehicles are designed with the 3600 psig option and 100% of all CNG vehicles in the Coachella Valley are designed with 3600 psig.

### Project Objective

The main objective was to upgrade the CNG stations and incorporate new transit 3600/3000 psig dispensers, upgrade the priority panel, install new 4500 psig storage and upgrade the public fuel island dispenser.

A facility performance specification was developed for the station that met SunLine's short- and long-term fueling requirements for a fast-fill and time-fill CNG fueling station. This included detailed plot plans, P&IDs, electrical 1 line drawing, a ROM schedule, and a 10% accuracy project estimate. SunLine and the construction contractor provided generic equipment specifications for major equipment such as the CNG compressors, CNG dispensers, CNG storage vessels/tanks, and etc. for either purchase. There were two (2) projects at the Thousand Palms facility to resolve the low pressure issues and problems and there were also two (2) projects at

the Indio facility to resolve these same issues and problems.

### Technology Description

There were many changes done to both stations with this project. Upgrades to the Thousand Palms transit island consisted of a new dispenser, adding additional storage and modification to the public access dispenser program to the dispenser EPROM with no additional modification to the dispenser. The Indio station had similar changes to the transit island along with an identical new dispenser, new card reader; and the public access island was widened to accommodate larger vehicles.

### Status

This project has been in operation at various stages since November 2008. With the upgrades completed, both stations are now able to provide adequate fills to the 3600 vehicles at the transit and public fuel islands. As of April 2009 the station upgrades have been completed and are in full operation.



Figure 1: Public Fuel Island

Once commissioned SunLine was required to provide the SCAQMD five years of annual reporting including throughput through 2013-14 under this Contract.

**Results**

After completion of the project no further complaints have been documented. Transit buses can now be filled to the required 3,600 psig. The transit buses have not been towed in and are not being exchanged for low fuel. The Thousand Palms public fuel island has been able to fast-fill medium size vehicles up to the temperature compensated amount of 4200 psig or more and no problems are expected during the summer months.

The Indio public access upgrade was accomplished with little impact to public fueling. Large vehicles are now able to get in and out of the fuel island with relative ease. The Transit Island now accepts fleet cards and is used for overflow traffic and emergencies when the public access is down for maintenance. This project-- even though it was initially delayed due to competitive bid approvals, personnel and contracts reviews and equipment delivery delays-- had immediate positive impact on the station operation and customer satisfaction.

**Benefits**

Efficiency in the transit and dial-a-ride service has been observed from the 3600 psig fills. Other medium-size fleet vehicles are now receiving full fills to 3600 psig which also increase their efficiency; less time refueling and less number of fill per day but an increase in volume.

With the additional buses it was anticipated the fleet would grow to 66 CNG buses with at least a 5% increase in throughput for both stations. The upgraded stations were anticipated to increase throughput by 60,000 to 70,000 GGE per year.

This contract required five years of annual reporting including throughput, which was reported as follows:

Throughput in GGEs	
2009-2010	1,244,978
2010-2011	1,262,315
2011-2012	1,417,419
2012-2013	1,548,619
2013-2014	1,664,929

This throughput met the projected throughput for this project.

**Project Costs**

The final cost of the project was higher than the original estimate of \$180,000 by 12%; final equipment and costs were \$200,792. The SCAQMD provided \$90,000 toward this project, with the remaining funds provided by SunLine. The card reader along with the internal cost to manage the project and support the contractors was an additional \$45,800, all of which was funded by SunLine, for overall project costs of \$246,834.

**Commercialization and Applications**

Overall, the improvements of the project were well received.

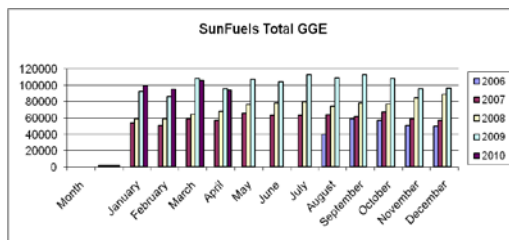


Figure 2: Throughput 2006 to April 2010

# Purchase & Install New LNG Production Facility Using Landfill Gas from Altamont Landfill in Livermore

## Contractors

USA Waste of California, Inc.

## Cosponsors

SCAQMD

CARB

California Integrated Waste Management Board

## Project Officer

Larry Watkins

## Background

The project involves the construction and development of a landfill gas to liquefied natural gas (LNG) plant facility at the Altamont Landfill located near Livermore, California, which will be used to fuel WM's fleet of LNG vehicles in California and to supply other customers. A joint venture (High Mountain Fuels, LLC) between Waste Management (WM), the largest provider of solid waste collection, recycling and disposal services in North America, and Linde BOC, one of the largest industrial gas and cryogenics companies in the world.

## Project Objective

The objective of the project was the design and installation of an LNG production facility at WM's Altamont Landfill in Livermore CA, through the development of an onsite purification and liquefaction facility for the recovery and conversion of renewable biomethane to LNG as a transportation grade fuel. It represents the largest demonstration of onsite purification and liquefaction of landfill gas recovery in North America and further exhibits the technical and economic viability of this renewable resource as a transportation fuel. By providing an additional LNG source for WM's LNG fleet and other California LNG fleets, the project helps expand the supply of lower carbon, renewable LNG and promotes

overall LNG consumption in the South Coast Air Basin and other areas in California.



LNG Facility at WM's Altamont Landfill

## Technology Description

The process implemented at the project facility uses a multi-stage gas clean-up approach which targets the removal of chemical families of compounds rather than "key" species. The technology processes raw landfill gas by removing unwanted components such as carbon dioxide, nitrogen, hydrogen sulfide, moisture, and reactive compounds. Third party patented liquefaction technology is then used to liquefy the processed landfill gas into LNG. Additional methane recovery from the landfill co-produces all power requirements for the system (gas and refrigeration compressors, controls, transfer pumps, auxiliaries, etc.) through onsite electricity generation. The final product is stored on-site in an insulated cryogenic tank until it is trucked via 10,000 gallon capacity tanker truck to existing LNG dispensing locations within California.

## Status

Construction of the plant facility was completed and in September 2009 it first began commercial operation successfully producing LNG. At that time the plant was still in start-up phase, with certain operational debugging activities ongoing.

It was anticipated the facility would operate at 60% of capacity during the first year.

Preliminary engineering for the site was completed in December 2007 and the site design and gas analysis were completed in August 2008. The majority of the equipment was delivered and installed in March and April of 2009. Commissioning of the facility began in May 2009. Feed gas was introduced in mid-July 2009 and the plant first began producing LNG in September 2009.

Once commissioned, USA Waste of California was required to provide the SCAQMD five years of annual reporting including throughput through CY 2013 as below:

Volume (gallons)	
2009	375,363
2010	1,951,448
2011	2,687,108
2012	2,739,365
2013	2,128,144

### Results

At the commencement of the project, the primary goal was to construct an LNG production facility with an operational capacity to consume approximately 2,600 scfm of collected landfill gas and produce 13,000 gallons per day of LNG. The technical goals were to remove contaminants to purify the methane fraction, liquefy it by cooling to cryogenic temperatures, storing on-site, and supplying LNG to WM’s waste hauling fleet and other customers. These goals will all be met by the facility. The initial volume of LNG produced by the facility appears to yield a high quality transportation fuel, with methane content greater than 98%. The rated capacity of the plant should meet or exceed the performance specifications when running at full capacity. The facility will continually collect performance data for the systems operation.

### Benefits

Use of this LNG as a transportation fuel will displace 2.8 million gallons of diesel fuel consumption and reduce CO2 emissions by 31,800 tons per year, while lowering NOx and particulate emissions and helping reduce reliance on foreign petroleum imports. WM plans to use the LNG from this facility to fuel a portion of its waste collection fleet, thereby offering a true

“closed loop” sustainability solution. Moreover, by expanding the supply of renewable LNG produced in California, this plant will help promote overall LNG consumption in the South Coast Air Basin and other areas of California, thereby helping to achieve California’s low carbon fuel standard and its desire to reduce greenhouse gas emissions.

### Project Costs

The budget to construct and commission the facility was \$15.38M. Actual costs have been close to these budgeted amounts. Funding for the project was provided primarily by the High Mountain Fuels joint venture partners (WM and Linde BOC), with \$300,000 in funding being provided by the SCAQMD, and an additional \$1.15M provided by CARB and CIWMB collectively.

### Commercialization and Applications

A brief examination of the population of landfills in California provided by the Landfill Methane Outreach Program indicates that there are between 17-36 landfills in the state that are sized to generate landfill gas quantities necessary to develop similar commercial-scale LNG facilities. Current estimates indicate that if all of the sites were developed, they would displace diesel fuel supply by approximately 250,000 gallons per day. Additionally, California’s total current biomethane resources (which also includes waste water treatment plants, and dairy and swine sources) are estimated at 125 bcf, which could displace over 900 million gallons of diesel fuel a year if converted to LNG and used as a transportation fuel. If only 10% of this biomethane is used for vehicle fueling, it could offset California’s need for imported diesel fuel by over 90 million gallons per year, which would avoid fossil fuel CO2 emissions of 1.9 million pounds on an annual basis.

This facility will hopefully serve as a model for similar facilities in California to utilize indigenous biogas resources and displace non-renewable fossil fuels.



## Repower Four Off-Road Construction Vehicles

### Contractor

TNT Blanchard (formerly TNT Grading, Inc.)

### Cosponsors

SCAQMD  
TNT Blanchard

### Project Officer

Richard Carlson

### Background

Based on the California Air Resources Board (CARB) OFFROAD 2006 emission model, there were approximately 68,600 diesel-powered off-road construction vehicles in the Basin in 2006, which together produced approximately 120 tons per day of NO<sub>x</sub> and 7.5 tons per day of PM emissions. In order to reduce diesel emissions of NO<sub>x</sub> and PM, the SCAQMD provided incentive funding to operators of diesel-powered off-road construction vehicles to upgrade and modernize their fleets.

On July 13, 2007, the SCAQMD Board awarded a contract to TNT Grading, Inc., to repower thirteen Tier 0 diesel-powered off-road construction vehicles with new Tier 3 diesel engines in an amount not to exceed of \$1,231,481 from the Clean Fuels Fund. This project was one of several funded as part of a required match for Carl Moyer Memorial Air Quality Standards Attainment Program (Carl Moyer Program) projects and was administered according to the 2007 Carl Moyer Program Guidelines.

### Project Objective

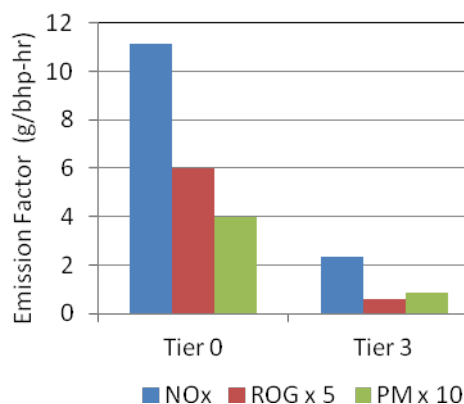
The purpose of this contract was to reduce emissions from diesel-powered off-road construction vehicles by repowering them to meet CARB Tier 3 emission standards, the most stringent at that time.

### Technology Description

A repower is the replacement of the existing engine with a new lower emission CARB certified-engine. The repower consisted of removing the existing engines and accessory components and installing new engines and associated accessory components. The repower was performed by an independent Caterpillar mechanic using Caterpillar factory engines and accessories along with specially fabricated components (brackets, wire harnesses, hoses, etc.) needed to fit the new engine into the old vehicle.

Repower is typically more cost effective in reducing emissions than replacing a vehicle, due to the higher cost of a new vehicle compared to just a new engine. The emission reduction from Tier 0 to Tier 3 is 78% for NO<sub>x</sub> and PM and 90% for ROG (reactive organic gases). The following chart illustrates the difference in emissions between Tier 0 and Tier 3 engine emission factors.

Carl Moyer Program Emission Factors



### Status

Four scrapers of the type shown below were repowered in 2007 and 2008. Beginning in 2008, construction activity was substantially reduced in the Southern California region due to the severe economic recession. As a result, the contractor did not repower the remaining off-road construction vehicles. The unused contract funds

were returned to the Clean Fuels Fund for use on other projects.



**Caterpillar 657B Scraper Repowered to Tier 3**

### **Results**

The repowered vehicles were inspected to confirm that the repower was completed properly, the old engines were functionally destroyed, and the repowered equipment was fully operational.

### **Benefits**

The emission benefit of the repowers was calculated according to the Carl Moyer Program Guidelines. The Tier 3 engines in the four repowered scrapers were estimated to reduce emissions by 23 tons/year NOX+ROG and 0.81 tons/year PM compared to the original Tier 0 engines.

### **Project Costs**

A total of \$377,801 from the Clean Fuels Fund was paid to the contractor. In addition, the contractor paid another \$124,336 for a total project cost of \$502,137. A total of \$853,680 was returned to the Clean Fuels Fund as a result of the reduced project scope.

### **Commercialization and Applications**

Repower technologies using Tier 3 diesel engines for off-road construction vehicles are commercially available for a variety of off-road vehicles. However, the current emission standard is Tier 4, and repowers using Tier 4 engines are generally not technically feasible in older off-road vehicles. Incentive funds are now mainly used for new equipment replacement projects meeting Tier 4 standards.

## Upgrade Existing Full Public Access CNG Fueling Station in Whittier

### Contractor

Pupil Transportation Cooperative

### Cosponsors

SCAQMD

Pupil Transportation Cooperative

### Project Officer

Larry Watkins

### Background

Pupil Transportation Cooperative (PTC) is a state sanctioned Joint Powers Authority serving seven area public school districts in the Whittier area. The agency serves over 4,000 students daily and operates 138 school buses, 25% of which are powered by compressed natural gas (CNG). PTC uses a time-fill system to fuel its alternative fuel buses and operates a public access CNG station first built with the help of SCAQMD funding in 1998.

PTC is committed to improving air quality and providing a safe and healthy environment for its student riders by expanding its fleet of alternative fuel school buses. PTC operates in a highly polluted region bounded by Interstate 5 on the south, State Highway 60 on the north, Interstate 605 on the west and the Orange County boundary on the east. The agency qualifies for funding based in part on the area's AB 1390-Environmental Justice designation due to its low-income status and disproportionate impact caused by air pollution in the area.

### Project Objective

It was the goal of this project to upgrade the agency's CNG fueling infrastructure to support its growing fleet of clean-air school buses and offer a reliable CNG fueling station for public use.

The existing ten-year old fueling infrastructure had experienced numerous maintenance failures and operational problems dating back to May 2005. In addition to jeopardizing the efficiency of the daily school bus operation dependent on the time-fill system, the public access fueling station was routinely out of order, effectively discouraging its use by operators of CNG-powered vehicles.

The upgrade was to include installing a new compressor and relegating the existing

compressor system as backup; installing a new CNG fuel dispenser for the public access station; making safety modifications to the vehicle maintenance shop; and installing related electrical upgrades. Burnett & Burnette was enlisted for engineering, design and project management services for the project.

### Technology Description

The new CNG public access fueling station upgrade includes a new ANGI two-hose dispenser for 3000 and 3600 psi fueling certified by the Los Angeles County Department of Weights & Measures; a new ANGI 75 scfm compressor as the primary with the existing twin 58 scfm compressors in stand-by; related electrical upgrades; and maintenance garage modifications that include removal of ignition sources and flame hazards and the installation of Scott mechanical ventilation fans in each of the three work bays and a Rel Tek gas detection and alarm system.

### Status

PTC's consultant Burnett & Burnette issued a formal project completion notice based on a final inspection and acceptance on April 30, 2009, on schedule and slightly under budget. This contract was complete on June 2014 after five years of annual reporting was provided to the SCAQMD.

The capacity of the new compressor was changed from 100 scfm to 75 scfm to meet available site supply gas pressure and to conserve costs. No other significant problems with the procurement of equipment, installation and related construction activities were encountered. System upgrades have resolved the maintenance and operational problems that had plagued the system in past years. To help ensure continued trouble-free operation, PTC also switched station maintenance providers.



Figure 1: Public Access Fueling Station



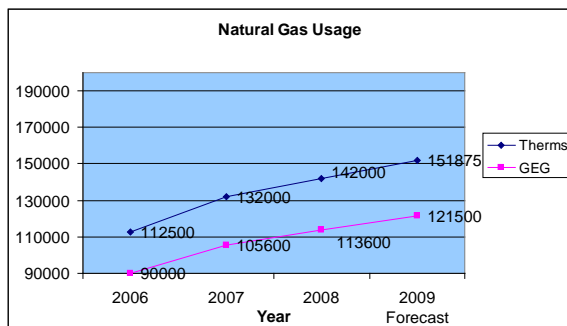


Figure 2: Time-fill Posts Refueling School Buses

## Results

As depicted in the graph below, the increase in CNG usage has exceeded the projections contained in the October 2006 grant submittal by nearly 20%. The change in the station’s ownership and a renewed focus on the station’s operational readiness and reliability has resulted in increased fuel throughput at the public access station beyond projections. The addition of seven CNG school buses to the PTC fleet also contributed to increased CNG throughput overall.

The upgraded fueling infrastructure, with its primary and back-up compressors, will support increased usage of the public access station, the fueling needs of a significantly expanded fleet of CNG school buses, and will serve to reduce pollution and improve air quality overall by reducing diesel fuel consumption.



## Benefits

Since the submittal of the grant application, the fleet of alternative fuel school buses at the agency has increased by 25% to a total of 35 CNG buses. There has been a reduction in CO, NOx and PM of 20% - 30% when compared to tailpipe emissions from diesel-powered buses. A new customer to the public access station operates a fleet of CNG-powered trash collection trucks which has resulted in a reduction of approximately 40% in CO, NOx and PM when compared to diesel-powered refuse trucks.

An added benefit of using CNG is fuel cost savings realized by operating CNG buses instead of buses powered by higher-priced diesel fuel.

## Project Costs

### Original Estimated Project Costs

Funding Source	Fueling Station	Garage	Total
Infrastructure Funds from School Bus Grant	\$42,846	0	\$42,846
Total PTC Contribution*	\$70,000	0	\$70,000
SCAQMD Contract	\$132,154	\$55,000	\$187,154
<b>Total</b>	<b>\$245,000</b>	<b>\$55,000</b>	<b>\$300,000</b>

\* Note: Funds will be recovered by PTC from future Federal Excise Tax Rebate Program proceeds and projected fuel savings due to lower costs for CNG versus diesel.

The SCAQMD contract covered up to \$187,154 or 63% of project costs, whichever is less. Pupils’ funding share was estimated at \$112,846, or 37.6%.

### Project Costs - Actual

Compressor/Fuel Dispenser	\$111,700
Panels/Controls	\$24,000
Electrical	\$24,300
Equipment-Garage	\$38,000
Construction-CNG	\$24,800
Construction-Garage	\$26,900
Training	\$3,000
Sub-total	\$252,700
Project Management	\$19,000

**Total Project Costs \$271,700**

### PTC Contributions – Actual

Total PTC Contributions	100,529
-------------------------	---------

Because SCAQMD Contract #08101 could not exceed 63% of the project costs, PTC was only eligible for \$171,171. PTC’s final funding share was \$100,529 or 37%.

## Commercialization and Applications

The primary applications for this project are the establishment of a reliable, on-site time-fill fueling system for the agency’s school bus fleet which currently comprises 35 CNG-powered buses and the provision of a CNG public access fueling station for public and private operators of CNG vehicles in the area. The updated fueling infrastructure will support current fueling needs and planned future expansion of the CNG school bus fleet. The updated public access station will provide reliable, 24-hour access to CNG fuel for commercial fleets and private vehicles. Fuel throughput has increased steadily for the last three years as the reliability and availability of the fueling station has improved. The public access station is situated on a busy thoroughfare and it is expected that directional signage on surrounding streets and freeways will help increase station usage. The redundant compressors on the upgraded system will support expanded public access station use and increased fuel throughput.

SCAQMD Contract #09308

November 2014

## Maintain & Manage SCAQMD's Diamond Bar Headquarters' Fast-Fill CNG Refueling Station

### Contractor

Trillium CNG (formerly Pinnacle)

### Cosponsor

SCAQMD

### Project Officer

Phil Barroca

### Background

The SCAQMD has maintained a fast-fill CNG station at its Diamond Bar Headquarters (HQ) since January 2003. Since the station's opening, SCAQMD has contracted with Trillium CNG (formerly Pinnacle) to operate, maintain and manage the station. Since commissioning in 2003, average throughput has risen by 1,000 gasoline gallon equivalents (GGEs) per month each year. The current monthly throughput rate of CNG dispensed is 14,000 GGEs per month.

Given the demand and equipment age as well as evolving operating conditions, SCAQMD recognized the need to evaluate how to move forward with its station, which serves SCAQMD, visitors doing business with the SCAQMD and the general public.

In consultation with Trillium and evaluation of state-of-the-art natural gas stations, it was estimated that it would cost nearly \$900,000 to upgrade the station including replacement of compressors and dispensers. Consequently, the SCAQMD decided the optimal course would be to seek a qualified CNG fuel supplier to assume ownership of the existing CNG station by purchasing existing fueling station equipment from SCAQMD and upgrade the station with the latest state-of-the-art fueling system equipment.

### Project Objective

The objective of this project was to ensure uninterrupted CNG refueling service at SCAQMD's publicly accessible CNG station in

Diamond Bar while deliberations were undertaken on how best to move forward given the aging station. This project provided additional funds to Trillium CNG to extend its contract for another six months.



**Figure 1: Public Access CNG, SCAQMD Headquarters, Diamond Bar, CA**

### Technology Description

The SCAQMD public access station utilizes a Pinnacle Systems CNG three stage ariel compressor and a proprietary two-stage, non-lubricated hydraulic intensifier compressor that delivers 400 scfm of CNG through three (3) two-hose dispensers, each with a 3600 psi and a 3000 psi delivery. The station utilizes a single tower gas dryer to reduce moisture content. Three CNG tanks provide 30,000 scf of onsite storage. Each dispenser has a credit card reader system accepting Visa, MasterCard, and Discover cards.

### Status

In late 2014, the SCAQMD Board approved the release of an RFP to solicit bids from contractors interested in assuming ownership and improving the SCAQMD CNG refueling facility. The Board also authorized execution of a consecutive contract with Trillium CNG to ensure continued operation of the station while the RFP process is undertaken. This contract, originally executed in 2009 with Pinnacle before their name change, was allowed to expire so a new interim contract could be negotiated with Trillium CNG. The CNG

station is currently operating without interruption and the RFP for a new owner/operator has closed and proposals are being evaluated.

Over the ten year life of this station there has been a steady increase in throughput, averaging 1,000 GGE/month year-to-year, with the average monthly throughput standing at nearly 14,000 GGE/month. The amount of fuel used by the SCAQMD vehicles has remained fairly consistent over the ten year operation of this facility at approximately 2,000 GGE/month. Fig 2. shows the steady increase in fuel throughput during this period, signifying a steady increase in public demand for CNG in this area.

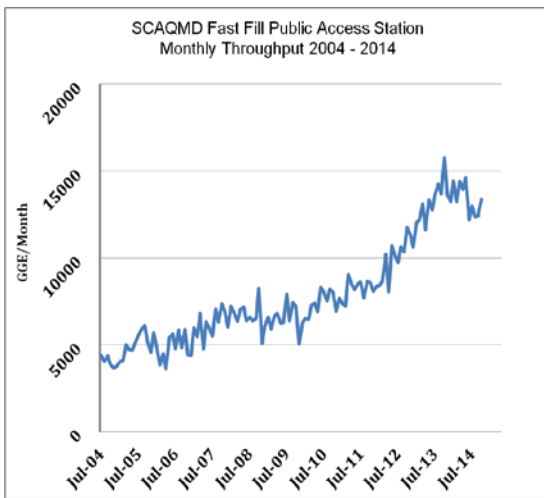


Figure 2: GGE/Month Dispensed 2004-2014

### Results

Currently, there has been no disruption in the operation and service of the SCAQMD’s public access CNG station. Furthermore, within a few months a new contractor should be taking over ownership and upgrading the CNG station with state-of-the-art equipment to not only meet current needs but future growth in demand.

### Benefits

The benefits associated with ensuring uninterrupted operation of SCAQMD’s public access CNG station is continued displacement of petroleum-based fuels and public support for natural gas vehicles. Figure 2 clearly demonstrates the continued and steadily increasing public demand for CNG in this region.

### Project Costs

Funding for this project was \$54,000. Costs for this project are based on a \$0.60/GGE service charge by Trillium CNG; an estimated monthly throughput of 14,000 GGE/month, and up to six months of service. The current service and maintenance contract with Trillium CNG does not include electrical costs and revenue generated from this station is used to pay for the gas dispensed at this facility, the cost of the service contract, taxes and other costs directly associated with the operation and maintenance of this facility.

### Commercialization and Applications

The growing demand at SCAQMD’s public access CNG station parallels on a smaller scale the growing demand for natural gas vehicles ranging from passenger class personal to commercial vehicles, e.g. taxis to heavy-duty vehicles such as school buses and refuse collection vehicles. Figures 3 and 4 provide a snapshot of the average amounts of CNG dispensed and the number of individual fueling events during a 24-hour period using a Sunday through Saturday from midnight to midnight in March 2014.

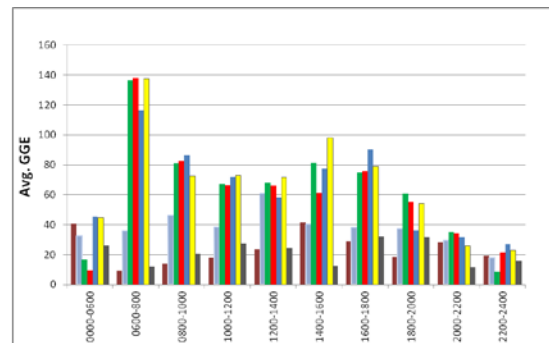


Figure 3: Avg. GGE Sun-Sat. (Mar.'14)

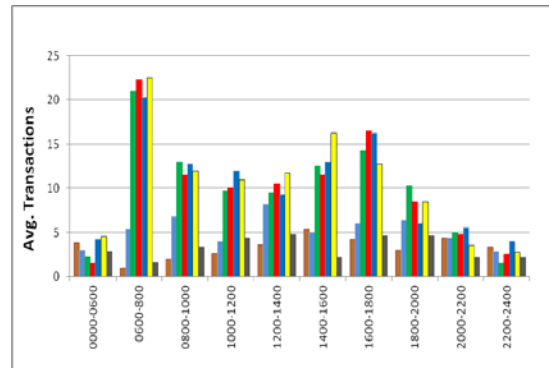


Figure 4: Avg. Fueling Episodes Sun.-Sat.(Mar.'14)

## Install Two LNG Fueling Stations at the Ports

### Contractor

California Cartage Company

### Cosponsors

Port of Los Angeles  
Port of Long Beach  
SCAQMD

### Project Officers

Dipankar Sarkar/Larry Watkins

### Background

California Cartage Company (Cal Cartage) has facilitated the deployment of 320 LNG alternative fuel heavy duty class 8 drayage tractors for use in the Southern California Ports of Los Angeles and Long Beach. These trucks have gone into service over the last two years as part of the San Pedro Bay Clean Truck Program.

Since 50% of the Cal Cartage truck fleet operates on LNG with limited retail availability, the possibility of fuel supply disruption was of great concern, especially since at the time there was only one LNG dispensing facility in the entire port area. Consequently, Cal Cartage applied for and was awarded funding from the SCAQMD to install two 6,000 gallon LNG storage and dispenser units in separate truck yard facilities. It is notable to recognize that while Cal Cartage was undergoing its alternative fuel installations this capacity increased to four dispensing facilities in the port area.

### Project Objective

The overall objective of this project was to increase the stability of the LNG supply to the overall port drayage fleet. This objective could be achieved by installing two LNG storage and dispenser units at two of Cal Cartage's truck yard facilities. The first dispenser would be installed at 6150 Paramount Blvd. in Long Beach; the second, at 1500 East Lomita in Wilmington.

### Technology Description

The two LNG storage and dispensing units are built by Chart Industries. They are self-contained skid mounted tanks and dispensing systems with point of sale card readers to control inventory and record sales. In addition, these self-contained dispensers have all necessary methane and fire detection sensors. Refurbishment of these two units included new pumps, metering sensors, PLC and control cabinet, valves rebuilt and all controls rewired.



Figure 1: Completed Project Paramount Blvd.

### Status

Cal Cartage contracted with Burnett & Burnett on April 27, 2010 to complete plans, drawings and permits for both Lomita and Paramount. Final permits were approved and construction started on the Paramount project on March 11, 2011. The Lomita Project was approved and started on July 7, 2011. General Physics was contracted to refurbish both QRS units on April 26, 2010. Work was completed on March 11, 2011.

Installation of the Long Beach unit was completed and signed off in February 2012; the Lomita unit was installed and signed off in early March 2012. Both systems are now up and running. The SCAQMD requires five years of annual reporting commencing one year after commissioning so this contract ends in April 2017.



Under the SCAQMD’s contract annual reporting on the station operation and throughput is required until early 2017.

**Results**

As a result of this project and the help from the SCAQMD and other partners, Cal Cartage has increased the use of natural gas vehicles over the last two and one-half years. The two LNG dispensers added to the local alternative fuel infrastructure are an important component to the continued successful operation and deployment of LNG trucks in the ports and surrounding operating environment. These two units bring added consistency and reliability to LNG availability in the Southern California Port area.

For the first six months of operation the two units have dispensed 912,982 gallons or 748,645 therms.

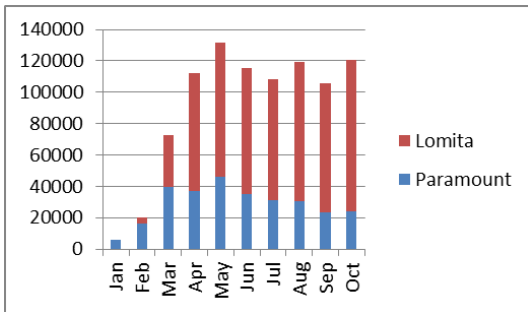


Figure 2: Volume Throughput Jan-Oct 2012

**Benefits**

At the time of this application there was only one LNG fueling facility available for port drayage trucks using LNG. Wait times for fuel at that location was up to two hours as LNG trucks must be fueled every day. Cal Cartage had 132 trucks and there were about 100 other LNG trucks in the port. There was real concern as to the future availability and stability of a consistent fuel supply. California Cartage Company decided to host two LNG dispensers at two of their truck yards to increase the infrastructure and availability of fuel. Since then the LNG fleet has grown to about 900 trucks total with Cal Cartage having over 300 in use today. Counting the two dispensers at these facilities there are now a total of six locations to get LNG for alternative fuel trucks.

The following chart demonstrates the increasing expansion of LNG fleets in the port area.

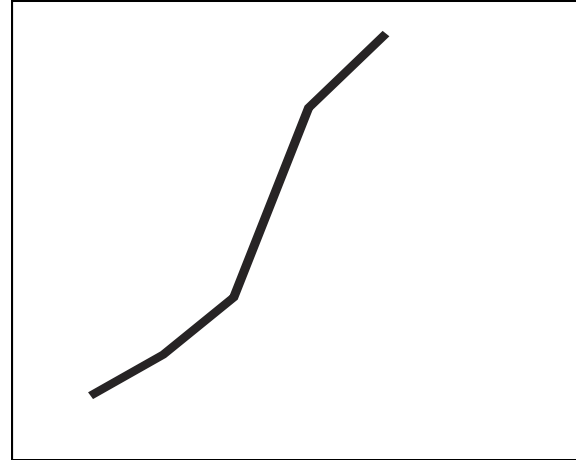


Figure 3: LNG Facilities vs Truck Service in Port Area

The additional LNG infrastructure afforded the industry the confidence to place additional LNG trucks into service at the two ports. As a result, the total LNG truck count is upwards of 900 LNG trucks. The air quality benefit of operating the LNG trucks versus diesel is as follows: 20% less GHG, 97% less carbon, and 1,000 tons per year in NO<sub>x</sub> reduction.

**Project Costs**

Original project costs were estimated at \$1,193,391. Cal Cartage applied for and was granted \$1,065,000 from the SCAQMD toward this project. Actual costs of the completed project were \$1,207,601, funded as follows:

SCAQMD	\$532,500
Port of Los Angeles*	\$266,250
Port of Long Beach*	\$266,250
Cal Cartage	\$142,601
<b>Project Total</b>	<b>\$1,207,601</b>

\*The Ports’ funds were pass-through via SCAQMD’s contract.

**Commercialization & Applications**

This project, although not new technology itself did support the growth of the LNG truck population in the port area. Additionally the project demonstrated to other potential LNG truck users that there is an opportunity to place fuel anywhere needed to support a fleet of low-emission alternative fuel trucks.

# Install New Public Access CNG Refueling Station in Santa Ana

## Contractor

Waste Management

## Cosponsor

SCAQMD

## Project Officer

Larry Watkins

## Background

Waste Management owns and maintains a facility for waste hauling trucks located at 1800 S. Grand Avenue in Santa Ana, California. The company planned for the installation of a compressed natural gas (CNG) fueling station, and received emergency funding assistance from the SCAQMD to help defray the capital costs for installing a new fast-fill fueling island that would be made accessible to other public and private vehicles during normal business hours at that location.

## Project Objective

Waste Management's objective was to install and operate a compressed natural gas fueling station at its location in Santa Ana, California.

The purpose of this project is to reduce emissions from heavy-duty refuse collection vehicles by installing the necessary infrastructure to fuel extremely low-emission natural gas vehicles. Waste Management will operate the compressed natural gas (CNG) station at its facility in Santa Ana, California.



Figure 1: Interior View of Completed Fast-Fill Fueling Island

## Technology Description

This project involves construction of a CNG station with the following new equipment and components:

- Three compressors, skid mounted
- Natural gas storage vessels
- Two 2-hose fast-fill dispensers capable of providing 3,600 psig fill pressures and certified by the California Bureau of Weights and Measures
- Regenerative dryer capable of meeting SAE J1616 moisture requirements
- Development of a separate fueling island area requiring the construction of a "U" shaped access area, the fuel islands and associated lighting, canopy and security systems
- Relocate existing refuse vehicle entry, security gate and fencing to allow entrance and exit for public and private fleet vehicles.

All equipment meets API, ASME, ISA, AGA, NEC, ISA and NFPA requirements.

## Status

Waste Management has completed construction of the fast-fill CNG station. The station has been operational since August 24, 2011.

Under the scope of this agreement with the SCAQMD, Waste Management constructed the CNG refueling station, including components to provide public and private fleet access with new equipment and components.

Waste Management was also responsible for the operation of the station for at least five years after installation and start of dispensing fuel, including providing annual reports and throughput data to SCAQMD through the life of this Contract. This administrative task was contracted to Gladstein, Neandross & Associates, Inc. (GNA).

## Results

The station will be responsible for cost-savings due to the lower cost of natural gas as a fuel, as

well as for the reduction of emissions that are ordinarily caused by diesel.

After construction of the fast-fill CNG refueling station was completed, it was made accessible to all public and private fleets. Some examples of fleets currently using the station include: the City of Santa Ana, Orange Cab, Yellow Cab, Santa Ana Public Works, CEVA Logistics, and the Dollar Store. Waste Management shall operate the station for at least five (5) years.

Annual throughput was anticipated around 100,000 GGEs. Actual throughput for the first three years was as follows:

Throughput in GGEs	
9/1/11-8/31/12	817,471
9/1/12-8/31/13	910,389
9/1/13-8/31/14	836,575

**Benefits**

The successful installation of this fueling station will provide the necessary infrastructure to fuel natural gas vehicles operated by Waste Management and other public and private fleets. Natural gas is a clean, safe and abundant fuel that is domestically produced, with 99 percent used in the U.S. coming from North America.

Natural gas contains less carbon than any other fossil fuel and thus produces lower carbon dioxide (CO2) and greenhouse gas (GHG) emissions per year. In fact, natural gas vehicles produce 20-30 percent less greenhouse gas emissions than comparable diesel vehicles. Natural gas is less expensive than diesel, costing less per energy unit.

Waste Management is quite familiar with the many benefits of natural gas, and maintains the largest fleet of heavy-duty natural gas trucks in North America. The fleet is currently comprised of over 1,000 natural gas vehicles. Approximately 80 percent of these natural gas trucks operate in Southern California. Waste Management is dedicated to doing business in the most sustainable way possible, as well as offering its customers more ways to live green via the air quality benefits of CNG.

**Project Costs**

The total cost of the new CNG fueling station was \$1,665,514. Waste Management was awarded \$250,000 from the SCAQMD as cost-share for the fast-fill public access portion of the

CNG station project. All other costs were paid by Waste Management.

**Commercialization and Applications**

This project will provide the additional necessary infrastructure needed in order to make alternative fuels such as natural gas a commercially available and preferable fueling option. Commercial fleet drivers and owners of CNG-equipped vehicles can now fuel at Waste Management’s new Santa Ana station.



**Figure 2: Front View of Fast-Fill Island**

Additionally, public and private fleets will be encouraged to switch to natural gas as additional infrastructure is available due to both the environmental and cost-saving benefits. This project is also beneficial to those vehicles subject to Rule 1193, which requires public and private solid waste collection fleets having exclusive contracts with public entities and greater than 15 trucks to purchase or replace existing vehicles with alternative fuel vehicles when procuring vehicles.

Waste Management remains committed to reducing emissions and creating cleaner solutions, such as the construction of alternative fuel natural gas fueling stations for its fleet and others within the neighborhoods where Waste Management’s employees work and live.

SCAQMD Contract #11561

October 2014

## Purchase & Deploy 34 CNG Shuttle Vans

### Contractor

SuperShuttle International, Inc.

### Cosponsors

SCAQMD  
SuperShuttle  
U.S. Dept. of Energy

### Project Officer

Phil Barroca

### Background

In 2009, the SCAQMD Board recognized funding from the U.S. Department of Energy (DOE) 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 is 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. The project provided co-funding with SuperShuttle to purchase and deploy thirty-four (34) Ford E-350 passenger vans converted to operate exclusively on compressed natural gas (CNG) for a minimum of two years.

### Technology Description

The project involves the purchase of thirty-four (34) new Ford E-350 Super-Duty XLT 12-person vans converted to operate on dedicated CNG. The base vehicle is equipped with an OEM installed gasoline-powered engine, specifically a Ford 5.4-liter V-8, Flex Fuel engine with 16 valves, electronic fuel injection, 255 rated h.p., 33 gallon gasoline fuel capacity, with a city / highway rated fuel economy of 12 and 16 miles per gallon, respectively. The vehicle is classified as medium-duty with a gross vehicle weight rating (GVWR)

of 8,000-lbs. The base, gasoline-powered vehicle is CARB-certified and emission categorized as an ULEV. Following conversion to dedicated CNG, the vehicle is CARB-certified and emission categorized as a SULEV. Each vehicle has 20 gasoline gallon equivalents (GGE) of on-board CNG fuel capacity and three Type 1 CNG tanks.

### Status

All thirty-four (34) Ford E-350 Super Duty XLT vans were purchased and all 34 vehicles converted to dedicated CNG with a CARB-certified conversion system. All CNG conversion systems were manufactured by BAF Technologies and were installed at BAF in Dallas, TX. The purchase, conversion, and subsequent deployment of these vehicles occurred in two phases. The first phase included twenty (20) 2011 model year vehicles, and the second phase included the remaining fourteen (14), all 2012 model year vehicles. The first vehicle was deployed in the fourth quarter of 2011, with additional vehicles phased into service over a one-and-a-half year period. Full deployment of all 34 vehicles was achieved in the second quarter of 2013. All vehicles were used to provide ground transportation passenger shuttle service to and from Los Angeles International Airport (LAX), Long Beach Airport, Ontario International Airport, John Wayne Orange County Airport and various destinations extending as far as 140 miles from LAX. Per DOE requirements, the project requires quarterly reports on both fuel usage and mileage for each vehicle.



Ford E-350 Super Duty XLT Vans



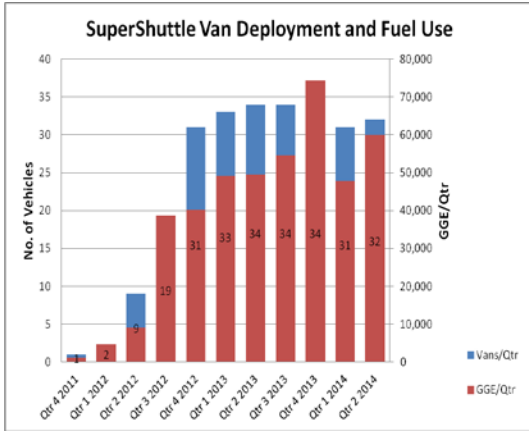


Table 1 – Van Deployment and Fuel Use

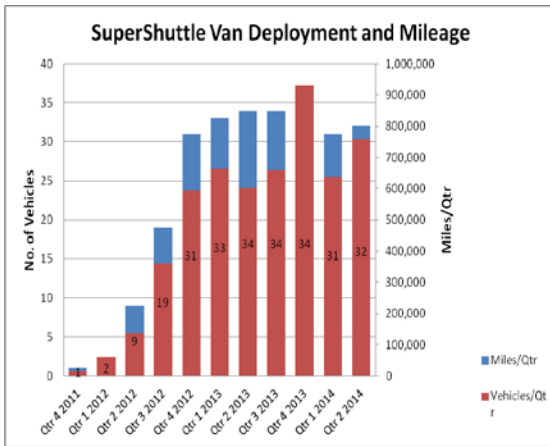


Table 2 – Van Deployment and Miles

Thirty-four vehicles were deployed over a two year period; and all 34 were in operation concurrently from the second quarter of 2013 through the fourth quarter of 2013. The last quarter of 2013 was also the highest quarter of miles accrued during this project.

### Results

During the seven quarter period in which all or most of the vehicles were in continuous operation, the vehicles collectively amassed more than 4.6 million miles, and displaced more than 400,000 gallons of gasoline. Vehicle miles ranged from 66,000 to 230,000 miles over the project life; for the 34 vehicles the average vehicle miles travelled was 135,000 miles, and the average fuel consumed per vehicle over the project life was 9,750 GGE, resulting in a fuel consumption rate of 14 miles per gallon.

The 2012 Ford E-350 Super-Duty XLT van is classified as a medium-duty vehicle with a GVWR of 8,000-lbs. Based on CARB Executive Orders and the certified emissions for both the Ford OEM gasoline-powered version of this vehicle and the BAF CNG-powered version of this vehicle, the CNG-powered vehicle emits 47% less emissions in terms of hydrocarbon + NOx emissions. All 34 vehicles produced over 700 lbs per year less emissions than their gasoline counterparts.

### Benefits

Relative to its gasoline-powered counterpart, the CNG version of this vehicle is 47% cleaner in hydrocarbon + NOx 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 these vehicles are expected to produce increased benefits over their full life. Based on full-life projections of 200,000 to 300,000 miles per vehicle, these 34 vehicles collectively will displace the use of 480,000 to 720,000 gallons of gasoline over this projected lifetime/usage.

### Project Costs

The total amount spent on vehicle purchase and conversion to dedicated CNG is calculated at \$1,431,894. The total funding award to this project was \$464,900 comprising \$123,000 from the DOE and \$341,900 from the SCAQMD. A Final Report on this project has been completed and is on file.

### 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, and the concurrent displacement of petroleum based fuels.

## Demonstrate Natural Gas-Powered Police Pursuit Vehicle

### Contractor

A-1 Alternative Fuel Systems

### Cosponsor

SCAQMD

### Project Officer

Phil Barroca

### Background

In November 2011, the SCAQMD Board approved \$65,000 from the Clean Fuels Fund to lease and demonstrate with local police jurisdictions a new 2011 dedicated compressed natural gas (CNG)-powered Ford Crown Victoria (FCV) Police Pursuit Vehicle (PPV). The Contractor on this project was A-1 Alternative Fuel Systems (A-1), based in Fresno, CA. A-1 performed the conversion of the vehicle to CNG, coordinated with Wondries (Alhambra, CA) on a two year lease and maintenance of the vehicle, and with 10-8 Retrofit (Ontario, CA) on the various vehicle up-fittings. At the outset of the program, fifteen (15) cities and police jurisdictions expressed an interest in demonstrating this vehicle.

### Project Objective

The project objective was to provide local law enforcement agencies the opportunity to demonstrate a fully equipped police pursuit vehicle that is powered by dedicated CNG to both reduce emissions and to potentially reduce department operating costs. The demonstration vehicle was built on the same platform as the ubiquitous gasoline FCV used by law enforcement agencies for many years and prepared for regular deployment and routine police service. The police departments and officers demonstrating this vehicle were asked to subject the CNG vehicle to the same rigors as their regular PPV and to evaluate and assess the CNG vehicle's performance. Officers were provided with a prepared survey to score various parameters, and to provide comments. The survey was considered

critical to better assess the vehicle needs of police departments and their officers.

### Status

The contract to demonstrate the CNG PPV was executed in April 2012. The FCV PPV was secured from Wondries Ford and the vehicle was converted to dedicated CNG by A-1 in June 2012. The vehicle was transferred to 10-8 Retrofit for up-fitting of the hard rear seat, light bar and siren, push bumper, prisoner screen, shotgun rack, and multijurisdictional radio. All up-fits were completed by October 2012. The first city to demonstrate the vehicle was Monterey Park, followed by Sierra Madre, Pomona, San Fernando, and Orange. The vehicle was also showcased at the Alt Fuel Expo in Santa Monica in September 2013. The demonstration program concluded in December 2014; the vehicle was returned to Wondries Ford with approximately 6,000 miles, for potential sale.

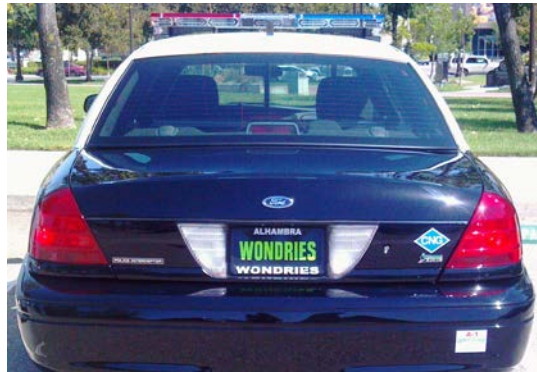


Figure 1: 2011 CNG FCV Police Pursuit Vehicle

The demonstration vehicle was a new 2011 gasoline-powered Ford Crown Victoria (FCV) that was converted to dedicated CNG-power using an EPA-certified Evotek (Impco Technologies) CNG conversion system with a CARB equivalent emission ranking of LEV2 SULEV. The 2011 FCV is equipped with a 4.6L V8 flex fuel engine with 250 h.p. and 297 lb-ft. torque. The gasoline vehicle is equipped with a 19 gallon fuel tank; an estimated city/highway fuel economy of 14/21 mpg, and is CARB certified LEV 2 ULEV. The CNG-powered vehicle's gasoline tank was

removed and initially replaced with two 3.4 GGE tanks in the trunk, and two 2.7 GGE tanks under body. An additional 2.7 GGE tank was added in the trunk to provide extra use and range bringing the total CNG fuel capacity to 14.9 GGE. The net added weight to the vehicle, primarily from the CNG tanks, was 450-lbs. The added weight and positioning of the fuel tanks in the trunk area prompted comments about “bottoming-out” of the rear of the vehicle and the subsequent installation of heavy-duty rear springs. Fuel economy estimates for the CNG version averaged 16 mpGGE.

## **Results**

The dedicated CNG-powered police pursuit vehicle was successfully demonstrated to five police departments and at least nineteen police officers within the jurisdictional boundaries of the SCAQMD over a two-year and two-month period. The vehicle accumulated approximately 6,000 miles. Survey scoring ranged from 1 (poor) to 5 (excellent) for overall satisfaction, drivability and performance, fuel economy, and recommending the vehicle. The vehicle scored an overall 2.6 and a 2.95 for drivability and performance. Comments included lack of trunk space, frequency of refueling, lack of power relative to the gasoline version, stalling and rear suspension issues.

The City of Monterey Park cited the need for more fuel capacity, and that the rear of the vehicle was “bottoming-out” on driveways. In response to fueling needs, an additional 2.7 GGE CNG tank was installed by A-1 (not Clean Fuels funded). Following similar rear suspension comments from the City of Sierra Madre, the vehicle was retrofitted with heavy-duty rear coil springs by Wondries. The vehicle was subsequently tested again by the sergeant at Monterey Park along with the project officer. The sergeant subjected the vehicle to: acceleration tests, braking tests, high speed right-angle and slalom turns, various grade transitions both up-hill and down-hill and at various speeds, and transmission changes from drive to stop to reverse, to test for engine stalling.

The acceleration test occurred on a stretch of public road and the vehicle achieved 95 mph. The officer noted that the vehicle still lacked acceleration above 70 mph compared to the gasoline FCV and attributed that to less “high-end” torque than the gasoline-powered model. The sergeant noted that the vehicle’s braking from high speed was good and that the vehicle’s handling had improved

significantly from the prior demonstration and performed notably well in executing all turns.

The vehicle was subjected to various grade transitions at various speeds, including a slow speed grade transition on an upward exit ramp from an underground parking garage (the officer recalled this same grade transition caused the vehicle to bottom-out during the preliminary demonstration). The vehicle was also driven at higher speeds (25-30 mph) through grade transitions from flat (0% grade) to an immediate upward pitch of 10% -15% grade. The Sgt. was unable to cause the vehicle to “bottom-out” at any time during the test drive. The vehicle was subjected to various grade transitions at extreme speeds, but presumably indicative of what is required of police pursuit vehicles operating under real-world conditions. The officer also subjected the vehicle to numerous “reverse-tests” to see if the vehicle stalled when the transmission was changed from drive to reverse (after bringing the vehicle to a complete stop). At no time during the “reverse-tests” did the engine stall.

## **Benefits**

Relative to its gasoline-powered counterpart, the CNG version of this vehicle is more than four times cleaner in hydrocarbon + NOx emissions and use of CNG helps to displace the use of petroleum based fuels. Costs of CNG relative to gasoline are available. The full benefits of this program are yet to be determined.

## **Project Costs**

Funding for this project was \$65,000; actual costs will slightly under this amount. Costs included a two-year vehicle lease, the conversion from gasoline to dedicated CNG, the up-fits from a base model to a fully deployable police vehicle, e.g. lights and sirens, push bar, radio, etc., vehicle maintenance, vehicle refueling (if unavailable), and vehicle demonstration.

## **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.

# Optimize & Demonstrate Selective Catalytic Regenerating Technology (SCRT) for NO<sub>x</sub> & PM Emissions Control

**Contractor**  
Johnson Matthey, Inc.

**Cosponsors**  
U.S. EPA  
SCAQMD

**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<sub>x</sub> 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 possible with a retrofit 4-way emission control technology on sixty-nine (69) heavy-duty diesel trucks operating in the South Coast Air Basin. Since SCR based NO<sub>x</sub> reduction is affected 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 be 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% NO<sub>2</sub> requirement for 1998-2002 MY heavy duty diesel engines. The SCRT system uses NH<sub>3</sub>, carried on

the vehicle as urea, to reduce NO<sub>x</sub> over a vanadium based SCR catalyst. The precise air assisted injection of urea is performed using an OE dosing pump controlled by an ECU developed by JM.

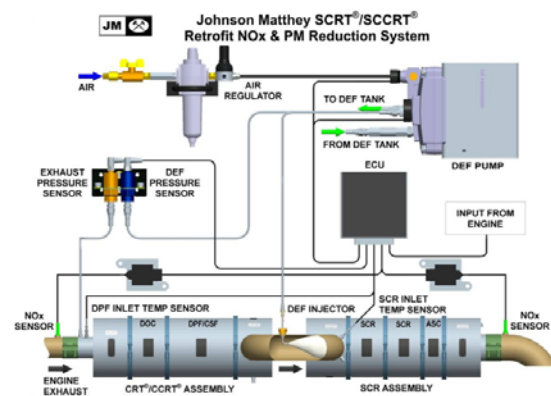


Figure 1: System Schematic

## Status

The phases of this project were:

- 38 systems were installed and operated on trucks within five fleets. The trucks were equipped with Detroit Diesel Series 60, Cummins ISM, Mercedes-Benz OM460LA, and Navistar DT466E/HT engines built between 1998 and 2002.



Figure 2: SCRT Typical System Installation

- Data monitoring on select trucks.
- Chassis Dyno Emissions Testing that was originally part of the program was not performed.
- CARB Verification  
A CARB test plan was completed and

submitted on September 15, 2010 in reference to a passive diesel particulate filter plus urea-based SCR. There was an SCR catalyst formulation change that occurred during the program. All program field installations were vanadium SCR.

## Results

Emissions data was gathered using NOx sensors to compare system out and engine out NOx levels during actual operation. The daily operational NOx reduction was as high as 78% as seen below.

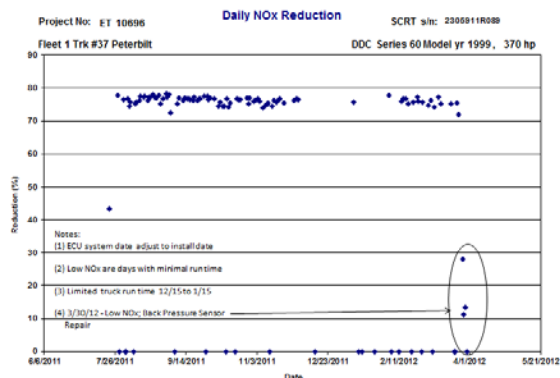


Figure 3: Daily NOx Reduction Graph - 569 Hours of Operation

Other information generated by the project included:

- Verification that 70% NOx reduction can be achieved with a CRT inlet temperature over 240°C for 40% of the operating time.
- Some earlier model year engines did not meet requirements for J1939 CAN Network availability.
- Wire splices in the electrical harness had failure issues during installation where harness routing had aggressive bend radius during installation.
- A universal Class 8 system bracket design was integrated on all of the participating vehicles.

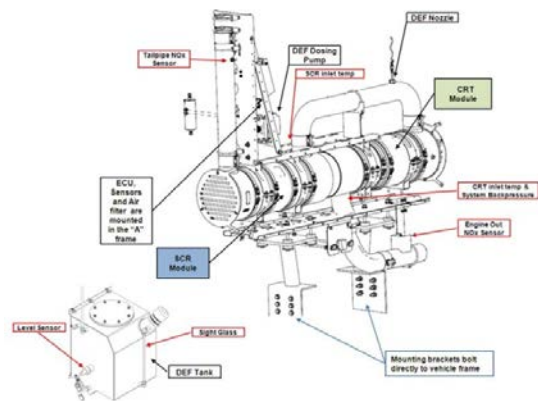


Figure 4: Vehicle Integration Application Schematic

- 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.
- Calibration of DEF level sensor at installation was not always accomplished requiring some post installation service downtime.
- The installation location and orientation of the tailpipe NOx sensor was demonstrated as un-reliable in some installations.

## Benefits

Besides the percentage of NOx reduction shown, the data gathered during this program was able to show that some applications could remove as much as 4.1 lbs. of NOx per daily average.

## Project Costs

The contract executed for this program was in the amount of \$2,300,000. The U.S. EPA provided funding in the amount of \$2,000,000 and SCAQMD provided \$300,000. The program was subsequently reduced in scope from 69 to 38 retrofits and chassis dynamometer testing was not performed. Consequently, final program costs totaled \$1,561,181; thereby, de-obligating \$738,819 from the contract.

## Commercialization and Applications

This demonstration program identified areas in the system that needed improvement like the wiring harness, DEF line connection methods, and tailpipe NOx sensor orientation to increase the system reliability. The universal class 8 bracket design system behind the vehicle cab integrated well with various over-the-road bulk delivery applications. The universal bracket design allowed for the system to be assembled with common parts with better volume purchasing potential.



## Optimize & Demonstrate Selective Catalytic Continuously Regenerating Technology (SCCRT) for NO<sub>x</sub> & PM Emissions Control

### Contractor

Johnson Matthey, Inc.

### Cosponsors

U.S. EPA  
SCAQMD

### 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<sub>x</sub> 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 possible with a retrofit 4-way emission control technology on sixty-nine (69) heavy-duty diesel trucks operating in the South Coast Air Basin. Since SCR based NO<sub>x</sub> reduction is affected 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 Catalyzed Continuously Regenerating Technology (CCRT®) filter with Urea based Selective Catalytic Reduction (SCR) to be retrofit on Heavy Duty Diesel vehicles. The SCCRT consists of several subsystems; DOC, CSF, SCR Catalyst module and urea dosing system. The CCRT filter technology was previously verified by CARB as a level 3 PM control device (>85% reduction) for 1994-2006

MY heavy duty diesel engines. The SCR system uses NH<sub>3</sub>, carried on the vehicle as urea, to reduce NO<sub>x</sub> over a non-vanadium based SCR catalyst. The precise air assisted injection of urea is performed using an OE dosing pump controlled by an ECU developed by JM.

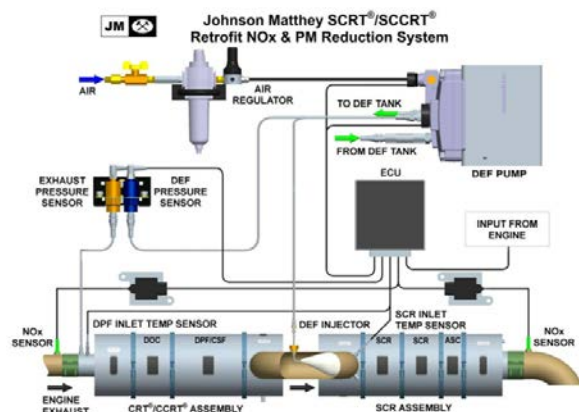


Figure 1: System Schematic

### Status

The phases of this project were:

- 69 systems were installed and operated on trucks within two (2) fleets. The trucks were equipped with Cummins ISX and Mercedes-Benz MBE4000 engines built between 2005 and 2006.



Figure 2: SCCRT Typical System Installation

- Data monitoring on select trucks.

- Chassis Dyno Emissions Testing that was originally part of the program was not performed.
- CARB Verification  
A CARB test plan was completed and submitted during the program on November 15, 2011 in reference to a passive diesel particulate filter plus urea-based SCR.

## Results

Emissions data was gathered using NO<sub>x</sub> sensors to compare system out and engine out NO<sub>x</sub> levels during actual operation. The daily operational NO<sub>x</sub> reduction was as high as 90% as seen below.

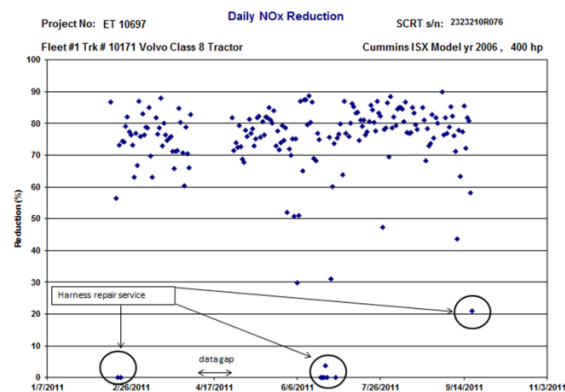


Figure 3: Daily NO<sub>x</sub> Reduction Graph – 1,260 Hours of Operation

Other information generated by the project included:

- Verification that 70% NO<sub>x</sub> reduction can be achieved with a CRT inlet temperature over 240°C for 40% of the operating time.
- Wire splices in the electrical harness had failure issues during installation where harness routing had aggressive bend radius during installation.
- A universal Class 8 system bracket design was integrated on all of the participating vehicles.

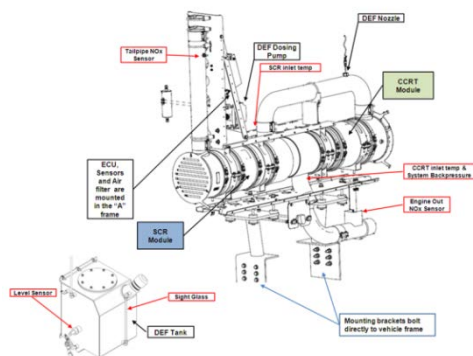


Figure 4: Vehicle Integration Application Schematic

- Operation on a long haul route on California Interstate I-15 targeting Baker Grade, Cajon Pass, and Mountain Pass experienced system backpressure warnings and alarms. These routes demanded sustained maximum engine loads during hauls up sustained grades, with ambient temperatures exceeding 110°F during the peak summer season, and high elevations.
- 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.
- Calibration of DEF level sensor at installation was not always accomplished requiring some post installation service downtime.
- The installation location and orientation of the tailpipe NO<sub>x</sub> sensor was demonstrated as un-reliable in some installations.
- Bracket system durability failures were observed on some trucks on one fleet.

## Benefits

Besides the percentage of NO<sub>x</sub> reduction shown, the data gathered during this program was able to show that some applications could remove as much as 8 lbs. of NO<sub>x</sub> per daily averages.

## Project Costs

The contract executed for this program was in the amount of \$2,300,000. The U.S. EPA provided funding in the amount of \$2,000,000 and SCAQMD provided \$300,000. Because the chassis dynamometer testing was not performed, the total program costs were \$2,223,500; thereby, de-obligating \$76,500 from the contract.

## 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<sub>x</sub> sensor orientation to increase the system reliability. The universal class 8 bracket design system behind the vehicle cab integrated well with various over-the-road applications for bulk goods delivery. Certain vehicle applications challenged the bracket system 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 Contracts #12113, et al.

March 2014

## Retrofit 200 Heavy-Duty Diesel Trucks with DPFs

### Contractors

Southern Counties Terminals dba Griley Air Freight  
South Bound Express, Inc.  
National Ready Mixed Concrete, Co.  
Standard Concrete Products, Inc.  
Challenge Dairy Products, Inc.  
Bear Trucking, Inc.  
RRM Properties, Inc.  
Gaio Trucking, Inc.  
Spragues Ready Mix  
Pipeline Carriers, Inc.

### Cosponsor

SCAQMD

### Project Officer

Mei Wang

DPFs are diesel emission control strategy (DECS) that traps particulate matter and other pollutants from diesel exhaust before entering the atmosphere. The captured materials are then combusted using the diesel engine's exhaust temperature or an external source of heat such as a diesel burner or electric heater.

### Status

The retrofit devices were successfully installed on all the trucks under this project before December 2011. The retrofitted trucks have been operating without issues.



DPF on an RRM Properties Truck

### Background

Diesel pollution from current goods movement operations greatly impacts the health of community resident near ports, rail yards, distribution centers, and roads with high truck traffic. In the Los Angeles/Inland Empire region, which includes California's largest concentration of goods movement facilities, the result has been major health risks associated with very high regional levels of ozone and particulate pollution. This project provides grants to heavy-duty diesel truck owners/operators on a competitive basis to upgrade their equipment to cleaner technologies.

### Results

This project provided direct PM emission reductions as listed in the table on the next page. Table 1 also provides individual contract numbers.

### Project Objective

The objective of this project was to provide funding to heavy-duty diesel truck owners/operators to retrofit their trucks with diesel particulate filters (DPFs) and reduce their particulate matter (PM) emissions in a cost-effective and expeditious manner.

### Technology Description

Retrofit technology modifies the diesel exhaust system by replacing the existing muffler with an emission control diesel retrofit device that removes (PM) and other pollutants from the diesel exhaust stream and traps them inside the device.



**Table 1: PM Emission Reductions by Contract**

Contractor	PM Emission Reduction (lb)/Project Life (2 Years)
Southern Counties Terminals dba Griley Air Freight Contract #12113	134.5
South Bound Express, Inc. Contract #12114	181.8
National Ready Mixed Concrete, Co. Contract #12118	913.8
Standard Concrete Products, Inc. Contract #12120	2563.2
Challenge Dairy Products, Inc. Contract #12121	62.5
Bear Trucking, Inc. Contract #12122	179.8
RRM Properties Ltd. Contracts #12123 & #12175	16535.6
Gaio Trucking, Inc. Contract #12124	2346.1
Spragues Ready Mix Contract #12125	103.4
Pipeline Carriers Inc. Contract #12186	1841.4

**Benefits**

The implementation of the project provides direct and cost-effective PM emission reductions. The retrofitted trucks are likely to operate many more years in the South Coast Air Basin even after the contract ends.

**Project Costs**

The SCAQMD’s total contribution from the Clean Fuels Fund was \$1,035,000. Project participants contributed the remaining costs. Project costs are broken down as follows.

**Table 2: Total Project Costs by Contractor**

Contractor	No. of Trucks	Total Cost of Devices	Total Cost of Installation	Total Project Cost
Southern Counties Terminals dba Griley Air Freight	9	\$30,392	\$6,585	\$39,750
South Bound Express, Inc.	3	\$33,018	\$4,274	\$37,292
National Ready Mixed Concrete, Co.	13	\$154,960	\$39,975	\$168,285
Standard Concrete Products, Inc.	15	\$176,930	\$25,450	\$218,235
Challenge Dairy Products, Inc.	3	\$26,475	\$6,000	\$34,394
Bear Trucking, Inc.	1	\$11,255	\$3,041	\$14,296
RRM Properties Ltd.	134	\$991,248	\$327,000	\$1,695,551
Gaio Trucking, Inc.	8	\$69,156	\$12,299	\$81,455
Spragues Ready Mix	4	\$26,407	\$6,703	\$30,704
Pipeline Carriers Incorporated	10	\$122,500	\$18,000	\$149,994
<b>Total</b>	<b>200</b>	<b>\$1,642,341</b>	<b>\$449,327</b>	<b>\$2,469,956</b>

**Commercialization and Applications**

The DPFs used for this project are fully commercialized CARB-verified Level 3 Plus devices that reduce PM by at least 85%. The DPFs are installed on many on-road heavy-duty diesel trucks to reduce PM emissions.

# Demonstrate DPF Technology on Two School Buses

**Contractor**

Chaffey Joint Union High School District

**Cosponsors**

SCAQMD

**Project Officer**

Richard Carlson

**Background**

Chaffey Joint Union High School District (Chaffey) operates a large fleet of school buses. Sixteen buses equipped with diesel engines using hydraulic electronic unit injectors (HEUI) had previously been retrofitted with Cleaire Horizon diesel particulate filters (DPFs) under the Lower Emission School Bus Program. However, immediately following the installation of the Horizon DPFs, the buses began to experience higher rates of injector failures, oil leaks, turbo failures, power loss, and other engine-related problems on these buses than previously experienced. These engine problems were attributed to high backpressure caused by plugged Horizon DPFs.

Chaffey presented their concerns about the apparent problems created by the Horizon DPFs to the SCAQMD and California Air Resources Board (CARB). As a result, a cooperative study was undertaken to review Chaffey’s bus utilization and duty cycles, engine conditions, and maintenance practices. As a result of this, it was agreed that Chaffey could evaluate alternate DPF technologies to determine if the performance and maintenance problems were due to the Horizon design.

On March 1, 2013, the SCAQMD Board awarded a contract to Chaffey to purchase, demonstrate, and evaluate two retrofit DPF technologies in the amount of \$30,000.

**Project Objective**

The objective of this project was to evaluate two alternate DPF technologies to the Horizon and

determine if one was better suited to the Chaffey buses and would provide better bus operation and less maintenance expense.

**Technology Description**

The Horizon technology consisted of a manually operated, externally powered electric heater coil in front of a DPF substrate. When the bus was in operation, the DPF collected exhaust particulate. When the bus was parked, and when indicated by a warning lamp that regeneration was required, the operator/mechanic plugged in the heater system. The heater operated for a fixed time to raise the temperature of the DPF enough to burn off the collected soot.

Two alternate technologies were chosen for this demonstration: 1) the ESW *Thermacat* actively regenerated DPF and 2) the Donaldson *LNF* passively regenerated DPF. The ESW DPF uses diesel fuel injected in front of a catalyzed wall-flow DPF while the bus is in normal operation. The fuel injection start, rate, and duration is automatically controlled by the Thermacat control module without operator involvement whenever the exhaust backpressure builds up to a set value. The LNF continuously regenerates by reacting NO<sub>2</sub> in the exhaust gas with the collected particulate. The LNF consists of a flow-through catalyzed DPF followed by a conventional non-catalyzed wall flow DPF. The catalyzed section reacts NO in the exhaust to NO<sub>2</sub>. The system provides high collection efficiency along with continuous regeneration at low exhaust temperatures.

These two technologies were selected because they were the only ones approved by the California Highway Patrol for use on the school buses operated by Chaffey. The Thermacat was more expensive than the LNF but was expected to provide more consistent and reliable operation compared to the Horizon and LNF due to the automatic regeneration feature during normal driving. The LNF was attractive due to its simplicity and lower cost, provided its performance was acceptable. The two DPFs are shown in the photographs below.



Figure 1: ESW Thermacat installed on Bus 62



Figure 2: Donaldson LNF installed on Bus 55

### Status

Two buses previously equipped with Horizon DPFs which had experienced repeated incidents of severe power loss were selected for the demonstrations. Both had new engines installed in 2011. The Horizon DPFs were removed and the engines checked. Both engines were found to be in good condition without excessive oil or fuel consumption leaks and fuel injectors operating within specification. Exhaust temperatures were recorded using data loggers.

The buses were both 60 passenger Type D school buses with 7.2-liter Caterpillar 3126 engines. The engine uses hydraulically actuated electronic unit injectors (HEUIs). Bus 62 has the ESW Thermacat DPF. Bus 55 has the Donaldson LNF DPF.

As of December 18, 2013, both buses had operated for approximately three months and accumulated 8,616 miles on the Thermacat and 6,538 miles on the LNF. Regular maintenance was performed on the buses and monthly

inspections of the engines and checks of fuel for contamination with oil or water were performed. No oil was added to either engine during this period. The buses remained in operation continuing the demonstration through the end of the school year.

### Results

Both buses operated satisfactorily without any performance losses or engine mechanical issues (turbocharger or injector failures). With the Horizon DPF, problems would have already occurred on these buses during these time and mileage periods.

Chaffey recommends that all Horizon units be replaced with Thermacat DPFs and is requesting additional funding for their replacement from SCAQMD.

### Benefits

The study demonstrated that both alternate DPF technologies operated satisfactorily without the performance, operational, and maintenance issues experienced with the Horizon DPF. The study demonstrated that not all DPFs are appropriate for any particular engine design or and vehicle duty cycle.

### Project Costs

DPF Costs	
ESW Thermacat	- \$20,300
Donaldson LNF	- <u>\$17,822</u>
Total Cost	- \$38,122

Funding Source	
SCAQMD	- \$30,000
Chaffey JUHSD	- \$ 8,122

### Commercialization and Applications

Both ESW Thermacat and Donaldson LNF DPF technologies are currently in production, verified, and commercially available. .

SCAQMD Contract #11614

September 2014

## Demonstrate Battery-Electric Heavy-Duty Trucks

### Contractors

Transportation Power, Inc. (“TransPower”)  
EPC Power Corp.

### Cosponsors

CEC  
SCAQMD  
U.S. EPA

### Project Officer

Joseph Impullitti

### Background

In August 2010, SCAQMD applied for a \$400,000 award from U.S. EPA Region 9’s Clean Air Technology Initiative (CATI) Program. SCAQMD was awarded \$300,000 to demonstrate battery electric heavy-duty trucks traveling from the Ports to intermodal facilities, enabling the SCAQMD to fund an unsolicited proposal that had been submitted by TransPower, which offered to leverage California Energy Commission funds and create an expanded electric truck demonstration program involving two vehicles.

### Project Objective

TransPower was tasked to develop and demonstrate two heavy-duty battery electric Class 8 trucks as well as develop the manufacturing capability for the electric drive system in California. The project had two overarching objectives: to demonstrate a superior electric drive technology for heavy-duty trucks and to use this demonstration project as a springboard for rapid commercialization of a modular electric drive system.

### Technology Description

A zero-emission battery-electric drive system was to be installed by TransPower into two Class 8 truck tractors. Each drive system was intended to utilize a network control architecture to control modular components, including high-power drive motors and inverters along with electrically-driven

accessories, powered by lithium battery packs. A key technology advancement enabled by this project was development of a new onboard inverter-charger unit (ICU), which combines the functions of a motor inverter and battery charger. Other key advances included application of a new automated manual transmission and advanced battery management technologies to Class 8 electric trucks.

### Status

The ElecTruck period of performance began on July 8, 2011, and was originally scheduled to end after 28 months (November 8, 2013), but was extended to September 30, 2014, to allow more time for manufacturing and testing the second truck built under the project, the “Pilot Truck.” The Pilot Truck (shown here) was successfully operated under real-world conditions for nearly a full year and is now being upgraded to utilize more advanced components whose designs were enabled by the many lessons learned during the ElecTruck project. By the end of 2015, at least 20 medium- and heavy-duty electric vehicles will be in operation in California demonstration projects, using technologies and components developed or first demonstrated in Class 8 trucks during the ElecTruck project.



Figure 1: Pilot Truck

### Results

The ElecTruck project was highly successful in its core long term objectives of achieving major technology advances in two key areas: (1) vehicle control and integration and (2) advanced energy storage. More generally, the ElecTruck project

successfully advanced the state of the art in application of electric propulsion technology to Class 8 trucks, and provided valuable lessons learned that enabled TransPower to proceed to even more advanced component and integrated subsystem designs, which – as indicated above – are being incorporated into a growing fleet of fully operational electric Class 8 trucks, tractors, and school buses.

**Benefits**

The ElecTruck project demonstrated the essential feasibility of eliminating emissions from the largest and most polluting road vehicles, Class 8 trucks. If 5,000 electric trucks of the ElecTruck design were deployed in California by 2020, this would achieve an estimated aggregate emissions reduction of 378,500 tons of carbon per year – a significant step toward achieving the ARB 2020 limit of 427 million tons. Electric trucks of this design also eliminate criteria pollutants at the point of operation and reduce noise.

The project also resulted in valuable lessons learned that will result in future reductions in the costs of manufacturing electric trucks. For example, it was learned that manufacturing costs could be reduced by consolidating power components into a single structure before installing them onto the truck. This resulted in development of a new integrated “Power Control and Accessory Subsystem,” pictured here, which is now being incorporated into all future trucks.

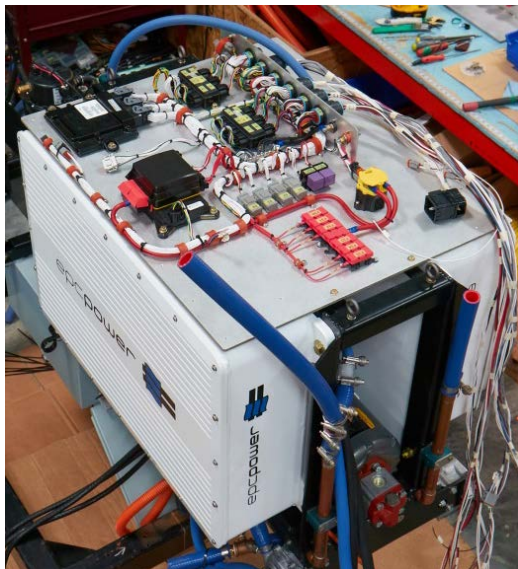


Figure 2: Power Control & Accessory Subsystem

**Project Costs**

The total cost of the ElecTruck project was approximately \$2,693,939. The SCAQMD contribution to this total was \$496,500, including the \$300,000 pass-through funding from U.S. EPA.

Partner	Contribution
SCAQMD/Clean Fuels Fund	\$196,505
U.S. EPA	\$300,000
CEC	\$1,000,000
TransPower	\$1,197,434
Total Project Costs	\$2,693,939

Total project costs were in line with initial expectations; the project was initially scoped as a \$2 million project that would involve manufacturing of one truck and was expanded to a two-truck project with a total budget of \$2.6 million when the SCAQMD funds were committed. The recurring cost of each truck manufactured with ElecTruck components is presently estimated to be less than \$500,000, and in volume this cost is expected to decline to \$300,000 to \$400,000.

**Commercialization and Applications**

Technologies and components developed or demonstrated on the ElecTruck project are also being applied to other heavy-duty vehicles, including electric off-road yard tractors and electric school buses. In addition, the ElecTruck project has led to funded efforts to develop a zero-emission range extender for heavy-duty electric trucks, using a hydrogen fuel cell to recharge batteries. These expanded applications and variants of the system demonstrated during the ElecTruck project have the potential to greatly expand the range of commercial applications to which these technologies can be applied.



## Upgrade & Install Electric Charging Infrastructure

### Contractor

Chargepoint (formerly Coulomb Technologies)

### 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 Chargepoint to install new or upgraded Level 2 EVSE at high usage site locations identified by SCAQMD and Chargepoint. Chargepoint 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 Chargepoint to leverage DOE and CEC support for installation of Level 2 EVSE as part of Chargepoint America, a DOE/ARRA project for installation of EVSE in key markets. Chargepoint upgraded existing EVSE which were obsolete and installed new EVSE. Chargepoint submitted a list of approved sites. As part of the SCAQMD program, Chargepoint dedicated full time resources to identify potential site hosts eligible for replacement of obsolete units.

Chargepoint completed installation of 8 of the planned 70 EVSE. Some costs were in excess of

\$1,000, with those costs supplemented by Chargepoint America funding and/or the site hosts. Using the approved site list for sites with obsolete equipment proved challenging. For a three month period, Chargepoint dedicated staff to contact site hosts and owners of obsolete EVSE to assess replacement opportunities. From October 2012 to April 2014, 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 EVSE 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, Chargepoint approached SCAQMD to request approval of funds to contribute to new sites. By agreement, Chargepoint followed the same procedures for submission to SCAQMD and provided site locations for approval or denial. Some prominent locations included workplaces and major destinations including Cedars Sinai Hospital, Disneyland/Downtown Disney, and Burbank Water and Power. All sites are public access.

### Technology Description

Level 2 EVSE with J1772 connectors were installed. EVSE were either pedestal mounted or wall mounted depending on the site configuration. 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 EVSE.

## Status

Chargepoint changed its name from Coulomb Technologies in late 2012. Due to various unforeseen delays, Chargepoint was unable to complete all 70 Level 2 EVSE installations under the original term. In the meantime, fellow EVSE entity ECOTALITY declared bankruptcy and CarCharging Group assumed control of ECOTALITY's assets in late 2013. Clipper Creek was also unable to execute a contract to upgrade 70 Level 2 EVSE. Hence staff executed a new contract with Chargepoint to install 162 Level 2 EVSE in 2015 at workplaces and destinations.



Figure 1: Chargepoint EVSE

## Benefits

This project will assist in advancing PEV readiness in California by creating additional public charging that is convenient and affordable for PEV drivers.

## Project Costs

EV infrastructure hardware and installation costs were through DOE and CEC funding from Chargepoint America, and remaining installation costs were cost shared between Chargepoint America 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. Chargepoint America has installed about 20,000 chargers and 3,000 sites in North America, the world's largest charging network. About 25% of these sites are in California.

## Results

Chargepoint's Level 2 EVSE installations are shown in the following map:



Figure 2: Chargepoint's Level 2 EVSE Installations

Source: <http://chargepoint.com>

SCAQMD Contract #13149

March 2014

## Develop Southern California PEV Readiness Plan

### Contractor

UCLA Luskin Center for Innovation (Luskin Center)

### Cosponsors

Southern California Association of Governments (SCAG), via award from the CEC  
SCAQMD, via award from the U.S. DOE

### Project Officer

Patricia Kwon

### Background

Every day, more and more plug-in electric vehicles (PEVs) can be spotted on the roads of Southern California. Volatile gasoline prices, state zero emission vehicles programs, federal fuel economy and vehicle emission standards, improved battery technology, and concerns over meeting federal ambient air quality standards and state climate change goals have created a growing market for PEVs.

### Project Objective

SCAQMD supported the Luskin Center in development of the *Southern California Plug-In Readiness Plan* and specifically six chapters of this report. These chapters focus on addressing the barriers and opportunities for both workplace and multi-unit dwelling (MUD) charging in Southern California.

### Technology Description

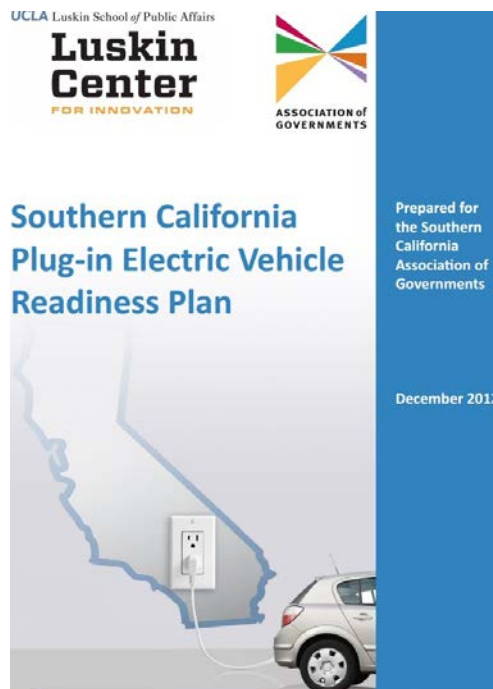
PEVs can lower greenhouse gas emissions, improve air quality, increase electric grid efficiency, and reduce fuel costs. PEV deployment, however, will depend in part on how effectively PEV infrastructure is planned. The Luskin Center's PEV Readiness Plan explored the ecosystem of PEV stakeholders whose actions shape the technology's viability and success. This includes various types of property owners (including in the residential and workforce setting) and different levels of government.

### Status

The Luskin Center submitted the [\*Southern California Plug-In Electric Vehicle Readiness Plan\*](#) in December of 2012.

### Results

With support from SCAQMD, the Luskin Center completed six chapters in the *Southern California PEV Readiness Plan* consisting of recommendations for stakeholders on the following:



1. Streamlining construction permitting and inspection processes;
2. Updating building codes;
3. Updating zoning and parking rules;
4. Making public charging station site selection (regional planning). This involved creating a methodology and a 3-5yr charging station site plan for deploying workplace and publicly available charging infrastructure; and
5. Creating and implementing a plan for effective marketing and outreach.



### **Benefits**

Since the release of the Southern California PEV Readiness Plan, municipalities and other stakeholders in the South Coast basin have been using the plan and adopting recommendations in it. The plan is helping stakeholders make efficient and effective decisions to support the deployment of clean vehicles that reduce air pollution in the region. The Luskin Center continues to promote the report supported by SCAG and the SCAQMD and educate regional stakeholders about its recommendations.

### **Project Costs**

The costs were estimated to be approximately \$35,000 based on staffing requirements for the six chapters. SCAQMD has agreed to contribute \$32,000. The Southern California Association of Governments contributed the majority of the funding for the project, at nearly \$200,000.

### **Commercialization and Applications**

The main deliverable is a public document.

SCAQMD Contract #15388

December 2014

## Participate in California Fuel Cell Partnership for CY 2014 & Provide Support for Regional Coordinator

### Contractor

Bevilacqua-Knight, Inc.

### Cosponsors

8 automakers; 5 government agencies; 1 technology provider; 9 associate members and 14 affiliate 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. (BKl) for their portion of CaFCP administration. SCAQMD joined the CaFCP in April 2000, and the CaFCP currently includes 37 organizations interested in demonstrating fuel cell vehicle and fueling infrastructure technology.

### Project Objectives

Several key goals for 2014:

- Provide education and outreach to support agencies to provide funding opportunities and to encourage transit agencies to become a Center of Excellence. Identify logical options for other heavy-duty fuel cell vehicles;
- Identify, explore and recommend action on issues that help or hinder deployment;
- Begin full implementation of national ER template into existing programs;
- Support station performance codes & standards and activities that improve station performance and development;
- Identify and address key barriers and prepare recommendations to improve timeline to 68 stations. Explore innovative methods of building demand;
- Provide education and training for emergency responders, permittees, and station builders,

including expanding future technician & other training programs;

- Identify and work with the stakeholders and members in early market communities to provide information and resources about fuel cells and hydrogen. Bring in targeted training at right time. Participate in ZEV Action Plan team with OPR and Go-BIZ;
- Conduct one-on-one briefings with California state and federal elected officials, their district and capitol staff and NGOs.
- Raise awareness about the availability and benefits of ZEVs and offer driving opportunities. Provide outreach and education through events, materials, video, web and social media that increase awareness, build support in early market communities and support other projects' specific goals.

### 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 #15388 for 2014 membership. This contract was completed on schedule.



**Congressman Mark Takano talks to SunLine Transit general manager Lauren Skiver during CaFCP-organized tour of four fuel cell electric buses under construction at Eldorado facility in Riverside. State Senator Richard Roth and ARB staff also attended.**

### 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, Toyota's FCHV-adv and VW/Audi's Golf Sportwagen HyMotion and A7 h-tron. The fuel cell transit buses include 12 placed at AC Transit (Van Hool buses with UTC fuel cells) and 4 placed at Sunline Transit (1 Ballard/New Flyer and 3 Ballard/BAE/EIDorado).

## **Results**

Specific accomplishments include:

- Automotive members placed over 500 fuel cell passenger vehicles on California roads from 1999 through 2014, including the first retail customers starting in 2005;
- Transit agency members have demonstrated 25 fuel cell buses since 1999, with 16 currently in operation (see technology description);
- There are eight public hydrogen fueling stations in operation in California. There are also 49 in development in 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, the Governor's Office of Business and Economic Development and the California Energy Commission, began briefing city staff across California state to optimize station permitting.
- CaFCP, GO-BIZ, CEC and others, hosted briefings and permitting workshops across the state for local government staff and elected officials.

## **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<sub>2</sub>).

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. SCAQMD's contribution for 2014 was \$137,800.

## **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.

## Develop & Demonstrate Hydrogen ICE Vehicles for Five Cities Program

### Contractor

Quantum Fuel Systems Technologies Worldwide, Inc.

### Cosponsor

SCAQMD

### Project Officer

Patricia Kwon

### Background

This program was part of a larger demonstration of hydrogen internal combustion vehicles (ICE) and infrastructure started in 2003. SCAQMD initiated an effort to establish a network of hydrogen fueling stations and several fleets consisting of vehicles equipped with hydrogen powered internal combustion engines. To date, the high cost and limited availability of fuel cell vehicles have been a limiting factor in the deployment of hydrogen infrastructure. It is anticipated that hybrid electric and conventional vehicles equipped with hydrogen fueled internal combustion engines will stimulate the demand for hydrogen, expedite the development of infrastructure and provide a bridge to fuel cell vehicles. Conventional and hybrid electric vehicles equipped with hydrogen powered internal combustion engines have the potential to eliminate VOC, CO and CO<sub>2</sub>, and significantly reduce NO<sub>x</sub> and air toxics.

### Project Objective

This program consisted of 30 model year 2004 Toyota Prius vehicles, located at five cities (Santa Monica, Burbank, Santa Ana, Riverside, and Ontario) and SCAQMD Headquarters, all within the South Coast Air Basin in Southern California. Each city was also awarded a hydrogen fueling station to provide fuel for the five hydrogen vehicles located within each particular city. The plan was that this initial hydrogen program consisting of stations and vehicles would spur additional hydrogen infrastructure to be established within the SCAQMD region.

### Technology Description

The engine development and calibration on the Prius was developed around the Quantum engine controller and Quantum experience using gaseous fueled engines. On this program there was not support from Toyota for the calibration of the engine control. This drove Quantum to use the Huntington engine controller and implement this as an add-on controller. The control strategy for the engine was to use a lean-burn approach to avoid a high level of NO<sub>x</sub> emissions that are typically associated with combustion engines.

Emission testing was performed periodically on all vehicles to ensure compliance with SULEV standards. This program was limited in scope with respect to On Board Diagnostics (OBD) due to the lack of OEM level support to tie directly into the engine ECU and modify the OBD algorithms, calibration and add enhancement for gaseous fuels. The vehicles have limited OBD features, as described below but are not fully OBD-II compliant. Quantum has done a significant amount of work to make the vehicle as compliant as possible with current OBD-II requirements.



Figure 1: 2008 Toyota Prius Converted to Operate on Hydrogen Fuel

### Status

Vehicles were converted and deployed between December 2005 and March 2006 and a CARB experimental permit was issued for five years. An extension of this experimental permit obtained two more years, and then a third extension of the

experimental permit was obtained for seven vehicles until April 2014. Four of SCAQMD’s vehicles were transferred to DOE Sandia and Livermore Laboratories for demonstrating hydrogen storage technologies, and one vehicle was transferred to California State University Los Angeles for testing their upgraded hydrogen station. The remaining vehicles had hydrogen system components removed and were crushed according to the terms of the experimental permit.

**Results**

All of the emission testing for the program was conducted at the Quantum SULEV emissions lab. This is a laboratory grade test facility which is recognized by both CARB and U.S. EPA. The vehicle was run through all of the mandatory emissions tests to ensure compliance with the applicable SULEV standards. The vehicles were also tested on a regular basis in compliance with the CARB experimental permit.

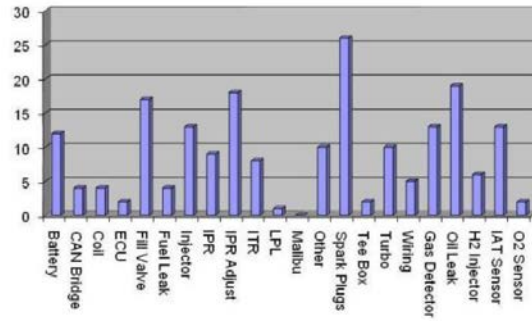
The fleet was polled in March 2012 for the current mileage of their vehicles. The table below shows the mileage of each fleet. Ontario and Santa Monica had previously reported their data to SCAQMD (8/2011 and 3/2010 respectively). The bottom row shows the average mileage for each cities hydrogen fleet. The vehicle mileages that are highlighted indicate vehicles that continued operation beyond March 2012.

**Table 1: Mileage by City**

AQMD (3/12)	Burbank (3/12)	Ontario (8/11)	Riverside (3/12)	Santa Ana (3/12)	Santa Monica (3/10)
6,083	7,748	8,097	8,080	5,136	7,789
9,765	23,916	5,448	11,154	7,772	5,211
8,794	10,993	5,941	7,886	5,392	13,699
6,712	8,480	7,709	15,015	5,143	4,349
10,519	6,563	5,405	--	6,900	6,468
8,375	11,540	6,520	10,534	6,069	7,503

Over the course of the five year service and maintenance program, Quantum performed numerous repairs on the fleet. Below is a summary of each repair performed on the fleet. Spark plugs were by far the most frequently serviced item, as they fouled due to water in the combustion chamber coming into contact with the spark plug tip (or electrode). Rust around the electrode would cause the spark plug to fail, and the vehicle would immediately begin running rough.

**Table 2: Common Types of Vehicle Repairs**



**Benefits**

The Five Cities program successfully demonstrated interim hydrogen fuel vehicle technology and infrastructure (electrolyzers and mobile fuelers), and was one of the largest scale combined vehicle and infrastructure deployments when the project was funded in 2004. It accelerated the development of a sustainable hydrogen market by demonstrating the feasibility of hydrogen as a vehicle fuel while directly reducing vehicle pollutants, greenhouse gas emissions, and petroleum usage. These vehicles displayed a Clean Fuel decal and were extensively used for public outreach events (e.g., public meetings, conferences, automobile shows, etc.), as well as education and training at local high schools and universities in order to expose the next generation of clean technologies.

**Project Costs**

Total cost was \$2.35 million for this vehicle project, all contributed by SCAQMD. The hydrogen station portion of this project, through a separate contract with Air Products and Chemicals, Inc., again fully funded by SCAQMD, was \$4.16 million (comprising construction, maintenance and closing costs).

**Commercialization and Applications**

Quantum recognized the challenges of developing a fully OBD-II compliant conversion on a commercially available vehicle, and suggested that future conversions also have the support of the vehicle OEM as part of the team that develops the conversion. Some support from the OEM can significantly reduce the conversion time, and complexity of the conversion, along with ensuring the final product is fully OBD-II compliant.

## Study Sources, Composition, Variability & Toxicological Characteristics of Ultrafine Particles in Southern California

### Contractor

University of Southern California

### Cosponsor

SCAQMD

### Project Officer

Jean Ospital

### Background

Many of the health effects associated with exposure to particulate matter (PM) derive from the ability of PM to generate oxidative stress. Ultrafine particles (UFP) ( $d_p < 0.1\text{--}0.2\ \mu\text{m}$ ), in particular, may be more toxic than coarse or fine PM. Despite their very low contribution to PM mass, UFP dominate particle number concentrations as well as have a large surface area relative to fine or coarse particles and a high pulmonary deposition efficiency. These particles can thus carry considerable amounts of toxic air pollutants, such as organic carbon and transition metals.

### Project Objective

24-hour time-integrated samples were concurrently collected once a week for a year-long period at 10 distinctly different areas across the Los Angeles Basin, followed by comprehensive chemical and toxicological analyses, to provide insight on the seasonal and spatial variability in the chemical composition, sources and oxidative potential of quasi-UFP ( $\text{PM}_{0.25}$ ,  $d_p < 0.25\ \mu\text{m}$ )

### Method Description

Sites included source, near-freeway, semi-rural receptor and desert locations. They can be classified according to their geographical location into Long Beach (HUD), western LA (GRD, LDS), central LA (CCL, USC), eastern LA (HMS, FRE), Riverside County (VBR, GRA) and Lancaster (LAN); in respective order of their increasing distance from the coast. Sources

contributing to total and elemental mass of quasi-UFP were determined using a molecular marker-based chemical mass balance (MM-CMB) model and principal component analysis (PCA), respectively. Redox activity of the PM samples was measured using both chemical (dithiothreitol (DTT) assay) and cell-based macrophage (reactive oxygen species (ROS) assay) assays. The association of oxidative potential with chemical species and sources was evaluated using univariate and multivariate regression analyses. Furthermore, ROS-activity levels of quasi-UFP in Los Angeles were compared across different seasons, worldwide urban locations and particle-size fractions. The impact of atmospheric aging on quasi-UFP PM oxidative potential was also investigated.

### Status

This project is completed and a list of relevant publications are attached to this report. A few additional field experiments were run with the aim of evaluating the effect of atmospheric aging on the oxidative potential of ultrafine particles, which are a very minor and mostly confirmatory part of the study, and are expected to be completed by the Spring of 2015.

### Results

Average  $\text{PM}_{0.25}$  mass concentration ranged from 5.9 to 16.1  $\mu\text{g}/\text{m}^3$  across the basin and seasons. Wintertime levels were highest at the source HUD site, while lowest at the desert-like LAN site. On the other hand, summertime concentrations peaked at the inland receptor locations. Chemical mass closure showed that that quasi-UFP in the basin consisted of 49–64% organic matter, 3–6.4% elemental carbon (EC), 9–15% secondary ions (SI), 0.7–1.3% trace ions, and 5.7–17% crustal material and trace elements, on a yearly average basis.

Among all measured organic compounds, n-alkanes, which were predominantly of anthropogenic source (carbon preference index (CPI)  $\sim 1$ ), were the most abundant species in



PM<sub>0.25</sub> with cumulative levels ranging from 9.34 to 48.08 ng m<sup>-3</sup> over all sites and seasons. Seasonal averages of total polycyclic aromatic hydrocarbons (PAHs), hopanes and steranes, molecular markers of vehicular emissions, were highest in winter while lowest in summer. Primary sources, which were determined using the MM-CMB model, included mobile sources (combined gasoline and diesel vehicles), wood smoke, natural gas combustion, vegetative detritus, and ship emissions. To characterize sources of trace elements and metals, PCA was applied to site-pooled elemental data as well as urban and rural receptor site clusters. Five major sources were identified, including road dust (influenced by vehicular emissions as well as re-suspended soil), vehicular abrasion, residual oil combustion, cadmium sources and metal plating. These sources collectively accounted for about 85% of the total variance of quasi-UFP elemental content.

The redox activity of PM<sub>0.25</sub> samples was also assessed by means of a biological ROS assay (generation of ROS in rat alveolar macrophage cells). Seasonally, fall and summer displayed higher volume-based ROS-activity (i.e. ROS-activity per unit volume of air) compared to spring and winter. ROS levels were generally higher at near source and urban background sites compared to rural receptor locations, except for summer when comparable ROS-activity was observed at the rural receptor sites.

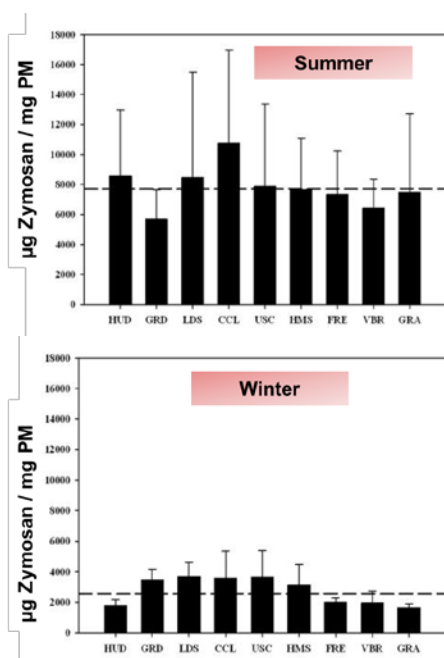
A multivariate regression method was also used to obtain a model for predicting the ROS-activity of PM<sub>0.25</sub>, based on its water-soluble components. The most important species associated with ROS were Cu and La at the source site of Long Beach, and Fe and V at urban LA sites. These metals are tracers of road dust enriched with vehicular emissions (Fe and Cu) and residual oil combustion (V and La). At Riverside, a rural receptor location, WSOC and Ni (tracers of SOA formation and metal plating, respectively) were the dominant species driving the ROS-activity. To further investigate the potential role of water-soluble and water-insoluble portions of ambient PM in the potential toxicity of PM, size-fractionated ambient particle samples (coarse, fine and ultrafine PM) were collected in August-September of 2012 at the urban USC site, using the Versatile Aerosol Concentration Enrichment System (VACES)/BioSampler tandem system. While water-soluble species contribute to the large majority of the ROS-activity per volume of sampled air, high intrinsic ROS-activity (i.e. PM mass-normalized) is observed for the water-insoluble portions. Organic compounds in both water-soluble and water-insoluble portions of ambient PM, as well as transition metals, several with recognized redox activity (Mn, V, Cu and Zn), are highly correlated with ROS-activity.

### Benefits

Findings help establish the association between sources, composition and toxicity of UFP and provide a strong scientific basis for developing more targeted and cost-effective regulatory strategies at both the federal and state level. Moreover, the extensive database on UFP generated from this project constitutes an invaluable resource to PM exposure and health studies in the L.A. Basin.

### Project Costs

Total estimated project cost was \$470,969, including \$300,000 in U.S. EPA funding through a pass-through contract. Final cost of the project is pending final invoice and financial close out by the USC Office of Sponsored Projects.



# Health Effects of PM Emissions from Heavy-Duty Vehicles – A Comparison Between Different Biodiesel Fuels

## Contractor

University of California Riverside

## Cosponsor

SCAQMD

## Project Officer

Brian Choe

## Background

Governmental agencies around the world have been implementing legislation that targets growing the use of renewable fuels in the transportation sector. In the U.S., the Energy Independence and Security Act of 2007 mandate the use of 36 billion gallons of biofuels in the transportation fuel pool by 2022. In California, the low carbon fuel standard (LCFS) was implemented in 2011 to promote the reduction of greenhouse gas emissions by targeting a reduction in the carbon intensity of transportation fuels by 10% by 2020. In addition, the implementation of more stringent standards for heavy-duty vehicles is a key strategy for the improvement of air quality in the SCAQMD. These facts, coupled with the continuously growing concern over global warming and environmental degradation, have accentuated public and scientific awareness and led to a substantial effort to develop alternative fuel sources including biofuels and to improve engine technologies.

## Project Objective

The main goal of this study was to investigate the physical and chemical properties as well as toxicological characteristics of PM emissions from heavy-duty vehicles operating on various types of biodiesel blends to evaluate the air quality impacts and associated health risks from the use of biodiesel as a transportation fuel.

## Technology Description

Experiments were conducted with two heavy-duty diesel vehicles: a MY 2002 truck without any emission control technologies and a MY 2010 truck fitted with a diesel oxidation catalyst (DOC) followed by a diesel particle filter (DPF) and selective catalytic reduction (SCR) to comply with current U.S. EPA emissions standards. The biodiesels tested include a soy-based methyl ester (SME), a waste cooking oil methyl ester (WCO), and a methyl ester obtained from animal fat (AFME). The biodiesels were blended at a 50% proportion by volume with the CARB ULSD. The vehicles were tested on a heavy-duty chassis dynamometer at the UCR facility over the EPA UDDS test cycle to measure: 1) regulated emissions; 2) unregulated emissions such as ammonia, carbonyl compounds, and volatile organic compounds; 3) the physical properties of PM emissions (e.g., PM mass, number, and size distributions); 4) the chemical properties of PM emissions (e.g., PAHs, WSOC, inorganic ions, organic compounds, and metals); and 5) the toxicological characteristics of PM emissions (e.g., redox activity, electrophilic properties, and pro-inflammatory properties).

## Status

This project was completed in March of 2014. The results have been presented at several conferences and in an SAE technical paper with two additional peer review journal articles being prepared for publication.

## Results

THC, NMHC, CO, and PM mass emissions showed reductions with the use of biodiesel blends for the uncontrolled 2002 truck. These phenomena can be explained by the higher oxygen content in the methyl ester moiety which helps reduce rich combustion zones and promote more complete combustion and reduce the sooting tendency of biodiesel. For the heavily controlled 2010 truck, THC, NMHC, CO, and PM emissions



were very low due to the DOC/DPF system, and did not show any strong fuel effects.

Overall, NO<sub>x</sub> emissions exhibited increases with the use of biodiesel for both vehicles, with the differences in NO<sub>x</sub> emissions relative to CARB ULSD being statistically significant for the 2010 truck. In addition, NO<sub>x</sub> emissions showed some feedstock dependency with the unsaturated SME-50 producing higher NO<sub>x</sub> than the more saturated AFME-50 blend.

Particle number emissions did not show any strong fuel effects for the 2002 truck while they were below the tunnel background levels for the 2010 truck. As for particle distributions, CARB ULSD produced more accumulation mode particles compared to biodiesel blends while the more unsaturated SME-50 showed higher nucleation mode particle counts relative to CARB ULSD and other biodiesel blends.

Ammonia emissions were significantly higher for the SCR-fitted vehicle. This is likely due to the use of urea injection to suppress NO<sub>x</sub> emissions. Biodiesel blends also produced higher NH<sub>3</sub> emissions in comparison to the baseline CARB ULSD.

Overall, the use of biodiesel resulted in decrease of PAHs. For the 2002 truck, biodiesel blends reduced PAH emissions, although the absence of emission aftertreatment technologies led to greater levels of higher molecular weight PAHs. For the heavily controlled 2010 truck, most PAH compounds were practically undetectable as a result of the DOC/DPF system although some light molecular-weight PAHs were detected.

The redox activity measured with the macrophage ROS assay did not show any strong fuel trends for either test vehicle whereas the oxidative potential, as measured with the DTT assay, showed some large reductions with the use of biodiesel blends relative to CARB ULSD for the 2002 truck. The DTT assay showed that biodiesel exhaust was less potent than CARB ULSD. This observation was supported by the vapor-phase PM results where the redox activity of biodiesel blends was lower than for CARB ULSD. For the 2010 truck, the DTT values for the particle-phase components were well below the filter blank levels due to the very low PM mass.

To assess the inflammatory response of diesel and biodiesel blends for both vehicles, the expression of cytokine tumor necrosis alpha (TNF- $\alpha$ ) by a mouse macrophage cell line (Raw 264.7) was

used. The PM samples from the 2002 truck were capable of increasing TNF- $\alpha$  while the PM samples from the 2010 truck exhibited very low activity. The vapor-phase samples, on the other hand, showed high negative values that we hypothesize are real and important effects, which could reflect suppression of the TNF- $\alpha$  response.

To assess the protective response of diesel and biodiesel blends for both vehicles, the cellular hemeoxygenase-1 (HO-1) expression was determined. The biodiesel particle-phase samples collected from the 2002 truck increased the expression of HO-1 at greater levels than those exhibited by the CARB ULSD. In contrast to the particle-phase PM samples, the vapor-phase samples collected showed greater expression of HO-1 for the CARB ULSD than the biodiesel blends.

The DTT redox activity of the emitted PM was found to correlate well with the WSOC, the redox-active transition metals, alkanes, hopanes and steranes. This indicates that these species are likely to be involved in the oxidation stress mechanism by the generation of ROS.

## **Benefits**

The information obtained from this program will be valuable in evaluating and mitigating any potential air quality impacts from the increased use of biodiesel. By understanding the impacts of alternative fuels on vehicle emissions, we can better ensure these fuels can be implemented in a way that preserves or improves air quality, while meeting goals for petroleum displacement and reductions in greenhouse gases.

## **Project Costs**

The project cost was \$207,500 funded by the SCAQMD.

## **Commercialization and Applications**

Currently, there is insufficient information to fully understand the air quality impacts of widespread implementation of biodiesel. This research will have important implications for the expanded use of biodiesel in commercial vehicles, and what impacts this might have on vehicle performance.

SCAQMD Contract #09304

December 2014

## Install & Evaluate Two 40kW (AC) PV Systems at SCAQMD Headquarters

### Contractor

Solar Integrated Technologies, Inc.

### Consponsor

SCAQMD

### Project Officer

Patricia Kwon

laminates use a thin stainless steel substrate that is produced through a proprietary continuous vapor deposition process. The BIPV panels weigh 12 ounces per square foot and are suitable for lightweight structures. BIPV is known for its ability to utilize a wider spectrum of light for increased power output during cloudy, low-light conditions. The BIPV system was installed at a zero degree tilt.

### Background

On October 3, 2008, the SCAQMD Board approved the execution of contracts to install two new photovoltaic (PV) systems at the SCAQMD facility in Diamond Bar, CA. One is a conventional multi-crystalline silicon PV system and the other is a building integrated PV (BIPV) system. The SCAQMD currently owns and operates two solar electric systems, including an 80 kW (AC) PV system on the main building and a 20 kW PV system on a carport in the parking lot.



Solar Roof Panels on SCAQMD Building

### Project Objectives

The objective of this project is to compare the performance of BIPV and crystalline silicon PV systems, as well as add solar capacity and generate additional clean, renewable electricity for the facility. The project involves a demonstration of two different PV technologies on the same roof above the conference center. SCAQMD will test the performance and reliability of the two systems under similar light conditions for a period of at least five years.

### Technology Description

The BIPV system combined a Sarnafil thermoplastic PVC roofing membrane and a Uni-Solar amorphous silicon PV laminate. The BIPV panels were welded together at Solar Integrated's (SIT's) manufacturing facility in Los Angeles. The roofing membrane has a class A fire rating, is resistant to water and bacterial growth, and energy efficient (listed under U.S. EPA's Energy Star program). The amorphous thin film silicon

### Status

This installation was completed and on June 17, 2009, the system was turned on, following approval for interconnection by Southern California Edison. Edison approved the payment of the first monthly performance based incentive (PBI) check on November 23, 2009. During and after installation, several problems arose.

Since there were two separate systems and one rebate, the project had to combine the single lines. It was solved by working with SIT's engineer and teamwork. SCAQMD's single line diagram was several years old and did not include four of its turbine engines. When the issue was uncovered, it was resolved by updating the single line for the entire building to include the two PV systems.

SIT was contracted to re-roof underneath the modules and ended up putting more modules down.

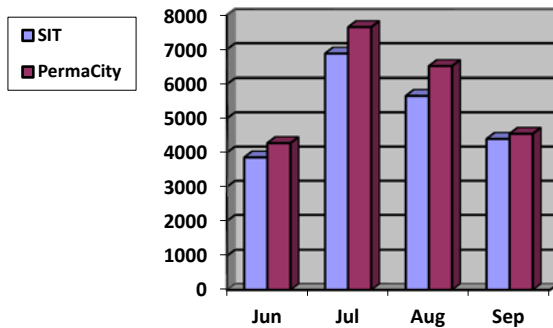
Edison mandated a \$1,041 new meter charge that was previously unknown. This problem is being solved by splitting the cost between PermaCity and SIT.

to mass production of solar modules making them an affordable, widely available commercial product.

Monitoring and the SCAQMD kiosk have been an ongoing challenge. Working together, SCAQMD, Fat Spaniel, and PermaCity now have the monitoring system and kiosk running. The kiosk shows the performance of the two new solar PV installations as well as the first 80 kW solar PV installation. Testing of the performance and reliability of the two systems continued under similar light conditions for five years after installation.

### Results

The BIPV system is projected to produce 77,672 kWh annually, with an estimated annual cost savings in electricity of \$11,000. Production data for both systems are below.



### Benefits

Estimated CO2 reductions for both solar PV installations are approximately 78 tons/year using the California GREET model. ([Environmental impacts of PV electricity generation - a critical comparison of energy supply options](#))

### Project Cost

The total project cost for the PV system installation was \$390,695. All funds were paid by the SCAQMD.

### Commercialization and Applications

Both crystalline and thin film solar modules are already commercial products. They have both demonstrated their efficacy and applications in the renewable energy generation field. The increased demand for renewable energy has led

SCAQMD Contract #13078

December 2014

## Steam Hydrogasification Process Demonstration

### Contractor

University of California Riverside

### Cosponsors

CEC  
SCAQMD

### Project Officer

Brian Choe

### Background

Utilization of renewable energy sources is an integral part of California's strategy to reduce greenhouse gas emissions and to diversify domestic energy sources. Renewable Natural Gas (RNG) can be produced from carbonaceous and renewable feedstocks through a number of technologies including anaerobic digestion, landfill gas collection, gasification and pyrolysis. However, these technologies are often inefficient and the product gas is typically of low quality and inferior to fossil source-based natural gas. The Steam Hydrogasification Reaction (SHR), which has been developed by UCR, is a thermochemical process that can produce high quality RNG from organic waste in a cost-effective and efficient manner. The SHR is also capable of handling wet feedstocks providing an attractive option to utilize solid waste with high moisture contents such as biosolids from wastewater sludge that pose more environmental challenges and issues in disposal.

### Project Objective

The objective of this project was to demonstrate the SHR system in a Process Development Unit (PDU) scale reactor to produce RNG from wet organic waste, namely biosolids comingled with food and green waste, to validate and refine the process and develop a preliminary engineering design for a pilot plant.

### Technology Description

SHR is a thermochemical process to produce high quality RNG from organic waste in a hydrogen rich environment. The process can

handle wet feedstock without drying, does not require an expensive oxygen plant, and operates at relatively lower temperatures compared to conventional gasification processes. In addition, the SHR utilizes steam in the reactor to enhance the rate of methane formation.

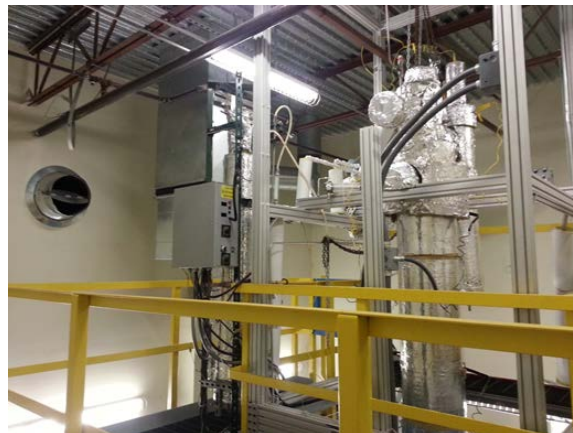


Figure 1: PDU SHR-WGS System

The reactor system used for this experiment was a PDU with a 5 lb/hr feed rate consisting of a bubbling fluidized bed SHR and a fixed bed type water gas shift reactor (WGS) to increase the methane production. The PDU was used to convert slurry composed of biomass and bio solids into a syngas and eventually to RNG. The slurry is fed into the PDU by a rotating auger through a 1-inch tube which enters the SHR reactor above the fluidized bed. When the slurry reaches the reaction zone, it reacts with hydrogen and water to produce methane, CO and CO<sub>2</sub>. Once the product gas leaves the reaction zone, it passes through a cyclone to separate out solid particles from the product gas stream. The product gas then passes through the WGS to be further converted into methane rich gas. A heat exchanger then cools down the gas to about room temperature condensing steam back into water. The dry gas is then further processed and compressed into high quality RNG. For this project, a gas recirculation loop was designed and added to recycle internally generated hydrogen back to the reactor for a self-sustained operation without external hydrogen supply.

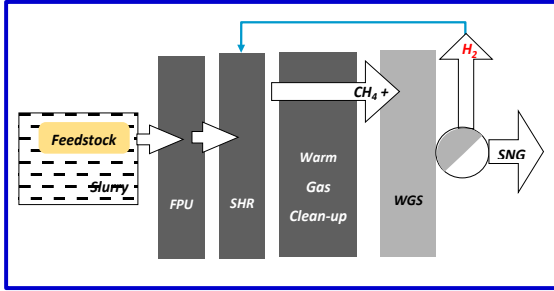


Figure 2: SHR-WGS Process Diagram

**Status**

This project was completed in November 2014 and a final report is on file with complete technical details and findings.

**Results**

The demonstration yielded a final gas composition of 73% CH<sub>4</sub> and 27% CO after CO<sub>2</sub> separation (43% CH<sub>4</sub>, 16% CO and 41% CO<sub>2</sub> before CO<sub>2</sub> separation). The methane content can be further increased close to 90% through additional methanation process. Carbon conversion efficiency was 75% meaning that 75% of carbon in the feedstock was utilized to produce the product gas. Remaining 25% was converted into char which can be utilized as fuel for heat source. Through this project, the process condition was optimized at 1.0 H<sub>2</sub>/C mole ratio, 1.5 H<sub>2</sub>O/feedstock mass ratio, nominal reactor temperature of 750oC and pressure of 400 psia, and 320-380oC WGS operation temperature.

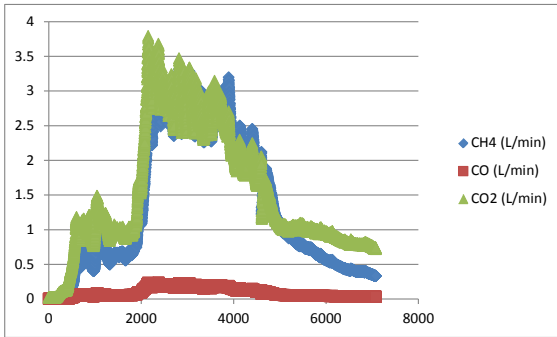


Figure 3: Product Gas Composition

Based on the demonstration results, a preliminary engineering design was developed for a 5 ton/day pilot plant to produce 20,000 diesel equivalent gallons of RNG annually. In addition, an economic analysis for a commercial scale plant was also performed. The analysis showed that the RNG production cost will range

from \$5 to \$15/MMBtu depending on site capacity and applications.

**Benefits**

Biofuels derived from waste-based feedstocks typically have lower carbon intensities compared to other biofuels and alternative fuels. The SHR process has demonstrated potentials to produce high quality RNG from biomass waste more efficiently than competing renewable fuels and energy technologies including anaerobic digestion. Based an estimate of green waste and biosolid resources that can be technically converted into RNG, a wide-scale implementation of this technology can help to replace about 4.9% of the natural gas consumption in California.

**Project Costs**

The total project cost was approximately \$922,000. SCAQMD funded \$72,916 leveraging cost shares from project partners including \$650,000 from CEC.

**Commercialization and Applications**

For the next phase, a demonstration with a circulated fluidized bed reactor to simulate a real world operation is recommended to validate and refine the pilot plant design. A successful validation of the process will then lead to a pilot plant demonstration at the Riverside Waste Quality Control Plant.

## **Appendix D**

### **List of Acronyms**



## LIST OF ACRONYMS

AFRC—air/fuel ratio control	GC/MS—gas chromatography/mass spectrometry
AFVs—Alternative Fuel Vehicles	GGE—gasoline gallon equivalents
APCD—Air Pollution Control District	GHG—Greenhouse Gas
AQMD—Air Quality Management District	GTL—gas to liquid
AQMP—Air Quality Management Plan	H&SC—California Health and Safety Code
ARB—Air Resources Board	HCCI—Homogeneous Charge Combustion Ignition
ARRA—American Recovery & Reinvestment Act	HCNG—hydrogen-compressed natural gas (blend)
AWMA—Air & Waste Management Association	HDDT—highway dynamometer driving schedule
BACT—Best Available Control Technology	HD-FTP—Heavy-Duty Federal Test Procedure
BSNO <sub>x</sub> —brake specific NO <sub>x</sub>	HDV—heavy-duty vehicle
BMS—battery management system	HEV—Hybrid electric vehicle
CAAP—Clean Air Action Plan	HPDI—High Pressure Diesel Injection
CAFR—Comprehensive Annual Financial Report	HT—high throughput
CARB—California Air Resources Board	HTPH—high throughput pretreatment and enzymatic hydrolysis
CATI—Clean Air Technology Initiative	ICE—internal combustion engine
CCF—California Clean Fuels	ICEV—internal combustion engine vehicle
CDFA/DMS—California Department of Food & Agriculture/Division of Measurement Standards	ICTC—Interstate Clean Transportation Corridor
CEC—California Energy Commission	LCFS—Low Carbon Fuel Standard
CE-CERT—College of Engineering – Center for Environmental Research and Technology	Li—lithium ion
CEMS—continuous emission monitoring system	LIMS—Laboratory Information Management System
CFCI—Clean Fuel Connection, Inc.	LNG—liquefied natural gas
CFD—computational fluid dynamic	LPG—liquefied petroleum gas or propane
CNG—compressed natural gas	LSV—low-speed vehicle
CO <sub>2</sub> —carbon dioxide	MATES—Multiple Air Toxics Exposure Study
CO—carbon monoxide	MECA—Manufacturers of Emission Controls Association
CRT—continuously regenerating technology	MPEFI—Multi-Port Fuel Injection
DC—direct connection	MPG—miles per gallon
CY—calendar year	MSRC—Mobile Source Air Pollution Reduction Review Committee
DCM—dichloromethane	MSW—municipal solid wastes
DEG—diesel equivalent gallons	MY—model year
DGE—diesel gallon equivalents	MTA—Metropolitan Transportation Authority (Los Angeles County “Metro”)
DF—deterioration factor	NAFA—National Association of Fleet Administrators
DMS—Division of Measurement Standards	NFPA—National Fire Protection Association
DMV—Department of Motor Vehicles	NCP—nonconformance penalty
DOC—diesel oxidation catalysts	NEV—neighborhood electric vehicles
DOE—Department of Energy	NextSTEPS—Next Sustainable Transportation Energy Pathways
DOT—Department of Transportation	NGV—natural gas vehicle
DPF—diesel particulate filters	NHTSA—National Highway Traffic Safety Administration
DRI—Desert Research Institute	NMHC—non-methane hydrocarbon
ECM—emission control monitoring	NO—nitrogen monoxide
EGR—exhaust gas recirculation	NO <sub>2</sub> —nitrogen dioxide
EPRI—Electric Power Research Institute	NO + NO <sub>2</sub> —nitrous oxide
ESD—emergency shut down	NOPA—Notice of Proposed Award
EV—electric vehicle	NO <sub>x</sub> —oxides of nitrogen
FCV—fuel cell vehicle	NREL—National Renewables Energy Laboratory
FTA—Federal Transit Administration	OBD—On-Board Diagnostics
FTP—federal test procedures	
g/bhp-hr—grams per brake horsepower per hour	



## **LIST OF ACRONYMS (cont'd)**

OCTA—Orange County Transit Authority  
OEM—original equipment manufacturer  
PAH—polyaromatic hydrocarbons  
PbA—lead acid  
PCM—powertrain control module  
PEMFC—proton exchange membrane fuel cell  
PEV—plug-in electric vehicle  
PHEV—plug-in hybrid vehicle  
PM—particulate matter  
PM<sub>2.5</sub>—particulate matter ≤ 2.5 microns  
PM<sub>10</sub>—particulate matter ≤ 10 microns  
ppm—parts per million  
ppb—parts per billion  
RDD&D—research, development, demonstration  
and deployment  
RFS—renewable fuel standards  
RI—reactive intermediates  
RRC—rolling resistance co-efficient  
RTA—Riverside Transit Agency  
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  
SIP—State Implementation Plan  
SoCalGas—Southern California Gas Company (A  
Sempra Energy Utility)  
SULEV—super ultra-low emission vehicle  
TAO—Technology Advancement Office  
TC—total carbon  
THC—total hydrocarbons  
TO—task order  
TRB—Transportation Research Board  
TSI—Three Squares, Inc.  
UDDS—urban dynamometer driving schedule  
µg/m<sup>3</sup>—microgram per cubic meter  
U.S.EPA—United States Environmental Protection  
Agency  
U.S. —United States  
ULEV—ultra low emission vehicle  
VMT—vehicle miles traveled  
VOC—volatile organic compounds  
WVU—West Virginia University  
ZEV—zero emission vehicle

BOARD MEETING DATE: April 3, 2015

AGENDA NO. 27

**PROPOSAL:** Amend Regulation IX – Standards of Performance for New Stationary Sources, and Regulation X – National Emission Standards for Hazardous Air Pollutants

**SYNOPSIS:** Amendments to Regulations IX and X are periodically made to incorporate new or amended federal performance standards that have been enacted by U.S. EPA for stationary sources. These standards are currently in effect and enforceable by SCAQMD pursuant to the federal Clean Air Act, regardless of whether SCAQMD incorporates them into Regulations IX and X. The Board has historically adopted NSPS (40 CFR 60) and NESHAPS (40 CFR 61) into Regulations IX and X, by reference, thus providing stationary sources with a single source of information for determining which federal and local requirements apply to their specific operations. The NSPS and NESHAPS actions by U.S. EPA, primarily from July 1, 2011 to December 31, 2014, are proposed for incorporation into Regulations IX and X, respectively, including new performance standards for certain oil and gas operations not covered by previous U.S. EPA regulation. The actions also include amendments to previous provisions of twelve NSPS standards and two NESHAPS standards.

**COMMITTEE:** Stationary Source, February 20, 2015, Reviewed

**RECOMMENDED ACTIONS:**

Adopt the attached resolution:

- 1) Determining that the proposed amendments to Regulations IX and X are exempt from the California Environmental Quality Act; and
- 2) Amending Regulation IX – Standards of Performance for New Stationary Sources, and Regulation X – National Emission Standards for Hazardous Air Pollutants

Barry R. Wallerstein, D.Env.  
Executive Officer

## **Background**

U.S. EPA periodically promulgates new or amends existing NSPS and NESHAP federal standards and requirements. NSPS govern the operations of all new, modified, or reconstructed sources of air pollution identified in the Code of Federal Regulations (CFR), Title 40, Chapter I, Subchapter C, Part 60 (40 CFR Part 60). NESHAP govern the operations of new and existing sources specifically identified in the CFR, Title 40, Chapter I, Subchapter C, Part 61 (40 CFR Part 61).

Direct implementation of NSPS and NESHAP requirements at the local level are authorized by U.S. EPA pursuant to §301 in conjunction with §§ 110, 111(c)(1), and 112(d)(1) of the federal Clean Air Act (CAA). As such, SCAQMD's Board initially adopted by reference, various NSPS as Regulation IX and various NESHAP as Regulation X on December 3, 1976. The adoption of NSPS and NESHAP by reference into Regulations IX and X, respectively, provides stationary sources with a single source of information for determining appropriate federal and local requirements for their specific operations. Since sources of air pollution are required to comply with the most stringent federal, state, and local standards, criteria, and requirements set forth in Regulations IX and X as well as other applicable SCAQMD rules, the NSPS and NESHAP standards are in effect and enforceable by SCAQMD regardless of whether SCAQMD incorporates them into Regulations IX and X. The Board has since periodically amended Regulations IX and X to incorporate new or amended standards as necessary. Regulation IX was last amended on April 6, 2012 and Regulation X was last amended on April 4, 2008.

In 1997, U.S. EPA delegated and/or re-delegated its authority to SCAQMD for specific sections of 40 CFR Parts 60 and 61, as listed in the April 23, 1997 Federal Register (FR), Volume 62, No. 78, 19679 – 19682. In 2006, 2007, 2009, 2010, 2011, and 2012, SCAQMD requested U.S. EPA delegation and/or re-delegation of authority for specific sections of 40 CFR Part 60 following Regulation IX amendments.

In addition, the U.S. EPA has established maximum achievable control technology (MACT) standards for new and existing major sources of hazardous air pollutants. The MACT standards are published in CFR, Title 40, Chapter 1, Subchapter C, Part 63 - National Emission Standards for Hazardous Air Pollutants For Source Categories (40 CFR Part 63). The U.S. EPA delegated the authority for the implementation and enforcement of 40 CFR Part 63 to SCAQMD on February 27, 1997. However, SCAQMD has not established a separate regulation to incorporate the MACT standards by reference. Instead, the MACT standards are directly implemented through the SCAQMD's Title V program as adopted and implemented via SCAQMD Regulation XXX – Title V Permits, in accordance with U.S. EPA's federal Title V program requirements in CFR, Title 40, Chapter 1, Subchapter C, Part 70 – State Operating Permit Programs Categories (40 CFR Part 70).

## **Regulation IX Proposal**

The updates included in this proposal reflect federal actions, primarily between July 1, 2011 and December 31, 2014. One new NSPS for VOC emissions was promulgated in 2012 by U.S. EPA for certain oil and gas production activities not covered by previous regulations, such as gas wells, centrifugal and reciprocal compressors, pneumatic controllers, and storage vessels. Additionally, twelve delegable NSPS actions were amended by U.S. EPA during this time period from 2011 to 2014. They are: (1) general provisions; (2) particulate matter (PM) standards at startup and shutdown for steam generating units; (3) oxides of nitrogen (NO<sub>x</sub>), sulfur dioxide (SO<sub>2</sub>), PM, and opacity limits for hospital/medical/infectious waste incinerators ; (4) PM standards for Portland cement industry; (5) alternative testing for spark ignition internal combustion (IC) engines and time limit related to malfunction of compression ignition IC engines; (6) NO<sub>x</sub> limit for process heaters and SO<sub>2</sub> standards for flares at petroleum refineries; (7) PM standards and opacity limits for recovery furnaces, smelt dissolving tanks, and lime kilns at Kraft pulp mills; (8) SO<sub>2</sub> standards for sweetening units and volatile organic compound (VOC) emission leaks at on-shore natural gas processing plants; (9) applicability, definition, and compliance provisions of commercial and industrial solid waste incinerators; (10) flowback provision of gas wells and VOC potential to emit (PTE) of storage vessels from crude oil and natural gas production; (11) test methods and performance specifications for various operations; and (12) quality assurance/quality control for continuous opacity monitoring systems.

In addition, U.S. EPA also included minor revisions and clarifications to various subparts of 40 CFR Part 60. Since U.S. EPA does not delegate emission guidelines to the SCAQMD, the subparts related to emission guidelines are not listed for inclusion in the proposed amendments. U.S. EPA also amended various subparts of 40 CFR Part 60 related to its revised test methods.

Table 1 lists the NSPS currently proposed for incorporation by reference into SCAQMD Regulation IX. For a description of the actions, please see Attachment A.

**Table 1. NSPS Proposed for Incorporation into Regulation IX**

<b>40 CFR Part 60</b>	<b>Title</b>	<b>U.S. EPA Action (date)</b>	<b>Reference</b>
Subpart A	General Provisions	Final Rule, Amendment (February 27, 2014)	79 FR 11228, Vol. 79, No. 39
Subpart Da	NSPS for Electric Utility Steam Generating Units	Final Rule, Amendment (November 19, 2014)	79 FR 68777, Vol. 79, No. 223
Subpart Ec	NSPS for Hospital/Medical/Infectious Waste Incinerators	Final Rule, Amendment (May 13, 2013)	78 FR 28052, Vol. 78, No. 92
Subpart F	NSPS for Portland Cement Plants	Final Rule, Amendment (February 12, 2013)	78 FR 10006, Vol. 78, No. 29
Subparts III and JJJ	NSPS for Stationary Compression Ignition and Spark Ignition Internal Combustion Engines	Final Rule, Amendment (January 30, 2013)	78 FR 6674, Vol. 78, No. 20
Subparts Ja	NSPS for Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After May 14, 2007	Final Rule, Amendment (September 12, 2012)	77 FR 56422, Vol. 77, No. 177
Subparts BB and BBa	NSPS for Kraft Pulp Mills and Kraft Pulp Mill Affected Sources for Which Construction, Reconstruction, or Modification Commenced After May 23, 2013	Final Rule, Amendment (April 4, 2014)	79 FR 18952, Vol. 79, No. 65

<b>40 CFR Part 60</b>	<b>Title</b>	<b>U.S. EPA Action (date)</b>	<b>Reference</b>
Subpart LLL and	NSPS for SO <sub>2</sub> Emissions from On-Shore Natural Gas Processing for Which Construction, Reconstruction, or Modification Commenced After January 20, 1984, and On or Before August 23, 2011	Final Rule, Amendment (August 16, 2012)	77 FR 49490, Vol. 77, No. 159
Subpart KKK	NSPS for Equipment Leaks of VOC from Onshore Natural Gas Processing Plants for Which Construction, Reconstruction, or Modification Commenced After January 20, 1984, and On or Before August 23, 2011	Final Rule, Amendment (August 16, 2012)	77 FR 49490, Vol. 77, No. 159
Subpart CCCC	NSPS for Commercial and Industrial Solid Waste Incineration Units	Final Rule, Amendment (February 7, 2013)	78 FR 9111 Vol. 78, No. 26
Subpart OOOO	NSPS for Crude Oil and Natural Gas Production, Transmission, and Distribution	Final Rule, <i>New NSPS</i> (August 16, 2012)  Amendment (December 31, 2014)	77 FR 49490 Vol. 77, No. 159  79 FR 79018 Vol. 79, No. 250
Appendices A1-A8 and B	Test Methods and Performance Specifications	Final Rule Amendment (February 27, 2014)	79 FR 11228 Vol. 79, No. 39
Appendix F	Quality Assurance Procedures	Final Rule Amendment (February 27, 2014)	79 FR 11228 Vol. 79, No. 39

Due to the bulk of these materials, the complete text of the Federal Register references can be found at: <http://www.aqmd.gov/home/regulations/rules/support-documents#rgIX>. Anyone wishing to view this material may do so by contacting SCAQMD's Public Information Center at (909) 396-3600. The Federal Register documents can also be accessed via the following website: <http://www.gpo.gov/fdsys/browse/collection.action?collectionCode=FR>

## Regulation X Proposal

Two delegable NESHAP actions were amended by U.S. EPA between July 1, 2011 and December 31, 2014 and are proposed for incorporation by reference into Regulation X. These actions include amendments to the general provisions for restructuring stationary source audit program, and amendments to the testing regulations and test methods.

**Table 2. NESHAP Proposed for Incorporation into Regulation X**

<b>40 CFR Part 61</b>	<b>Title</b>	<b>U.S. EPA Action (date)</b>	<b>Reference</b>
Subpart A	General Provisions	Final Rule, Amendment (February 27, 2014)	79 FR 11228, Vol. 79, No. 39
Appendix B and Subparts C, E, D, and N	Test Methods and Testing Regulations	Final Rule, Amendment (February 27, 2014)	79 FR 11228, Vol. 79, No. 39

Due to the bulk of these materials, the complete text of the Federal Register references can be found at: <http://www.aqmd.gov/home/regulations/rules/support-documents#rgX>. Anyone wishing to view this material may do so by contacting SCAQMD's Public Information Center at (909) 396-3600. The Federal Register documents can also be accessed via the following website: <http://www.gpo.gov/fdsys/browse/collection.action?collectionCode=FR>

## Public Workshops

U.S. EPA held public workshops with public comment periods as part of its rule development process. Since the proposed amendments incorporate existing federal requirements by reference and do not significantly affect air quality or emissions limitations, no additional public workshops were required or held by SCAQMD.

## California Environmental Quality Act (CEQA) and Socioeconomic Impacts

The SCAQMD has reviewed the proposed project pursuant to CEQA Guidelines §15002 (k) – General Concepts, the three-step process for deciding which document to prepare for a project subject to CEQA and CEQA Guidelines §15061 – Review for Exemption, procedures for determining if a project is exempt from CEQA. Because the SCAQMD is proposing to incorporate federal NSPS and NESHAP requirements by reference into Regulations IX and X, respectively, without exercising discretion with regard to the proposed amendments, the project is considered to be ministerially exempt from CEQA pursuant to CEQA Guidelines §15268 – Ministerial Projects. Furthermore, the proposed amendments are considered to be categorically exempt because they are considered actions to protect or enhance the environment pursuant to CEQA Guidelines §15308 – Actions By Regulatory Agencies For Protection Of The Environment. A Notice of Exemption has been prepared pursuant to CEQA Guidelines §15062 - Notice of Exemption. If the project is approved, the Notice of Exemption will be filed with the county clerks of Los Angeles, Orange, Riverside and San Bernardino counties.

The proposed amendments do not impose new requirements in addition to the federal regulations and do not significantly affect air quality or emissions limitations. As such, there will be no socioeconomic impacts beyond what was identified for the federal NSPS and NESHAP standards and requirements.

### **Air Quality Management Plan (AQMP) and Legal Mandates**

These federal requirements are not included in the 2012 Final Air Quality Management Plan. U.S. EPA is authorized to delegate authority to implement and enforce standards and related compliance periods for new, modified, or reconstructed sources of air pollution set forth in 40 CFR Part 60 and Part 61, to local air districts pursuant to §§110, 111 (c)(1), 112 (d)(1) and 301 of the CAA. Adoption of new and amended NSPS and NESAP into SCAQMD Regulations IX and X, respectively by reference, formally recognizes SCAQMD's authority to assist in the implementation and enforcement of these federal regulations at the local level.

### **Implementation Plan**

The proposed amendments will not be submitted into the SIP. Rather, as in the past, a request for delegation of new standard and re-delegation of amended standards will be made under the authority of U.S. EPA. In addition, proposed amendments do not materially affect the structure or function of existing programs associated with the implementation of Regulation IX - Standards of Performance for New Stationary Sources, and Regulation X – National Emission Standards for Hazardous Air Pollutants, and/or any other SCAQMD rules. Staff is available to assist facilities covered by the proposed amendments.

### **Resource Impacts**

Current SCAQMD resources are sufficient to implement and enforce the proposed amendments to Regulation IX and Regulation X.

### **Attachments**

- A. Summary of Proposed Amendments to Regulations IX and X
- B. Resolution
- C. Proposed Amended Regulations IX and X
- D. Final Staff Report
- E. Notice of Exemption



**ATTACHMENT A**

**SUMMARY OF PROPOSED AMENDMENTS TO REGULATIONS IX AND X**

<b>REGULATIONS</b>	<b>PROPOSED AMENDMENTS</b>
<p><b>Regulation IX – NSPS (40 CFR Part 60)</b></p> <p>Promulgation of 1 New Standard and</p> <p>Twelve Actions to Amend Existing Standards</p>	<ul style="list-style-type: none"> <li>• New NSPS for VOC for certain oil &amp; gas productions not covered by existing standards (i.e., gas wells, centrifugal compressors, reciprocal compressors, pneumatic controllers, and storage vessels) (Subpart OOOO)</li> <li>• General Provisions per revisions to definitions, test methods, etc. (Subpart A)</li> <li>• Startup and shutdown PM standards for utility steam generating units (Subpart Da)</li> <li>• NO<sub>x</sub>, SO<sub>2</sub>, PM, and opacity limits for hospital/medical/infectious waste incinerators (Subpart Ec)</li> <li>• PM standards for modified, and new &amp; reconstructed sources at Portland cement plants (Subpart F)</li> <li>• Alternative testing for certain large spark ignition reciprocal IC engines (Subpart JJJJ) and time limit related to malfunction of compression ignition IC engines (Subpart IIII)</li> <li>• NO<sub>x</sub> emission limit for process heaters and SO<sub>2</sub> standards for flares at newly constructed, reconstructed, or modified petroleum refineries (Subpart Ja)</li> <li>• PM standards and opacity limits for recovery furnaces, smelt dissolving tanks, and lime kilns at Kraft pulp mills (Subparts BB and BBa)</li> </ul>

	<ul style="list-style-type: none"> <li>• VOC emission limit for equipment leaks (Subpart KKK) and SO<sub>2</sub> emission standards for sweetening units at on-shore natural gas processing plants (Subpart LLL)</li> <li>• Applicability, definition, and compliance provisions of commercial and industrial solid waste incinerators (Subpart CCCC)</li> <li>• Flow-back provision of gas wells and VOC potential to emit of storage vessels from crude oil &amp; natural gas production (Subpart OOOO)</li> <li>• Test methods and performance specifications (Appendices A1-A8 and B, and related subparts)</li> <li>• Quality assurance procedures for continuous opacity monitoring systems (Appendix F)</li> </ul>
<p><b>Regulation X – NESHAP (40 CFR Part 61)</b></p> <p>Two Actions to Amend Existing Standards</p>	<ul style="list-style-type: none"> <li>• General Provisions per revisions to definitions, test methods, etc. (Subpart A)</li> <li>• Test methods (Appendix B and related subparts C, D, E, and N)</li> </ul>

## **ATTACHMENT B**

### **RESOLUTION NO. 2015-**

**A Resolution of the South Coast Air Quality Management District (SCAQMD) Governing Board amending Regulation IX – Standards of Performance for New Stationary Sources, and, Regulation X – National Emission Standards for Hazardous Air Pollutants.**

**A Resolution of the SCAQMD Governing Board determining that the proposed amendments to Regulation IX – Standards of Performance for New Stationary Sources, and, Regulation X – National Emission Standards for Hazardous Air Pollutants, are exempt from the requirements of the California Environmental Quality Act (CEQA).**

**WHEREAS**, the SCAQMD has had its regulatory program certified pursuant to Public Resources Code §21080.5 and has conducted CEQA review and analysis pursuant to such program (SCAQMD Rule 110); and

**WHEREAS**, the SCAQMD Governing Board finds and determines that the proposed amendments to Regulations IX and X are considered a "project" pursuant to CEQA per CEQA Guidelines §15002 (k) – General Concepts, the three-step process for deciding which document to prepare for a project subject to CEQA; and

**WHEREAS**, the SCAQMD Governing Board finds and determines that after conducting a review of the proposed amendments to Regulations IX and X in accordance with CEQA Guidelines §15061 – Review for Exemption, procedures for determining if a project is exempt from CEQA, the proposed amendments to Regulations IX and X are determined to be exempt from CEQA; and,

**WHEREAS**, the SCAQMD Governing Board finds and determines that the proposed amendments to Regulation IX and X are required in order to correctly reference federal regulations and because the SCAQMD exercises no discretion with regard to the project as proposed, the proposed project is considered to be ministerially exempt from CEQA pursuant to CEQA Guidelines §15268 – Ministerial Projects; and,

**WHEREAS**, the SCAQMD Governing Board finds and determines that the proposed project is also categorically exempt pursuant to CEQA Guidelines §15308 – Actions By Regulatory Agencies For Protection Of The Environment,

because the adoption by reference of the proposed amendments to Regulations IX and X is considered an action by a regulatory agency to enhance and protect the environment; and

**WHEREAS**, SCAQMD staff has prepared a Notice of Exemption for the proposed project, that is completed in compliance with CEQA Guidelines §15062 – Notice of Exemption; and

**WHEREAS**, the Notice of Exemption, the April 3, 2015 SCAQMD Governing Board letter, and other supporting documentation were presented to the SCAQMD Governing Board and the SCAQMD Governing Board has reviewed and considered the entirety of this information prior to approving the project; and

**WHEREAS**, the SCAQMD proposes to incorporate by reference federal New Source Performance Standards (NSPS) requirements into Regulation IX, and National Emission Standards for Hazardous Air Pollutants (NESHAP) into Regulation X; and

**WHEREAS**, the SCAQMD Governing Board has determined that a need exists to amend Regulations IX and X to provide a mechanism for local enforcement and provide information to affected facilities of these federal standards; and

**WHEREAS**, the SCAQMD Governing Board obtains its authority to adopt, amend, or repeal rules and regulations from §§ 39002, 39650 et seq. 40000, 40001, 40440, 40441, 40702, and 40725 through 40728, and 41700 of the Health and Safety Code; and

**WHEREAS**, the SCAQMD Governing Board has determined that the proposed amendments to Regulations IX and X are written or displayed so that their meanings can be easily understood by the persons directly affected by them; and

**WHEREAS**, the SCAQMD Governing Board has determined that the proposed amendments to Regulations IX and X are in harmony with, and not in conflict with or contradictory to, existing statutes, court decisions, or state or federal regulations; and

**WHEREAS**, Health and Safety Code §40727.2 requires the SCAQMD to prepare a written analysis of existing federal air pollution control requirements whenever it adopts or amends a rule or regulation. However, if the rule or regulation is a verbatim adoption or incorporation by reference of a federal NSPS

or NESHAP requirement, the SCAQMD may comply with this requirement by making a finding that the proposed amendments fall within Health and Safety Code §40727.2 (g). Therefore, the SCAQMD finds that the proposed amendments to Regulations IX and X represent an adoption by reference of federal NSPS and NESHAP requirements, respectively, and that the proposed amendments to Regulations IX and X fall within the criteria and requirements in Health and Safety Code §40727.2(g); and

**WHEREAS**, a public hearing has been properly noticed in accordance with the 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 SCAQMD Governing Board, in adopting amendments to Regulations IX and X, references the following statutes which the SCAQMD hereby implements, interprets, or makes specific: Title 42 U.S.C. Section 7411 (performance standards for new stationary sources), Health and Safety Code §§ 40001(a) (air quality standards), 40001 (b) (air pollution episodes), 40440 (a) (rules to carry out plan), 40702 (adopt regulations to execute duties), 42301 (permit system), and 41700 (nuisance); and

**WHEREAS**, federal Clean Air Act §§ 110, 111 (c)(1), 112 (d)(1) and 301 authorize the United States Environmental Protection Agency (U.S. EPA) to delegate authority to local air districts to administer and enforce federal NSPS and NESHAP requirements; and

**WHEREAS**, the SCAQMD Governing Board finds that the proposed amendments to Regulations IX and X are proposed to implement and enforce federally adopted regulations, which protect the environment; and

**WHEREAS**, the SCAQMD Governing Board has determined that the U.S. EPA has already amended NSPS and NESHAP requirements, so that these federal regulations are currently in effect and that the adoption of the proposed amendments to Regulations IX and X would merely update SCAQMD regulations to reflect current U.S. EPA standards; and

**WHEREAS**, the SCAQMD Governing Board has determined that there is a problem that, by providing a single source of information for determining applicable federal and local requirements, Regulations IX and X will alleviate possible confusion by affected industries, and thereby enhance compliance with NSPS and NESHAP requirements and standards; and

**WHEREAS**, the SCAQMD Governing Board has determined that the proposed amendments to Regulations IX and X will impose the same requirements as the existing federal regulations and are necessary and proper to execute the power and duties granted to, and imposed upon, the SCAQMD; and

**WHEREAS**, the SCAQMD Governing Board specifies the Manager for the proposed amendments to Regulations IX and X as the custodian of the documents or other materials which constitute the record of proceedings upon which the adoption of these proposed amendments is based, which are located at the South Coast Air Quality Management District, 21865 Copley Drive, Diamond Bar, California;

**NOW, THEREFORE, BE IT RESOLVED** that the SCAQMD Governing Board does hereby determine, pursuant to the authority granted by law, that the proposed amendments to Regulation IX and X are exempt from CEQA pursuant to CEQA Guidelines §15002 (k)(1) – General Concepts, §15061 (b)(1) and (b)(2) – Review for Exemption, §15268 – Ministerial Projects; and §15308 - Actions By Regulatory Agencies For Protection Of The Environment. This information was presented to the SCAQMD Governing Board, whose members reviewed, considered, and approved the information therein prior to acting on the proposed amendments to Regulations IX and X; and

**BE IT FURTHER RESOLVED**, that the SCAQMD Governing Board finds that the proposed amendments to Regulations IX and X incorporate by reference federal NSPS and NESHAP regulations for the following industries and operations: crude oil and natural gas productions, onshore natural gas processing plants, Portland cement plants, Kraft pulp mills, steam generating units, petroleum refineries, commercial and industrial solid waste incineration units, hospital/medical/infectious waste incinerators, and stationary compression ignition and spark ignition internal combustion engines; and

**BE IT FURTHER RESOLVED**, that the SCAQMD Governing Board does hereby adopt the proposed amendments to Regulations IX and X, pursuant to the authority granted by law as set forth in the attached and incorporated herein by reference; and

**BE IT FURTHER RESOLVED**, that the proposed amendments to Regulations IX and X will not be submitted for inclusion into the State Implementation Plan; and

**BE IT FURTHER RESOLVED**, that the SCAQMD Governing Board hereby directs staff to submit a request for delegation for the new and re-delegation for the amended standards incorporated herein by this reference.

DATE: \_\_\_\_\_

\_\_\_\_\_  
CLERK OF THE BOARDS

## **ATTACHMENT C**

(Adopted December 3, 1976)(Amended June 7, 1985)(Amended November 1, 1985)  
(Amended October 3, 1986)(Amended April 3, 1987)(Amended May 5, 1989)  
(Amended September 7, 1990)(Amended October 4, 1991)(Amended April 3, 1992)  
(Amended April 9, 1993)(Amended April 8, 1994)(Amended January 9, 1998)  
(Amended August 13, 1999)(Amended April 21, 2000)  
(Amended May 11, 2001)(Amended April 5, 2002)(Amended May 7, 2004)  
(Amended December 2, 2005)(Amended September 8, 2006)  
(Amended April 6, 2007)(Amended April 4, 2008)(Amended April 3, 2009)  
(Amended March 5, 2010)(Amended March 4, 2011)  
(Amended April 6, 2012) (PAREg IX, April 3, 2015)

## **REGULATION IX**

### **STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES**

The provisions of Part 60, Chapter I, Title 40, of the Code of Federal Regulations (CFR), in effect July 1, 1984, applicable to the subparts listed in this Regulation were adopted by the South Coast Air Quality Management District on the date shown and were made part of the Rules and Regulations of the South Coast Air Quality Management District.

All new sources of air pollution and all modified or reconstructed sources of air pollution shall comply with the more stringent of the standards, criteria, and requirements set forth herein or in applicable District rules. For the purpose of this Regulation, the word "Administrator" as used in Part 60, Chapter I, Title 40, of the CFR shall mean the Executive Officer of the South Coast Air Quality Management District, except that the Executive Officer shall not be empowered to approve alternate test methods or alternate opacity limits. Other deviations from these federal standards, as presented in the CFR and which were ordered by the South Coast Air Quality Management District Board to suit the needs of the South Coast Air Quality Management District, are noted in the affected subpart.



**SUBPART A            GENERAL PROVISIONS**

(40FR53346, Nov. 17, 1975)	(Adopted Dec. 3, 1976)
	(Amended Oct. 5, 1984)
(52FR17555, May 11, 1987)	(Amended May 5, 1989)
(55FR26912, June 29, 1990)	(Amended Oct. 4, 1991)
(55FR26931, June 29, 1990)	(Amended Oct. 4, 1991)
(55FR37674, Sept. 12, 1990)	(Amended Oct. 4, 1991)
(55FR40171, Oct. 2, 1990)	(Amended Oct. 4, 1991)
(55FR51378, Dec. 13, 1990)	(Amended Oct. 4, 1991)
(57FR32314, July 21, 1992)	(Amended April 9, 1993)
(59FR12408, March 16, 1994)	(Amended August 13, 1999)
(60FR65387, Dec. 19, 1995)	(Amended August 13, 1999)
(62FR8314, Feb. 24, 1997)	(Amended August 13, 1999)
(62FR52384, Oct. 7, 1997)	(Amended August 13, 1999)
(63FR24436, May 4, 1998)	(Amended August 13, 1999)
(65FR48914, August 10, 2000)	(Amended May 11, 2001)
(65FR61743, October 17, 2000)	(Amended May 11, 2001)
(65FR76378, Dec. 6, 2000)	(Amended May 11, 2001)
(66FR44978, August 27, 2001)	(Amended April 5, 2002)
(67FR43550, June 28, 2002)	(Amended May 7, 2004)
(69FR41346, July 8, 2004)	(Amended Dec. 2, 2005)
(70FR74870, Dec. 16, 2005)	(Amended April 6, 2007)
(71FR38482, July 6, 2006)	(Amended April 6, 2007)
(71FR39154, July 11, 2006)	(Amended April 6, 2007)
(72FR27437, May 16, 2007)	(Amended April 4, 2008)
(72FR32710, June 13, 2007)	(Amended April 4, 2008)
(73FR3568, January 18, 2008)	(Amended April 3, 2009)
(73FR35838, June 24, 2008)	(Amended April 3, 2009)
(74FR5072, January 28, 2009)	(Amended March 5, 2010)
(74FR51950, October 8, 2009)	(Amended March 5, 2010)
(75FR54970, Sept. 9, 2010)	(Amended March 4, 2011)
(76FR2832, January 18, 2011)	(Amended April 6, 2012)
(76FR15372, March 21, 2011)	(Amended April 6, 2012)
(76FR15704, March 21, 2011)	(Amended April 6, 2012)
<u>(79FR11228, February 27,</u>	<u>(Amended Date of Adoption)</u>
<u>2014)</u>	

**SUBPART D            STANDARDS OF PERFORMANCE FOR FOSSIL-FUEL-  
FIRED STEAM GENERATORS FOR WHICH  
CONSTRUCTION IS COMMENCED AFTER AUGUST 17,  
1971**

(39FR20792, June 14, 1974)	(Adopted Dec. 3, 1976)
(51FR42839, Nov. 26, 1986)	(Amended April 3, 1987)
(52FR28946, Aug. 4, 1987)	(Amended May 5, 1989)
(55FR5211, Feb. 14, 1990)	(Amended Oct. 4, 1991)
(55FR51378, Dec. 13, 1990)	(Amended Oct. 4, 1991)
(65FR61743, October 17, 2000)	(Amended May 11, 2001)
(72FR32710, June 13, 2007)	(Amended April 4, 2008)
(74FR5072, January 28, 2009)	(Amended March 5, 2010)

(76FR3517, January 20, 2011)      (Amended April 6, 2012)

**SUBPART Da      STANDARDS OF PERFORMANCE FOR ELECTRIC  
UTILITY STEAM GENERATING UNITS FOR WHICH  
CONSTRUCTION IS COMMENCED AFTER SEPT. 18, 1978**

(44FR33613, June 11, 1979)	(Adopted Oct. 5, 1984)
(51FR42839, Nov. 26, 1986)	(Amended April 3, 1987)
(55FR5211, Feb. 14, 1990)	(Amended Oct. 4, 1991)
(63FR49442, Sept. 16, 1998)	(Amended August 13, 1999)
(65FR61743, October 17, 2000)	(Amended May 11, 2001)
(66FR18546, April 10, 2001)	(Amended April 5, 2002)
(66FR31177, June 11, 2001)	(Amended April 5, 2002)
(66FR42608, August 14, 2001)	(Amended April 5, 2002)
(70FR28606, May 18, 2005)	(Amended Sept. 8, 2006)
(70FR51266, August 30, 2005)	(Amended Sept. 8, 2006)
(71FR9866, February 27, 2006)	(Amended April 6, 2007)
(71FR33388, June 9, 2006)	(Amended April 6, 2007)
(72FR32710, June 13, 2007)	(Amended April 4, 2008)
(74FR5072, January 28, 2009)	(Amended March 5, 2010)
(76FR3517, January 20, 2011)	(Amended April 6, 2012)
<u>(79FR68777, November 19, 2014)</u>	<u>(Amended Date of Adoption)</u>

Note: The 30-day emissions averaging periods specified in the federal standard are deleted and replaced with 24-hour maximum emissions averaging periods for affected facilities in the SCAQMD.

**SUBPART Db      STANDARDS OF PERFORMANCE FOR INDUSTRIAL-  
COMMERCIAL-INSTITUTIONAL STEAM GENERATING  
UNITS**

(51FR42768, Nov. 25, 1986)	(Adopted April 3, 1987)
(51FR42839, Nov. 26, 1986)	
(52FR47826, Dec. 16, 1987)	(Amended May 5, 1989)
(54FR51820, Dec. 18, 1989)	(Amended, Sept. 7, 1990)
(63FR4992, Sept. 16, 1998)	(Amended August 13, 1999)
(65FR13242, March 13, 2000)	(Amended May 11, 2001)
(65FR61743, October 17, 2000)	(Amended May 11, 2001)
(66FR18546, April 10, 2001)	(Amended April 5, 2002)
(66FR31177, June 11, 2001)	(Amended April 5, 2002)
(66FR42608, August 14, 2001)	(Amended April 5, 2002)
(66FR49830, October 1, 2001)	(Amended April 5, 2002)
(71FR9866, February 27, 2006)	(Amended April 6, 2007)
(71FR33388, June 9, 2006)	(Amended April 6, 2007)
(72FR32710, June 13, 2007)	(Amended April 4, 2008)
(74FR5072, January 28, 2009)	(Amended March 5, 2010)
(76FR3517, January 20, 2011)	(Amended April 6, 2012)
<u>(79FR11228, February 27, 2014)</u>	<u>(Amended Date of Adoption)</u>

**SUBPART Dc      STANDARDS OF PERFORMANCE FOR SMALL INDUSTRIAL COMMERCIAL-INSTITUTIONAL STEAM GENERATING UNITS**

(55FR37674, Sept. 12, 1990)	(Adopted Oct. 4, 1991)
(61FR20734, May 8, 1996)	(Amended August 13, 1999)
(64FR24049, May 5, 1999)	(Amended April 21, 2000)
(65FR61743, October 17, 2000)	(Amended May 11, 2001)
(70FR74679, Dec. 16, 2005)	(Amended Sept. 8, 2006)
(71FR9866, February 27, 2006)	(Amended April 6, 2007)
(72FR32710, June 13, 2007)	(Amended April 4, 2008)
(74FR5072, January 28, 2009)	(Amended March 5, 2010)
(76FR3517, January 20, 2011)	(Amended April 6, 2012)

**SUBPART E      STANDARDS OF PERFORMANCE FOR INCINERATORS**

(36FR24877, Dec. 23, 1971)	(Adopted Dec. 3, 1976)
(55FR5211, Feb. 14, 1990)	(Amended Oct. 4, 1991)
(65FR61743, October 17, 2000)	(Amended May 11, 2001)
(71FR27324, May 10, 2006)	(Amended April 6, 2007)

**SUBPART Ea      STANDARDS OF PERFORMANCE FOR MUNICIPAL WASTE COMBUSTORS**

(56FR5488, Feb. 11, 1991)	(Adopted April 3, 1992)
(60FR65381, Dec. 19, 1995)	(Adopted Dec. 12, 1997)
(65FR61743, Oct. 17, 2000)	(Amended May 11, 2001)

**SUBPART Eb      STANDARDS OF PERFORMANCE AND EMISSION GUIDELINES FOR MUNICIPAL WASTE COMBUSTORS**

(60FR65387, Dec. 19, 1995)	(Adopted Dec. 12, 1997)
(62FR45116, Aug. 25, 1997)	(Amended Dec. 12, 1997)
(62FR45124, Aug. 25, 1997)	(Amended Dec. 12, 1997)
(65FR61743, October 17, 2000)	(Amended May 11, 2001)
(66FR36473, July 12, 2001)	(Amended April 5, 2002)
(66FR57824, Nov. 16, 2001)	(Amended April 5, 2002)
(71FR27324, May 10, 2006)	(Amended April 6, 2007)

**SUBPART Ec      STANDARDS OF PERFORMANCE FOR HOSPITAL/ MEDICAL INFECTIOUS WASTE INCINERATORS**

(62FR48348, Sept. 15, 1997)	(Adopted Dec. 12, 1997)
(65FR61743, Oct. 17, 2000)	(Amended May 11, 2001)
(68FR61759, Oct. 30, 2003)	(Amended May 7, 2004)
(76FR18407, April 4, 2011)	(Amended April 6, 2012)
<u>(78FR28052, May 13, 2013)</u>	<u>(Amended Date of Adoption)</u>

<b>SUBPART F</b>	<b>STANDARDS OF PERFORMANCE FOR PORTLAND CEMENT PLANTS</b>  (36FR24877, Dec. 23, 1971) (53FR50354 Dec. 14, 1988) (61FR14637, April 3, 1996) (65FR61743, Oct. 17, 2000) (75FR54970, Sept. 9, 2010) <u>(78FR10006, February 12, 2013)</u>	  (Adopted Dec. 3, 1976) (Amended May 5, 1989) (Amended August 13, 1999) (Amended May 11, 2001) (Amended March 4, 2011) <u>(Amended Date of Adoption)</u>
<b>SUBPART G</b>	<b>STANDARDS OF PERFORMANCE FOR NITRIC ACID PLANTS</b>  (39FR20794, June 14, 1974)	  (Adopted Dec. 3, 1976)
<b>SUBPART H</b>	<b>STANDARDS OF PERFORMANCE FOR SULFURIC ACID PLANTS</b>  (39FR20794, June 14, 1974) (65FR61743, Oct. 17, 2000) <u>(79FR11228, February 27, 2014)</u>	  (Adopted Dec. 3, 1976) (Amended May 11, 2001) <u>(Amended Date of Adoption)</u>
<b>SUBPART I</b>	<b>STANDARDS OF PERFORMANCE FOR ASPHALTIC CONCRETE PLANTS</b>  (39FR9314, March 8, 1974) (51FR12324, April 10, 1986)	  (Adopted Dec. 3, 1976) (Amended April 3, 1987)
<b>SUBPART J</b>	<b>STANDARDS OF PERFORMANCE FOR PETROLEUM REFINERIES</b>  (39FR9315, March 8, 1974) (51FR42839, Nov. 26, 1986)  (54FR34008, Aug. 17, 1989) (55FR40171, Oct. 2, 1990) (65FR61743, Oct. 17, 2000) (73FR35838, June 24, 2008)	  (Adopted Dec. 3, 1976) (Amended Feb. 13, 1981) (Amended April 3, 1987) (Amended Sept. 7, 1990) (Amended Oct. 4, 1991) (Amended May 11, 2001) (Amended April 3, 2009)
<b>SUBPART Ja</b>	<b>STANDARDS OF PERFORMANCE FOR PETROLEUM REFINERIES FOR WHICH CONSTRUCTION, RECONSTRUCTION, OR MODIFICATION COMMENCED AFTER May 14, 2007</b>  (73FR35838, June 24, 2008) (73FR55751, Sept. 26, 2008) (73FR78546, Dec. 22, 2008)	  (Adopted April 3, 2009) (Amended April 3, 2009) (Amended April 3, 2009)

(73FR78549, Dec. 22, 2008)      (Amended April 3, 2009)  
(76FR10524, Feb. 25, 2011)      (Amended April 6, 2012)  
(77FR56422, September 12,      (Amended Date of Adoption)  
2012)

**SUBPART K      STANDARDS OF PERFORMANCE FOR STORAGE  
VESSELS FOR PETROLEUM LIQUIDS CONSTRUCTED  
AFTER JUNE 11, 1973, AND PRIOR TO MAY 19, 1978**

(39FR9317, March 8, 1974)      (Adopted Dec. 3, 1976)  
      (Amended Feb. 13, 1981)  
(52FR11420, April 8, 1987)  
and  
(52FR22779, June 16, 1987)      (Amended May 5, 1989)

**SUBPART Ka      STANDARDS OF PERFORMANCE FOR STORAGE  
VESSELS FOR PETROLEUM LIQUIDS CONSTRUCTED  
AFTER MAY 18, 1978**

(45FR23379, Apr. 4, 1980)      (Adopted Dec. 3, 1976)  
      (Amended Feb. 13, 1981)  
(52FR11420, April 18, 1987) and  
(52FR22779, June 16, 1987)      (Amended May 5, 1989)  
(65FR2336, January 14, 2000)      (Amended May 11, 2001)  
(65FR61743, October 17, 2000)      (Amended May 11, 2001)

**SUBPART Kb      STANDARDS OF PERFORMANCE FOR STORAGE  
VESSELS FOR PETROLEUM LIQUIDS FOR WHICH  
CONSTRUCTION, RECONSTRUCTION, OR  
MODIFICATION COMMENCED AFTER JULY 23, 1983**

(52FR11420, April 8, 1987) and  
(52FR22779, June 16, 1987)      (Adopted May 5, 1989)  
(54FR32972, August 11, 1989)      (Amended Sept. 7, 1990)  
(65FR2336, January 14, 2000)      (Amended May 11, 2001)  
(65FR61743, October 17, 2000)      (Amended May 11, 2001)

**SUBPART L      STANDARDS OF PERFORMANCE FOR SECONDARY  
LEAD SMELTERS**

(39FR9317, March 8, 1974)      (Adopted Dec. 3, 1976)  
(65FR61743, October 17, 2000)      (Amended May 11, 2001)

**SUBPART M      STANDARDS OF PERFORMANCE FOR SECONDARY  
BRASS AND BRONZE PRODUCTION PLANTS**

(39FR9318, March 8, 1974)      (Adopted Dec. 3, 1976)  
(49FR21864, Mar. 23, 1984)      (Amended Oct. 5, 1984)  
(65FR61743, October 17, 2000)      (Amended May 11, 2001)

<b>SUBPART N</b>	<b>STANDARDS OF PERFORMANCE FOR IRON AND STEEL PLANTS</b>	
	(39FR9318, March 8, 1974)	(Adopted Dec. 3, 1976)
	(51FR150, Jan. 2, 1986)	(Amended June 5, 1981)
		(Amended April 3, 1987)
	(65FR61743, October 17, 2000)	(Amended May 11, 2001)
<b>SUBPART Na</b>	<b>STANDARDS OF PERFORMANCE FOR BASIC OXYGEN PROCESS FURNACES</b>	
	(51FR150, Jan. 2, 1986)	(Adopted April 3, 1987)
	(65FR61743, October 17, 2000)	(Amended May 11, 2001)
<b>SUBPART O</b>	<b>STANDARDS OF PERFORMANCE FOR SEWAGE TREATMENT PLANTS</b>	
	(39FR9319, March 8, 1974)	(Adopted Dec. 3, 1976)
	(51FR13432, April 18, 1986)	(Amended Oct. 3, 1986)
	(54FR27015, June 27, 1989)	(Amended Sept. 7, 1990)
	(59FR5107, February 3, 1994)	(Amended Dec. 12, 1997)
	(65FR61743, October 17, 2000)	(Amended May 11, 2001)
	<u>(79FR11228, February 27, 2014)</u>	<u>(Amended Date of Adoption)</u>
<b>SUBPART P</b>	<b>STANDARDS OF PERFORMANCE FOR PRIMARY COPPER SMELTERS</b>	
	(41FR2338, Jan. 15, 1976)	(Adopted Nov. 1, 1985)
	(65FR61743, October 17, 2000)	(Amended May 11, 2001)
<b>SUBPART Q</b>	<b>STANDARDS OF PERFORMANCE FOR PRIMARY ZINC SMELTERS</b>	
	(41FR2340, Jan. 15, 1976)	(Adopted Nov. 1, 1985)
<b>SUBPART R</b>	<b>STANDARDS OF PERFORMANCE FOR PRIMARY LEAD SMELTERS</b>	
	(41FR2340, Jan. 15, 1976)	(Adopted Nov. 1, 1985)
<b>SUBPART S</b>	<b>STANDARDS OF PERFORMANCE FOR PRIMARY ALUMINUM REDUCTION PLANTS</b>	
	(45FR44207, June 30, 1980)	(Adopted Nov. 1, 1985)
	(65FR61743, October 17, 2000)	(Amended May 11, 2001)



(65FR61743, October 17, 2000)      (Amended May 11, 2001)  
(74FR51950, October 8, 2009)      (Amended March 5, 2010)

**SUBPART Z                      STANDARDS OF PERFORMANCE FOR FERRO-ALLOY  
PRODUCTION FACILITIES**

(41FR18501, May 4, 1976)      (Adopted Nov. 1, 1985)  
(55FR5211, Feb. 14, 1990)      (Amended Oct. 4, 1991)  
(65FR61743, October 17, 2000)      (Amended May 11, 2001)

**SUBPART AA                    STANDARDS OF PERFORMANCE FOR STEEL  
PLANTS: ELECTRIC ARC FURNACES CONSTRUCTED  
AFTER OCT. 21, 1974, AND ON OR BEFORE AUG. 17,  
1983**

(40FR43852, Sept. 23, 1975)      (Adopted Dec. 3, 1976)  
(40FR43838, Oct. 31, 1984)      (Amended June 7, 1985)  
(64FR10105, March 2, 1999)      (Amended April 21, 2000)  
(65FR61743, October 17, 2000)      (Amended May 11, 2001)  
(70FR8523, February 22, 2005)      (Amended Sept. 8, 2006)

**SUBPART                      STANDARDS OF PERFORMANCE FOR STEEL PLANTS:  
AAa                              ELECTRIC ARC FURNACES AND ARGON-OXYGEN  
DECARBURIZATION VESSELS CONSTRUCTED AFTER  
AUGUST 17, 1983**

(49FR43838, Oct. 3, 1984)      (Adopted June 7, 1985)  
(64FR10105, March 2, 1999)      (Amended April 21, 2000)  
(65FR61743, October 17, 2000)      (Amended May 11, 2001)  
(70FR8523, February 22, 2005)      (Amended Sept. 8, 2006)

**SUBPART BB                    STANDARDS OF PERFORMANCE FOR KRAFT PULP  
MILLS**

(43FR7572, Feb. 23, 1978)      (Adopted Nov. 1, 1985)  
(51FR18538, May 20, 1986)      (Amended Oct. 3, 1986)  
(55FR5211, Feb. 14, 1990)      (Amended Oct. 4, 1991)  
(65FR61743, October 17, 2000)      (Amended May 11, 2001)  
(79FR18952, April 4, 2014)      (Amended Date of  
Adoption)

**SUBPART                      STANDARDS OF PERFORMANCE FOR KRAFT PULP  
BBa                              MILL AFFECTED SOURCES FOR WHICH  
CONSTRUCTION, RECONSTRUCTION, OR  
MODIFICATION COMMENCED AFTER MAY 23, 2013**

(79FR18952, April 4, 2014)      (Amended Date of  
Adoption)



**SUBPART CC      STANDARDS OF PERFORMANCE FOR GLASS  
MANUFACTURING PLANTS**

(45FR66751, Oct. 7, 1980)                      (Adopted June 7, 1985)  
(49FR41030, Oct. 19, 1984)  
(65FR61743, October 17, 2000)              (Amended May 11, 2001)

**SUBPART DD      STANDARDS OF PERFORMANCE FOR GRAIN  
ELEVATORS**

(43FR34347, Aug. 3, 1978)                      (Adopted March 6, 1981)  
(65FR61743, October 17, 2000)              (Amended May 11, 2001)

**SUBPART EE      STANDARDS OF PERFORMANCE FOR SURFACE  
COATING OF METAL FURNITURE**

(47FR49287, Oct. 29, 1982)                      (Adopted Oct. 5, 1984)  
(49FR40542, Oct. 16, 1984)                      (Amended Nov. 1, 1985)  
(55FR51378, Dec.13, 1990)                      (Amended Oct. 4, 1991)  
(65FR61743, October 17, 2000)              (Amended May 11, 2001)

Note: The 30-day emissions averaging periods specified in the federal standard are deleted and replaced with 24-hour maximum emissions averaging periods for affected facilities in the SCAQMD.

**SUBPART GG      STANDARDS OF PERFORMANCE FOR STATIONARY  
GAS TURBINES**

(44FR52798, Sept. 10, 1979)                      (Adopted March 6, 1981)  
(65FR61743, October 17, 2000)                      (Amended May 11, 2001)  
(69FR41346, July 8, 2004)                      (Amended Dec. 2, 2005)  
(71FR9453, February 24, 2006)                      (Amended April 6, 2007)  
(79FR11228, February 27, 2014)                      (Amended Date of  
Adoption)

**SUBPART HH      STANDARDS OF PERFORMANCE FOR LIME  
MANUFACTURING PLANTS**

(43FR9453, March 7, 1978)                      (Adopted April 3, 1981)  
(49FR18076, Apr. 26, 1984)                      (Amended Oct. 5, 1984)  
(52FR4773, Feb. 17, 1987)                      (Amended May 5, 1989)  
(65FR61743, October 17, 2000)                      (Amended May 11, 2001)

**SUBPART KK      STANDARDS OF PERFORMANCE FOR LEAD-ACID  
BATTERY MANUFACTURING PLANTS**

(47FR16573, Apr. 16, 1982)                      (Adopted August 5, 1983)  
(65FR61743, October 17, 2000)              (Amended May 11, 2001)  
(79FR11228, February 27, 2014)              (Amended Date of  
Adoption)

**SUBPART LL                      STANDARDS OF PERFORMANCE FOR METALLIC  
MINERAL PROCESSING PLANTS**

(49FR6464, Feb. 21, 1984)                      (Adopted Nov. 1, 1985)  
(65FR61743, October 17, 2000)              (Amended May 11, 2001)  
(79FR11228, February 27, 2014)              (Amended Date of  
Adoption)

**SUBPART                      STANDARDS OF PERFORMANCE FOR AUTOMOBILE  
MM                              AND LIGHT-DUTY TRUCK SURFACE COATING  
OPERATIONS**

(45FR85415, Dec. 24, 1980)                      (Adopted Oct. 5, 1984)  
(55FR51378, Dec. 13, 1990)                      (Amended Oct. 4, 1991)  
(59FR51383, Oct. 11, 1994)                      (Amended Aug. 13, 1999)  
(65FR61743, October 17, 2000)              (Amended May 11, 2001)

Note: The 30-day emissions averaging periods specified in the federal standard are deleted and replaced with 24-hour maximum emissions averaging periods for affected facilities in the SCAQMD.

**SUBPART NN                      STANDARDS OF PERFORMANCE FOR PHOSPHATE  
ROCK PLANTS**

(47FR16589, April 16, 1982)                      (Adopted Nov. 1, 1985)  
(65FR61743, October 17, 2000)              (Amended May 11, 2001)

**SUBPART PP                      STANDARDS OF PERFORMANCE FOR AMMONIUM  
SULFATE MANUFACTURE**

(45FR74850, Nov. 12, 1980)                      (Adopted Feb. 13, 1981)  
(65FR61743, October 17, 2000)              (Amended May 11, 2001)

**SUBPART QQ                      STANDARDS OF PERFORMANCE FOR THE GRAPHIC  
ARTS INDUSTRY: PUBLICATION ROTOGRAVURE  
PRINTING**

(47FR50649, Nov. 8, 1982)                      (Adopted July 6, 1984)  
(65FR61743, October 17, 2000)              (Amended May 11, 2001)

Note: The 30-day emissions averaging periods specified in the federal standard are deleted and replaced with 24-hour maximum emissions averaging periods for affected facilities in the SCAQMD.

**SUBPART RR      STANDARDS OF PERFORMANCE FOR PRESSURE SENSITIVE TAPE AND LABEL SURFACE COATING OPERATIONS**

(48FR48368, Oct. 18, 1983)      (Adopted May 4, 1984)  
(55FR51378, Dec 13, 1990)      (Amended Oct. 4, 1991)  
(65FR61743, October 17, 2000)      (Amended May 11, 2001)

Note: The 30-day emissions averaging periods specified in the federal standard are deleted and replaced with 24-hour maximum emissions averaging periods for affected facilities in the SCAQMD.

**SUBPART SS      STANDARDS OF PERFORMANCE FOR INDUSTRIAL SURFACE COATING: LARGE APPLIANCES**

(47FR47785, Oct. 27, 1982)      (Adopted Oct. 5, 1984)  
(55FR51378, Dec 13, 1990)      (Amended Oct. 4, 1991)  
(65FR61743, October 17, 2000)      (Amended May 11, 2001)

Note: The 30-day emission averaging periods specified in the federal standard are deleted and replaced with 24-hour maximum emissions averaging periods for affected facilities in the SCAQMD.

**SUBPART TT      STANDARDS OF PERFORMANCE FOR METAL COIL SURFACE COATING**

(47FR49612, Nov. 1, 1982)      (Adopted Oct. 5, 1984)  
(51FR22938, June 24, 1986)      (Amended Oct. 3, 1986)  
(55FR51378, Dec 13, 1990)      (Amended Oct. 4, 1991)  
(65FR61743, October 17, 2000)      (Amended May 11, 2001)

Note: The 30-day emissions averaging periods specified in the federal standard are deleted and replaced with 24-hour maximum emissions averaging periods for affected facilities in the SCAQMD.

**SUBPART UU      STANDARDS OF PERFORMANCE FOR ASPHALT PROCESSING AND ASPHALT ROOFING MANUFACTURE**

(45FR34143, Aug. 6, 1982)      (Adopted Aug. 5, 1983)  
(65FR61743, October 17, 2000)      (Amended May 11, 2001)  
(79FR11228, February 27, 2014)      (Amended Date of Adoption)

**SUBPART VV      STANDARDS OF PERFORMANCE FOR EQUIPMENT  
LEAKS OF VOC IN THE SYNTHETIC ORGANIC  
CHEMICALS MANUFACTURING INDUSTRY**

(48FR48355, Oct. 18, 1983)	(Adopted Oct. 5, 1984)
(51FR2699, Jan. 21, 1986)	(Amended April 3, 1987)
(61FR29875, June 12, 1996)	(Amended Aug. 13, 1999)
(65FR61743, October 17, 2000)	(Amended May 11, 2001)
(72FR64860, Nov. 16, 2007)	(Amended April 4, 2008)
(73FR31372, June 2, 2008)	(Amended April 3, 2009)
(73FR31376, June 2, 2008)	(Amended April 3, 2009)

**SUBPART VVa      STANDARDS OF PERFORMANCE FOR EQUIPMENT  
LEAKS OF VOC IN THE SYNTHETIC ORGANIC  
CHEMICALS MANUFACTURING INDUSTRY FOR  
WHICH CONSTRUCTION, RECONSTRUCTION, OR  
MODIFICATION COMMENCED AFTER NOVEMBER 7,  
2006**

72FR64860, Nov. 16, 2007	(Adopted April 4, 2008)
(73FR31372, June 2, 2008)	(Amended April 3, 2009)
(73FR31376, June 2, 2008)	(Amended April 3, 2009)

**SUBPART      STANDARDS OF PERFORMANCE FOR THE BEVERAGE  
WW      CAN SURFACE COATING INDUSTRY**

(48FR38737, Aug. 25, 1983)	(Adopted Oct. 5, 1984)
(55FR51378, Dec 13, 1990)	(Amended Oct. 4, 1991)
(65FR61743, October 17, 2000)	(Amended May 11, 2001)

Note: The 30-day emissions averaging periods specified in the federal standard are deleted and replaced with 24-hour maximum emissions averaging periods for affected facilities in the SCAQMD.

**SUBPART      STANDARDS OF PERFORMANCE FOR NEW  
AAA      RESIDENTIAL WOOD HEATERS**

(52FR5860, Feb. 26, 1988) and	
(53FR12009, April 12, 1988)	(Adopted May 5, 1989)
(63FR64869, Nov. 24, 1998)	(Amended Aug. 13, 1999)
(65FR61743, October 17, 2000)	(Amended May 11, 2001)

**SUBPART      STANDARDS OF PERFORMANCE FOR THE RUBBER  
BBB      TIRE MANUFACTURING INDUSTRY**

(52FR34868, Sept. 15, 1987) and	
(52FR37874, Oct. 9, 1987)	(Adopted May 5, 1989)

(54FR38634, Sept. 19, 1989)                      (Amended Sept. 7, 1990)  
(65FR61743, October 17, 2000)                (Amended May 11, 2001)

**SUBPART                      STANDARDS OF PERFORMANCE FOR VOLATILE  
DDD                              ORGANIC COMPOUND (VOC) EMISSIONS FROM THE  
POLYMER MANUFACTURING INDUSTRY**

(55FR51010, Dec. 11, 1990)                      (Adopted Oct. 4, 1991)  
(65FR61743, October 17, 2000)                (Amended May 11, 2001)

**SUBPART                      STANDARDS OF PERFORMANCE FOR FLEXIBLE  
FFF                              VINYL AND URETHANE COATING AND PRINTING**

(49FR26892, June 29, 1984)                      (Adopted June 7, 1985)

Note: The 30-day emissions averaging periods specified in the federal standard are deleted and replaced with 24-hour maximum emissions averaging periods for affected facilities in the SCAQMD

**SUBPART                      STANDARDS OF PERFORMANCE FOR EQUIPMENT  
GGG                              LEAKS OF VOC IN PETROLEUM REFINERIES FOR  
WHICH CONSTRUCTION, RECONSTRUCTION, OR  
MODIFICATION COMMENCED AFTER JANUARY 4,  
1983, AND ON OR BEFORE NOVEMBER 7, 2006**

(49FR22606, May 30, 1984)                      (Adopted June 7, 1985)  
(65FR61743, October 17, 2000)                (Amended May 11, 2001)  
(72FR64860, Nov. 16, 2007)                      (Amended April 4, 2008)  
(73FR31372, June 2, 2008)                      (Amended April 3, 2009)  
(73FR31376, June 2, 2008)                      (Amended April 3, 2009)

**SUBPART                      STANDARDS OF PERFORMANCE FOR EQUIPMENT  
GGGa                             LEAKS OF VOC IN PETROLEUM REFINERIES FOR  
WHICH CONSTRUCTION, RECONSTRUCTION, OR  
MODIFICATION COMMENCED AFTER NOVEMBER 7,  
2006**

(72FR64896, Nov. 16, 2007)                      (Adopted April 3, 2009)  
73FR31372, June 2, 2008                      (Amended April 3, 2009)  
73FR31376, June 2, 2008                      (Amended April 3, 2009)

**SUBPART                      STANDARDS OF PERFORMANCE FOR SYNTHETIC  
HHH                              FIBER PRODUCTION FACILITIES**

(49FR13651, April 5, 1984)                      (Adopted Nov. 1, 1985)  
(55FR51378, Dec 13, 1990)                      (Amended Oct. 4, 1991)

(65FR61743, October 17, 2000)      (Amended May 11, 2001)

**SUBPART III      STANDARDS OF PERFORMANCE FOR VOLATILE ORGANIC COMPOUND (VOC) EMISSIONS FROM THE SYNTHETIC ORGANIC CHEMICAL MANUFACTURING INDUSTRY (SOCMI) AIR OXIDATION UNIT PROCESSES**

(55FR26912, June 29, 1990)      (Amended Oct. 4, 1991)  
(65FR61743, October 17, 2000)      (Amended May 11, 2001)

**SUBPART JJJ      STANDARDS OF PERFORMANCE FOR PETROLEUM DRY CLEANERS**

(49FR37332, Sept. 21, 1984)      (Adopted June 7, 1985)  
(50FR49026, Nov. 27, 1985)      (Amended Oct. 3, 1986)  
(65FR61743, October 17, 2000)      (Amended May 11, 2001)

**SUBPART KKK      STANDARDS OF PERFORMANCE FOR EQUIPMENT LEAKS OF VOC FROM ONSHORE NATURAL GAS PROCESSING PLANTS**

(50FR26122, June 24, 1985)      (Adopted Nov. 1, 1985)  
(65FR61743, October 17, 2000)      (Amended May 11, 2001)  
(77FR49490, August 16, 2012)      (Amended Date of Adoption)

**SUBPART LLL      STANDARDS OF PERFORMANCE FOR ONSHORE NATURAL GAS PROCESSING: SO<sub>2</sub> EMISSIONS**

(50FR40518, Oct. 1, 1985)      (Adopted Oct. 3, 1986)  
(65FR61743, October 17, 2000)      (Amended May 11, 2001)  
(77FR49490, August 16, 2012)      (Amended Date of Adoption)

**SUBPART NNN      STANDARDS OF PERFORMANCE FOR VOLATILE ORGANIC COMPOUND (VOC) EMISSIONS FROM SYNTHETIC ORGANIC CHEMICAL MANUFACTURING INDUSTRY (SOCMI) ~~AIR OXIDATION UNIT PROCESSES~~ DISTILLATION OPERATIONS**

(55FR26931, June 29, 1990)      (Adopted Oct. 4, 1991)  
(65FR61743, October 17, 2000)      (Amended May 11, 2001)  
(79FR11228, February 27, 2014)      (Amended Date of Adoption)

**SUBPART      STANDARDS OF PERFORMANCE FOR NONMETALLIC**

**OOO**                      **MINERAL PROCESSING PLANTS**

(50FR31328, Aug. 1, 1985)                      (Adopted Nov. 1, 1985)  
(62FR31351, June 9, 1997)                      (Amended Dec. 12, 1997)  
(62FR62953, Nov. 26, 1997)                      (Amended August 13, 1999)  
(65FR61743, October 17, 2000)                      (Amended May 11, 2001)

**SUBPART**                      **STANDARDS OF PERFORMANCE FOR WOOL**  
**PPP**                              **FIBERGLASS INSULATION MANUFACTURING**  
**PLANTS**

(50FR7694, Feb. 25, 1985)                      (Adopted Nov. 1, 1985)  
(65FR61743, October 17, 2000)                      (Amended May 11, 2001)

**SUBPART**                      **STANDARDS OF PERFORMANCE FOR VOC**  
**QQQ**                              **EMISSIONS FROM PETROLEUM REFINERY**  
**WASTEWATER SYSTEMS**

(53FR47616, Nov. 23, 1988)                      (Adopted May 5, 1989)  
(60FR43244, Aug. 18, 1995)                      (Amended August 13, 1999)  
(65FR61743, October 17, 2000)                      (Amended May 11, 2001)

**SUBPART**                      **STANDARDS OF PERFORMANCE FOR VOLATILE**  
**RRR**                              **ORGANIC COMPOUND (VOC) EMISSIONS FROM**  
**THE SYNTHETIC ORGANIC CHEMICAL**  
**MANUFACTURING INDUSTRY (SOCMI) REACTOR**  
**PROCESSES**

(58FR45948, Aug. 31, 1993)                      (Adopted April 8, 1994)  
(65FR61743, October 17, 2000)                      (Amended May 11, 2001)

**SUBPART**                      **STANDARDS OF PERFORMANCE FOR THE**  
**SSS**                              **MAGNETIC TAPE MANUFACTURING INDUSTRY**

(53FR38892, Oct. 3, 1988) and  
(53FR47955, Nov. 29, 1988)                      (Adopted May 5, 1989)

**SUBPART**                      **STANDARDS OF PERFORMANCE FOR INDUSTRIAL**  
**TTT**                              **SURFACE COATING PLASTIC PARTS FOR BUSINESS**  
**MACHINES**

(53FR2672, Jan. 29, 1988) and  
(53FR19300, May 27, 1988)                      (Adopted May 5, 1989)  
(54FR25458, June 15, 1989)                      (Amended Sept. 7, 1990)  
(65FR61743, October 17, 2000)                      (Amended May 11, 2001)

**SUBPART**                      **STANDARDS OF PERFORMANCE FOR CALCINERS**

<b>UUU</b>	<b>AND DRYERS IN MINERAL INDUSTRIES</b>	
	(57FR44496, Sept. 28, 1992)	(Adopted April 9, 1993)
	(58FR40591, July 29, 1993)	(Amended April 8, 1994)
<b>SUBPART VVV</b>	<b>STANDARDS OF PERFORMANCE FOR POLYMERIC COATING OF SUPPORTING SUBSTRATES</b>	
	(54FR37534, Sept. 11, 1989)	(Adopted Sept. 7, 1990)
	(65FR61743, October 17, 2000)	(Amended May 11, 2001)
<b>SUBPART WWW</b>	<b>STANDARDS OF PERFORMANCE FOR MUNICIPAL SOLID WASTE LANDFILLS</b>	
	(61FR9905, March 12, 1996)	(Adopted Dec. 12, 1997)
	(63FR32743, June 16, 1998)	(Amended Aug. 13, 1999)
	(64FR9258, February 24, 1999)	(Amended April 21, 2000)
	(65FR18906, April 10, 2000)	(Amended May 11, 2001)
	(65FR61743, October 17, 2000)	(Amended May 11, 2001)
<b>SUBPART AAAA</b>	<b>STANDARDS OF PERFORMANCE FOR NEW SMALL MUNICIPAL WASTE COMBUSTION UNITS</b>	
	(65FR76350, December 6, 2000)	(Amended May 11, 2001)
<b>SUBPART CCCC</b>	<b>STANDARDS OF PERFORMANCE FOR COMMERCIAL AND INDUSTRIAL SOLID WASTE INCINERATION UNITS</b>	
	(65FR75338, December 1, 2000)	(Amended May 11, 2001)
	(66FR16605, March 27, 2001)	(Amended April 5, 2002)
	(70FR55568, Sept. 22, 2005)	(Amended Sept. 8, 2006)
	(76FR15704, March 21, 2011)	(Amended April 6, 2012)
	<u>(78FR9111, February 7, 2013)</u>	<u>(Amended Date of Adoption)</u>
<b>SUBPART EEEE</b>	<b>STANDARDS OF PERFORMANCE FOR OTHER SOLID WASTE INCINERATION UNITS</b>	
	(70FR74870, December 16, 2005)	(Amended April 6, 2007)
	(71FR67802, Nov. 24, 2006)	(Amended April 6, 2007)
<b>SUBPART III</b>	<b>STANDARDS OF PERFORMANCE FOR STATIONARY COMPRESSION IGNITION INTERNAL COMBUSTION ENGINES</b>	
	(71FR39154, July, 11, 2006)	(Amended April 6, 2007)
	(76FR37954, June 28, 2011)	(Amended April 6, 2012)



(78FR6674, January 30, 2013)      (Amended Date of Adoption)

**SUBPART JJJJ      STANDARDS OF PERFORMANCE FOR STATIONARY SPARK IGNITION INTERNAL COMBUSTION ENGINES**

(73FR3568, January 18, 2008)      (Amended April 3, 2009)  
(76FR37954, June 28, 2011)      (Amended April 6, 2012)  
(78FR6674, January 30, 2013)      (Amended Date of Adoption)

**SUBPART KKKK      STANDARDS OF PERFORMANCE FOR STATIONARY COMBUSTION TURBINES**

(71FR38482, July 6, 2006)      (Amended April 6, 2007)  
(74FR11858, March 20, 2009)      (Amended March 5, 2010)

**SUBPART LLLL      STANDARDS OF PERFORMANCE FOR SLUDGE INCINERATION UNITS**

(76FR15372, March 21, 2011)      (Amended April 6, 2012)

**SUBPART OOOO      STANDARDS OF PERFORMANCE FOR CRUDE OIL AND NATURAL GAS PRODUCTION, TRANSMISSION, AND DISTRIBUTION**

(77FR49490, August 16, 2012)      (Amended Date of Adoption)  
(79FR79018, December 31, 2014),      (Amended Date of Adoption)

**APPENDIX A-1      TEST METHODS 1 THROUGH 2F**

(79FR11228, February 27, 2014)      (Amended Date of Adoption)

**APPENDIX A-2      TEST METHODS 2G THROUGH 3C**

(79FR11228, February 27, 2014)      (Amended Date of Adoption)

**APPENDIX A-3      TEST METHODS 4 THROUGH 5I**

(79FR11228, February 27, 2014)      (Amended Date of Adoption)

**APPENDIX A-4 TEST METHODS 6 THROUGH 10B**

(79FR11228, February 27, 2014)      (Amended Date of Adoption)

**APPENDIX A-5 TEST METHODS 11 THROUGH 15 A**

(79FR11228, February 27, 2014)      (Amended Date of Adoption)

**APPENDIX A-5 TEST METHODS 11 THROUGH 15 A**

(79FR11228, February 27, 2014)      (Amended Date of Adoption)

**APPENDIX A-6 TEST METHODS 16 THROUGH 18**

(79FR11228, February 27, 2014)      (Amended Date of Adoption)

**APPENDIX A-7 TEST METHODS 19 THROUGH 25E**

(79FR11228, February 27, 2014)      (Amended Date of Adoption)

**APPENDIX A-8 TEST METHODS 26 THROUGH 30B**

(79FR11228, February 27, 2014)      (Amended Date of Adoption)

**APPENDIX B PERFORMANCE SPECIFICATIONS**

(79FR11228, February 27, 2014)      (Amended Date of Adoption)

**APPENDIX F QUALITY ASSURANCE PROCEDURES**

(79FR11228, February 27, 2014)      (Amended Date of Adoption)

## **ATTACHMENT C**

(Adopted Dec. 3, 1976)(Amended June 7, 1985)(Amended Nov. 1, 1985)  
(Amended October 3, 1986)(Amended April 3, 1987)(Amended May 5, 1989)  
(Amended September 7, 1990)(Amended October 4, 1991)(Amended April 3, 1992)  
(Amended April 9, 1993)(Amended April 8, 1994)(Amended August 13, 1999)  
(Amended May 11, 2001)(Amended May 7, 2004)  
(Amended December 2, 2005)  
(Amended April 4, 2008)(PAReg X April 3, 2015)

## **REGULATION X**

### **NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS**

The provisions of Part 61, Chapter I, Title 40, of the Code of Federal Regulations (CFR), in effect July 1, 1984, applicable to the subparts listed in this Regulation were adopted by the South Coast Air Quality Management District on the date shown and were made part of the Rules and Regulations of the South Coast Air Quality Management District.

The provisions of this Regulation apply to the owner or operator of any stationary source for which a standard is prescribed under this Regulation. For the purpose of this Regulation, the word "Administrator" as used in Part 61, Chapter I, Title 40, of the CFR shall mean the Executive Officer of the South Coast Air Quality Management District, except that the Executive Officer shall not be empowered to approve alternate test methods or opacity limits. Other deviations from these federal standards as presented in the CFR and which were ordered by the South Coast Air Quality Management District Board to suit the needs of the South Coast Air Quality Management District are noted in the affected subpart. Owners or operators shall comply with the more stringent of the standards, criteria or requirements set forth herein or in applicable District rules.

**Part 61**

**SUBPART A GENERAL PROVISIONS**

(38FR8826, April 6, 1973)	(Adopted Dec. 3, 1976)
(50FR46284, Nov. 7, 1985)	(Amended Oct. 3, 1986)
(52FR37617, Oct. 8, 1987)	(Amended May 5, 1989)
(59FR12408, March 16, 1994)	(Amended August 13, 1999)
(62FR8314, Feb. 24, 1997)	(Amended August 13, 1999)
(65FR61743, October 17, 2000)	(Amended May 11, 2001)
(72FR27437, May 16, 2007)	(Amended April 4, 2008)
<u>(75FR55636, September 13, 2010)</u>	<u>(Amended Date of Adoption)</u>
<u>(79FR11228, February 27, 2014)</u>	<u>(Amended Date of Adoption)</u>

**SUBPART B (RESERVED)**

**SUBPART BB NATIONAL EMISSION STANDARD FOR BENZENE EMISSIONS FROM BENZENE TRANSFER OPERATIONS**

(55FR8292, March 7, 1990)	(Adopted Oct. 4, 1991)
(65FR61743, October 17, 2000)	(Amended May 11, 2001)

**SUBPART C NATIONAL EMISSION STANDARD FOR BERYLLIUM**

(38FR8826, April 6, 1973)	(Adopted Dec. 3, 1976)
(65FR61743, October 17, 2000)	(Amended May 11, 2001)
<u>(79FR11228, February 27, 2014)</u>	<u>(Amended Date of Adoption)</u>

**SUBPART D NATIONAL EMISSION STANDARD FOR BERYLLIUM ROCKET MOTOR FIRING**

(38FR8826, April 6, 1973)	(Adopted Dec. 3, 1976)
(65FR61743, October 17, 2000)	(Amended May 11, 2001)
<u>(79FR11228, February 27, 2014)</u>	<u>(Amended Date of Adoption)</u>

<b>SUBPART E</b>	<b>NATIONAL EMISSION STANDARD FOR MERCURY</b>  (40FR48302, Oct. 14, 1975) (52FR8724, March 19, 1987) (65FR61743, October 17, 2000) <u>(79FR11228, February 27, 2014)</u>	(Adopted Dec. 3, 1976) (Amended May 5, 1989) (Amended May 11, 2001) <u>(Amended Date of Adoption)</u>
<b>SUBPART F</b>	<b>NATIONAL EMISSION STANDARD FOR VINYL CHLORIDE</b>  (41FR46564, Oct. 21, 1976) (51FR34904, Sept. 30, 1986) (55FR28346, July 10, 1990) (57FR60998, Dec. 23, 1992) (65FR61743, October 17, 2000)	(Adopted Dec. 3, 1976) (Amended Apr. 3, 1987) (Amended Oct. 4, 1991) (Amended April 8, 1994) (Amended May 11, 2001)
	<u>Note:</u> The requirements of Rule 1163, Control of Vinyl Chloride Emissions, also apply to sources of vinyl chloride.	
<b>SUBPART FF</b>	<b>NATIONAL EMISSION STANDARD FOR BENZENE WASTE OPERATIONS</b>  (55FR8292, March 7, 1990) (57FR8012, March 5, 1992) (58FR3072, Jan. 7, 1993) (65FR61743, October 17, 2000) (67FR68526, November 12, 2002) (68FR6082, February 6, 2003) (68FR67932, December 4, 2003)	(Adopted Oct. 4, 1991) (Amended April 9, 1993) (Amended April 8, 1994) (Amended May 11, 2001) (Amended May 7, 2004) (Amended May 7, 2004) (Amended May 7, 2004)
<b>SUBPART J</b>	<b>NATIONAL EMISSION STANDARD FOR EQUIPMENT LEAKS (FUGITIVE EMISSION SOURCES) FOR BENZENE</b>  (49FR23513, June 6, 1984) (53FR31801, Aug. 19, 1988) (65FR61743, October 17, 2000)	(Adopted Nov. 1, 1985) (Amended May 5, 1989) (Amended May 11, 2001)
<b>SUBPART L</b>	<b>NATIONAL EMISSION STANDARD FOR BENZENE EMISSIONS FROM MALEIC ANHYDRIDE PLANTS, ETHYLBENZENE/STYRENE PLANTS, BENZENE STORAGE VESSELS, BENZENE EQUIPMENT LEAKS, AND COKE BY-PRODUCT RECOVERY PLANTS</b>  (54FR38044, Sept. 14, 1989) (54FR50887, Dec. 11, 1989) (56FR47404, Sept. 19, 1991) (65FR61743, October 17, 2000)	(Adopted Sept. 7, 1990) (Amended Sept. 7, 1990) (Amended April 3, 1992) (Amended May 11, 2001)

**SUBPART M NATIONAL EMISSION STANDARD FOR ASBESTOS**

(38FR8826, April 6, 1973)	(Amended Oct. 5, 1984)
(49FR13658, April 5, 1984)	(Amended Oct. 5, 1984)
(51FR8199, March 10, 1986)	(Amended April 3, 1987)
(55FR48406, November 20, 1990)	(Amended Oct. 4, 1991)
(59FR542, January 5, 1994)	(Amended August 13, 1999)
(59FR31157, June 17, 1994)	(Amended August 13, 1999)
(60FR38725, July 28, 1995)	(Amended August 13, 1999)
(60FR65243, Dec. 19, 1995)	(Amended August 13, 1999)
(65FR61743, October 17, 2000)	(Amended May 11, 2001)
(68FR54790, September 18, 2003)	(Amended May 7, 2004)
(69FR43322, July 20, 2004)	(Amended Dec. 2, 2005)

**SUBPART N NATIONAL EMISSION STANDARD FOR INORGANIC ARSENIC EMISSIONS FROM GLASS MANUFACTURING PLANTS**

(51FR27956, August 4, 1986)	(Adopted April 3, 1987)
(65FR61743, October 17, 2000)	(Amended May 11, 2001)
<u>(79FR11228, February 27, 2014)</u>	<u>(Amended Date of Adoption)</u>

**SUBPART O NATIONAL EMISSION STANDARD FOR INORGANIC ARSENIC EMISSIONS FROM PRIMARY COPPER SMELTERS**

(51FR27956, August 4, 1986)	(Adopted April 3, 1987)
(65FR61743, October 17, 2000)	(Amended May 11, 2001)

**SUBPART P NATIONAL EMISSION STANDARD FOR INORGANIC ARSENIC EMISSIONS FROM ARSENIC TRIOXIDE AND METALLIC ARSENIC PRODUCTION FACILITIES**

(51FR27956, August 4, 1986)	(Adopted April 3, 1987)
-----------------------------	-------------------------

**SUBPART V NATIONAL EMISSION STANDARD FOR EQUIPMENT LEAKS**

**Proposed Amended Regulation X (Cont.)**

**(April 4, 2008 April 3, 2015)**

**(FUGITIVE EMISSION SOURCES)**

(49FR23513, June 6, 1984)  
(51FR34904, Sept. 30, 1986)

(Adopted Nov. 1, 1985)  
(Amended April 3, 1987)

**SUBPART Y NATIONAL EMISSION STANDARD FOR BENZENE  
STORAGE VESSELS**

(54FR38077, Sept. 14, 1989)  
(65FR61743, October 17, 2000)

(Adopted Sept. 7, 1990)  
(Amended May 11, 2001)

**APPENDIX B TEST METHODS**

(79FR11228, February 27, 2014)

(Amended Date of  
Adoption)

## ATTACHMENT D

### SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

---

#### ~~Draft~~ Final Staff Report

**Proposed Amended Regulation IX - Standards of Performance for New Stationary Sources, and Regulation X – National Emission Standards for Hazardous Air Pollutants**

**April 2015**

**Deputy Executive Officer**  
**Planning, Rule Development and Area Sources**  
Elaine Chang, DrPH

**Assistant Deputy Executive Officer**  
**Planning, Rule Development and Area Sources**  
Philip M. Fine, Ph.D.

---

**Author:** Tuyen-le Pham – Air Quality Specialist

**Contributor:** Barbara Radlein – Air Quality Specialist

**Reviewed By:** Tracy A. Goss, P.E. - Program Supervisor  
William Wong – Principal Deputy District Counsel



**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT  
GOVERNING BOARD**

Chairman: DR. WILLIAM A. BURKE  
Speaker of the Assembly Appointee

Vice Chairman: DENNIS YATES  
Mayor, Chino  
Cities of San Bernardino County

**MEMBERS:**

MICHAEL D. ANTONOVICH  
Supervisor, Fifth District  
County of Los Angeles

BEN BENOIT  
Mayor, Wildomar  
Cities of Riverside County

JOHN J. BENOIT  
Supervisor, Fourth District  
County of Riverside

JOE BUSCAINO  
Councilmember, 15<sup>th</sup> District  
City of Los Angeles Representative

MICHAEL A. CACCIOTTI  
Councilmember, South Pasadena  
Cities of Los Angeles County/Eastern Region

JOSEPH K. LYOU, Ph. D.  
Governor's Appointee

JUDITH MITCHELL  
Councilmember, 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 Committee Appointee

MIGUEL A. PULIDO  
Mayor, Santa Ana  
Cities of Orange County

JANICE RUTHERFORD  
Supervisor, Second District  
County of San Bernardino

**EXECUTIVE OFFICER:**

BARRY R. WALLERSTEIN, D.Env.

## **TABLE OF CONTENTS**

<b>I.</b>	<b>EXECUTIVE SUMMARY</b>	<b>1</b>
<b>II.</b>	<b>BACKGROUND</b>	<b>2</b>
<b>III.</b>	<b>LEGAL AUTHORITY</b>	<b>2</b>
<b>IV.</b>	<b>PROPOSED AMENDED REGULATIONS</b>	<b>2</b>
	<b>A. Regulation IX Proposal</b>	
	<b>B. Regulation X Proposal</b>	
<b>V.</b>	<b>SOCIOECONOMIC ASSESSMENT</b>	<b>7</b>
<b>VI.</b>	<b>CEQA ANALYSIS</b>	<b>7</b>
<b>VII.</b>	<b>FINDINGS UNDER THE HEALTH AND SAFETY CODE</b>	<b>8</b>
<b>VIII.</b>	<b>CONCLUSIONS AND RECOMMENDATIONS</b>	<b>9</b>

## I. EXECUTIVE SUMMARY

U.S. EPA periodically promulgates new or amends existing Standards of Performance for New Stationary Sources (NSPS) and National Emission Standards for Hazardous Air Pollutants (NESHAP). NSPS govern the operations of all new, modified, or reconstructed sources of air pollution identified in the Code of Federal Regulations (CFR), Title 40, Chapter I, Subchapter C, Part 60 (40 CFR Part 60). NESHAP govern the operations of new and existing sources identified in the CFR, Title 40, Chapter I, Subchapter C, Part 61 (40 CFR Part 61) that emit substances designated as hazardous air pollutants pursuant to §112 of the Clean Air Act (CAA) Amendments.

To directly implement NSPS and NESHAP requirements at the local level as authorized by U.S. EPA pursuant to §301 and §§ 110, 111(c)(1), and 112(d)(1) of the CAA, SCAQMD's Board initially adopted various NSPS by reference as Regulation IX and various NESHAP as Regulation X on December 3, 1976. The adoption of NSPS and NESHAP by reference into Regulations IX and X, respectively, provides stationary sources with a single source of information for determining appropriate federal and local requirements for their specific operations. The NSPS and NESHAP standards are in effect and enforceable by SCAQMD regardless of whether SCAQMD incorporates them into Regulations IX and X. The Board has since periodically amended Regulations IX and X to incorporate new or amended standards as necessary. Regulation IX was last amended April 6, 2012 and Regulation X was last amended April 4, 2008.

In 1997, U.S. EPA delegated and/or re-delegated its authority to SCAQMD for specific sections of 40 CFR Parts 60 and 61. In 2006, 2007, 2009, 2010, 2011, and 2012, SCAQMD requested U.S. EPA delegation and re-delegation of authority for specific sections of 40 CFR Part 60 following Regulation IX amendments.

Pursuant to the 1990 Amendments to the federal CAA, U.S. EPA has established maximum achievable control technology (MACT) standards for new and existing major sources of hazardous air pollutants. The MACT standards are published in CFR, Title 40, Chapter I, Subchapter C, Part 63 (40 CFR Part 63). U.S. EPA delegated the authority for the implementation and enforcement of 40 CFR Part 63 to SCAQMD on February 27, 1997. However, SCAQMD has not established a separate regulation to incorporate the MACT standards by reference. Instead, the MACT standards are directly implemented through SCAQMD's Regulation XXX – Title V Permits, in accordance with U.S. EPA's federal Title V program requirements in CFR, Title 40, Chapter 1, Subchapter C, Part 70 – State Operating Permit Programs Categories (40 CFR Part 70).

## II. BACKGROUND

On December 3, 1976, SCAQMD's Board initially adopted various NSPS by reference as Regulation IX and various NESHAP as Regulation X. The adoption of NSPS and NESHAP by reference into Regulations IX and X, respectively, provides stationary sources with a single source of information for determining appropriate federal and local requirements for their specific operations. Since sources of air pollution are required to comply with the most stringent federal, state, and local standards, criteria, and requirements set forth in Regulations IX and X and other applicable AQMD rules, the NSPS and NESHAP standards are in effect and enforceable by SCAQMD regardless of whether SCAQMD incorporates them into Regulations IX and X. The Governing Board has since periodically amended Regulations IX and X to incorporate new or amended standards as necessary. Regulation IX was last amended April 6, 2012 and Regulation X was last amended April 4, 2008.

In 1997, U.S. EPA delegated and/or re-delegated its authority to SCAQMD for specific sections of 40 CFR Parts 60 and 61, as listed in the April 23, 1997 Federal Register, Volume 62, No. 78, 19679 – 19682. In 2006, 2007, 2009, 2010, 2011, and 2012, SCAQMD subsequently requested for U.S. EPA delegation and/or re-delegation of authority for specific sections of 40 CFR Part 60 following Regulation IX amendments.

## III. LEGAL AUTHORITY

Pursuant to §301 and §§110, 111(c)(1), and 112(d)(1) of the CAA, U.S. EPA is authorized to delegate authority to implement and enforce standards and related compliance periods for new, modified, or reconstructed sources of air pollution set forth in 40 CFR Part 60 and Part 61, to local air districts.

Adoption of new and amended NSPS and NESHAP into SCAQMD Regulations IX and X, respectively by reference, formally recognizes SCAQMD's authority to assist in the implementation and enforcement of these federal regulations at the local level.

The SCAQMD also has its authority to adopt, amend, or repeal rules and regulations from Health and Safety Code §§39002, 39650 et seq. 40000, 40001, 40440, 40441, 40702, and 40725 through 40728, and 41700.

## IV. PROPOSED AMENDMENTS

### A. *REGULATION IX PROPOSAL*

The updates included in this proposal reflect federal actions primarily between July 1, 2011 and December 31, 2014. One new NSPS for VOC emission was promulgated in 2012 by U.S. EPA for certain oil and gas production activities not covered by previous regulation, such as gas wells, centrifugal and reciprocal compressors, pneumatic controllers, and storage vessels. In addition, twelve delegable NSPS actions were amended by

U.S. EPA during this time period between July 1, 2011 and December 31, 2014. They are: (1) general provisions; (2) particulate matter (PM) standards at startup and shutdown for steam generating units; (3) oxides of nitrogen (NO<sub>x</sub>), sulfur dioxide (SO<sub>2</sub>), PM, and opacity limits for hospital/medical/infectious waste incinerators (HMIWI); (4) PM standards for Portland cement industry; (5) alternative testing for spark ignition internal combustion (IC) engines and time limit related to malfunction of compression ignition IC engines; (6) NO<sub>x</sub> limit for process heaters and SO<sub>2</sub> standards for flares at petroleum refineries; (7) PM standards and opacity limits for recovery furnaces, smelt dissolving tanks, and lime kilns at Kraft pulp mills; (8) SO<sub>2</sub> standards for sweetening units and volatile organic compound (VOC) emission leaks at on-shore natural gas processing plants; (9) applicability, definition, and compliance provisions of commercial and industrial solid waste incinerators; (10) flow back provision of gas wells and VOC potential to emit (PTE) of storage vessels from crude oil and natural gas production; (11) test methods and performance specifications for various operations; and (12) quality assurance/quality control (QA/QC) for continuous opacity monitoring systems.

In addition, U.S. EPA also included minor revisions and clarifications to various subparts of 40 CFR Part 60. Since U.S. EPA does not delegate emission guidelines to the SCAQMD, the subparts related to emission guidelines are not listed for inclusion in the proposed amendments. U.S. EPA also amended various subparts of 40 CFR Part 60 related to its revised test methods.

Table 1 lists the NSPS currently proposed for incorporation by reference into SCAQMD Regulation IX.

**Table 1. NSPS Proposed for Incorporation into Regulation IX**

<b>40 CFR Part 60</b>	<b>Title</b>	<b>U.S. EPA Action (date)</b>	<b>Reference</b>	<b>New Promulgation, Amendment, and Affected Provision</b>
Subpart A	General Provisions	Final Rule, Amendment (February 27, 2014)	79 FR 11228, Vol. 79, No. 39	General Provisions to reflect revisions to definitions, test methods, etc.

**Table 1. NSPS Proposed for Incorporation into Regulation IX (cont.)**

<b>40 CFR Part 60</b>	<b>Title</b>	<b>U.S. EPA Action (date)</b>	<b>Reference</b>	<b>New Promulgation, Amendment, and Affected Provision</b>
Subpart Da	NSPS for Electric Utility Steam Generating Units	Final Rule, Amendment (November 19, 2014)	79 FR 68777, Vol. 79, No. 223	Startup and shutdown PM standards for utility steam generating units
Subpart Ec	NSPS for Hospital/Medical/ Infectious Waste Incinerators	Final Rule, Amendment, (May 13, 2013)	78 FR 28052, Vol. 78, No. 92	NO <sub>x</sub> , SO <sub>2</sub> , PM, and opacity limits for hospital/medical/ infectious waste incinerators
Subpart F	NSPS for Portland Cement Plants	Final Rule, Amendment, (February 12, 2013)	78 FR 10006, Vol. 78, No. 29	PM standards for modified, and new & reconstructed sources at Portland cement plants
Subpart III	NSPS for Stationary Compression Ignition Internal Combustion Engines	Final Rule, Amendment, (January 30, 2013)	78 FR 6674, Vol. 78, No. 20	Time limit related to malfunction of compression ignition IC engines
Subpart JJJ	NSPS for Stationary Spark Ignition Internal Combustion Engines			Alternative testing for certain large spark ignition reciprocal IC engines
Subparts Ja	NSPS for Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After May 14, 2007	Final Rule, Amendment, (September 12, 2012)	77 FR 56422, Vol. 77, No. 177	NO <sub>x</sub> emission limit for process heaters and SO <sub>2</sub> standards for flares at newly constructed, reconstructed, or modified petroleum refineries
Subparts BB and BBa	NSPS for Kraft Pulp Mills and Kraft Pulp Mill Affected Sources for Which Construction, Reconstruction, or Modification Commenced After May 23, 2013	Final Rule, Amendment, (April 4, 2014)	79 FR 18951, Vol. 79, No. 65	PM standards and opacity limits for recovery furnaces, smelt dissolving tanks, and lime kilns at Kraft pulp mills

**Table 1. NSPS Proposed for Incorporation into Regulation IX (cont.)**

<b>40 CFR Part 60</b>	<b>Title</b>	<b>U.S. EPA Action (date)</b>	<b>Reference</b>	<b>New Promulgation, Amendment, and Affected Provision</b>
Subpart LLL	NSPS for SO <sub>2</sub> Emissions from On-Shore Natural Gas Processing for Which Construction, Reconstruction, or Modification Commenced After January 20, 1984, and On or Before August 23, 2011	Final Rule, Amendment, (August 16, 2012)	77 FR 49490, Vol. 77, No. 159	SO <sub>2</sub> emission standards for sweetening units at on-shore natural gas processing plants
Subpart KKK	NSPS for Equipment Leaks of VOC from Onshore Natural Gas Processing Plants for Which Construction, Reconstruction, or Modification Commenced After January 20, 1984, and On or Before August 23, 2011	Final Rule, Amendment, (August 16, 2012)	77 FR 49490, Vol. 77, No. 159	VOC emission limit for equipment leaks at on-shore natural gas processing plants
Subpart CCCC	NSPS for Commercial and Industrial Solid Waste Incineration Units	Final Rule, Amendment (February 7, 2013)	78 FR 9111 Vol. 78, No. 26	Applicability, definition, and compliance provisions of commercial and industrial solid waste incinerators

**Table 1. NSPS Proposed for Incorporation into Regulation IX (cont.)**

<b>40 CFR Part 60</b>	<b>Title</b>	<b>U.S. EPA Action (date)</b>	<b>Reference</b>	<b>New Promulgation, Amendment, and Affected Provision</b>
Subpart OOOO	NSPS for Crude Oil and Natural Gas Production, Transmission, and Distribution	Final Rule, <i>New NSPS</i> (August 16, 2012)  Amendment, (December 31, 2014)	77 FR 49490 Vol. 79, No. 159  79 FR 79018 Vol. 79, No. 250	New NSPS for VOC for certain oil & gas productions not covered by existing standards (i.e., gas wells, centrifugal compressors, reciprocal compressors, pneumatic controllers, and storage vessels)  Flow back provision of gas wells and VOC potential to emit of storage vessels from crude oil & natural gas production
Appendices A1-A8 and B	Test Methods and Performance Specifications	Final Rule, Amendment, (February 27, 2014)	79 FR 11228 Vol. 79, No. 39	Test methods and performance specifications, and related subparts
Appendix F	Quality Assurance Procedures	Final Rule, Amendment, (February 27, 2014)	79 FR 11228 Vol. 79, No. 39	Quality assurance procedures for continuous opacity monitoring systems (Appendix F)

**B. REGULATION X PROPOSAL**

Two delegable NESHAP actions were amended by U.S. EPA between July 1, 2011 and December 31, 2014 and are proposed for incorporation by reference into Regulation X. These actions include amendments to the general provisions for restructuring stationary source audit programs, and amendments to the testing regulations and test methods.

Table 2 lists the NESHAP currently proposed for incorporation by reference into SCAQMD Regulation X.



**Table 2. NESHAP Proposed for Incorporation into Regulation X**

<b>40 CFR Part 61</b>	<b>Title</b>	<b>U.S. EPA Action (date)</b>	<b>Reference</b>	<b>New Promulgation, Amendment, and Affected Provision</b>
Subpart A	General Provisions	Final Rule, Amendment (February 27, 2014)	79 FR 11228, Vol. 79, No. 39	General Provisions to reflect revisions to definitions, test methods, etc.
Appendix B and Subparts C, E, D, and N	Test Methods and Testing Regulations	Final Rule, Amendment (February 27, 2014)	79 FR 11228, Vol. 79, No. 39	Test methods and related subparts C, D, E, and N

## V. SOCIOECONOMIC ASSESSMENT

The proposed NSPS and NESHAP amendments of Regulations IX and X do not impose new requirements beyond existing and enforceable the federal regulations and thus do not significantly affect air quality or emissions limitations beyond U.S. EPA's analysis. As such, there will be no socioeconomic impacts beyond what was identified for the federal NSPS and NESHAP standards and requirements.

## VI. CEQA ANALYSIS

The SCAQMD has reviewed the proposed amendments to Regulations IX and X pursuant to CEQA Guidelines §15002 (k) – General Concepts, the three-step process for deciding which document to prepare for a project subject to CEQA and CEQA Guidelines §15061 – Review for Exemption, procedures for determining if a project is exempt from CEQA. Because the SCAQMD is proposing to incorporate federal NSPS and NESHAP requirements by reference into Regulations IX and X, respectively, without exercising discretion with regard to the proposed amendments, the project is considered to be ministerially exempt from CEQA pursuant to CEQA Guidelines §15268 – Ministerial Projects. Furthermore, the proposed amendments are considered to be categorically exempt because they are considered actions to protect or enhance the environment pursuant to CEQA Guidelines §15308 – Actions By Regulatory Agencies For Protection Of The Environment. A Notice of Exemption has been prepared pursuant to CEQA Guidelines §15062 - Notice of Exemption. If the project is approved, the Notice of Exemption will be filed with the county clerks of Los Angeles, Orange, Riverside and San Bernardino counties.

## **VII. FINDINGS UNDER THE HEALTH AND SAFETY CODE**

Health and Safety Code Section 40727 requires the AQMD to adopt written findings of necessity, authority, clarity, consistency, non-duplication and reference.

### **Necessity**

The SCAQMD Governing Board has determined that a need exists to amend Regulations IX and X to provide a mechanism for local enforcement and provide information to affected facilities of these federal standards.

### **Authority**

The SCAQMD Governing Board obtains its authority to adopt, amend, or repeal rules and regulations from §§ 39002, 39650 et seq. 40000, 40001, 40440, 40441, 40702, and 40725 through 40728, and 41700 of the Health and Safety Code.

### **Clarity**

The SCAQMD Governing Board has determined that the proposed amendments to Regulations IX and X are written or displayed so that their meanings can be easily understood by the persons directly affected by them.

### **Consistency**

The SCAQMD Governing Board has determined that the proposed amendments to Regulations IX and X are in harmony with, and not in conflict with or contradictory to, existing statutes, court decisions, or state or federal regulations.

### **Non-Duplication**

The SCAQMD finds that the proposed amendments to Regulations IX and X represent an adoption by reference of federal NSPS and NESHAP requirements, respectively, and that the proposed amendments to Regulations IX and X fall within the criteria and requirements in Health and Safety Code §40727.2(g).

### **Reference**

The SCAQMD Governing Board, in adopting amendments to Regulations IX and X, references the following statutes which the SCAQMD hereby implements, interprets, or makes specific: Title 42 U.S.C. Section 7411 (performance standards for new stationary sources), Title 42 U.S.C. Section 7412 (National Emissions Standards for Hazardous Air Pollutants), Health and Safety Code §§ 40001(a) (air quality standards), 40001 (b) (air pollution episodes), 40440 (a) (rules to carry out plan), 40702 (adopt regulations to execute duties), 42301 (permit system), and 41700 (nuisance)

As the proposed amendments reference existing 40 CFR Parts 60 and 61 standards, an analysis of alternatives, comparative analysis or incremental cost analysis is not necessary.

### **VIII. CONCLUSION AND RECOMMENDATION**

Proposed amendments to Regulations IX and X adopt by reference existing 40 CFR Parts 60 and 61 standards. Such actions in the past have provided stationary facilities with a single source of information for determining which federal, as well as local, requirements apply to their specific operations. The proposed amendments will continue this practice. The proposed amendments will not be submitted into the SIP, rather staff will request delegation for the new and re-delegation for the amended federal standards.



# South Coast Air Quality Management District

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

**SUBJECT: NOTICE OF EXEMPTION FROM THE CALIFORNIA ENVIRONMENTAL QUALITY ACT**

**PROJECT TITLE: PROPOSED AMENDED REGULATION IX - STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES, AND, REGULATION X – NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS**

Pursuant to the California Environmental Quality Act (CEQA) Guidelines, the South Coast Air Quality Management District (SCAQMD) is the Lead Agency and has prepared a Notice of Exemption for the project identified above.

The proposed project is amending Regulation IX – Standards of Performance for New Stationary Sources (NSPS), and, Regulation X – National Emission Standards for Hazardous Air Pollutants (NESHAP), to conform with federal requirements. SCAQMD staff has reviewed the proposed project pursuant to CEQA Guidelines §15002 (k) – General Concepts, the three-step process for deciding which document to prepare for a project subject to CEQA and CEQA Guidelines §15061 – Review for Exemption, procedures for determining if a project is exempt from CEQA.

Because the SCAQMD is proposing to incorporate federal NSPS and NESHAP requirements by reference into Regulations IX and X, respectively, without exercising discretion with regard to the proposed amendments, the project is considered to be ministerially exempt from CEQA pursuant to CEQA Guidelines §15268 – Ministerial Projects. Furthermore, the proposed amendments are considered to be categorically exempt because they are considered actions to protect or enhance the environment pursuant to CEQA Guidelines §15308 – Actions By Regulatory Agencies For Protection Of The Environment. A Notice of Exemption has been prepared pursuant to CEQA Guidelines §15062 - Notice of Exemption. If the proposed project is approved, the Notice of Exemption will be filed with the county clerks of Los Angeles, Orange, Riverside and San Bernardino counties.

Any questions regarding this Notice of Exemption should be sent to Barbara Radlein (c/o Planning, Rule Development and Area Sources) at the above address. Ms. Radlein can also be reached at (909) 396-2716. Ms. Tuyet-le Pham is also available at (909) 396-3299 to answer any questions regarding the proposed amendments.

**Date:** February 5, 2015

**Signature:** \_\_\_\_\_

Michael Krause  
Program Supervisor, CEQA Section  
Planning, Rules, and Area Sources

## NOTICE OF EXEMPTION

---

**To:** County Clerks  
Counties of Los Angeles, Orange,  
Riverside and San Bernardino

**From:** South Coast Air Quality Management District  
21865 Copley Drive  
Diamond Bar, CA 91765

---

**Project Title:**

Proposed Amended Regulation IX – Standards of Performance for New Stationary Sources, and, Regulation X – National Emission Standards for Hazardous Air Pollutants

---

**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:**

The purpose of the proposed amendments is to incorporate by reference federal New Source Performance Standards (NSPS) into Regulation IX and National Emission Standards for Hazardous Air Pollutants (NESHAP) requirements into Regulation X. The incorporation by reference of NSPS requirements into Regulation IX and NESHAP requirements into Regulation X recognizes the SCAQMD's authority to implement and enforce these federal regulations at the local level.

---

**Public Agency Approving Project:**

South Coast Air Quality Management District

**Agency Carrying Out Project:**

South Coast Air Quality Management District

---

**Exempt Status:**

CEQA Guidelines §15002 (k)(1) - General Concepts (Three Step Process)

CEQA Guidelines §15061 - Review for Exemption

CEQA Guidelines §15268 - Ministerial Projects

CEQA Guidelines §15308 - Actions By Regulatory Agencies For Protection Of The Environment (Class 8 Categorical Exemption)

---

**Reasons why project is exempt:**

Staff has reviewed the proposed project pursuant to CEQA Guidelines §15002 (k) – General Concepts, the three-step process for deciding which document to prepare for a project subject to CEQA and CEQA Guidelines §15061 – Review for Exemption, procedures for determining if a project is exempt from CEQA. Because the SCAQMD is incorporating federal NSPS and NESHAP requirements by reference into Regulations IX and X, respectively, without exercising discretion with regard to the proposed amendments, the project is considered to be ministerially exempt from CEQA pursuant to CEQA Guidelines §15268 – Ministerial Projects. Furthermore, the proposed amendments are considered categorically exempt because they are considered actions to protect or enhance the environment pursuant to CEQA Guidelines §15308 – Actions By Regulatory Agencies For Protection Of The Environment.

---

**Project Approval Date:**

SCAQMD Governing Board Hearing: April 3, 2015, 9:00 a.m.; SCAQMD Headquarters

---

**CEQA Contact Person:**

Ms. Barbara Radlein

**Phone Number:**

(909) 396-2716

**Fax Number:**

(909) 396-3324

**Email:**

bradlein@aqmd.gov

---

**Regulations Contact Person:**

Ms. Tuyet-le Pham

**Phone Number:**

(909) 396-3299

**Fax Number:**

(909) 396-3324

**Email:**

tpham@aqmd.gov

---

**Date Received for Filing:** \_\_\_\_\_

**Signature:** \_\_\_\_\_

*(Signed Upon Project Approval)*

Michael Krause  
Program Supervisor, CEQA Section  
Planning, Rule Development & Area Sources

BOARD MEETING DATE: April 3, 2015

AGENDA NO. 28

**PROPOSAL:** Receive Public Input on Executive Officer's Draft Goals and Priority Objectives for FY 2015-16

**SYNOPSIS:** A set of goals and priority objectives for the FY 2015-16 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 13, 2015; Recommended for Approval

**RECOMMENDED ACTION:**

Receive public input today and then include draft Goals & Priority Objectives as part of the set Public Hearing package for May 1, 2015 to adopt the FY 2015-16 SCAQMD Budget.

Barry R. Wallerstein, D.Env.  
Executive Officer

MBO

---

**Background**

Each year, as part of the budget process, staff brings forward to the Board and public the Executive Officer's Draft Goals and Priority Objectives for the new budget year. These goals and priority objectives (Attachment 1), which may be modified as a result of public input and Board direction, will be used in developing next year's work program and budget request.

Additionally, a status update for FY 2014-15 goals and priority objectives (Attachment 2) which highlights select activities is provided to demonstrate the positive outcomes being realized through SCAQMD efforts on annual goals and priority objectives.

A public workshop to present the SCAQMD's Budget and Work Program request for FY 2015-16 has been planned for April 10, 2015. The draft Budget and Work Program is expected to be available for public review in April.

**Attachments**

Executive Officer's Draft Goals & Priority Objectives for FY 2015-16 (Attachment 1)  
Executive Officer's Goals & Priority Objectives Status for FY 2014-15 (Attachment 2)

ATTACHMENT 1



**EXECUTIVE OFFICER'S**

**DRAFT GOALS AND PRIORITY OBJECTIVES**

**FY 2015-2016**

**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT  
DRAFT GOALS AND PRIORITY OBJECTIVES FOR FY 2015-16**

**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 2015-16.

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

Priority Objective/Project	Outcome
1. Development of the 2016 AQMP	Develop and adopt a comprehensive attainment strategy using the latest technical and planning assumptions to meet the federal 8-hour ozone (75 ppb) and annual PM2.5 (12 µg/m <sup>3</sup> ) air quality standards by statutory deadlines. The plan will also update the 1-hour ozone and the 1997 8-hour ozone SIPs, as necessary, to demonstrate progress toward attainment. Conduct modeling to demonstrate attainment of the standards with the application of the control strategy. Identify and implement early action measures to further ensure attainment of federal 24-hour PM2.5 standard.
2. Implementation of OEHHA Revised Health Risk Assessment Guidelines	Update and implement policies, rules and associated programs to implement OEHHA Revised Health Risk Assessment Guidelines for SCAQMD (i.e., rule amendments, permitting, AB2588, and CEQA). Provide outreach and training regarding risk communication and implementation of the Revised OEHHA Health Risk Assessment Guidelines.
3. Implementation of socioeconomic analysis enhancements	Implement the action plan approved by the Governing Board at its October 2014 meeting to address the recommendations contained in the November 2014 Abt Associates report.



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

Priority Objective/Project	Outcome
4. Development of the 2016 Air Toxics Control Plan	In response to the findings in MATES IV, develop a control plan to further reduce air toxics exposure in the Basin. The air toxics control plan will be presented as part of the 2016 AQMP with consistent inventory and modeling methodologies. The control strategy will identify toxic reduction co-benefits from the AQMP and climate change measures.
5. Further develop enhanced emissions/ambient monitoring capabilities	Conduct comprehensive research by evaluating a variety of advanced optical remote sensing technologies for the purposes of providing SCAQMD and the public with enhanced real- and near-real-time monitoring capabilities that will ultimately result in improved control efficiencies and compliance. Four advanced optical technologies will be initiated and demonstrated in the field to characterize fugitive VOC emissions from refineries, gas stations, oil wells, and other small point sources. Complete in-stack and ambient real-time metals monitoring demonstration.
6. Demonstration programs for CNG police vehicles and zero-emission police vehicles	Develop and demonstrate alternative fuel and zero-emission police vehicles in the South Coast. Initiate contracts for the development of a CNG police pursuit vehicle and a zero-emission pursuit vehicle. The vehicles (cars, trucks and motorcycles) will be part of a loaner program to gain real-world experience for both police departments and the technology providers.
7. Zero-emission lawn and garden equipment	Conduct a loaner program for zero-emission lawn and garden equipment to promote their environmental benefits and efficacy in a commercial environment, including local government.
8. Next-generation natural gas engine/hybrid vehicles	Develop natural gas heavy-duty engines that are 90% cleaner than current emissions standard for NOx, including the option for integration with hybrid systems and alternative fuels that will provide additional NOx reductions.
9. Develop and demonstrate zero-emission goods movement technologies	Continue to work with the DOE, CEC, the Ports and others to develop and demonstrate zero-emission miles in goods movement technologies. Coordinate these actions with policy efforts in Washington DC and national outreach efforts to develop a supportive stakeholder network.
10. Updating and enhancements to the Carl Moyer Program	Pursue legislative changes to the Carl Moyer Program through the joint efforts of CARB and CAPCOA to enhance the program objectives by allowing expansion of project categories, leveraging of funds, inclusion of greenhouse gases, increasing cost-effectiveness limit to fund advanced technologies, and improving implementation efficiency.
11. Proposition 1B-Goods Movement Program	Secure SCAQMD's share of funds for the last round of bond sales (estimated to be around \$240 million), and implement goods movement modernization projects in accordance with CARB's program guidelines.
12. Incentive Funding Programs	Continue the implementation of the Carl Moyer, Lower-Emission School Bus, Lawnmower Exchange, fireplace/woodstove conversion (Mira Loma area), and other incentive funding

programs to achieve early and surplus emissions reductions.

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

Priority Objective/Project	Outcome
13. 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 20,000 site visits for compliance evaluations and perform inspections of 3,300 portable equipment and 1,800 Asbestos demolition or renovation activities. Continue targeted evaluation program for select industries, including but not limited to, metal processing, and oil production. Conduct 40 Team Inspections at selected facilities.
14. Ensure compliance through a program that includes timely processing of permit applications for stationary sources	Process a total of 7,000 applications, including 1,800 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 small business owners about the agency and compliance. Continue the program's expanded outreach to help ensure continued compliance through efforts to more widely distribute the Air Quality Permit Checklist and through the ongoing Expired Permit Outreach Program. Continue to hold meetings with the permit streamlining working group.
15. Continue to implement SCAQMD's Environmental Justice (EJ) policies and programs, and other initiatives directed at equitable treatment for all communities and sensitive populations	Work with residents and community leaders in disproportionately impacted communities to remedy their air quality concerns. Increase partnerships with health, educational, and other organizations in impacted communities. Better communicate, coordinate and streamline agency response to EJ-related concerns, in part through the execution of SCAQMD's Environmental Justice Community Partnership, a new initiative offering quarterly training and forums to maintain and grow the agency's partnership with both EJ thought leaders and community stakeholders, while increasing awareness of SCAQMD's targeted efforts to mitigate air pollution specifically in and around adversely impacted EJ communities. Prioritize 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.
16. 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. Examine how social media can be incorporated into the program to provide timely information to the general as well as impacted public.

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

<b>Priority Objective/Project</b>	<b>Outcome</b>
17. Prioritize prosecution of high-impact enforcement cases to maximize deterrence for air pollution violations and protect public health	Enhance prosecution of high-impact enforcement cases, such as prosecutions of major or serial violators, major air toxics 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.
18. Work proactively on drought-related air quality impacts and needed response	Continue implementation of drought response plan and revise as necessary.
19. Develop and demonstrate low-emission energy generation technology as well as energy storage options	Continue demonstration projects and continue working with stakeholders to facilitate additional power options.

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

<b>Priority Objective/Project</b>	<b>Outcome</b>
1. Continue implementation of the Clean Communities Plan Pilot Studies in Boyle Heights and San Bernardino and complete implementation of the U.S. EPA Targeted Air Shed Grant	Complete the implementation of the Clean Communities Plan Pilot Studies in Boyle Heights and San Bernardino.
2. Fully deploy newly established testing center, AQ-SPEC	Conduct large-scale testing of emerging “low-cost sensors” for accuracy and performance, communicate findings to the public and explore collaborative opportunities with entities interested in utilizing such sensors for community-based monitoring.
3. Demonstrate viability for car scrapping and vouchers for cleaner vehicles in disadvantaged communities	Complete pilot programs to encourage disadvantaged community members to participate more fully in the Enhanced Fleet Modernization Program (EFMP). Provide enhanced outreach and incentives for users to scrap their eligible vehicles and obtain vouchers for cleaner new and used vehicles or transit passes.
4. Employ the latest communication technologies; engage in community based programs and outreach events; and foster relationships with traditional media outlets	Creatively and actively engage the public, through town hall and community meetings, video and PSA messages relayed through local cable and Public, Education and Government channels, specifically themed or targeted outreach events linked to public interest and environmental and health concerns. Further improve agency engagement with the public through more effective use of website, video and social and digital media tools (i.e. smartphone app, the digital Advisor, Facebook, Twitter), as well as the integration of other possible communication platforms. Launch a comprehensive social media campaign.
5. Continue timely response to community complaints	Respond to all air quality complaints received by SCAQMD in a timely manner.

**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 and opportunities to ensure a smooth transition of key leadership positions within the agency.
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	Continue the phased replacement of server and desktop hardware and software. Expand server virtualization and private cloud capabilities, along with public cloud capabilities. Explore the implementation of a Big Data Analytics platform for agency use. Complete work with Legal's Contractor to implement and integrate CourtView's JWorks caseflow management software. Complete data migration, document management, and synchronization among systems that share case-related information. Continue modernization of SCAQMD business applications by developing and implementing a web-based portal to provide compliance, financial, and permitting information to improve overall agency effectiveness and operational activities. Expand GIS infrastructure to provide enhanced access capabilities across all computing devices including desktops, laptops, tablets and mobile phones. Continue expansion of SCAQMD's e-government/e-commerce capabilities by providing on-line permit application and compliance notification form filing.
3. Provide excellent customer service to all stakeholders	Ensure that all stakeholders are treated as partners, and that regulations, requirements and objectives are made clear early in the permitting, rulemaking and planning processes. Work with stakeholders in a cooperative and collaborative manner toward air quality goals and related activities in a timely and cost-effective manner, always seeking to balance priorities of public health protections, business retention, economic growth, and job creation, while meeting Federal and State Clean Air Laws.
4. Build and maintain partnerships with public agencies, stakeholder groups and the business community	Further enhanced outreach programs to public agencies in areas including, but not limited to, rulemaking and rule implementation and enforcement, regional air quality impacts and attainment strategies, and other issues affecting public agencies, especially local government. Develop partnerships with local jurisdictions and regional agencies, and seek cooperative strategies for achieving air quality goals and objectives while supporting local control and sustainable economic growth, and leveraging local efforts to improve the health and well-being of residents. Develop new partnerships with the business and regulated communities, as well as environmental justice, environmental, health-based organizations, and community groups – especially environmentally conscientious youth groups – through outreach to, and participation in, various activities, conferences, and other opportunities to cultivate early and continuing cooperative relationships. Build relationships outside of California to broaden support for SCAQMD's federal priorities.

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

<b>Priority Objective/Project</b>	<b>Outcome</b>
5. Ensure rulemaking is transparent and inclusive	Implement early and continuing outreach to affected and interested stakeholders, including businesses, local agencies, environmental justice and environmental groups, and affected communities in the rulemaking process, and provide ample opportunity for input and collaboration.

ATTACHMENT 2



**EXECUTIVE OFFICER'S  
GOALS AND PRIORITY OBJECTIVES**

**FY 2014-2015  
STATUS REPORT**

**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT  
FY 2014-2015 STATUS REPORT ON EO GOALS AND PRIORITY OBJECTIVES**

**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 Status
1. Implement 2012 AQMP	Efforts continued to implement 2012 AQMP Control Measure CMB-01 (Further NOx Reductions from RECLAIM) which involves evaluation of Best Available Retrofit Control Technology (BARCT) as well as development of the shaving methodology. It was preliminarily determined the programmatic shave could range from 5 to 14 tons per day (tpd) of NOx emissions, above the 2 to 5 tpd reduction commitment in the 2012 AQMP. In addition, there were ongoing rulemaking efforts on 2012 AQMP measures that seek further reductions of volatile organic compounds (VOCs) from sources such as adhesive and sealant applications (Rule 1168), mold release products (Rule 1161) and vacuum trucks (Rule 1188). A Supplement to the PM2.5 SIP was prepared to meet planning requirements under Subpart 4 of the Clean Air Act, including an extended attainment demonstration for 2015. (See monthly Governing Board agendas for more detail.)

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

Priority Objective/Project	Outcome Status
<p>2. Initiate development of 2016 AQMP</p>	<p>The technical analyses for the 2016 AQMP were initiated, including the implementation of updated modeling and inventory tools. The AQMP Advisory Group, comprised of over 50 stakeholders, met three times in 2014 to discuss regulatory updates, emission inventories, and the development of ten white papers designed to establish technical information supporting a discussion of policy issues important to the 2016 AQMP. White papers include topics such as goods movement, transportation, energy, PM and VOC controls, and the business case for clean air. Working groups for each white paper met on a periodic basis to discuss respective topics and develop outlines of the white papers. In addition, pursuant to legal statute, an analysis of RACT/RACM and a preliminary emissions inventory was submitted to U.S. EPA to comply with an interim deadline. Finally, a third-party review of the SCAQMD socioeconomic assessment procedures and methodologies was concluded and recommendations were presented to the AQMP Advisory Group as well as Governing Board for discussion of future directions.</p>
<p>3. Ensure compliance through a program that includes using community-based and/or industry-specific deployment of field personnel</p>	<p>In the first half of Fiscal Year 2014-15, highlights include:  Inspected 251 major sources (&gt;47% of all major sources) and made 216 inspections at Chrome Plating facilities (&gt;86% of the total 126 Chrome Plating facilities were inspected quarterly). Conducted 8,228 site visits (equipment inspections, breakdown investigations, compliance evaluations and complaint responses). Performed site visits and inspected 1,646 portable equipment. Conducted 887 inspections at Asbestos Demolition and/or Renovation sites.</p> <p>Conducted &gt;100 inspections, surveillances and complaint responses related to Oil &amp; Gas Production facilities.</p> <p>Conducted &gt;50 Team &amp; Joint Inspections at various facilities. In addition, performed targeted inspections at metal processing facilities and responded to complaints and conducted surveillances regarding wood burning on days declared as No-Burn Days.</p>



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

Priority Objective/Project	Outcome Status
<p>4. Prioritize prosecution of high-impact enforcement cases to maximize deterrence for air pollution violations and protect public health</p>	<p>Required lead-acid battery-recycling facility to cease operation pending installation of air-pollution control equipment by: obtaining order for abatement; opposing variance proceeding; and opposing motion for preliminary injunction in lawsuit challenging new SCAQMD lead rule. Pursued enforcement action in state court against same facility. Obtained preliminary injunction to remedy violations of a previously-issued Order for Abatement against a wastewater-processing facility that created a public nuisance and released toxic hydrogen sulfide fumes affecting a large area of the District.</p> <p>Recovered an \$8.1 million penalty against a refinery for allowing unrecorded gases to flow to a flare through two unmonitored pipes, thereby violating conditions on the refinery’s Title V permit. Recovered a \$6 million penalty against another refinery for nearly 5,000 violations of a leak detection and repair rule which requires facilities to identify all components in heavy liquid service and repair those that are leaking beyond specified limits.</p>
<p>5. Ensure compliance through a program that includes timely processing of permit applications for stationary sources</p>	<p>In first half of Fiscal Year 2014-15, highlights include: Processed 3,165 applications for Permits, Compliance Plans and Emission Reduction Credits (ERCs) and issued 827 Permits to Construct for new and modified equipment and relocations. Processed and issued 63 Title V Permit Renewals. Reconvened Permit Streamlining Working Groups and held multiple meetings with various stakeholders. Initiated outreach to cities to raise awareness regarding availability and use of the Air Quality Checklist to help businesses understand compliance steps with SCAQMD; and launched an Expired Permit Outreach Program that notifies businesses of their newly expired permit status (before they go non-reinstatable).</p>
<p>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</p>	<p>Successfully launched new community outreach forum linking air quality issues and environmental stewardship with the legacies of civil and human rights advocates. Began implementation of Chairman’s Environmental Justice Community Partnership Initiative, an ongoing interaction with EJ communities designed to increase awareness of agency efforts on behalf of those community sectors, broaden education on air quality issues, and jointly identify ways to work together to solve them. Staff outreached to minority language populations and other hard-to-reach groups and provided technical assistance to individuals seeking to participate in incentive programs available at SCAQMD, particularly wood stove incentive and VIP programs.</p>

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

Priority Objective/Project	Outcome Status
7. Enhance community response program	Established Air Quality Sensor Performance Evaluation Center (AQ-SPEC) to test, assess and publish data on efficacy of low cost sensors that could be used in local communities. Developed a Quick Reference Guide for SCAQMD Email Marketing Campaigns. Approved a staff position to specifically handle SCAQMD social media outreach (to be filled 1st Qtr 2015).
8. Continue to respond expeditiously and effectively to community issues that require deployment of air monitoring resources	Enhanced monitoring and response capabilities through technology enhancements, focus of resources, and efficiency improvements to address short- and long-term community air quality concerns. Evaluated personal monitors for air quality readings accuracy.
9. Implementation of AB 8 (Carl Moyer AB 923 and AB 118 H2 funding)	Executed 83 Carl Moyer contracts for replacement and repower of heavy-duty vehicles and equipment for approximately \$28M. Seven contracts were executed for 16 alt fuel stations totaling approximately \$27M from CEC and SCAQMD.
10. Complete implementation of heavy-duty replacement trucks for small fleets under Proposition 1B-Goods Movement Program	Executed 776 contracts to replace older diesel trucks totaling over \$93M.
11. Develop and demonstrate advanced natural gas engines and zero-emission technologies for locomotives	Awarded contracts in the amount of \$7M in partnership with CEC and SoCalGas to develop and demonstrate next-generation near-zero-emission heavy-duty natural gas engines.
12. Continue development and demonstration of Zero Emission Container Movement Technologies, and initiate deployment with market-enabling strategies and policies	Board directed staff to submit proposals for federal solicitations involving grants and incentives to promote development of zero-emission clean air technologies and infrastructure. Successfully applied and was awarded a \$10M DOE project for Zero-Emissions Cargo Transport technologies for fuel cell and plug-in hybrid electric trucks.
13. Release Multiple Air Toxics Exposure Study (MATES IV) and Risk Assessment Methodology Update	Released Draft Report in October 2014 for public review, with revised final report expected in Spring of 2015.
14. Continue implementation of Clean Communities Pilot Study for Boyle Heights and San Bernardino	Continued remaining projects and programs for both communities to address cumulative air quality issues; extended program to expend all funds within program area. Staff began regulatory development to address a key CCP issue, odors from animal rendering facilities. Continued to implement Clean Communities Plan Pilot Study and U.S. EPA Targeted Air Shed Grant. Under latter, implemented fireplace/wood stove exchange voucher program in CCP communities. Governing Board approved \$415,000 for Commercial Lawn Mowers for San Bernardino, representing 11 government agencies and one non-profit organization. Initiated an assessment for air filtration for Murchison Elementary in Boyle Heights in partnership with Legacy LA.

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

Priority Objective/Project	Outcome Status
15. Implement fireplace/woodstove exchange voucher incentive program in and around Mira Loma	The program was implemented in November 2013 as a targeted incentive program to improve PM2.5 air quality in and around Mira Loma and help the Basin reach attainment of federal PM2.5 standards; resulted in issuance of 469 vouchers (148 or ~32% to low-income households). Program funding levels will allow program to continue into FY 2015/2016. To date, 273 vouchers have been redeemed for low-emission hearth products. Program was also implemented in Clean Communities Pilot Study program areas, resulting in 15% of program activities.
16. Work proactively on drought-related air quality impacts and needed response	Developed and implemented a Drought Management and Water Conservation Plan, as approved by the Governing Board.
17. Develop and demonstrate low-emission energy generation technology as well as energy storage options	Supported proposals by University of California for energy storage and renewable integration.

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

Priority Objective/Project	Outcome Status
1. Employ the latest communication technologies; engage in community-based programs and outreach events; and foster relationships with traditional media outlets	Continued development of more streamlined versions of SCAQMD's app for Smartphone and iPads; to date, there have been over 10,400 downloads. Creation of digital Advisor newsletter, available for iPads. SCAQMD messaging is now accessible on multiple social media platforms, i.e. Facebook, Twitter, and YouTube, to maximize agency's digital presence and increase public engagement, including initiating in-house production of Governing Board meeting highlight videos, distributed to local public, education and government channels as well as SCAQMD website and YouTube.
2. Continue timely response to community complaints	Responded to all air quality complaints as quickly as practicable, including off-hours. Assigned staff to 1-800-CUT SMOG complaint line and assigned each complaint to an inspector or manager to investigate.

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

Priority Objective/Project	Outcome Status
1. Maintain a knowledgeable, professional and well-trained staff	<p>Provided training and educational opportunities to ensure up-to-date expertise and competency in core agency functions. Provided training and opportunities that promote leadership development within our workforce to ensure a smooth transition of key leadership positions within the agency.</p>
2. Continue to overhaul SCAQMD's information technology systems, including use of state-of-the-art software, hardware, and communications systems to improve overall agency effectiveness and efficiency	<p>Replaced agency phone system (Avaya/Nortel) with a unified communications solution from Cisco; the new IP-based system includes telephony, voicemail, presence, collaboration, and video capability.</p> <p>Completed upgrade of headquarters conference center audio visual systems; new state-of-the-art systems include high definition video and audio, video wall display, webcasting and digital signage.</p> <p>Upgraded content management system used for the agency website</p> <p>Initiated work to migrate 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. CourtView's casflow management software, JWorks, has been purchased and work is in progress to implement workflow and data migration requirements.</p> <p>Expanded GIS mapping infrastructure to provide spatial query capabilities for overlay and identification of specified zones i.e. MATES IV study results; and addition of real time data for special mobile air monitoring sites.</p> <p>Promoted permit processing efficiencies through implementation of on-line payment system that allows applicants to quickly clear fees and avoid rejected applications; enables new permit applicants to make online payments without a Facility ID and allows permit applicants to calculate fees online, estimate payment amounts and generate preliminary invoices for preapproval of permit processing fees.</p>
3. Provide excellent customer service to the business and regulated community as well as other stakeholders	<p>Highlights include:</p> <p>Launched an enhanced Expired Permit Outreach Program to include calls, more extensive research, and site visits to businesses with expired permits to attempt to avoid permits from turning non-reinstatable.</p> <p>Through Jan. 2015: 595 permits addressed; \$93,536 in fees recovered; 165 permits reinstated prior to cutoff. Small Business Assistance Unit continued to provide services to small</p>

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

Priority Objective/Project	Outcome Status
3. Provide excellent customer service to the business and regulated community as well as other stakeholders <i>(Cont.)</i>	businesses throughout the region. Through Jan. 2015: 40 on-site consultations; assisted on 742 permit inquiries; Issued 163 clearance letters. SCAQMD Radio/Telephone operators received/responded to 58,916 calls from the public, including complaints, reporting smoking vehicles, etc.
4. Build and maintain partnerships with public agencies, stakeholder groups and the business community	Through continued outreach and education efforts with local, state, and federal legislative offices, strengthened SCAQMD's reputation as a reliable resource on air quality and related public policy issues.
5. Ensure rulemaking is transparent and inclusive	<p>Throughout each rule development process, staff works with an associated stakeholder Working Group which generally includes affected industry representatives, consultants, environmental representatives, community representatives and other agencies. These working group meetings are open to the public. Working Group meetings provide SCAQMD staff opportunity to work directly with stakeholders to get early input as well as share drafts of proposed rule language. Working Group meetings are held in "round table" format where stakeholders and staff can discuss proposed rule amendments in depth. This process is helpful to allow all interested parties to hear various viewpoints and to discuss and resolve issues that arise during the rulemaking process. Working Group meetings are generally held at SCAQMD headquarters and additionally in affected communities, such as with Rule 415 (odors from rendering facilities) and Rule 1420.1 (lead and other toxic emissions from large-acid battery recycling facilities).</p> <p>In addition to Working Group meetings, throughout the rulemaking process SCAQMD staff also conducted public workshops to present proposed rules and discuss key issues. During the FY 2014-2015, SCAQMD staff held more than 110 rule stakeholder meetings as well as individual stakeholder meetings, Working Group meetings, and Public Workshops and one technical symposium.</p> <p>To further increase transparency, the SCAQMD staff held a symposium on "Assessing and Managing Toxic Risk from Alternative VOC Compounds" on October 29, 2014 to bring stakeholders and other key industry and academic experts together to discuss a variety of technical and public health topics related to product reformulations to meet lower VOC limits.</p>