

South Coast Air Quality Management District

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

TO: SCAQMD Technology Committee Joe Buscaino, Chair Sheila Kuehl, Vice Chair Larry McCallon, Judith Mitchell, Dwight Robinson, Janice Rutherford

FROM: Matt Miyasato, DEO, Science & Technology Advancement

TECHNOLOGY COMMITTEE 21865 Copley Drive, Diamond Bar, CA 91765 January 20, 2017 ◆ 12:00 p.m. ◆ Conference Room – CC-8

TELECONFERENCE LOCATIONS

Los Angeles City Hall 200 N. Spring Street Room 410 Los Angeles, CA 90012

(The public may participate at any location listed above.)

Call-in for listening purposes only is available by dialing: Toll Free: 866-244-8528 Listen Only Passcode: 5821432 In addition, a webcast is available for viewing and listening at: <u>http://www.aqmd.gov/home/library/webcasts</u>

AGENDA

FEBRUARY BOARD AGENDA ITEMS FOR ACTION/DISCUSSION

1. Execute Contracts to Conduct In-Use PM Emission Study for Gasoline Direct Injection Vehicles and Establish Renewable Natural Gas Research Center

Since mobile sources represent the largest NOx and PM sources in the South Coast Air Basin, the Draft 2016 AQMP identifies development and implementation of new technologies to reduce mobile source emissions as a key strategy. It is also equally important to assess new technologies to prevent or mitigate any negative impact on air quality and public health. The University of California Riverside (UCR) CE-CERT recently submitted two unsolicited proposals that address these needs and staff recommends costBrian Choe Program Supervisor sharing the proposed projects to: 1) conduct an in-use emission study to characterize tailpipe PM emissions from gasoline direct injection vehicles under real-world driving conditions; and 2) support establishment of a research center to study promising renewable natural gas production technologies to expedite commercial implementation. This action is to execute contracts with UCR CE-CERT to cost-share these projects in an amount not to exceed \$322,000 from the Clean Fuels Fund (31).

2. Renew SCAQMD's Membership in CaFCP for Calendar Year 2017, Provide Office Space for CaFCP, and Receive and File California Fuel Cell Partnership Executive Board Meeting Agenda and Quarterly Updates

The SCAQMD has been a member of the California Fuel Cell Partnership (CaFCP) since early 2000. This action is to renew SCAQMD's membership in the CaFCP in an amount not to exceed \$70,000 for Calendar Year 2017 and cofund 50 percent of the CaFCP Regional Coordinator position located at SCAQMD in an amount not to exceed \$50,000 from the Clean Fuels Fund (31). Further actions are to continue providing in-kind office space and utilities for CaFCP employees in 2017 in an effort to educate the public and increase CaFCP's presence in Southern California. Finally, this action is to receive and file the CaFCP Executive Board Meeting Agenda for October 18, 2016, and Quarterly Updates for July and October 2016.

3. Recognize Revenue and Execute Contract for Development of Ultra-Low Emission Diesel Engine for On-Road Heavy-Duty Vehicles

On July 7, 2016, the Board released a Request for Information to obtain technical information on ultra-low NOx emission technologies for heavyduty diesel engines. Two responses were received, one of which was from the Southwest Research Institute (SwRI). CARB had previously awarded a contract to SwRI to investigate and demonstrate emission control strategies for 13-liter diesel engines to achieve 90% emission reductions compared to the current NOx standard. As a follow-on to this successful demonstration project, CARB and the Port of Los Angeles (POLA) have expressed interest in cofunding the advancement of current larger displacement diesel engines to achieve ultra-low NOx emissions. Staff proposes to cost-share the project. CARB will contract directly with SwRI while the POLA cofunding will pass through the SCAQMD. These actions are to recognize up to \$287,500 from POLA and execute a contract with SwRI for development of an ultra-low emission heavy-duty diesel engine in an amount not to exceed \$575,000 from the Clean Fuels Fund (31).

4. Issue Program Announcement for Ships at Berth and Cargo Handling Equipment Projects Under Proposition 1B-Goods Movement Program In September 2015, CARB approved Proposition 1B-Goods Movement Program funding awards to local agencies for projects that will reduce emissions from freight transportation. The award for the Los Angeles/Inland Empire trade corridor included \$14.1 million for ships at berth and cargo handling equipment projects. Following an earlier solicitation issued on February 5, 2016, and subsequent awards, there are still funds available for

Lisa Mirisola Program Supervisor

Joseph Lopat AQ Specialist

> Vicki White Program Supervisor

projects in this category. This action is to issue a Program Announcement for ships at berth and cargo handling equipment projects under the Proposition 1B-Goods Movement Program.

5. **Recognize, Transfer and Appropriate Revenue, Amend and Execute Contracts, and Approve Eligible Participant Vouchers to Continue Implementation of Enhanced Fleet Modernization Program** Last September, the Board recognized up to \$10 million from CARB, approved issuance of vouchers to continue the Enhanced Fleet Modernization Program (EFMP) Plus-Up for FY 2016-17, and released an RFP to solicit proposals to administer the application process and conduct vehicle emissions testing. Subsequently, CARB advised that SCAQMD would receive \$15 million. Additionally, older vehicles retired under the EFMP are crushed for scrap metal generating revenue for EFMP. These actions are to: 1) recognize revenue up to \$5 million from CARB and up to \$500,000 from the scrap metal value of the vehicles retired under the EFMP into the HEROS II Special Revenue Fund (56); 2) authorize the Executive Officer to approve vouchers to qualified participants up to \$4,250,000 and execute agreements with participating dismantlers, dealerships and financial institutions; 3) amend and execute contracts for a total amount not to exceed \$765,000 from the HEROS II Special Revenue Fund (56); and 4) transfer and appropriate \$250,000 from the HEROS II Special Revenue Fund (56) into Science and Technology Advancement's FY 2016-17 and/or 2017-18 Budget for EFMP implementation and outreach.

INFORMATION ITEM ONLY

6. EVSE Installation and Charging Policy Recommendations (*Presentation only*)

Installation of Level 2 chargers at the SCAQMD headquarters facility started in October 2016 with the first phase of installation of Level 2 chargers at the upper deck completed. Additional phases of installation at the solar carport, CC8 and the front lobby will be completed in spring 2017. Staff will present an update on the EVSE installation and on charging policy recommendations.

7. Other Business

Any member of the committee, or its staff, on his or her own initiative or in response to questions posed by the public, may ask a question for clarification; may make a brief announcement or report on his or her own activities, provide a reference to staff regarding factual information, request staff to report back at a subsequent meeting concerning any matter, or may take action to direct staff to place a matter of business on a future agenda. (Govt Code Section 54954.2) Lori Berard AQ Specialist

Patricia Kwon AQ Specialist

8. Public Comment Period

Members of the public may address this body concerning any agenda item before or during consideration of that item (Govt. Code Section 54954.3). All agendas for regular meetings are posted at District Headquarters, 21865 Copley Drive, Diamond Bar, California, at least 72 hours in advance of a regular meeting. At the end of the regular meeting agenda, an opportunity is also provided for the public to speak on any subject within this body's authority. Speakers may be limited to three (3) minutes each.

Next Meeting: February 17, 2017 at SCAQMD Headquarters in CC-8

Document Availability

All documents (1) constituting non-exempt public records; (ii) relating to an item on the agenda for a regular meeting; and (iii) having been distributed to at least a majority of the Technology Committee after the agenda is posted, are available prior to the meeting for public review at the South Coast Air Quality Management District Public Information Center, 21865 Copley Drive, Diamond Bar, CA 91765.

Americans with Disabilities Act

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 Technology Committee meeting. Any accommodations must be requested as soon as practicable. Requests will be accommodated to the extent feasible. Please contact Pat Krayser at 909-396-3248 from 7:00 a.m. to 5:30 p.m., Tuesday through Friday, or send the request to pkrayser@aqmd.gov.

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DRAFT Technology Committee Agenda #1

BOARD MEETING DATE: February 3, 2017 AGENDA NO.

TITLE: Execute Contracts to Conduct In-Use PM Emission Study for Gasoline Direct Injection Vehicles and Establish Renewable Natural Gas Research Center

SYNOPSIS: Since mobile sources represent the largest NOx and PM sources in the South Coast Air Basin, the Draft 2016 AQMP identifies development and implementation of new technologies to reduce mobile source emissions as a key strategy. It is also equally important to assess new technologies to prevent or mitigate any negative impact on air quality and public health. The University of California Riverside (UCR) CE-CERT recently submitted two unsolicited proposals that address these needs and staff recommends cost-sharing the proposed projects to: 1) conduct an in-use emission study to characterize tailpipe PM emissions from gasoline direct injection vehicles under real-world driving conditions; and 2) support establishment of a research center to study promising renewable natural gas production technologies to expedite commercial implementation. This action is to execute contracts with UCR CE-CERT to cost-share these projects in an amount not to exceed \$322,000 from the Clean Fuels Fund (31).

COMMITTEE: Technology, January 20, 2017; Recommended for Approval

RECOMMENDED ACTION:

Authorize the Chairman to execute contracts with UCR CE-CERT for the following projects from the Clean Fuels Fund (31):

- a. Conduct in-use PM emission study for gasoline direct injection vehicles in an amount not to exceed \$222,000; and
- b. Support establishment of a Renewable Natural Gas Research Center to study promising RNG production technologies in an amount not to exceed \$100,000.

Wayne Nastri Executive Officer

MMM:FM:NB:BC

Background

SCAQMD faces daunting challenges to achieve significant reductions in NOx emissions in order to meet the national ambient air quality standards for ozone. Since mobile sources represent the largest NOx and PM sources in the South Coast Air Basin, it is essential to support the development and implementation of new technologies that will help reduce mobile source emissions. It is also equally important to assess the new technologies to prevent or mitigate any negative impact on air quality and public health.

Gasoline direct injection (GDI) vehicles are the fastest growing market segment in the automobile industry as manufacturers introduce more GDI models to meet new and more stringent fuel economy standards. However, studies have shown that GDI vehicles emit higher PM emissions than conventional port fuel injection vehicles, with potentially significant impacts on air quality and public health. As a result, both EPA and CARB have been testing GDI vehicles over different test cycles to characterize their PM emissions. The SCAQMD also funded a UCR CE-CERT study to characterize tailpipe PM emissions, including secondary organic aerosols, from GDI vehicles using a chassis dynamometer. However, this dynamometer-based testing may be limited in providing accurate estimates of real-world on-road emissions, and in-use emission analysis using portable emission measurement systems (PEMS) may help address such limitations.

The SCAQMD has a long history of supporting clean alternative fuels including natural gas. This support has included expanding the region's natural gas refueling infrastructure and advancing the development of near-zero NOx emission heavy-duty natural gas-powered engines. Furthermore, since renewable natural gas (RNG) is an important alternative fuel that can help reduce GHG emissions and dependency on fossil fuels, SCAQMD has provided support for waste-to-energy projects, such as electricity generation from municipal solid waste (MSW) or landfill gas, and is extending support to local production and use of RNG as a transportation fuel. Two ongoing Board-approved RNG projects include the CR&R anaerobic digester utilizing municipal solid waste to produce RNG in Perris and the KORE Infrastructure project to produce RNG from biosolids. The primary use of RNG from these facilities is intended for medium-and heavy-duty natural gas vehicles.

Recently, UCR CE-CERT submitted two unsolicited proposals, one to characterize tailpipe PM emissions from GDI vehicles and another to evaluate promising RNG production technologies.

Proposal

This action is to execute contracts with UCR CE-CERT to: 1) conduct an in-use emission study to characterize tailpipe PM emissions from GDI vehicles under realworld driving conditions; and 2) support establishment of an RNG research center to study promising RNG production technologies to accelerate their commercial implementation.

In-Use PM Emission Study

Complementing prior and ongoing dynamometer-based testing, UCR CE-CERT proposes to conduct in-use emission testing of CARB-tested GDI models to measure their PM and particle number (PN) emissions under real-world driving conditions. The testing will be conducted with PEMS units over three different routes in Southern California to simulate urban, rural and highway driving patterns, with three test runs for each route per test vehicle for validation tailpipe emissions. Also, one of the test vehicles will be retrofitted with a gasoline particulate filter provided by the Manufacturers of Emission Controls Association (MECA) to test the efficacy of the control technology. The results of this study will be used, along with the CARB-test results, to characterize PM and PN emissions from GDI vehicles and facilitate a discussion on potential mitigation strategies.

RNG Research Center

UCR CE-CERT proposes to establish a Renewable Natural Gas Research Center (RNGRC) which will study key RNG production technologies in demonstration-scale testbeds to address technical and other challenges as well as system optimization and integration needed for commercial implementation of the technologies in California and elsewhere. This proposal is to cost-share Phase 1 of the RNGRC project, which will consist of the following tasks:

- Evaluation of RNG production potentials via thermochemical conversion and power-to-gas (PTG) technologies;
- Techno-economic evaluation (technology pathway and cost-effectiveness analysis) of high viability projects, including well-to-wheel analysis of GHG and criteria pollutant emissions and energy use;
- Design basis for demonstration-scale projects and a roadmap that details the most feasible path towards commercialization, including technology choices, policy and regulatory barriers, timeline and financing strategies; and
- Education & outreach to the public, policymakers and other stakeholders through conferences and communication through media outlets, as well as technology demonstrations and publications.

Successful completion of the Phase I tasks may lead to Phase II in a subsequent project to fabricate, install and operate demonstration-scale testbeds with an ultimate path toward construction and operation of commercial-scale plants for selected RNG production technologies.

Sole Source Justification

Section VIII.B.2 of the Procurement Policy and Procedure identifies provisions under which a sole source award may be justified. This request for sole source awards is

made under provisions B.2.d.(1) and (8): Other circumstances exist which in the determination of the Executive Officer require such waiver in the best interest of the SCAQMD. Such circumstances may include but are not limited to projects involving cost-sharing by multiple sponsors and research and development efforts with educational institutions or nonprofit organizations.

UCR is an educational institution and CE-CERT is their research center with multidisciplinary resources to engage in diverse environmental and transportation research programs. The cost-share will consist of in-kind contributions from MECA for the in-use PM emission study and funding support from the Southern California Gas Company (SoCalGas) and U.S. Department of Transportation (DOT), along with in-kind contributions from UCR for the RNGRC.

Benefits to SCAQMD

The proposed projects are relevant to the SCAQMD's priorities to reduce NOx and PM emissions from transportation and stationary sources as well as realizing GHG cobenefits to achieve national ambient air quality standards and protect public health.

The proposed in-use PM emission study will help to better understand the impact on air quality and public health from GDI vehicles that are increasing in popularity due to its higher fuel economy and power output. It will also facilitate discussions on potential control technologies to mitigate such impact.

Large-scale production of RNG in California will lead to the expanded availability of RNG as a transportation fuel as well as a clean alternative energy source. This will further accelerate the deployment of near-zero heavy-duty transportation technologies, helping to lower NOx emissions in our Basin, and potentially provide fuel with significant GHG benefits.

The proposed projects are included in the *Technology Advancement Office Clean Fuels Program 2016 Plan Update* under the categories of "Fuels/Emission Studies" and "Stationary Clean Fuel Technologies."

Resource Impacts

The total estimated cost for the proposed projects is \$534,000, of which SCAQMD's proposed cost-share will not exceed \$322,000 from the Clean Fuels Fund (31), as summarized below:

Project Partner	In-Use Study	RNGRC	Total by Project Partner
SCAQMD (requested)	\$222,000	\$100,000	\$322,000
MECA (in-kind)	\$51,000		\$51,000
SoCalGas		\$100,000	\$100,000
U.S. DOT		\$25,000	\$25,000
UCR CE-CERT (in-kind)		\$36,000	\$36,000
Total Project Cost	\$273,000	\$261,000	\$534,000

Proposed Project Cost-Share

Sufficient funds are available in the Clean Fuels Fund (31) for this proposed project. The Clean Fuels Fund (31) is established as a special revenue fund resulting from the statemandated Cleans 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.



Agenda Item #1

Brian Choe

Execute Contracts to Conduct In-Use PM Emission Study for Gasoline Direct Injection Vehicles and Establish Renewable Natural Gas Research Center

Background

- Critical to develop and implement new mobile source emission control technologies to meet stringent ambient air quality standards
- Equally important to prevent or mitigate any negative impact from new technologies
- Two proposals from UCR CE-CERT:



- In-use emission study for Gasoline Direct Injection (GDI) vehicles
- 2. Renewable Natural Gas (RNG) Research Center

In-Use Emission Study

- GDI vehicles gaining in popularity due to higher fuel economy and power output
- Recent tests have shown GDI vehicles emit higher PM and Particle Number (PN) emissions
- SCAQMD previously funded a study to characterize PM emissions from GDI vehicles
- Testing shows need to assess PM and PN emissions under real-world driving conditions









Proposal

- CE-CERT to conduct in-use emission testing of CARBtested GDI models
- Measure PM and PN emissions with advanced Portable Emission Measurement Systems (PEMS)
- Three different routes to simulate urban, rural and highway driving patterns
- Retrofit one of the test vehicles with a gasoline particulate filter (GPF) for evaluation



Proposed Project Cost

Project Partner	Proposed Funding
Manufacturers of Emission Controls Association	\$51,000
SCAQMD (requested)	\$222,000
Total Project Cost	\$273,000

Renewable Natural Gas (RNG) Research Center

- Near-zero 0.02 g/bhp-hr NOx natural gas engines considered a key strategy in AQMP
- Utilizing RNG provides significant GHG co-benefits and cost-share opportunities from federal and state agencies
- Critical need to develop and demonstrate RNG technologies











- CE-CERT to establish a RNG Research Center to study key RNG production technologies
- Request support for Phase 1 of the RNG Research Center project:
 - Evaluate RNG production potentials
 - Techno-economic analysis of high viability projects
 - Develop design basis for demonstration-scale projects
 - Commercialization roadmap

Proposed Project Cost

Project Partner	Proposed Funding
Southern California Gas Company	\$100,000
UCR CE-CERT (in-kind)	\$36,000
U.S. Department of Transportation	\$25,000
SCAQMD (requested)	\$100,000
Total Project Cost	\$261,000

Recommended Actions

Execute the following contracts with UCR CE-CERT from the Clean Fuels Fund (31):

- Conduct GDI vehicle in-use PM emission study in an amount not to exceed \$222,000
- Support establishment of RNG Research Center in an amount not to exceed \$100,000

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DRAFT Technology Committee Agenda #2

BOARD MEETING DATE: February 3, 2017

AGENDA NO.

- PROPOSAL: Renew SCAQMD's Membership in CaFCP for Calendar Year 2017, Provide Office Space for CaFCP, and Receive and File California Fuel Cell Partnership Executive Board Agenda and Quarterly Updates
- SYNOPSIS: The SCAQMD has been a member of the California Fuel Cell Partnership (CaFCP) since early 2000. This action is to renew SCAQMD's membership in the CaFCP in an amount not to exceed \$70,000 for Calendar Year 2017 and cofund 50 percent of the CaFCP Regional Coordinator position located at SCAQMD in an amount not to exceed \$50,000 from the Clean Fuels Fund (31). Further actions are to continue providing in-kind office space and utilities for CaFCP employees in 2017 in an effort to educate the public and increase CaFCP's presence in Southern California. Finally, this action is to receive and file the CaFCP Executive Board Meeting Agenda for October 18, 2016, and Quarterly Updates beginning July and October 2016.

COMMITTEE: Technology, January 20, 2017; Recommended for Approval

RECOMMENDED ACTIONS:

- 1. Authorize the Chairman to execute a contract in an amount not to exceed \$120,000 from the Clean Fuels Fund (31) with Bevilaqua-Knight, Inc., acting on behalf of the Partnership, to
 - a. Continue SCAQMD's membership for calendar year 2017 for a total amount not to exceed \$70,000 for common expenses of the CaFCP;
 - b. Continue support for a Regional Coordinator located at SCAQMD for a total amount not to exceed \$50,000; and
 - c. Continue to provide office space and utilities on a month-to-month basis for up to four cubicles for CaFCP staff and storage at SCAQMD headquarters.
- 2. Receive and file the attached Executive Board Agenda and Quarterly Updates.

Wayne Nastri Executive Officer

MMM:FM:NB:LHM

Background

The California Fuel Cell Partnership (CaFCP) was initiated in 1999 as a means to accelerate response to CARB's ZEV regulations. Because of the alignment of the SCAQMD and CaFCP goals for accelerated fuel cell vehicle commercialization, the SCAQMD Board accepted the CaFCP's formal invitation to join as a full member in March 2000. In January 2012, CARB approved Advanced Clean Car regulations, which harmonize California requirements with federal requirements from 2017–2025 and incorporate GHG emission reductions. The AQMP and the Technology Advancement Office Clean Fuels Program 2016 Plan Update have identified fuel cells for on- and off-road applications as a core technology for attaining and maintaining cleaner air quality.

Initially, the CaFCP Program focused on development of vehicle, infrastructure and outreach plans for future projects. The CaFCP was involved in the demonstration of cars and buses using gaseous and liquid hydrogen and methanol through 2003. A limited number of fleet customer placements began in 2002. In addition, the bus transit partners operated several zero emission fuel cell buses. The CaFCP and members demonstrated several generations of fuel cell cars and buses using gaseous hydrogen fuel at 350 bar and 700 bar pressures. Several automakers started retail placement of fuel cell vehicles near hydrogen stations in early market communities. The CaFCP with member support developed a "Roadmap" for the introduction of fuel cell passenger vehicles with sufficient hydrogen fueling stations in California, a "Bus Roadmap", and most recently, a Medium & Heavy-Duty Fuel Cell Electric Vehicle Action Plan.

With the commitment of funding under AB 8 (chaptered in 2013) to develop and operate approximately 100 hydrogen retail fueling stations in California through 2023, and the collaboration of California with other states to support ZEVs, automakers are continuing to announce market launches. Some automakers are combining efforts to share intellectual property, build component supply chains and leverage resources - Daimler with Ford and Nissan, Toyota with BMW, and General Motors with Honda. Germany, Japan and Korea have also committed funding to build more hydrogen stations.

At the request of SCAQMD, the CaFCP has expanded its presence in Southern California due to the increased deployment of vehicles, the largest number of fueling stations and the greatair quality need in this region. A CaFCP Regional Coordinator based in our region supports member activities and outreach and an Infrastructure Specialist facilitates hydrogen station development.

Major accomplishments during Calendar Year 2016 include:

• The continued retail production and deployment of fuel cell cars and buses in California. The 2016 Toyota Mirai was the first fuel cell vehicle offered for

sale in California. Both the Toyota Mirai and Hyundai Tucson fuel cell vehicles can be leased through selected dealerships in California, and Honda is producing the 2017 Clarity FCV and delivering them through 12 dealerships in California;

- Development and release of the Medium and Heavy-Duty Fuel Cell Electric Vehicle Action Plan, focusing on early markets for medium-duty delivery trucks and heavy-duty drayage trucks; and
- Increased the presence of the CaFCP in Southern California through coordination of ombudsman activities in early market communities with Regional Coordinator & Infrastructure Specialist staff based at SCAQMD.

The CaFCP has introduced new membership levels to increase membership and reduce the cost of membership. Each CaFCP Executive Member has a representative on the Executive Board and pays \$70,000. Current Executive Members include:

- Seven auto manufacturers (General Motors, Toyota, Daimler, Honda, Hyundai, Nissan and Volkswagen);
- Two industry stakeholders (AFCC and EIN); and
- Six government agencies (SCAQMD, Bay Area AQMD, CARB, California Energy Commission, U.S. DOE and U.S. EPA).

There are an additional 25 Full and Associate Members contributing a combined total of \$103,000, with commensurate benefits and voting rights. Like SCAQMD, CARB and U.S. DOE also provide additional contributions for specified uses.

The CaFCP retains Bevilacqua-Knight, Inc., (BKi) to provide the needed support for the common tasks agreed to by the CaFCP, and each member contracts directly with BKi acting on behalf of the CaFCP.

Proposal

The CaFCP completed the fourth phase "Preparing for Market Launch" through 2016 and is transitioning to an ongoing commercial vision. The fee of \$70,000 per Executive Member supports the activities planned for 2017, with additional membership levels designed to encourage participation with commensurate benefits. The operating budget for 2017 is \$1,642,446, assuming that membership at the revised levels will continue to grow. The 2016 Vice-Chair, Dr. Clark E. Parker, Sr., (SCAQMD), is the Chair for 2017, with Christian Mohrdieck (Daimler), now serving as Vice-Chair. The majority of fuel cell vehicle deployment growth is anticipated to be within the South Coast Air Basin over the next couple of years, enhanced by the development of hydrogen stations in more early markets in California and beginning in several Northeast states.

The proposed CaFCP activities for 2017 are to:

- 1. Develop the necessary infrastructure and processes to support early commercial launch and expanded vehicle rollout.
 - a. Support quicker construction and commissioning of current California hydrogen stations by participating in code, standard and regulation processes, facilitating station commissioning processes, and documenting lessons learned.
 - b. Define necessary metrics of progress and identify network technology challenges and information gaps.
 - c. Support and collaborate on consensus plan for first 100 hydrogen stations.
 - d. Identify new concepts and approaches to activate exponential long-term market growth and encourage new investment opportunities; and
 - e. Expand CaFCP Station Operational Status System (SOSS) to include all new California hydrogen stations and implement improvements to expand customer value and use.
- 2. Share and synchronize experience by providing forums and opportunities for members to advance group collaboration and progress within CaFCP and among stakeholders, including national coordination.
 - a. Build and expand trust among members through open communication and forums; and
 - b. Communicate with stakeholders nationally and internationally to share lessons learned and amplify market launch efforts.
- 3. Reach target markets and communities to educate, inform and promote hydrogen and FCEVs and accelerate commercial adoption.
 - a. Communicate the benefits of FCEVs and hydrogen through outreach materials, events, social media and media relations.
 - b. Provide education and outreach to state and local governments, and non-governmental organizations.
 - c. Regularly develop new content to expand reach and CaFCP value.
 - d. Highlight and support new station openings; and
 - d. Continue development of CaFCP's station map and network progress reports.
- 4. Implement CaFCP restructuring to be more inclusive and capable of meeting the expanding commercial market needs and opportunities, broadening the member base, and being the voice of all stakeholder participants. Establish a new commercial vision for CaFCP.
 - a. Implement new structure, expand membership and develop new commercial vision.
 - b. Support deployment of fuel cell bus Centers of Excellence and the Bus Team.
 - c. Implement the Medium- and Heavy-Duty Fuel Cell Electric Vehicle Action Plan and establish new market sector workgroup to increase awareness and participation around fuel cells.

This action is to execute a contract with BKi to renew SCAQMD's membership in the CaFCP for Calendar Year 2017 and continue to cofund the CaFCP Regional Coordinator position located at SCAQMD and reporting to the CaFCP Executive Director, as well as provide in-kind office space and utilities for up to four CaFCP employees in Calendar Year 2017. This action is also to receive and file the CaFCP Executive Board Meeting Agenda and Quarterly Updates for April-June and July-September 2016.

Sole Source Justification

Section VIII.B.2. of the Procurement Policy and Procedure identifies provisions under which a sole source award may be justified. This request for a sole source award is made under provision B.2.d.: Other circumstances exist which in the determination of the Executive Officer require such waiver in the best interest of SCAQMD. Specifically, these circumstances are B.2.d.(1): Projects involving cost-sharing by multiple sponsors. The major sponsors contributing financially to the CaFCP include seven automakers, two industry stakeholders and six government agencies.

Benefits to SCAQMD

Membership in the CaFCP is consistent with the *Technology Advancement Office Clean Fuels 2016 Plan Update* under "Hydrogen and Mobile Fuel Cell Technologies & Infrastructure" and "Assessment and Technical Support of Advanced Technologies and Information Dissemination." SCAQMD supports the development, demonstration and commercialization of zero and near-zero emission vehicles and strives to educate public and private organizations regarding the benefits and characteristics of these vehicles.

Resource Impacts

SCAQMD's support of the CaFCP for Calendar Year 2017, provided through a contract with BKi, shall not exceed \$120,000 from the Clean Fuels Fund (31), comprised of up to \$70,000 for common project costs to cover administrative, technical and program management costs and half the cost up to \$50,000 for the Regional Coordinator position located at SCAQMD Headquarters. SCAQMD is also providing additional in-kind cost-share of office space for CaFCP staff and utilities at SCAQMD headquarters, representing annual foregone rent of approximately \$10,440 for the four cubicles.

Sufficient funds are available from the Clean Fuels Fund, established as a special revenue fund resulting from the state-mandated Clean Fuels Program. The Clean Fuels Program, under Health and Safety Code Sections 40448.5 and 40512 and Vehicle Code Section 9250.11, establishes mechanisms to collect revenues from mobile sources to support projects to increase the utilization of clean fuels, including the development of the necessary advanced enabling technologies. Funds collected from

motor vehicles are restricted, by statute, to be used for projects and program activities related to mobile sources that support the objectives of the Clean Fuels Program.

Attachments

California Fuel Cell Partnership Executive Board Meeting Agenda California Fuel Cell Partnership Quarterly Update (April - June 2016) California Fuel Cell Partnership Quarterly Update (July - September 2016)

CaFCP Public Forum and Executive Board Meeting "Influencing Factors and Changing Landscapes" October 18, 2016

California Energy Commission 1516 9th St, Sacramento, CA 95814 Arthur Rosenfeld Room (formerly Hearing Room A)

30 minutes

9:00am–9:30am *CaFCP Chair, J Ward CaFCP ED, B Elrick*

1. Welcome and opening remarks

California has been the national leader in deploying alternative fuels and vehicles, with tangible commercial progress for hydrogen fuel cell vehicles now visible. An update on the status and future considerations for California deployment of stations, passenger vehicles, transit buses and trucks will set the stage for the day's discussions.

60 minutes

9:30am–10:30am Moderator: *GO-Biz, T Eckerele CARB, A Bevan CEC, P Cazel FirstElement, T Brown Toyota, J Ward*

30 minutes

10:30am-11:00am

60 minutes

11:00am–12:00pm *Moderator: CSE, B Williams FCEV driver, M Johannessen FCEV dealer, J Cunningham*

75 minutes

12:00pm-1:15pm

60 minutes

1:15pm–2:15pm *Moderator: UC Davis, J Ogden Honda/H2USA, S Ellis*

2. Early Commercialization—Reaching the Goal Line

The 2012 CaFCP Road Map outlined the need for an early station network. Government and industry worked together to help get the network started. Are we on track to reach the goal line for early commercialization? What do our industry and government leaders see as the major factors that will shape the next few years, and what changes should we make to help accelerate progress?

3. Break

4. Influencing Factors—Market Acceptance

In April 2015, the first FCEV customers addressed the Executive Board. Since then, more vehicles have become available and more than 20 retail hydrogen stations have opened. What have we learned from this first wave of customers? What must we do to give the first thousand customers a positive experience? The next hundred thousand?

5. Lunch (on own)

6. Signals of Success–How to Achieve Market Growth

With initial success and a line of sight towards establishing the early network coverage objective, it's time for CaFCP to address the transition to the next stage of the market. What market indicators and signals do government and industry need to enable greater investment and growth? Should CaFCP and its members consider new approaches, mechanisms and processes? Who else needs to be part of these discussions? What factors will help shape and lead to a common vision for hydrogen and FCEVs beyond 2020?

60 minutes 2:15pm–3:15pm <i>Moderator: EPA, A Zimpfer</i> <i>SCAQMD, N Berry</i> <i>New Flyer, D Warren</i> <i>BAE Systems, B Devine</i>	7. Establishing Medium- and Heavy-Duty Benchmarks CaFCP has released the MHD Action Plan that contains priorty actions needed to accelerate early FCET demonstrations. Recent funding rounds will appreciably expand California FCEB deployments. Where are these markets now, and what is needed to quicken commercialization? How are member and non-member companies responding, and what is still needed? What is the potential for leveraging progress across market applications, and why should the the passenger vehicle market care?
30 minutes 3:15pm–3:45 pm	8. Break
15 minutes 3:45pm–4:00pm <i>Energy Commission,</i> <i>Commissioner Scott</i>	9. What Next?—Actions and Takeaways Highlights and summary of the day's discussions – identification of specific strategies, actions and responsibilities for increased collaboration, coordination and progress going forward. What will CaFCP and stakeholders commit to that expands commercialization progress?
60 minutes 4:00pm–5:00pm <i>CaFCP, B Elrick</i>	 10. Executive Board Business Meeting Consent agenda items Decisions and assignments Liquid hydrogen project Operating protocols 2017 Vice Chair Proposed new members 2017 program plan and budget Public comment period*
15 minutes 5:00-5:15pm <i>Chair, J Ward</i>	11. Meeting wrap up

No-host bar reception following meeting at WAL Public Market located at 1104 R Street in Sacramento, CA 95811

Antitrust Guidelines

It is the express intent of the CaFCP and its members that none of the organization's activities will violate or be in conflict with any federal, state or local antitrust law, rule or policy (collectively, the antitrust laws). Each member will conduct its affairs in conformity with this intent. Each member is aware that there are significant civil and criminal penalties for violating antitrust laws. To the extent possible, the CaFCP and the members will act in a manner substantially in compliance with the policy entitled "Antitrust Guidelines for Collaboration Among Competitors" issued by the Federal Trade Commission and the Department of Justice and dated April 2000. This document is available for reference on CaFCP's member resources website.

This meeting is open to the public and will not be available by phone. This facility is accessible to persons with disabilities. Deadline for requesting ADA modification is October 7, 2014. Meeting materials will be posted at <u>www.cafcp.org</u>.

Agenda items may be taken out of order and times may vary from those listed in the agenda. The board may choose to limit public comment at the chair's discretion.

This facility is accessible by public transit. For transit information, call (909) 839-7000 for Sacramento Regional Transit (916) 321-BUSS (2877), website: http://www.sacrt.com/schedulesfares.stm. And California Transit link: http://www.apta.com/resources/links/unitedstates/Pages/CaliforniaTransitLinks.aspx.

CaFCP Quarterly Update April - June 2016

Background

The California Fuel Cell Partnership is a unique collaborative of auto manufacturers, energy companies, fuel cell technology companies and government agencies, including SCAQMD. This report summarizes CaFCP activity in or related to Southern California for January to March 2016.

In its fourth phase, 2013-2016, CaFCP members, individually or in groups, will focus on meeting these goals to achieve market launch:

- 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 FCVs and hydrogen in the evolution to electric drive.

CaFCP and members' activities fall within three main strategic directions:

- 1. Support hydrogen station and vehicle deployment to enable commercial market launch in 2015 timeframe
- 2. Show feasibility and a clear value proposition to consumers, businesses and communities
- 3. Focus existing resources, engage new groups and pursue innovative concepts to overcome early market challenges

To successfully implement the vision, CaFCP activities must focus on technical, communications and business operations/strategies that require convening, collaborating and communicating.

1. Develop Infrastructure	
	processes to support early commercial launch and
expanded vehicle rollout. Support the construction and commissioning of current California hydrogen stations by participating in codes, standards and regulation processes; facilitating station commissioning processes; and supporting station openings.	 Station OPEN Process guideline document being revised CSA HGV 4.3 Test Methods for Hydrogen Fueling Parameter Evaluation at re- ballot with Auto Technical Committee (ended 6/24) SAE J2719/1 Application Guideline for Use of Hydrogen Quality Specification went to ballot and passed, received comments that are being addressed, goes out for 14 day affirmation ballot SAE J2601 Fueling Protocols for Light Duty Gaseous Hydrogen Surface Vehicles being finalized for affirmation ballot, to include the MC Formula method-adding ramp rates for H35 California Office of the State Fire Marshal will review plans for CEC-funded hydrogen refueling truck HyStEP completed device being requested for expanded scope At 20 retail hydrogen fueling stations ISO 19880-1 Technical Specification (TS) is published – working towards an International Standard (IS) Peer reviewed 15 US DOE funded H2 and FCEV projects at US DOE's Annual Merit Review Organized and hosted a professionally facilitated industry workshop on H2 Dispensers Hosted a H2 session at the Fuels Institute annual meeting in San Francisco April 27-29 Supported and participated in Fuels Institute meeting in Washington DC
Prepare for future funding through outreach and education with fueling retailers and hydrogen industry.	 Engaged in discussions with fuel retailers interested in incorporating H2 stations into their operations and provided connections to station developers.
Work with stakeholders to identify potential future station locations.	 Identified two Bay Area venue options for the fall 2016 Financial Forum Facilitated station developer discussions with Harbor City station owner in effort to site existing funded stations to the location.
Develop Road Map 2.0 with strategies for a sustainable network in California.	 Discussion at the Working Group about beyond 100 stations modeling

2. Share and Synchronize Experience	
	bers to advance group collaboration and progress
within CaFCP and among stakeholders.	
Build and expand trust among members through open communication and forums. Communicate with stakeholders nationally and internationally to share learnings and amplify market launch	 CaFCP Public Forum & Executive Board Meeting on April 19 CaFCP Working Group meeting held June 22-23 Several OEM group meetings convened to finalize station open process guideline document, gain consensus on Harbor City strategy recommendations, station naming convention, SOSS reliability data, communication of station outages to customers and station soft opening process. Station developer meeting held to gain consensus on soft opening process, SOSS reliability data, station naming convention and communication of station outages to customers. Panel speaker at NESCAUM meeting at New York Auto Show Panel speaker at SAE Government/Industry
efforts.	 Conference in Washington DC Participant in the 4th International Workshop on H2 Infrastructure and Transportation May 24-25
3. Reach Target Audiences	
Reach target markets and communities to	educate, inform and promote hydrogen and FCEVs.
Communicate the benefits of FCEVs and hydrogen through outreach materials, events, social media and media relations.	 Participated in 16 outreach events Presented quarterly hydrogen station update webinar Recorded NACS podcast interview on H2/FCEVs with Bob Wimmer of Toyota Coordinated SoCal SD meetings and station tour for JX Nippon Exhibited at WPMA Convention
Provide education and outreach to state and local governments, and NGOs.	 At the request of State Senator Hertzberg's office, briefed Galpin Honda on the status of the hydrogen fueling network and the likelihood of future San Fernando Valley stations. Among other information, emphasized to staff for Council Member Paul Koretz (West Los Angeles) hydrogen is on a renewable pathway like electricity.
Conduct community training for AHJs and emergency responders	 Conducted training for City of Riverside FD- 145 first responders; with HAMMER flame prop demonstration Spoke with Yolo County on permitting of a

	stationary fuel cell installation
Continue development of CaFCP's station map and SOSS 4. Expand Markets	 15 retail stations on SOSS Added a comment field to m.cafcp.org Continuing to support OEMs and SDs in implementation Added reporting capabilities to calculate online/offline percentages
Restructure CaFCP to be more inclusive and market needs and opportunities, broadening	d capable of meeting the expanding commercial ng the member base, and being the voice of all
stakeholder participants Establish new structure and expand membership.	 Drafted new legal documents Last part of reorganization was presented to Executive Board in April
Support deployment of fuel cell bus Centers of Excellence and the Bus Team.	 Participated in CARB Advanced Clean Transit meetings to provide FCEB perspective Met with US DOT FTA interim administrator and staff to provide an update on FCEB progress Participating in ZEB Coalition initiative Participating in background meetings with Sierra Club ZEB coalition
Publish and implement the Medium- and Heavy-Duty Road Map document.	 Action Plan presented to Executive Board in April Participated in the West Coast Collaborative Partnership meeting at the Tacoma Convention Center to assess FCET interest
Support activities outside of California, as directed by members.	

Q2 Outreach Events

Conferences : 4 Forums: 4 Station tours: 2 (Santa Barbara Ribbon Cutting and Mary's Valley Rally) Community Events: 14 Outreach #: 2,242 Webinars: n/a

3. COMMUNICATE

Communicate, educate, inform and promote H2 & FCEVs benefits and opportunities to key outside stakeholders and general public for increased and continued support. Become readily recognized as the face of the industry for trustworthy information and assist.

Activity	Description	Picture and comments
American Lung Association, Inland Empire, April 13	Speaker, Keith Malone	
Foothill High School, AP Science Fair, Sacramento, April 14	Static and presentation, Juan Contreras	
Santa Barbara Earth Day Event, Santa Barbara, April 15-16	Static and test drive, Keith Malone and Chris White	https://www.flickr.com/photos/cafcp mr/albums/72157665139312494
Dept. of General Services Earth Fair, Sacramento, April 19	Static display, Juan Contreras	https://www.flickr.com/photos/cafcp mr/albums/72157667294832712
Cal EPA/CARB Earth Day Event, Sacramento, April 20	Static display, Ben Xiong and Lun So	https://www.flickr.com/photos/cafcp mr/albums/72157667295790552
Green California Summit, Sacramento, April 20	Speaker, Ben Xiong	
Santa Monica Station Opening, Santa Monica, April 20	Station Opening, Chris White and Keith Malone	https://www.flickr.com/photos/cafcp mr/albums/72157665141515294
Mary's Valley Rally, Santa Monica – Sacramento, April 20	Road Trip, CaFCP, Go-Biz, SCAQMD, CEC, CARB, Toyota, Hyundai, MB, FirstElement, Chris, Juan, Keith	https://www.flickr.com/photos/cafcp mr/albums/72157665141515294

CalTech Earth Day Event, Los Angeles, April 21	Static display, Keith Malone	
Pat Brown Institute dinner, Cal State LA, Los Angeles, April 21	Member support, Keith Malone	
CalSTRS Earth Fair, Sacramento, April 22	Static and test drive, Juan Contreras.	** Due to CaFCP's participation, CaFCP staff (Juan) introduced CaISTRS Fleet Manager to Toyota during the Sacramento Alt Car Expo . As a result CaISTRS purchased a Mirai**
West Sacramento Earth Day Event, West Sacramento, April 23	Static display, Chris White and Lun So	https://www.flickr.com/photos/cafcp mr/albums/72157668486230895
Woodside/Portola Valley Earth Fair, Portola Valley, April 23	Static display, Juan Contreras	https://www.flickr.com/photos/cafcp mr/albums/72157666024751143
Fuels Institute Annual Meeting, San Francisco, April 27	Station tour, Joe Gagliano, Juan Contreras and FirstElement	https://www.flickr.com/photos/cafcp mr/albums/72157667776222120
HP Earth Day Fair, Roseville, April 28	Static display, Juan Contreras	
Earth at LA Dept of Public Works, Los Angeles, April 28	Static display, Keith Malone	
UCCONNECT Symposium - Achieving Zero-Emission Mobility, Berkeley, April 28	Speaker, Chris White	
STEAM Earth Day Festival, Irvine, April 30	Static display, Keith Malone	
Joi Scientific, Inc. Visiting Group, CaFCP HQ, May 2	Presentation, Bill Elrick and Nico Bouwkamp	
USC Business breakfast with LA Metro CEO Phillip Washington, Los Angeles, May 4	Network event, Keith Malone	
Briefing Cameron Schunk, office of Assembly Member Das Williams, Santa Barbara, May 5	One on One meeting, Keith Malone	
Sacramento Alt Car Expo, Sacramento, May 9	Test Drive, Juan Contreras	https://www.flickr.com/photos/cafcp mr/albums/72157668580778265

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Santa Barbara Ribbon Cutting Event, Santa Barbara, May 13	Ribbon Cutting, static display, Juan Contreras, Keith Malone, CEC, FirstElement, HO, HY, TO, MB, EIN, GO-Biz	https://www.flickr.com/photos/cafcp mr/albums/72157666130163223
EcoFest, Encinitas May 15	Static display, Keith Malone	
International Partner for Hydrogen and Fuel Cells in the Economy (IPHE) Workshop, Sacramento, May 17-20	Station tour, Linde, Juan Contreras and Jennifer Hamilton	
City of Riverside ER Training, Riverside, May 17- 20	Member support, DOE/PNNL, Jennifer Hamilton and Keith Malone	https://www.flickr.com/photos/cafcp mr/albums/72157668200512403
US Tech Magazine, CaFCP HQ, May 18	Media Interview and test drive, Chris White and Juan Contreras	
Lecture at Cal State L.A. Los Angeles, May 19	Speaker, Keith Malone	
Bay Area Alt Car Expo, Oakland, May 20	Test Drive, Juan Contreras	https://www.flickr.com/photos/cafcp mr/albums/72157670974966806
Sandia National Laboratories 60 th Anniversary, Livermore, May 21	Static display, Juan Contreras	
Carthay Science Fair and Environmental Expo, Los Angeles, May 21	Static display, Keith Malone	
Norwegian Delegates, CaFCP HQ, May 23	Presentation, test drive and station tour, Chris White and Juan Contreras	
OCTA Ribbon Cutting for new ElDorado fuel cell bus, Orange, May 23	Industry Champion, CaFCP, Keith Malone, Joe Gagliano	https://www.flickr.com/photos/cafcp mr/albums/72157670975130006
San Diego Association of Governments (SANDAG), San Diego, May 26	Presentation, Keith Malone	

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Vehicle Vendor Workshop, Riverside, June 2	Member support, Keith Malone and SCAQMD	
LA Trade Tech graduation in the Auto Tech program, Los Angeles, June 2	Speaker, Keith Malone	
Torrance Environmental Fair, Torrance, June 4	Static display, Keith Malone	
Annual Merit Review (AMR), Washington, D.C. June 6-10	Speakers, CaFCP Staff	
L.A. Transit Coalition, Los Angeles, June 9	Keith Malone	
Viva SGV! Open Streets (El Monte and South El Monte), June 12	Static display, Keith Malone	
World Hydrogen & Energy Conference, Spain, June 13- 16	Speaker, Chris White	
CAFCP Hydrogen Dispenser Workshop, El Cerritos, June 14	Panel moderator, Joe Gagliano	
Sonoma-Marin Fair, Sonoma, June 25	Test Drive, Juan Contreras	
Advanced Automotive Battery Conference, Detroit, June 14-17	Speaker, Bill Elrick	
Senator Liu Event, Glendale, June 24	Keith Malone	
CleanTech OC – Driving Mobility 3, Irvine	Speaker, Joe Gagliano	
CAPCOA Public Affairs Officers meeting, SCAQMD HQ, June 29	Speaker, Keith Malone	
Suzuki delegates, CaFCP HQ, June 30	Presentation, Bill Elrick and Nico Bouwkamp	

Legislative, NGO & Policy

Conduct one-on-one meetings with California state and federal elected officials and their staff in district and capitol offices. Conduct one-on-one meetings with influential NGOs at the local, state and national levels. Emphasize California's commitment to hydrogen and provide information about progress and plans. Provide education and information to policy makers.

2016 Q2 Statistics – Meetings and encounter Elected officials: 3 (2016 to date: 4) Legislative staff: 8 (2016 to date: 42) NGOs: 0 (2016 to date: 4)

Event N name	Neeting Date	Meeting with (Names and titles of all persons)
Capitol meeting	4/6/2016	Michael Martinez, deputy legislative secretary, Office of the Governor
Capitol meeting	4/6/2016	Assembly Member Eduardo Garcia, chief of staff Suzanne Wierbinksi and other staff
Lunch meeting	4/7/2016	Evita Chavez, Senate fellow, Housing and Transportation Committee
Community meeting	4/8/2016	Ed Hartoonian (Galpin Honda) and assistant (at request of Senator Hertzberg's office))
Community event	5/13/2016	Supervisors Peter Adam and Salud Carbajal, and Cameron Schunk, field representative to Assembly Member Das Williams (D-Santa Barbara)
Capitol meeting	6/21/2016	Matt Cox, office of Senator Ted Gaines (R-El Dorado Hills)
Capitol meeting	6/21/2016	Naomi Padron, legislative director to Assembly Member Marc Levine (D-San Rafael)
Email exchange	6/21/2016	David Hersch, legislative director to LA City Council Member Paul Koretz (West LA)

Website and Social Media

We provide outreach and education through events, materials, video, web and social media that increase awareness in the general public, build support in early market communities and support other projects' specific goals. Our online strategy is to deliver real-world information about FCEVs and hydrogen stations to early adopter audiences. We use email, blogs, Twitter, YouTube and Facebook to share messages about FCEV commercialization and technology with different audience types.

www.cafcp.org	Apr-16	May-16	Jun-16
Number of visits	5,333	5,036	4,608
Average time users spent on site	2:21	2:18	2:06
Most visited pages	Home page Station map Stations Cars CaFCP Spring Forum	Home page Station map Stations Cars About Us	Home page Station map Stations Cars About Us
Most searched keywords on Google to land on CaFCP website	www.social-buttons.xyz cafcp i came up with a method and 1,5 years forcing all- seeing eye of google cafcp.org hydrogen fueling stations	california fuel cell partnership m.cafcp.org hydrogen fuel stations in california http://cafcp.org/stationm ap cafcp	m.cafcp.org cafcp www.get-free-social- traffic.com california fuel cell partnership hydrogen fueling stations west sacramento
Most referred websites	google.com automobiles.honda.com yahoo afdc.energy.gov driveclean.ca.gov	google.com automobiles.honda.com yahoo bing.com afdc.energy.gov	google.com automobiles.honda.com yahoo bing.com arb.ca.gov

FACEBOOK	Apr-16	May-16	Jun-16
New likes	25	20	23
Lifetime likes	2,747	2,763	2,775
Lifetime Post Total Reach	1,747	3,462	13,915
Lifetime Engaged Users	116	185	619

TWITTER	Apr-16	May-16	Jun-16
Tweets for the month	88	112	140
Tweet Impressions	47,300	69,200	69,700
Profile visits	1,035	960	1,860
Mentions	237	182	203
New Followers	324	7,243	81
Total Followers	2,729	2,817	2,868

E-blast – CaFCP Public Forum & Executive		
Board Meeting	, April 19	
Sent April 7, 2016 – 37 Tweets		
Contacts:	12,703	
Opened:	9% - 1,143 contacts	
Bounced:	3.4% - 434 contacts	
No Info:	87.6% - 11,126 contacts	
Clicked:	1% - 119 contacts	
Unsubscribed:	10	

E-blast – Mary's Valley Rally: FCEVs		
drive from SoCal to NorCal		
Sent April 22, 2016 – 56 Tweets		
Contacts:	12,482	
Opened:	10.4% - 1,295 contacts	
Bounced:	3.4% - 421 contacts	
No Info:	86.3% -10,766 contacts	
Clicked:	1% - 174 contacts	
Unsubscribed:	10	

E-blast – CaFCP Spring Forum & EB		
Meeting Presentations		
Sent April 28, 2016		
Contacts:	86	
Opened:	50.0% - 43 contacts	
Bounced:	0.0% - 0 contacts	
No Info:	50.0% - 43 contacts	
Clicked:	28% - 24 contacts	
Unsubscribed:	0	

E-blast – Energy Commission Hydrogen			
Station Solicita	Station Solicitation Released		
Sent April 7, 2016 – 167 Tweets			
Contacts:	12,626		
Opened:	10.1% - 1,274 contacts		
Bounced:	2.8% - 352 contacts		
No Info:	87.1% - 11,000 contacts		
Clicked:	1% - 120 contacts		
Unsubscribed:	8		

E-blast – May 13: Santa Barbara H2 station ribbon cutting		
Sent April 27, 2016		
Contacts:	340	
Opened:	42.1% - 143 contacts	
Bounced:	2.4% - 8 contacts	
No Info:	55.6% - 189 contacts	
Clicked:	3% - 10 contacts	
Unsubscribed:	1	

E-blast – Energy Department			
Announces Clim	Announces Climate Action Champion,		
City of San Franc	cisco, Embracing		
Hydrogen & Fuel Cell Technologies			
Sent May 20, 2016			
Contacts:	12,326		
Opened:	10.2% - 1,261 contacts		
Bounced:	3.7% - 460 contacts		
No Info:	86.0% -10,605 contacts		
Clicked:	1% - 122 contacts		
Unsubscribed:	6		

E-blast – National Webinars on			
Designation of A	Designation of Alternative Fuel		
Corridors (May 2	Corridors (May 12 & 16 at 1:00PM EDT)		
Sent May 4, 2016			
Contacts:	396		
Opened:	21.5% - 85 contacts		
Bounced:	0.3% - 1 contacts		
No Info:	78.3% - 310 contacts		
Clicked:	5% - 18 contacts		
Unsubscribed:	1		

CaFCP Quarterly Update July-September 2016

Background

The California Fuel Cell Partnership is a unique collaborative of auto manufacturers, energy companies, fuel cell technology companies and government agencies, including SCAQMD. This report summarizes CaFCP activity in or related to Southern California for July to September 2016.

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To successfully implement the vision, CaFCP activities must focus on technical, communications and business operations/strategies that require convening, collaborating and communicating.

1. Develop Infrastructure		
Develop the necessary infrastructure and p	processes to support early commercial launch and	
expanded vehicle rollout.		
Support the construction and commissioning of current California hydrogen stations by participating in codes, standards and regulation processes; facilitating station commissioning processes; and supporting station openings.	 SAE J2719/1 Application Guideline for Use of Hydrogen Quality Specification went out for 14 day affirmation ballot and passed SAE J2601 Fueling Protocols for Light Duty Gaseous Hydrogen Surface Vehicles passed affirmation ballot. Supported ribbon cuttings at Truckee/Lake Tahoe and Campbell stations. 	
Prepare for future funding through outreach and education with fueling retailers and hydrogen industry.	 GFO 15-605 closed in August, 2016 with \$17.3 million in available funding. 	
Work with stakeholders to identify potential future station locations.	Completed for 2016	
Develop Road Map 2.0 with strategies for a sustainable network in California.	Moved to 2017	
2. Share and Synchronize Experience		
Provide forums and opportunities for mem within CaFCP and among stakeholders.	bers to advance group collaboration and progress	
Build and expand trust among members through open communication and forums.	 CaFCP Working Group meeting held Sept 7-8 Conducted sub-group meetings about SOSS, station implementation, and with the Station Developers Group started under a separate CEC contract 	
Communicate with stakeholders nationally and internationally to share learnings and amplify market launch efforts.	 Participated in a September 29-30 meeting with US DOE and representatives from Germany to discuss international data exchange. Participated in the Sustainable Transportation Summit, Washington, D.C. July 11-14th 	
4. Expand Markets		
Restructure CaFCP to be more inclusive and capable of meeting the expanding commercial market needs and opportunities, broadening the member base, and being the voice of all stakeholder participants		
Establish new structure and expand membership.	Completed	
Support deployment of fuel cell bus Centers of Excellence and the Bus Team.	 Participated in CARB Advanced Clean Transit meetings to provide FCEB perspective. Met with US DOT FTA Low-No program manager to provide an update on FCEB progress. Participating in background meetings with Sierra 	

	 Club ZEB coalition. Completed CaFCP Bus Team meeting on August 30 at SunLine Transit with ~30 participants. Developing "CaFCP Fuel Cell Electric Bus Fact Sheet" for outreach.
Publish and implement the Medium- and Heavy-Duty Road Map document.	 Prepared CaFCP's "Fuel Cell Electric Truck Action Plan for California" for mid-October publication Developed distribution and promotion for release of Medium and Heavy-Duty Fuel Cell Electric Truck Action Plan in October. Met with governmental affairs representatives in Washington DC to share information about Action Plan
Support activities outside of California, as directed by members.	None in Q3

3. COMMUNICATE

Communicate, educate, inform and promote H2 & FCEVs benefits and opportunities to key outside stakeholders and general public for increased and continued support. Become readily recognized as the face of the industry for trustworthy information and assist.

Summary of Q3 Outreach Events

Conferences : 3 (SEMICON West, Pacific Oil Conference and Society of Environmental Journalist)

- Community Events: 5
- People reached: 1,119
- Webinars: 2 (ARB 2016 Annual Evaluation of FCEV Deployment & H2 Fuel Station Network Development and 2016 International Hydrogen Infrastructure Update)

Activity	Description	Picture and comments
SEMICON West, San	Exhibitor: Keith Malone,	Click on the link below for photos
Francisco, CA. July 11-14 th	Juan Contreras, Air Liquide	https://www.flickr.com/photos/cafcp
	and Toyota	mr/albums/72157673131305576
		100 booth visitors
Glendale Cruise Night,	Static display: Keith	Click on the link below for photos
Glendale, CA. July 16 th	Malone and Hyundai	https://www.flickr.com/photos/cafcp
		mr/albums/72157673224955505
		60 booth/car visitors
National of Association	Sister organization	Supported FCHEA's participation. 25
Counties Conference &	support: Keith Malone and	booth visitors
Expo, Long Beach, July 22 nd	FCHEA	
ARB 2016 Annual Evaluation	Webinar: CaFCP staff &	Registered: 194
of FCEV Deployment & H2	CARB	Final attendance: 161

	1	1
Fuel Station Network Development Webinar, CaFCP, HQ, July 26 th		
Assembly member Holden Block Party, Pasadena, July 30 th	Static display: Keith Malone & Hyundai	~30 booth/car visitors
Academic Workshop on New Technology in Automotive Industry, Academy of Management Annual Meeting, Anaheim, CA	Panel discussion: Bill Elrick	~40 attendees
Truckee/Lake Tahoe Ribbon Cutting Event, Truckee, CA. Aug. 27 th	Ribbon Ceremony: CaFCP Staff, Toyota, MB, Hyundai, FE/TrueZero	25 attendees, including 14 commercial FCEVs Click on the link below for photos <u>https://www.flickr.com/photos/cafcp</u> <u>mr/albums/72157673226704215</u>
2016 Update to California's Hydrogen Stations Webinar, CaFCP HQ, Aug. 31 st	Webinar: CaFCP staff	Registered: 357 Final attendance: 199
Pacific Oil Conference, Los Angeles, CA. Sept. 6-8 th	Exhibitor: Juan Contreras,, Keith Malone & Air Liquide	30 booth visitors Click on the link below for photos <u>https://www.flickr.com/photos/cafcp</u> <u>mr/albums/72157672566943231</u>
South Pasadena Clean Air Car Show and Green Living Expo, South Pasadena, CA. Sept. 10 th	Static display: Keith Malone and Hyundai	30 booth visitors, including Supervisor Michael Antonovich
Sacramento City College/Environmental Delegation from Ukraine, CaFCP HQ, Sept. 12 th	Presentation, H2 station tour and test drive: Chris White, Juan Contreras and Toyota	
Senator Liu "Thank You Reception", Glendale, Sept. 16 th		

Society of Environmental Journalists Annual Conference, Sacramento, CA Sept. 22-24 th	Co-sp**onsors and test drive: Keith Malone, Juan Contreras, FCHEA, Hyundia and Toyota	30 booth visitors, including test drivers Supported FCHEA's participation. Click on the link below for photos <u>https://www.flickr.com/photos/cafcp</u> <u>mr/albums/72157673305546112</u>
Advanced Clean Cars Symposium "The Road Ahead", SCAQMD HQ's, Sept 27 th	Member support: Bill Elrick, Joe Gagliano	

Legislative, NGO & Policy

Conduct one-on-one meetings with California state and federal elected officials and their staff in district and capitol offices. Conduct one-on-one meetings with influential NGOs at the local, state and national levels. Emphasize California's commitment to hydrogen and provide information about progress and plans. Provide education and information to policy makers.

2016 Q3 Statistics – Meetings and encounters Elected officials: (2016 to date: 7) Legislative staff: (2016 to date: 42) NGOs: (2016 to date: 4)

Event Meeting name Date	Meeting with (Names and titles of all persons)	
Email exchange	7/12/2016	LuzMaria Sanchez with Galpin Honda (San Fernando Valley) and Eveline Bravo-Ayala, office of State Senator Bob Hertzberg (D- Van Nuys)
Capitol meeting	7/25/2016	Jay Dickensen, chief consultant and David Sforza, legislative aide to the Senator.
Community event	7/30/2016	Kayleen Aviles-Maya, office of Assembly Member Chris Holden (D-Pasadena)
Phone briefing Pacific Oil Conference	8/9/2016 9/7/2016	Allegra Roth, district office of Assembly Member Das Williams (D-Santa Barbara) Assembly Member Rocky Chavez (R- Oceanside)
South Pasadena Clean Air Car Show	9/10/2016	Supervisor Mike Antonovich and aide, Rita Hadjimanoukian
Reception	9/16/2016	Becky Chen, office of Congresswoman Judy Chu (D-Pasadena)
Email communication: FCHEA letter to DOE Sec'ty Moniz	9/12/2016	Various district office congressional staff throughout California

Website and Social Media

We provide outreach and education through events, materials, video, web and social media that increase awareness in the general public, build support in early market communities and support other projects' specific goals. Our online strategy is to deliver real-world information about FCEVs and hydrogen stations to early adopter audiences. We use email, blogs, Twitter, YouTube and Facebook to share messages about FCEV commercialization and technology with different audience types.

www.cafcp.org	Jul-16	Aug-16	Sep-16
Number of visits	6,696	9,336	10,289
Average time users spent on site	2:00	2:07	2:02
Most visited pages	Station map Home page Stations Cars About Us	Station map Home page Stations Cars About Us	Station map Home page Stations Cars About Us
Most searched keywords on Google to land on CaFCP website	eu cookie law eu-cookie- law.info sharebutton.org share buttons m.cafcp.org hydrogen fuel stations in california hydrogen fueling stations west sacramento	cafcp hydrogen fuel stations in california fuel cell stations hydrogen filling station south river road sacramento ca hydrogen fueling stations	california fuel cell partnership hydrogen fueling stations hydrogen fueling stations west sacramento cafcp hydrogen fuel stations
Most referred websites	google automobiles.honda.com yahoo bing arb.ca.gov	google automobiles.honda.com m.cafcp.org yahoo bing	california fuel cell partnership hydrogen fueling stations hydrogen fueling stations west sacramento cafcp hydrogen fuel stations

FACEBOOK	Jul-16	Aug-16	Sep-16
New likes	13	33	17
Lifetime likes	2,773	2,798	2,811
Lifetime Post Total			
Reach	4,571	4,070	7,226
Lifetime Engaged	292		
Users		207	392

TWITTER	Jul-16	Aug-16	Sep-16
Tweets for the month	69	69	46
Tweet Impressions	36,500	42,400	29,500
Profile visits	1,087	970	582
Mentions	186	212	173
New Followers	57	41	53
Total Followers	2,925	2,966	3,109

E-blast – Report & Webinar July 26: ARB 2016 Annual Evaluation of Fuel Cell			
Electric Vehicle	Deployment & Hydrogen		
Fuel Station Ne	etwork Development		
Sent July 15, 20	Sent July 15, 2016 – 52 Tweets		
Contacts:	11,271		
Opened:	10.7% - 1,205 contacts		
Bounced:	5.0% - 568 contacts		
No Info:	84.3% - 9,498 contacts		
Clicked: 1% - 158 contacts			
Unsubscribed:	12		

E-blast – Hydrogen Stations Webinar,			
August 31: Upda	August 31: Update on Network		
Development St	atus in California		
Sent August 10, 2016 – 141 Tweets			
Contacts:	12,529		
Opened:	11.6% - 1,452 contacts		
Bounced:	3.5% - 434 contacts		
No Info:	84.9% - 10,643 contacts		
Clicked: 2% - 258 contacts			
Unsubscribed:	17		

E-blast – Resources for California's			
Hydrogen Statio	Hydrogen Stations Webinar, August 31		
Sent September 1, 2016			
Contacts:	355		
Opened:	49.9% - 177 contacts		
Bounced:	2.3% - 8 contacts		
No Info:	47.9% - 170 contacts		
Clicked:	17% - 60 contacts		
Unsubscribed:	0		

E-blast – ARB Low Carbon Fuel Standard		
Workshop, July	/ 29	
Sent July 27, 2016 – 9 Tweets		
Contacts:	11,599	
Opened:	8.6% - 992 contacts	
Bounced:	3.6% - 420 contacts	
No Info:	87.8% - 10,187 contacts	
Clicked:	1% - 89 contacts	
Unsubscribed: 17		

E-blast – Lake Tahoe-Truckee Hydrogen Station Ribbon Cutting & Celebration, August 27		
Sent Aug 19, 2016		
Contacts:	361	
Opened:	39.1% - 141 contacts	
Bounced:	1.7% - 6 contacts	
No Info:	59.3% - 214 contacts	
Clicked:	7% - 25 contacts	
Unsubscribed:	1	



Agenda Item #2

Lisa Mirisola

Renew SCAQMD's Membership in CaFCP for Calendar Year 2017, Provide Office Space for CaFCP, and Receive and File California Fuel Cell Partnership Executive Board Meeting Agenda and Quarterly Updates

Background





- The CaFCP was created in 1999 "Promote fuel cell vehicle commercialization as a means of moving towards a sustainable energy future."
- SCAQMD accepted formal request to join in March 2000
- 15 Current Executive Board Members
 - Automobile Manufacturers (7)
 - Government Agencies (6)
 - Industry Stakeholders (2)
- 25 Full & Associate Members







- Dr. Clark E. Parker elected Chair for 2017
- 25 retail hydrogen stations now open in CA; 14 in South Coast, <u>http://m.cafcp.org</u>
- 23 new/upgrade stations under development
- Fuel cell vehicles
 - CARB award for 25 new 40' transit buses
 - 15 in South Coast; 1 in service now at OCTA
 - Light-duty cars: 1,000 Toyota Mirai delivered & orders placed for 2017 Honda Clarity
 - Medium- and Heavy-Duty Vehicle Action Plan released



Recent Event Highlights



Society of Environmental Journalists



Glendale Cruise Night



Pacific Oil Conference

CaFCP Goals For 2017

- Support the construction and commissioning of hydrogen stations
- Share and synchronize experience
- Reach target markets and communities to educate and promote hydrogen & FCEVs
- Implement CaFCP restructuring to be more inclusive and capable of meeting expanding commercial market

Recommended Actions

- For CY 2017, execute contract with Bevilaqua-Knight, Inc., acting on behalf of the CaFCP, to:
 - renew SCAQMD's membership at Executive Board level, not to exceed \$70,000
 - provide support for Regional Coordinator not to exceed \$50,000
 - continue to provide in-kind office space & utilities on a month-to-month basis for four cubicles for staff and storage space at SCAQMD
- Receive & File Executive Board Meeting Agenda and Quarterly Updates

Go to SLIDES

DRAFT Technology Committee Agenda #3

BOARD MEETING DATE: February 3, 2017

AGENDA NO.

PROPOSAL: Recognize Revenue and Execute Contract for Development of Ultra-Low Emission Diesel Engine for On-Road Heavy-Duty Vehicles

SYNOPSIS: On July 7, 2016, the Board released a Request for Information to obtain technical information on ultra-low NOx emission technologies for heavy-duty diesel engines. Two responses were received, one of which was from the Southwest Research Institute (SwRI). CARB had previously awarded a contract to SwRI to investigate and demonstrate emission control strategies for 13liter diesel engines to achieve 90% emission reductions compared to the current NOx standard. As a follow-on to this successful demonstration project, CARB and the Port of Los Angeles (POLA) have expressed interest in cofunding the advancement of current larger displacement diesel engines to achieve ultra-low NOx emissions. Staff proposes to cost-share the project. CARB will contract directly with SwRI while the POLA cofunding will pass through the SCAQMD. These actions are to recognize up to \$287,500 from POLA and execute a contract with SwRI for development of an ultra-low emission heavy-duty diesel engine in an amount not to exceed \$575,000 from the Clean Fuels Fund (31).

COMMITTEE: Technology, January 20, 2017; Recommended for Approval

RECOMMENDED ACTIONS:

- 1. Recognize, upon receipt, up to \$287,500 from the Port of Los Angeles into the Clean Fuels Fund (31) for the development of an ultra-low emission diesel engine for on-road heavy-duty vehicles; and
- 2. Authorize the Chairman to execute a contract with SwRI for the development of an ultra-low emission diesel engine for on-road heavy-duty vehicles in an amount not to exceed \$575,000 from the Clean Fuels Fund (31).

Wayne Nastri Executive Officer

MMM:FM:NB:AAO:JL

Background

On-road heavy-duty vehicles are currently one of the largest sources of NOx emissions in the South Coast Air Basin. Reductions of on-road heavy-duty vehicle NOx emissions beyond the 2010 NOx emission standard will be required to meet national ambient air quality standards. Consequently, the Board recently cofunded the development of onroad heavy-duty natural gas engines that are at least 90% cleaner than the current onroad heavy-duty engine NOx emission standard. As a result, a new generation of heavy-duty natural gas engines are now certified by CARB and U.S. EPA to meet a 0.02 grams per brake horsepower hour (g/bhp-hr) NOx emission level. Now that the Cummins Westport ISL G 8.9-liter engine is in production, similar efforts are being devoted by CARB and others to develop larger displacement heavy-duty diesel engines.

On July 7, 2016, the Board released a Request for Information (RFI) to obtain technical information on ultra-low NOx emission technologies for heavy-duty diesel engines. Two responses were received, one of which was from Southwest Research Institute (SwRI) describing a previously funded CARB project to investigate and demonstrate technological pathways for development of a 13-liter heavy-duty diesel engine that can achieve 0.02 g/bhp-hr NOx emission level. Since a few of the technology strategies, all of which included a combination of advanced aftertreatment technology devices, were successfully demonstrated, CARB and the Port of Los Angeles (POLA) have expressed interest in cofunding the advancement of current larger displacement (larger than 13-liter) diesel engines to achieve ultra-low NOx emission reductions. CARB proposes to contract directly with SwRI while the POLA cofunding of \$287,500 will be passed through the SCAQMD. The other proposal, also from SwRI, did not focus on large displacement engine development and thus was not within the focus of the RFI.

Proposal

This action is to recognize revenue up to \$287,500 from POLA into the Clean Fuels Fund (31). This action is to also execute a contract with SwRI for development of ultralow emission heavy-duty diesel engines in an amount not to exceed \$575,000, of which SCAQMD's share is not to exceed \$287,500.

The objective of the proposed project is to use lessons learned from the successful 13liter heavy-duty diesel engine demonstration project to advance engine and aftertreatment technologies in current heavy-duty diesel engines to achieve NOx emission levels that are at least 90% lower than 2010 heavy-duty NOx emission standards. SwRI will be required to: (1) identify specific diesel engines, test cycles and aftertreatment technologies, (2) characterize the baseline emission performance of the engine, (3) determine engine characteristics for cold starts, hot starts, normal operation and low-load, low-temperature operation, and (4) define possible engine control strategies. Based on the engine performance and engine control strategies, SwRI will be required to select technology pathways for screening and final engine system development. Once developed, the engine will tested using both the Federal Test Procedure for emission certification and non-certification test cycles representative of real-world use in different vocations that are prevalent in the air basin. The use of vocational specific test cycles will provide additional insights towards the engine's reallife emission reduction potential.

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 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.(1): Project involving cost-sharing by multiple sponsors. The proposed project will be cost-shared by CARB and POLA. Details of the cost-share to be provided by CARB and POLA are shown under the Resource Impacts.

Benefits to SCAQMD

Projects to support implementation of various clean fuel vehicle programs are included in the *Technology Advancement Office Clean Fuels Program 2016 Plan Update* within the category "Engine Systems" under "Develop and Demonstrate Advanced Alternative Fuel Medium- and Heavy-Duty Engines and Vehicles". This project is to develop an ultra-low NOx emission diesel engine for on-road heavy-duty vehicles. This engine also can be fueled with renewable diesel fuels. Successful development will help to support the larger engines necessary for long haul trucking operations and contribute towards technology to support the petition for a national standard for near-zero heavyduty engines. Longer term, it will help to accelerate wide-scale deployment of heavyduty engines in the South Coast Air Basin with contributions toward the attainment of clean air standards for the region by significantly reducing criteria pollutant emissions from diesel-fueled trucks. Statewide, the project addresses the reduction of GHG emissions and the mandated goal of near zero NOx levels by 2021.

Resource Impacts

The proposed project budget is \$1,325,000 with pass-through funding of \$287,500 anticipated from POLA to be recognized, upon receipt, into the Clean Fuels Fund (31). SCAQMD's total cost-share will not exceed \$287,500 from the Clean Fuels Fund (31). CARB will contract directly with SwRI for a significant cost-share of \$750,000. The SCAQMD's contract with SwRI will not exceed \$575,000. Proposed project costs are broken down as follows:

Funding Source	Funding Amount	Percent
CARB	\$750,000	56%
POLA	\$287,500	22%
SCAQMD (requested)	\$287,500	22%
Total	\$1,325,000	100%

Proposed Project Costs

Sufficient funds are available from the Clean Fuels Fund, established as a special revenue fund resulting from the state-mandated Cleans 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.



Agenda Item #3

Joseph Lopat

Recognize Revenue and Execute Contract for Development of Ultra-Low Emission Diesel Engine for On-Road Heavy-Duty Vehicles

Background

- In July 2016, Request for Information released for information on ultra-low emission diesel engines
- Southwest Research Institute (SwRI) proposed expansion of existing CARB-funded program
 - Ultra-low NOx 13-liter diesel
 - Primary use for drayage/regional operations
- CARB follow-up
 - Focus on low-load/low-temperature test methods
 - larger displacement engine of up to 15-L engine for long haul
 - 13-L engine would operate at mechanical and thermal limits
 - Larger displacement better drivability and operation at cruising speeds





Proposal

- Develop larger displacement (up to 15-L) engine
- Identify specific test cycles and aftertreatment technologies
- Define engine control strategies
- Assess gamut of load and temperature conditions





Proposed Project Partners/Budget

Project Partner	Funding Amount	Percent
CARB (contract directly with SwRI)	\$750,000	56%
POLA/POLB (pass-through to SCAQMD)	\$287,500	22%
SCAQMD (requested)	\$287,500	22%
Total	\$1,325,000	100%

Recommended Actions

- Recognize, upon receipt, up to \$287,500 from POLA into the Clean Fuels Fund (31)
- Execute contract with SwRI to develop an ultra-low NOx diesel engine for on-road heavy-duty vehicles in an amount not to exceed \$575,000 from Fund (31)

Go to SLIDES

DRAFT Technology Committee Agenda #4

BOARD MEETING DATE: February 3, 2017

AGENDA NO.

- PROPOSAL: Issue Program Announcement for Ships at Berth and Cargo Handling Equipment Projects Under Proposition 1B-Goods Movement Program
- SYNOPSIS: In September 2015, CARB approved Proposition 1B-Goods Movement Program funding awards to local agencies for projects that will reduce emissions from freight transportation. The award for the Los Angeles/Inland Empire trade corridor included \$14.1 million for ships at berth and cargo handling equipment projects. Following an earlier solicitation issued on February 5, 2016, and subsequent awards, there are still funds available for projects in this category. This action is to issue a Program Announcement for ships at berth and cargo handling equipment projects under the Proposition 1B-Goods Movement Program.
- COMMITTEE: Technology, January 20, 2017; Recommended for Approval

RECOMMENDED ACTION:

Issue Program Announcement #PA2017-03 for ships at berth and cargo handling equipment projects under the Proposition 1B–Goods Movement Program.

Wayne Nastri Executive Officer

MMM:FM:VW:MW

Background

Proposition 1B authorizes \$1 billion to CARB for the Goods Movement Emission Reduction Program. Projects funded by this Program must achieve early or extra emission reductions not otherwise required by law or regulations. To date, CARB has granted close to \$740 million to local agencies for various goods movement projects. SCAQMD has received about \$400 million of these funds for projects involving heavyduty diesel trucks, locomotives and ships at berth. The vast majority of these projects are currently operational, providing significant emission reduction benefits to the region. In September 2015, CARB approved new funding awards for the Program including \$14.5 million for ships at berth and cargo handling equipment projects. In July 2016, the Board approved awards for ships at berth and cargo handling equipment projects amounting to \$12,484,968. However, one project was subsequently deemed ineligible by CARB because the proposed technology was not verified, and therefore it cannot be funded under this program. A new Program Announcement is necessary to solicit additional projects for the remaining balance of funds.

Proposal

This action is to issue Program Announcement #PA2017-03 for ships at berth and cargo handling equipment projects under the Proposition 1B–Goods Movement Program. Approximately \$6.1 million in funds are remaining for eligible projects under this solicitation. Only cargo berths or terminals that receive visits from vessels not subject to CARB's Ships-at-Berth Rule will be eligible for the shore power funding. Ship capture–and-control emission systems may also qualify for funding if the system is verified by CARB and achieves an overall capture efficiency rate of at least 80% for NOx and PM emissions. The cargo handling equipment category includes rubber-tired gantry cranes, yard trucks and/or lifts operating at a seaport, intermodal rail yard or freight facility. Funding is available for the replacement or conversion of cargo handling equipment with zero emission technologies as well as battery charging units for the zero emission yard trucks and lifts.

Following the evaluation of the applications, staff will return to the Board for approval of the ranked list and specific awards for each project.

Outreach

In accordance with SCAQMD's Procurement Policy and Procedure, a public notice advertising the PA 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 PA 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 (<u>http://www.aqmd.gov</u> where it can be viewed by making menu selection "Grants & Bids."

Benefits to SCAQMD

The successful implementation of the projects approved under the Proposition 1B-Goods Movement Program will reduce NOx and PM emissions in a cost-effective and expeditious manner to meet the goals of the AQMP. The vehicles and equipment to be funded by the Proposition 1B Program will operate for the life of the contracts awarded and beyond in the South Coast region, thus providing long-term emission reductions.

Resource Impacts

Following the evaluation of applications, staff will return to seek the Board's approval of the recommended project awards.

Attachment

Program Announcement #PA2017-03 for Ships at Berth and Cargo Handling Equipment Projects



The South Coast Air Quality Management District (SCAQMD) is pleased to announce the availability of funds from the Proposition 1B - Goods Movement Emission Reduction Program (hereafter "Program"). The Program is administered by a partnership between the California Air Resources Board (CARB) and local agencies to quickly reduce air pollution emissions and health risk from freight movement along California's trade corridors. Projects funded under this Program must achieve early or extra emission reductions not otherwise required by law or regulation. Approximately \$6.1 million in Program funding is available to install shore power systems (grid-based and non-grid-based power) or ship emissions capture and control systems for vessels that are not subject to CARB's Shore Power regulation. This funding is also for equipment owners to replace or convert cargo handling equipment (CHE) with zero-emission technology.

WHO: Owners/operators of the following, located within the four California trade corridors, may apply for funding through this solicitation:

- 1. Existing cargo ship berth or terminal,
- 2. Existing diesel-powered rubber-tired gantry (RTG) crane,
- 3. Existing diesel yard truck,
- 4. Existing diesel powered lift (forklift, side handler, top pick, or reach stacker)
- 5. If there is no existing equipment, the owner of the future Program-funded equipment shall sign and submit the project application.

WHAT: There are nine project options available as part of this solicitation.

- 1. Grid Based Power
- 2. Non-Grid Based Power
- 3. Ship Emissions Capture and Control System
- 4. RTG Crane Conversion/Replacement
- 5. Yard Truck Conversion to Electric

- 6. Yard Truck Replacement Electric or Fuel Cell
- 7. Multi-Unit Battery Charger
- 8. Forklift Replacement Electric or Fuel Cell
- 9. Lift Replacement Electric or Fuel Cell

Equipment specifications for each of these project options can be found in Appendix C and E of the 2015 Program Guidelines at: <u>www.arb.ca.gov/gmbond</u>

HOW: The application forms with instructions are attached to this Program Announcement (PA). For guidance on which application forms are required for your project type, please see Section VII of this PA. A copy of the application forms can be found at: <u>http://www.aqmd.gov/Prop1B</u>

WHERE: Three (3) copies of a <u>completed application (with all required supporting</u> <u>documents and signatures)</u> must be submitted via mail delivery, or in person to: <u>South Coast Air Quality Management District</u> <u>21865 Copley Dr., Diamond Bar, CA 91765</u> <u>Attn: Procurement</u> <u>NOTE:</u> Facsimile or email submittals <u>will not be accepted</u>.



WHEN: Applications must be received by no later than <u>4:00 PM</u> on <u>March 31, 2017</u> to be considered for funding. If you submit an application in person to the SCAQMD, you must obtain a receipt from SCAQMD's Public Information Center located in the lobby that verifies the date and time of your submittal.

Schedule:

Solicitation Opens Application Deadline

Anticipated: SCAQMD Evaluation Period CARB's Approval of Ranked List SCAQMD Board Approval of Awards SCAQMD to Issue Contracts Expenditure Deadline* February 3, 2017 March 31, 2017 (no later than 4 pm)

April 2017 – May 2017 June 2017 July 2017 July-August 2017

- Ships At-Berth (non-grid based power/ship emissions capture and control) – 24 months after contract execution.
- Ships At-Berth (grid based power) 48 months after contract execution.
- Cargo Handling Equipment (if commercially available) 18 months after contract execution.
- Cargo Handling Equipment (if not commercially available) – 36 months after contract execution.

* Note that the close out payment must be completed by the applicable deadline. SCAQMD may take 30 business days to process the close out payment upon receipt of an approved invoice package. Payment processing should be included in any project scheduling.

For general information or questions about the SCAQMD Proposition 1B – Goods Movement Emission Reduction Program, please contact:

Gregory Ushijima, Air Quality Specialist • (909) 396-3301 • gushijima@aqmd.gov



SUMMARY

The purpose of this Program Announcement (PA) is to provide funding for projects under the State's Proposition 1B – Goods Movement Emission Reduction Program to reduce diesel emissions from freight transportation. This PA will include projects of the following equipment types:

- Shore power for ships at berth
- Emissions capture and control systems for ships at berth
- RTG cranes
- Yard trucks
- Lifts (forklifts, side handler, top pick, or reach stacker)
- Multi-unit battery chargers (with the replacement or conversion of 3 yard trucks with Program funds)
- Battery charger (with the replacement or conversion of a yard truck with Program funds)
 - Availability of this funding option must be approved by CARB. If approved, CARB will issue an Executive Order (EO) that details additional Program flexibilities.

I. <u>BACKGROUND</u>

The diesel engines in trucks, locomotives, ships, harbor craft, and cargo handling equipment are major contributors to the State's air pollution challenges. These sources account for nearly half of the statewide particulate matter (PM) emissions. Diesel PM is both a toxic air contaminant and a contributor to black carbon, a powerful short-lived climate pollutant. Near-source exposure to emissions of this particulate matter is associated with health risks, especially near distribution centers, railyards, and seaports, many of which impact disadvantaged communities. Emissions from freight transport also account for over one third of the statewide nitrogen oxides (NOx) that form fine particles.

Proposition 1B (Prop. 1B), approved by voters in 2006, authorizes \$1 billion in bond funding to CARB to cut freight emissions in four priority trade corridors, including the Los Angeles/Inland Empire trade corridor in the South Coast Air Basin. The project categories include heavy-duty diesel trucks, freight locomotives, ships at berth, commercial harbor craft, cargo handling equipment, transport refrigeration units (TRU), and infrastructure for electrification of truck stops, distribution centers and other places where trucks congregate. In February 2016, SCAQMD released a solicitation for projects in the equipment categories of ships at berth and cargo handling equipment. Total project funds available were about \$14.1 million. In July 2016, SCAQMD approved projects from this solicitation totaling about \$12.48 million, however one project was subsequently deemend ineligible by CARB. A new Program Announcement is necessary to solicit additional projects for the remaining balance of funds.

The Program supplements existing regulations and may be combined with other funding programs to cut diesel emissions. The Program funds provide an incentive to equipment owners to upgrade to cleaner equipment and achieve early or extra emission reductions beyond those required by applicable rules, regulations or enforceable agreements.

II. **DEFINITIONS**

a) Air Quality Improvement Program (AQIP)

AQIP is a voluntary incentive program administered by CARB to fund clean vehicle and equipment projects, research of biofuels production and the air quality impacts of alternative fuels, and workforce training. AQIP was created in 2007 by AB 118, the California Alternative and Renewable Fuel, Vehicle Technology, Clean Air, and Carbon Reduction Act of 2007 (Núñez, Chapter 750, Statutes of 2007). AB 8 (Perea, Chapter 401, Statutes of 2013) reauthorized the fees that support AQIP through 2023.

CARB has focused AQIP investments on technology advancing projects that support California's long-term air quality and climate change goals in addition to providing immediate emission benefits. AQIP investments have concentrated on three main categories: commercial deployment of clean vehicles, pre-commercial advanced technology demonstrations, and finance assistance to small trucking fleets. For the latest information on the AQIP, please visit:

http://www.arb.ca.gov/msprog/aqip/aqip.htm

b) Conversion

ARB-approved aftermarket replacement of the fueling system in a diesel powered equipment to a natural gas, hybrid technology, or zero-emission fueling system. Engines must have CARB approval as an aftermarket conversion to be sold in California. The proposed engine in conversion projects are not fueled by diesel.

c) Forklift

An off-road industrial truck used to hoist and transport materials by means of steel fork(s) under the load.

d) Freight Facility

Distribution centers, warehouses, retail and wholesale outlets, and agricultural processing centers, and other places where trucks congregate (other than truck stops.)

e) Goods

Defined as having the same meaning in Commercial Code section 2105, which essentially requires that:

A. The goods must be movable.



- B. The goods being moved must be part of a transaction that involves a contract for the sale of the goods.
- C. Rental equipment does not qualify as "Goods".

f) Lift

Includes top pick, side handler, reach stacker, or forklift

g) Port

A publically or privately owned property located at a harbor or along a waterway where marine and port terminals typically load and unload water-borne commerce onto and from ocean-going vessels; a port includes all property within the physical boundaries of the port or demarcated as the port on city or county land maps as well as other contiguous or adjacent properties owned or operated by the port. A port includes military terminals that operate cargo handling equipment when located as part of, or on contiguous properties with, non-military terminals.

h) Reach Stacker

An off-road truck-like cargo container handler that uses an overhead telescopic boom that can reach across two or more stacks of cargo containers and lift the containers from the top.

i) Replacement

To replace a higher-emitting diesel vehicle or piece of diesel equipment, with a loweremitting vehicle or piece of equipment (e.g., replacement of one or two old trucks with a new one).

j) Rubber-Tired Gantry Crane or RTG Crane

An off-road overhead cargo container crane with the lifting mechanism mounted on a crossbeam supported on vertical legs which run on rubber tires. RTG cranes do not include gantry cranes that operate on steel wheels and rails.

k) Side Handler or Side Pick

An off-road truck-like cargo container handler that uses an overhead telescopic boom to lift empty or loaded cargo containers by grabbing either two top corners on the longest side of a container, both arms of one side of a container, or both top and bottom sides of a container.

l) Terminal

A facility, including one owned or operated by the Department of Defense or the U.S. military services, that operates cargo handling equipment at a port or intermodal rail yard.



m) Top Handler or Top Pick

An off-road truck-like cargo container handler that uses an overhead telescopic boom to lift empty or loaded cargo containers by grabbing the top of the containers.

n) Yard Truck

An off-road mobile utility vehicle used to carry cargo containers with or without chassis; also known as utility tractor rig (UTR), yard tractor, yard goat, yard hostler, yard hustler, or prime mover.

III. <u>OWNERSHIP REQUIREMENTS</u>

Applications shall be signed and submitted by the current legal owner of the existing equipment that will be upgraded or replaced. For infrastructure projects, if there is no existing equipment, the application must be signed and submitted by the future owner of the Program-funded equipment.

Applications for Ships at Berth projects may be the port or terminal operators. Notwithstanding, non-owner applications are not eligible for funding.

Individuals or companies that operate the existing equipment under a lease agreement with the equipment owner are prohibited from applying for bond funding.

Third party applications are not allowed.

IV. FUNDING TABLES

For the funding tables below, please also reference the Definitions in Section III above for descriptions of equipment.

	Eligible Equipment	Equipment Upgrade	Proposed Program Funding	Project Life	Other Conditions (partial description)
A	Existing cargo ship berth that receives visits solely by ships not subject to the control	Install grid-based shore power (landside	Lower of: 50 percent of eligible cost or \$2.50M/per berth.	10 years	Ship visits must result in a cost effectiveness of 0.10 lbs/State \$ or higher.
B	requirements of the Ships At Berth Rule in effect as of 2015.	infrastructure to berth).	Lower of: 60 percent of eligible cost or \$3.50M/per berth.	10 years	Ship visits must result in a cost effectiveness of 0.20 lbs/State \$ or higher.

Table 1: Ships at Berth



С	Existing cargo ship berth or terminal that receives visits solely by ships not subject to the control requirements of the Ships At Berth Rule in effect as of 2015.	Install non-grid-based shore power (zero emission system or natural gas engine with selective catalytic reduction to control NOx emissions).	\$200,000 per megawatt of eligible costs.	5 years	Ports of Los Angeles and Long Beach: 1,500 hrs/yr (2015 onwards). Other ports: 1,000 hrs/yr (2015 onwards).
D	Existing cargo ship berth or terminal.	Install an emissions capture and control system (a.k.a. hood or bonnet) that achieves a minimum control effectiveness of 80 percent for NOx and PM. ¹	Lower of 50 percent of eligible cost or a level with a cost- effectiveness of 0.10 lbs/State \$ or higher.	10 years	Ports of Los Angeles and Long Beach: 1,500 hrs/yr (2015 onwards). Other ports: 1,000 hrs/yr (2015 onwards).

Table 1 Notes:

1. The hood or bonnet technology requires CARB approval and a 10 year warranty.

Table 2: Heavy-Duty Trucks – Cargo Handling Equipment				
Eligible Equipment		Equipment Upgrade ¹	Proposed Program Funding	Project Life ²
A	Existing diesel engine rubber-tired gantry crane.	Convert or replace with a zero emission powered system. ³	Lower of 50 percent of eligible cost or \$500,000/crane.	15 years
В	Existing diesel powered yard truck.	Replace with a zero emission electric yard truck. ³	Lower of 80 percent of eligible cost or \$100,000/yard truck.	5 years
с	Existing diesel powered yard truck.	Convert to a zero emission electric yard truck. ³	Lower of 80 percent of eligible cost or \$80,000/yard truck.	5 years
D	Existing diesel powered yard truck.	Replace with a zero emission fuel cell powered yard truck. ³	Lower of 80 percent of eligible cost or \$200,000/yard truck.	5 years

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E	Multi-unit battery chargers with the conversion or replacement of 3 yard trucks.	Install a multiple-unit battery charger ⁴ with the conversion or replacement of 3 yard trucks with zero emission electric yard trucks.	Lower of 50 percent of eligible cost or \$35,000 for the cost a multi-unit battery charger plus the lower of 80 percent of eligible cost or \$80,000 (conversion) or \$100,000 (replacement) per yard truck.	5 years
F	Battery charger with the conversion or replacement of a yard truck. ⁵	Install a battery charger ⁴ with the conversion or replacement of a yard trucks with a zero emission electric yard trucks.	\$15,000 for the cost a battery charger plus the lower of 80 percent of eligible cost or \$80,000 (conversion) or \$100,000 (replacement) for the yard truck.	5 years

Table 2 Notes:

1. Program funded equipment cannot be used to comply with the regulatory requirement for replacing noncompliant equipment with electric or zero emission equipment associated with obtaining third and/or fourth years of "No VDECS (Verified Diesel Emission Control Systems) Available" compliance extension.

- 2. Program funded equipment is not eligible to be counted towards compliance for a two year period.
- 3. Requires a 5 year warranty.
- 4. Battery charger projects require a 3 year warranty. Associated zero emission yard truck projects still require a 5 year warranty.
- 5. Availability of this funding option must be approved by CARB. If approved, CARB will issue an Executive Order (EO) that details additional Program flexibilities.

Eligible Equipment		Equipment Lift Capacity	Equipment Upgrade ¹	Proposed Program Funding	Project Life ²
a	Existing diesel powered	Class I ele	Replace 3 forklifts with 3 Class I electric powered zero	Lower of 50 percent of eligible cost or \$45,000 for all 3. ³	5 years
	forklift. ⁷	8,001 – 12,000 lbs	emission forklifts, including batteries, and chargers. ^{8,9}	Lower of 50 percent of eligible cost or \$55,000 for all 3. ⁴	

Table 3: Cargo Handling Equipment – Lifts



н	Existing diesel powered forklift. ^{7,10}	3,000 - 8,000 lbs	Replace a forklift with a Class I electric powered zero emission	Lower of 50 percent of eligible cost or \$15,000 for each forklift.	~	
		8,001 – 12,000 lbs	forklift, including battery, and charger. ^{8,9}	Lower of 50 percent of eligible cost or \$18,000 for each forklift.	5 years	
T	Existing diesel powered	3,000 - 8,000 lbs	Replace 3 forklifts with 3 Class 1 fuel cell powered forklifts	Lower of 50 percent of eligible cost or \$75,000 for all 3. ⁵	5 years	
I	forklift. ⁷	8,001 – 12,000 lbs	including batteries, and chargers. ^{8,9}	Lower of 50 percent of eligible cost or \$90,000 for all $3.^{6}$		
J	Existing diesel powered lift, including: forklift, side handler, top pick, or reach stacker.	Greater than 12,000 lbs	Replace an existing lift with a Class I electric powered zero emission lift. ^{8,9}	Lower of 50 percent of eligible cost or \$50,000.	5 years	
K	Existing diesel powered lift, including: forklift, side handler, top pick, or reach stacker.	Greater than 12,000 lbs	Replace an existing lift with a fuel cell powered zero emission lift. ⁸	Lower of 50 percent of eligible cost or \$80,000.	5 years	

Table 3 Notes:

- 1. Program funded equipment cannot be used to comply with the regulatory requirement for replacing noncompliant equipment with electric or zero emission equipment associated with obtaining third and/or fourth years of "No VDECS (Verified Diesel Emission Control Systems) Available" compliance extension.
- 2. Program funded equipment is not eligible to be counted towards compliance for a two year period.
- 3. Additional forklifts, battery and charger, may be funded at the lower of 50 percent of eligible cost or \$15,000.
- 4. Additional forklifts, battery and charger, may be funded at the lower of 50 percent of eligible cost or \$18,000.
- 5. Additional forklifts, battery and charger, may be funded at the lower of 50 percent of eligible cost or \$25,000.
- 6. Additional forklifts, battery and charger, may be funded at the lower of 50 percent of eligible cost or \$30,000.
- 7. Engine must be greater than 25 horsepower.
- 8. Equipment warranty shall be one year or 1,600 hours, whichever comes first.
- 9. Electric chargers must be California Energy Commission (CEC) compliant to be eligible for funding.
- 10. Availability of these funding options must be approved by CARB. If approved, CARB will issue an Executive Order (EO) that details additional Program flexibilities.



IMPORTANT NOTES:

- Clear all outstanding CARB violations for equipment and/or fleet, and maintain compliance with all applicable CARB regulations.
- Determine the equipment lift capacity as identified on the manufacturer's sticker/label on the piece of equipment. If this tag is missing or cannot be read, please check with your local dealer.
- For replacement projects, keep the equipment in legal operating condition until delivered to a dismantler.
- For replacement projects, old equipment must be scrapped in accordance to the requirements in the Guidelines.
- Applicants may request reduced funding amounts to improve cost-effectiveness and competitiveness of the project.
- Make sure your equipment has a readable/legible serial number tag on the unit and engine tag on the engine prior to any inspection (project pre-inspection and post-inspection).

For complete Program requirements, please refer to the latest 2015 Update to the Program Guidelines and related supplemental materials listed on the CARB Program website at <u>www.arb.ca.gov/gmbond</u> or call Gregory Ushijima at the South Coast Air Quality Management District for guidance at (909) 396-3301.

V. <u>ELIGIBILITY</u>

Project eligibility will be based on the Program Guidelines which can be found at: www.arb.ca.gov/gmbond.

For grid-based and non-grid-based power projects, eligible projects include existing cargo ship berths or terminals at a seaport located within the four California trade corridors that receives visits solely by vessels not subject to the control requirements of ARB's Ships at-Berth Rule in effect as of 2015.

For ship emissions capture and control system projects, eligible projects include existing cargo ship berths or terminals at a seaport located within the four California trade corridors.

Ineligible Equipment

- Any Cargo Handling Equipment not in compliance with applicable CARB regulations.
- Existing Cargo Handling Equipment that is to be replaced shall in no case be a zero emissions unit.
- Any ships at-berth project that is listed as a mitigation measure as part of a final, certified California Environmental Quality Act (CEQA) or National Environmental Policy Act (NEPA) document is not eligible for funding.

General Requirements for All Ships at Berth Projects

Selected applicants must sign a contract with SCAQMD including project milestone and completion deadlines and commit to the following:

- Certify that there are no outstanding CARB violations or non-compliance with CARB regulations associated with the equipment or the owner.
- Commit to the project life specified with the applicable equipment project option.

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- Have written commitments from the tenant shipping line(s) to:
 - Meet the minimum number of ship visits or hours.
 - Sign the equipment project contract (or other written agreement as approved by CARB).
- Adhere to all Program requirements during the project life.
- Comply with record-keeping, reporting, and Program review or fiscal audit requirements.
- Properly maintain all equipment in good operating condition and according to manufacturer's recommendations.
- Demonstrate proof of equipment warranty and insurance on new equipment.
- Comply with local permitting requirements.
- Comply with the Supplemental Procedures available on the Program website.

Program Requirements for Grid-Based Power Projects:

- Commit to a project life of 10 years.
- Demonstrate operability with a cargo ship fully powered by shore-based electrical power supplied by the grid-based equipment.

Program Requirements for Non-Grid-Based Power Projects:

- Commit to a project life of 5 years of 100% California operation at the following levels or greater:
 - Port of Los Angeles and Port of Long Beach:
 - 1,500 hours per year.
 - All other ports within the four California trade corridors:
 - 1,000 hours per year.
- Demonstrate operability with a cargo ship fully powered by shore-based electrical power supplied by the electricity generating unit.
- Obtain a 5 year manufacturer's warranty which includes labor and materials to repair and/or replace system component(s) as needed to correct any mechanical, electrical or control system equipment or installation problems resulting in significant loss of usability. The manufacturer's warranty may exclude minor items that are subject to normal wear and tear if approved by ARB.
- Perform source testing to measure emissions from the unit every 1,000 hours of operation, according to the source test requirements contained in ARB's Ships at-Berth Rule.

*Additional requirements specific to certain Ships at Berth project options can be found in Appendix C of the Proposition 1B: Goods Movement Emission Reduction Program-Final 2015 Staff Report and Guidelines for Implementation and the September 2015 Supplemental Procedures for Ships at Berth and Cargo Handling Equipment Projects available at: www.arb.ca.gov/gmbond.

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General Requirements for All Cargo Handling Equipment Projects

Selected applicants must sign a contract with SCAQMD including project milestone and completion deadlines and commit to the following:

- Certify that there are no outstanding CARB violations or non-compliance with CARB regulations associated with the equipment or the owner.
- Agree to equipment inspections.
- Comply with record-keeping, reporting, and Program review or fiscal audit requirements.
- Properly maintain upgraded equipment in good operating condition and according to manufacturer's recommendations.
- Demonstrate proof of equipment warranty and insurance on upgraded equipment that covers the replacement of the equipment.

Program Requirements for RTG Crane Projects:

- Commit to 15 years of 100% California operation in a port, or intermodal railyard, or freight facility service in the four trade corridors.
- Be permitted to keep the existing diesel engine installed and operational for a limited number of hours each year and do the following at their own expense: (1) install an hour meter on the existing diesel engine and (2) provide activity reports when requested by the local agency or ARB, in a format defined by ARB staff.
- Commit to a maximum limit of diesel engine usage to 30 hours annually based on a rolling 3 year average.
- Comply with all local permitting requirements.
- Demonstrate proof of equipment warranty for 5 years

Program Requirements for Yard Truck Projects:

- Agree to accept an on-board electronic monitoring unit at any time during the project life.
- Commit to 5 years of 100% California operation in a port, or intermodal railyard, or freight facility service in the four trade corridors.
- Demonstrate proof of equipment warranty for the project life and insurance on upgraded equipment.
- Insurance on upgraded equipment shall cover the replacement of the equipment for fuel cell projects.

Program Requirements for Battery Charger Projects:

- Commit to 5 years of 100% California operation in a port, or intermodal railyard, or freight facility service in the four trade corridors.
- Demonstrate proof of equipment warranty of at least 3 years for the charger and 5 years for the trucks.
- For funding option E in Table 2:

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- Convert a minimum of 3 diesel yard truck to electric powered yard trucks.
 (Option 2) or replace a minimum of 3 electric powered yard trucks (Option 3).
- \circ Meet all requirements for project Option 2 or 3.
- For funding option F in Table 2:
 - Convert or replace 1 yard truck for each battery charger project.
 - Availability of this funding option must be approved by CARB. If approved, CARB will issue an Executive Order (EO) that details additional Program flexibilities.

Program Requirements for Forklift (Lift Capacities of 3,000 lbs to 12,000 lbs) Projects:

- Not replace existing zero emission equipment with new electric powered equipment (electric projects) or new fuel cell equipment (fuel cell projects).
- Commit to 5 years of 100% California operation in a port, or intermodal railyard, or freight facility service in the four trade corridors.
- Demonstrate proof of equipment warranty for one year or 1,600 hours, whichever comes first.
- The replacement equipment must serve the same function as the existing equipment.
- The equipment engine must be greater than 25 horsepower.

Program Requirements for Lift (Lift Capacities Greater Than 12,000 lbs) Projects:

- Not replace existing zero emission equipment with new electric powered equipment (electric projects) or new fuel cell equipment (fuel cell projects).
- Commit to 5 years of 100% California operation in a port, or intermodal railyard, or freight facility service in the four trade corridors.
- Demonstrate proof of equipment warranty for one year or 1,600 hours, whichever comes first and insurance that covers the replacement of the equipment.
- The replacement equipment must serve the same function as the existing equipment.

Modifying an Application

Equipment owners are limited in what they can change after the application is submitted, as changes will affect a project's competitive ranking. Equipment owners are encouraged to select the option that best suits their company as changes may not be possible at a later date. For program-funded projects, equipment owners are able to select any make/model equipment or engine as long as it meets the required emission levels and is in the same vehicle class as the existing equipment or engine (with limited exceptions). Equipment must meet all other program requirements. Please note that your funding amount may change.

Equipment owners may change the project option after the solicitation period has closed subject to the following requirements:



- The change must result in a funding amount equal to or less than the amount that was requested in the original application.
- The change must result in calculated project cost-effectiveness equal to or greater than the project listed in the original application.
- The change must result in the project remaining above the funding line on the ranked list.

Equipment owners <u>cannot</u> substitute a different equipment or change the ownership of the existing equipment identified on the application after the solicitation period has closed.

If a piece of equipment identified as a certain weight capacity in the application is later determined to be in a different weight capacity, the SCAQMD may reduce the amount of funding requested to the amount associated with the appropriate weight capacity or as specified above in Table 3.

VI. <u>APPLICATION SUBMITTAL REQUIREMENTS</u>

An equipment owner **is not allowed to** submit a Proposition 1B application for the same equipment to multiple local agencies. Equipment owners must disclose all funding sources and amounts planned for the project at time of application.

The following documentation must be completed, signed and submitted to SCAQMD by the due date:

Project Type	Require application forms, and attachments
Ships at Berth	Form A for each project in the application, including all supplemental information, Form C, and Attachments 1 through 5.
Cargo Handling Equipment	Form B for each project in the application, including all supplemental information, Form C, and Attachments 1 through 5.

South Coast AQMD

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Below is a list of all application forms and attachments for this Program Announcement. Please refer to the above table for the specific application forms required for your project type.

- Form A Ships at Berth
- Form B Cargo Handling Equipment
- Form C Application Statement
- Attachment 1 Business Information Request
- Attachment 2 Disadvantaged Business Certification
- Attachment 3 W-9 Request for Taxpayer Identification Number and Certification
- Attachment 4 Withholding Exemption Certificate (Form 590)
- Attachment 5 Campaign Contribution Disclosure

Notes: <u>Each attachment (#s 1-5) must be completed and submitted for each individual applicant</u>. If your application is approved, an updated Attachment 5 may be requested by your assigned Project Officer at a later date.

VII. EQUIPMENT PROJECT PURCHASE RESTRICTIONS

An equipment owner <u>may not</u> purchase, receive, install, pay for, or place into operation any engines, equipment, or vehicles, nor may work begin on a repower project or a project to install electrical infrastructure, until the project contract is fully executed. For all equipment, an equipment owner may pre-order prior to contract execution at the equipment owner's risk. The SCAQMD <u>will not</u> reimburse grantees for orders or any payments on a new engine, piece of equipment, or vehicle that takes place prior to SCAQMD approval of the project through contract execution.

Dealers ordering engines, equipment, or vehicles prior to contract execution assume all financial risk, and are in no way assured grant funds.

Applicant has 24 months from contract execution date to verify project completion/close out payment for ships at-berth (non-grid based power/ship emissions capture and control) projects.

Applicant has 48 months from contract execution date to verify project completion/close out payment for ships at-berth (grid based power) projects.

Applicant has 18 months from contract execution date to verify project completion/close out payment for cargo handling equipment (if commercially available) projects.

Applicant has 36 months from contract execution date to verify project completion/close out payment for cargo handling equipment (if not commercially available) projects.



Note that SCAQMD may take 30 business days to process the close out payment upon receipt of an approved invoice package. Payment processing should be included in any project scheduling.

Project Type	Eligible Costs	Ineligible Costs
Grid-Based Power	May include design, engineering,	Shipside modifications to accept shore-
	equipment necessary to purchase and	based electrical power, consulting,
	install infrastructure to supply electrical	environmental review, legal fees,
	power, utility construction, and costs	permits, licenses and associated fees,
	associated with increasing the capacity	taxes, metered costs, insurance,
	of electrical power to the port.	operation, maintenance, and repair.
Non-Grid-Based Power	May include equipment necessary to	Construction and protection of
	generate electrical power and connect	infrastructure (e.g., natural gas lines)
	the equipment to cargo ships at berth.	used to supply fuel for non-grid-based
		electrical generation, shipside
		modifications to accept electrical
		power, barge or other acquisition and
		modification for a portable system,
		design, engineering, consulting,
		environmental review, legal fees,
		permits, licenses and associated fees,
		taxes, utility construction or metered
		costs, insurance, operation,
		maintenance, and repair.
Ship Emissions Capture	May include purchase and installation	Shipside modifications to accept capture
and Control System	of the emission treatment system and	and control system, barge or other
	ducting, and hoods or bonnets necessary	acquisition and modification for a
	to connect to cargo ships at berth.	portable system, design, engineering,
		consulting, environmental review, legal
		fees, permits, licenses and associated
		fees, taxes, utility construction or
		metered costs, insurance, operation,
		maintenance, and repair.
RTG Crane	May include purchase of a new crane or	Design, engineering, consulting,
	installation of a zero emission engine,	environmental review, legal fees,
	necessary parts for an existing RTG	permits, licenses and associated fees,
	crane including directly related vehicle	taxes, metered costs, insurance,
	modifications, and infrastructure to	operation, maintenance, and repair.
	supply electrical power, utility	
	construction, and costs associated with	
	increasing the capacity of electrical	
	power to the crane.	
Yard Truck Conversion	May include purchase of the vehicle	License, registration, taxes (other than
	drive train and control system.	federal excise and sales tax), insurance,
Yard Truck Replacement	May include purchase of the	operation, maintenance, and repair.
	replacement truck	

Eligible and Ineligible Equipment Costs:



Forklift Replacement	Partial funding of the replacement	
(Lift capacities of 3,000	forklift including any batteries and	
lbs to 12,000 lbs)	California Energy Commission (CEC)	
Lift	compliant chargers (for electric units).	
(Lift capacities greater		
than 12,000 lbs)		

VIII. <u>PAYMENT PROCESS</u>

The SCAQMD shall expend Program funds through invoice payments after the satisfactory completion of a post-inspection by SCAQMD. Invoice payments provide Program funding to equipment owners on a reimbursement basis or to the vendor (or dealership) through a direct payment option provided the SCAQMD receives written instructions and approval from the grantee. For the direct payment option, an authorized representative of the dealership must have signed a Memorandum of Understanding agreement with the SCAQMD certifying their understanding of the program requirements. Grant funds shall only be used toward the capital cost of the equipment.

<u>For ships at berth, grid-based power projects only</u>, up to 80% of eligible project costs are authorized for early reimbursement provided that the equipment owner has expended all non-Program match funding and remains in compliance with the equipment project contract (Chapter IV.B.2.e of Proposition 1B Guidelines). Final payment of funds held in retention shall be paid upon completion of a satisfactory post-inspection

Invoice Payments

Payment of the grant funds will only be made after the new equipment, converted equipment, and/or replacement equipment has passed a post-inspection by the SCAQMD and the SCAQMD has received a valid invoice package for the new engine or piece of equipment. The SCAQMD may issue the grant payment to the equipment owner upon submission of a valid invoice once the following requirements have been met:

- For ships at berth projects:
 - Equipment owner must successfully complete a post-inspection with a ship plugged in to the power system or ship being controlled by the emissions capture and control system.
- For ships at berth, non-grid-based power projects, equipment owner shall submit proof of a 5 year manufacturer's warranty which includes labor and materials to repair and/or replace system component(s) as needed to correct any mechanical, electrical or control system equipment or installation problems resulting in significant loss of usability.
- For ships at berth, ship emissions capture and control systems, equipment owner shall submit proof of a 10-year manufacturer's warranty (including labor and materials) to repair and/or replace system component(s) as needed to correct any mechanical,

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electrical or control system equipment or installation problems which may cause significant loss of capture, treatment efficiency or usability.

- For cargo handling equipment projects:
 - Equipment owner must impound and transport the old engine or equipment to a licensed dismantler (yard truck) or dismantler (all other equipment) up to 30 days after the new power system or equipment is placed into operation.
- For RTG crane projects, equipment owner shall demonstrate proof of equipment warranty for 5 years.
- For yard truck conversion and yard truck electric replacement projects, equipment owner shall demonstrate proof of equipment warranty for the project life and insurance on upgraded equipment.
- For yard truck fuel cell replacement projects, equipment owner shall demonstrate proof of equipment warranty for the project life and insurance on upgraded equipment that covers the replacement of the equipment.
- For yard truck battery charger projects, equipment owner shall demonstrate proof of equipment warranty of at least 3 years for the charger and 5 years for the trucks that would connect to the chargers.
- For forklift electric replacement projects, equipment owner shall demonstrate proof of equipment warranty for one year or 1,600 hours, whichever comes first.
- For all other forklift and lift projects, equipment owners shall demonstrate proof of equipment warranty for one year or 1,600 hours, whichever comes first, and insurance that covers the replacement of the equipment.
- For all reimbursements, the equipment owner must submit proof of payment and a copies of all invoices from the vendors with all ineligible costs deducted. Additional information may be required by the SCAQMD.
- For reimbursements, the SCAQMD will require verification from the dismantler that the old equipment has been delivered to the dismantling site and is in custody of the dismantler.
- The payment of grant funds will not exceed the amount directly paid by the equipment owner.

IX. PROJECT EVALUATION AND COMPETITIVE RANKING

Only those applications that contain all required information will be evaluated by the SCAQMD and all eligible projects will be competitively ranked according to the procedures specified in the Program Guidelines. The ranked list, once approved by CARB, will be posted on the SCAQMD website. SCAQMD will award grant funds to the top project on the ranked list and continue down the list until the Program funds are exhausted. If the Program funds are not exhausted, SCAQMD will seek CARB's approval to start funding any backup projects in the order they appear on the ranked list. For complete information regarding project evaluation and the competitive ranking process, please refer to Chapter IV of the Final 2015 Staff Report and Guidelines for Implementation found on the CARB Program website at: www.arb.ca.gov/gmbond.

X. <u>ANNUAL REPORTING REQUIREMENTS</u>

Shore Power (Grid- and Non-Grid-Based Power)

Equipment owners that are awarded funding will be responsible for annual reporting to the SCAQMD for the project life. The equipment owner annual reports shall include, but is not limited to:

- Contact information (owner name, company, address, phone).
- Equipment description and type providing electrical power.
- Port and berth name(s)/identifier(s).
- Date of installation of equipment.
- Vessel type, name, and Lloyd's number utilizing berth.
- Total ship visits utilizing berth.
- Ship visits utilizing Program-funded equipment.
- Documentation of Program-funded equipment's electricity usage at berth (for gridbased power).
- Power, in megawatts, supplied to the vessels (for non-grid-based power).
- Episodes of electrical service interruption by local utility company (for grid-based power).
- Date and description of any equipment failure that prevented a ship from using the shore-based power (for non-grid-based power).
- Summary of maintenance and inspections conducted.
- Signed certification statement that the bond-funded project was operated in accordance with the signed contract and that all information submitted is true and accurate.
- Project records must be retained for at least 2 years after contract expiration or 3 years after final project payment, whichever is later.
- Summary of source testing (for non-grid-based power).
- Other information as requested by the SCAQMD.

South Coast Air Quality Management District

SCAQMD Program Announcement



For

Ships at Berth and Cargo Handling Equipment Proposition 1B - Goods Movement Emission Reduction Program PA2017-03

Ship Emissions Capture and Control Systems

Equipment owners that are awarded funding will be responsible for annual reporting to the SCAQMD for the project life. The equipment owner annual reports shall include, but is not limited to:

- Contact information (owner name, company, address, phone).
- Description of ship emissions capture and control system.
- Port and berth name(s)/identifier(s).
- Date and location of equipment installation.
- Vessel type, name, and Lloyd's number of vessels utilizing the system.
- Total ship visits utilizing the system by berth.
- Power usage (kW-hr) to run the hood and source of power (grid- vs. non-grid-based).
- Natural gas usage (if any) for heating selective catalytic reduction duct burner.
- Date and description of any equipment failure that prevented a ship from using the system to reduce emissions.
- Summary of maintenance, source testing and inspections conducted.
- Signed certification statement that the bond-funded project was operated in accordance with signed contract and that all information submitted is true and accurate.
- Other information as requested by the SCAQMD.

Cargo Handling Equipment

Equipment owners that are awarded funding will be responsible for annual reporting to the SCAQMD for the project life. The equipment owner annual reports shall include, but is not limited to:

- Contact information (owner name, company, address, phone).
- Date and location of installation of equipment.
- Equipment type and name of home port, railyard or freight facility.
- RTG crane, side pick, top pick, reach stacker and yard truck or yard truck and battery charging station, make, model, year, serial number, and power rating.
- Annual hours of operation.
- Summary of maintenance and inspections conducted.
- Signed certification statement that the bond-funded technology was installed on the equipment for which it was approved, and that all information submitted to the local agency is true and accurate.
- Other information as requested by the SCAQMD.

XI. <u>USEFUL RESOURCES</u>

- CARB Goods Movement Emission Reduction Program: <u>http://www.arb.ca.gov/bonds/gmbond/gmbond.htm</u>
- Supplemental Procedures for Ships at Berth and Cargo Handling Equipment Projects (September 2015)
 http://www.orb.co.gov/bonds/cmbond/doos/prop_1b_goods_movement_ships_at_barth_supplement

http://www.arb.ca.gov/bonds/gmbond/docs/prop_1b_goods_movement_ships_at_berth_suppleme_ntal_procedures_year_5.pdf

- CARB Cargo Handling Equipment Website: <u>http://www.arb.ca.gov/ports/cargo/cargo.htm</u>
- CARB Shore Power for Ocean-going Vessels Website: <u>http://www.arb.ca.gov/ports/shorepower/shorepower.htm</u>
- CARB In-Use Off-Road Diesel Vehicle Regulation
 <u>http://www.arb.ca.gov/msprog/ordiesel/ordiesel.htm</u>
- CARB Diesel Off-road On-line Reporting System (DOORS)
 <u>https://ssl.arb.ca.gov/ssldoors/doors_reporting/doors_login.html</u>
- DOORS Compliance Validation
 http://www.arb.ca.gov/doors/compliance_cert1.html
- CARB Off-Road Compliance Flow Chart http://www.arb.ca.gov/msprog/ordiesel/faq/applicability_flow_chart.pdf
- SCAQMD Prop. 1B Website (where a copy of the solicitation and application forms can be found) <u>http://www.aqmd.gov/home/programs/business/goods-movement-ships-at-berth</u>



MAP OF THE TRADE CORRIDORS





SECTION 1 - APPLICANT INFORMATION (PLEASE PRINT OR TYPE)

A. ORGANIZATION INFORMATION						
Organization, Company or Proprietor's Name (as it appears on Form W-9):						
Address:						
City:	Si	tate:		Zip Code:		
Mailing Address (if different from abo	ve):					
City:	Si	tate:		Zip Code:		
Brief Project Overview (e.g., the num	ber of berths or v	/essels pr	oposed for	this project):		
B. PRIMARY CONTACT INFORMATION						
First and Last Name:			Contact Tit	Contact Title:		
Phone Number:	Fax Number:		ber:			
ternate Contact Number: Email:						
C. CONTRACT SIGNING AUTHORITY INFORMATION (e.g., Equipment Owner)						
First and Last Name:						
Title: Phone Number:						
If the above person is not the owner of the proposed project equipment, please specify the owner's name here:						
D. PROJECT BUDGET AND FUNDING R	EQUEST					
Total Project Cost: F	Funding Request:		Nu	Number of Units Proposed:		
Other Funding/Source of other fundir	ng (private, local,	, other Sta	ate, federal)	:		

Submit the original completed application (with all required supporting documents and signatures) along with **two (2) copies** of **the entire application package** (*a total of 3 copies including the original application*) via mail delivery, or in person to:

South Coast Air Quality Management District 21865 Copley Dr., Diamond Bar, CA 91765 Attn: Procurement / PA2017-03

Application Deadline: March 31, 2017 by no later than 4pm

NOTE: Facsimile or email submittals will not be accepted.



(THE INFORMATION BELOW IS REQUIRED FOR **EACH**BERTH. FOR MULTIPLE BERTHS, YOU MAY PROVIDE AN EXCEL SPREADSHEET CONTAINING THE REQUIRED INFORMATION)

SECTION 2 – PROJECT INFORMATION

Project Type (Check One):

- Grid-Based Shore Power
- Non-Grid-Based Shore Power
- □ Ship Emissions Capture and Control System

Applicant Type: (Check one):
Terminal Owner
Terminal Lessee
Port Authority
Other, please specify:
List project partners and match funding sources (include desumentation of match funding sucilability)
List project partners and match funding sources (include documentation of match funding availability):
Port where the project berth/equipment is located:
Berth name/identifier and location within the Port:
Name of Owner and Operator of the Berth:
Project Description : Attach a project description, including but not limited to: the type of equipment to be
installed, the need to bring additional power to the project site, design information including the maximum power demand (kWh-hr), utility provider, etc. For Ship Emissions Capture and Control system projects, be
sure to include the number of emissions capture subsystems (bonnets) per unit, number of emissions
treatment subsystems, a description of the support structure and other key components. Title this
attachment "Project Description".
Project Acknowledgement:
If the applicant does not own the site where the equipment will be installed, the applicant shall obtain and include a written project acknowledgement from the site owner with the application submittal or thereafter if
allowed by the local agency. The project acknowledgement shall acknowledge/agree in writing, at a minimum:
 The equipment owner will be allowed to install and operate the Program-funded
equipment at the site address.
 Program-funded equipment will be the property of the applicant listed in the equipment
project application.
 The SCAQMD, ARB, or their designees will be allowed to access the site, equipment, and associated records for inspections. Program reviews, or fiscal audits.
and associated records for inspections, Program reviews, or fiscal audits. The project acknowledgement is valid over the entire project life.



Project Cost Information: Attach an overall project budget and a cost breakdown summary. The cost breakdown summary should include cost estimates for all phases of the project (e.g., design, environmental, construction, etc.). The cost information should be itemized for each eligible expense by phase of the project. Provide vendor quotes when available. Note that verifiable vendor quotes are <u>required</u> to be submitted with the application for all non-grid based projects. **Title this attachment "Project Cost Information**".

A representative example of a cost breakdown summary for a grid-based shore power project includes the following items:

- Design
- Engineering
- Electrical service connection
- Power upgrade project (prorated by berth if applicable)
- Breakers and secondary breakers
- High-voltage cables
- Step down transformer
- Switchgear
- Power control equipment
- Power connection vaults
- Cable reels, cables, and connectors to connect at the vessel
- Control cable and equipment
- Other costs (as applicable)

Emission Control Equipment Data: For Ship Emission Capture and Control System projects only, provide the name of the equipment vendor(s), specific emission control technology and <u>attach</u> documentation of the CARB approval letter specifying the percentage of PM and NOx reductions.



SECTION 3 – BERTH ACTIVITY DATA FOR THE PAST TWO YEARS (FOR GRID- AND NON-GRID-BASED SHORE POWER PROJECTS ONLY)

I otal Number of Ship Visits to the Berth:	(2014)	(2015)
Please specify below if this number represents the t 93118.3 OR all vessels that visited the berth:	otal visits by vessels	s regulated under CCR Section
Number of Visits (per ship) per year:		
Average hoteling time per visit (hours/visit):		
Ship Type and Size (e.g., twenty-foot equivalent un	t, TEU, capacity) fo	r each Ship that Visits the Berth:
Ship Description (including number of engines, fuel auxiliary power (kW) and net hotelling load (kW)):	type, power deman	d, including both total

SECTION 4 – <u>PREDICTED</u> BERTH ACTIVITY WITH NEW EQUIPMENT (FOR GRID- AND NON-GRID-BASED SHORE POWER PROJECTS ONLY)

Total estimated annual ship visits:

Estimated annual ship visits using electrical power:

Estimated ship types, description of each ship and associated power demands:

Estimated annual hotelling hours:

Estimated annual MW usage:

Information demonstrating future visits by vessels will **not** be subject to ARB's Ships at Berth Rule:

SECTION 5 – <u>PREDICTED</u> SHIP ACTIVITY WITH NEW SYSTEM AND PROJECTED EMISSIONS BENEFITS (FOR SHIP EMISSION CAPTURE AND CONTROL SYSTEM PROJECTS ONLY)

Number and type of ships (both subject to and not subject to the control requirements of the Ships at-Berth Rule) that will be under the hood:

Average time ships (by type of ship) will spend under the hood (hours per visit; visits per month/year):

Power usage (kWh) to run the system and source of power (grid- versus non-grid-based):

Natural gas usage (if any) for heating the selective catalytic reduction (SCR) duct burner:

Provide a detailed projection of the emissions reduction benefits of the ship emissions capture and control project. Include an estimate (showing all calculations and assumptions) of PM and NOx emissions with and without the project over ten (10) years of operation. Also discuss the emission reductions attributable to the project that are surplus to any laws or regulations for 10 years. Demonstrate that the weighted emission reductions are equal to or higher/better than 0.1 pound of weighted emissions per State dollar invested. For more information on the application requirements for Ship Emission Capture and Control projects, please see Appendix C of the program guidelines. **Title this attachment "Emission Reduction Benefits"**.



SECTION 6 – PROJECT SCHEDULE

Attach a project schedule that includes project milestone completion dates. For grid-based shore power projects, the project schedule should include milestone dates for the following activities:

- Preliminary Design.
- Environmental Clearance (if applicable).*
- Final Design.
- Equipment ordering (with delivery dates consistent with timely completion of project milestones).
- Receipt of delivery date confirmations from manufacturers (with dates consistent with timely completion of project milestones).
- Equipment delivery (for all equipment with lead times over 1 month). *
- Power upgrade project (if applicable).
- Execution of construction contract(s) for installation services. *
- Permits.
- Start construction (material and equipment installation). *
- Finish construction (material and equipment installation).
- Commissioning/testing.
- Demonstration of a fully operational system (with ship plugged-in).

* Key milestone dates specified by CARB.

Notes:

- If more than one milestone completion date applies to separate activities within a particular category, applicants should provide additional breakdowns. For example, if a transformer and cable reel are both identified to have a procurement lead time of over 1 month, they must be itemized separately in the project schedule.
- 2) The equipment owner may update the milestone dates after the application is submitted, but prior to the execution of the contract. The updated schedule will then be agreed to by the local agency and incorporated into the equipment project contract. The contract will require the equipment owner to provide updates to the project schedule at least quarterly. A schedule recovery plan will be required by the equipment owner if one of the following occurs: 1) one or more berths fail to meet a key milestone date listed in the contract, or 2) the equipment owner or AQMD becomes aware of a change that will cause one or more berths to miss the original project completion date listed in the contract. If the equipment owner fails to meet the commitments in the approved schedule recovery plan, the AQMD may terminate the contract.
- 3) For shore power projects, existing cargo ship berths or existing cargo ship terminals should be at a seaport located within the four California trade corridors that receives visits solely by vessels not subject to the control requirements of ARB's Ships at-Berth Rule in effect as of 2015.
- 4) For ship emissions capture and control systems, existing cargo ship berth or existing cargo ship terminal shall be located at a seaport located within the four California trade corridors.

Title this attachment "Project Schedule".



SECTION 1 - APPLICANT INFORMATION (PLEASE PRINT OR TYPE)

A. ORGANIZATION INFORMATION					
Organization, Company or Proprie	etor's Name (as it ap	pears	on Form W-9):		
Address:					
City:			:	Zip Code:	
Mailing Address (if different from a	above):				
City:	State:			Zip Code:	
No. of employees:			umber of Diesel andling Units:	Cargo	
Fleet Size:		Т	otal HP of Fleet		
CHE funding should provide cert	ification of complianc			gulations. Freight facilities applying for d Online Reporting System (DOORS).	
B. PRIMARY CONTACT INFORMATIC	NC				
First and Last Name:		Contact Title:			
Phone Number:		Fax N	lumber:		
Alternate Contact Number:		Emai	l:		
C. CONTRACT SIGNING AUTHORITY INFORMATION (e.g.,			ment Owner)		
First and Last Name:					
Title:		Phone Number:			
If the above person is not the owner of the proposed project equipment, please specify the owner's name here:					
D. PROJECT BUDGET AND FUNDING		oot:		Euroding request per unit:	
Total Project Cost:	Total Funding Requ	uest:		Funding request per unit:	

Submit the original completed application (with all required supporting documents and signatures) along with **two (2) copies** of **the entire application package** (*a total of 3 copies including the original application*) via mail delivery, or in person to:

South Coast Air Quality Management District 21865 Copley Dr., Diamond Bar, CA 91765 Attn: Procurement / PA2017-03

Application Deadline: March 31, 2017 by no later than 4pm

NOTE: Facsimile or email submittals will not be accepted.



FORM B: Cargo Handling Equipment

(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 – PROJECT INFORMATION

Project Type (Check One):

- □ RTG Crane Conversion/Replacement with Zero-Emission Power System
- □ Yard Truck Conversion to Electric Power
- Yard Truck Replacement (Electric or Fuel Cell)
- □ Forklift Replacement (Electric or Fuel Cell), capacity of 3,000-12,000 lbs.
- □ Lift Replacement (Electric or Fuel Cell), capacity of greater than 12,000 lbs.
- □ Multi-Unit Battery Charger (Requires purchase of 3 eligible yard trucks)

Applicant Type: (Check one):

- □ Terminal Owner
- □ Terminal Lessee
- □ Port Authority
- Rail Yard
- □ Freight Facility
- Other, please specify: _____

List project partners and match funding sources (include documentation of match funding availability):

Port, Rail Yard, or Freight Facility where the project equipment is located:

Terminal name/identifier and/or location within the facility (RTG cranes only):

Identify the trade corridors in which the equipment is routinely operated:

Equipment Registered Owner and Operator, if different from applicant:

Specify Diesel Off-road Online Reporting System (DOORS) id, if applicable:

Equipment (RTG, yard truck, or lift) identification number, VIN, or serial number (for each unit):

Equipment (RTG, yard truck, or lift) make, model and model year (for each unit):

Annual hours of operation (per unit):

Attach documentation that supports this operation covering the most recent two-year period.

Title this attachment "Section 2 – CHE Activity Documentation".



FORM B: Cargo Handling Equipment

FOR EACH EXISTING UNIT/EQUIPMENT:

Engine Make:	Engine Model:
Engine Model Year:	Horsepower Rating:
Engine Serial Number:	Fuel Type:
Engine Type (Yard Trucks/RTG Cranes):	Engine Family Name (All Lifts):
Engine Emission Certification Standard or Re (include Emission Control Group name) (All L	
Do you request a direct payment to the vendo	r?
(check one) □ YES □ NO	

SECTION 3 – PROPOSED EQUIPMENT PROJECT INFORMATION

Describe the RTG electrification technology (if applicable):					

For Each Proposed Zero Emission RTG or Yard Truck:

Equipment Make:	Equipment Model:					
Equipment Model Year:	Horsepower/Power Rating:					
Estimated Annual Hours of Operation:						
Estimated Eligible Costs:						
3 1 1 1 1						

For Each Proposed Battery Charger:

Equipment Manufacturer:	Equipment Power Rating (voltage, amperage, wattage, efficiency):
Equipment Serial Number:	Number of Charging Ports:
Equipment Recharge Rate:	
Estimated Annual Truck Connections to Charger:	Estimated Average Connection Time to Charger:
Anticipated Cost of Eligible Equipment:	

FORM B: Cargo Handling Equipment

For Each Lift Project:

FORKLIFT, TOP PICK, SIDE HANDLER, OR REACH STACKER INFORMATION							
Equipment Make:	Equipment Model:						
Equipment Model Year:	Equipment Lift Capacity:						
Identification Number or Vehicle Identification Number (VIN):							
Diesel Engine Make:	Diesel Engine Model:						
Diesel Engine Model Year:	Diesel Engine Horsepower:						
Diesel Engine Family Name:	Diesel Engine Serial Number:						
BATTERY CHARGER INFORMATION							
Equipment Manufacturer:	Equipment Power Rating (voltage, amperage, wattage efficiency):						
Equipment Serial Number:	Number of Charging Ports:						
Equipment Location:	·						
Equipment Recharge Rate:	Predicted Activity:						

SECTION 4 – DETAILED PROJECT SCOPE AND ADDITIONAL REQUIRED ATTACHMENTS

Attach a detailed project scope of work and project schedule that covers, at a minimum, the following key project milestones:

- Preliminary Design (if applicable)
- Environmental Clearance (if applicable)
- Final Design (if applicable)
- Equipment Order
- Equipment acquisition/installation
- Commissioning (if applicable)
- Post-Inspection project completion
- Submittal of invoice(s) to AQMD for reimbursement.

For applicants subject to CARB's Cargo Handling Equipment regulation, attach a copy of the reports required to be submitted to the CARB by January 31st each year in order to comply with the reporting requirements for the Regulation for Mobile Cargo Handling Equipment at Ports and Intermodal Rail Yards.



Please Read and Sign

All information provided in this application will be used by SCAQMD staff to evaluate the eligibility of this application to receive program funds. SCAQMD staff reserves the right to request additional information and can deny the application if such requested information is not provided by the requested deadline. Incomplete or illegible applications will be returned to applicant or vendor, without evaluation. An incomplete application is an application that is missing information critical to the evaluation of the project.

- I certify to the best of my knowledge that the information contained in this application is true and accurate and meets the minimum requirements of the proposition 1B –Good Movement Emission Reduction Program.
- I agree to follow all requirements of the Proposition 1B Goods Movement Emission Reduction Program- Final 2015 Staff Report and Guidelines for Implementation and September 2015 Supplemental Procedures for Ships at Berth and Cargo Handling Equipment Projects.
- I understand that the Program-funded equipment may not be used by the equipment owner to comply with any applicable CARB regulations for the specified timeframe.
- I understand that, if awarded funding under the, development and submittal of a detailed work statement, with deliverables and schedule is a requirement of the contracting process.
- I understand that there may be conditions placed upon receiving a grant and agree to refund the grant (or a pro-rated portion if applicable) 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 Program-funded equipment, including: Fleet Emission Credits (CARB's Ships at Berth Regulation), 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. However, the project may be co-funded with additional federal or local funds in accordance with the Proposition 1B Guidelines.
- The proposed project has not been funded and is not being considered for incentive funds by another air district, CARB, or any other public agency.
- In the event that the equipment does not complete the minimum term of any agreement eventually reached from this application, I agree to notify SCAQMD and return grant funds to the SCAQMD if required by the contract.
- I have the legal authority to apply for grant funding for the entity described in this application.
- I have disclosed 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/equipment below as part of this application statement. To avoid double counting of incentives, all tax credits or deductions, grants, or other public financial assistance may be deducted from the funding request.
- A statement verifying that installation or construction activities prohibited prior to contract execution have not started at any of the berths included in the equipment project contract.
- I agree to actively cooperate with the SCAQMD, CARB, or their designees during any ongoing evaluation or audit of the project site, schedule or records. This cooperation includes, but is not limited to, providing contact information and open access (if requested) to communicate directly with key project personnel, contractors, subcontractors, public utilities and material or equipment suppliers.



- 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 Program funds are being used for this compensation. (see below)
- I understand that additional project information may be required by SCAQMD to finalize a contract, and that I will be responsible for providing this information to SCAQMD when requested.
- I understand that an incomplete or illegible application, including applications that are missing required documentation, may be rejected by the SCAQMD at their discretion
- I understand that new equipment must not be purchased, received, installed, paid for, or placed into operation prior to contract execution unless specified by the Program Guidelines, and if allowed, equipment owner shall assume all financial risk and is in no way assured program funds.
- I understand that new equipment purchased outside of California may be subject to California sales and/or use tax
- I understand that all equipment funded by this program must be operational within a prescribed time from the date of contract execution. I confirm that I know the specific time requirement for the type of project and equipment for which I am applying. The required project completion dates for eligible project types are specified in the Program Announcement.

applicable, otherwise attach separate sheet describing the potential conflict.)

• I, the equipment owner, disclose that I have applied for the following other source(s) of funding (if any) for the same equipment project:

Source of funds:

How much applied for: _____

What the funding will be used for: _____

• I, the equipment owner, disclose the following value of any existing financial incentive that directly reduces the project cost, including tax credits or deductions, grants, or other public financial assistance, for the same equipment project:

Value: _____

- I certify that the equipment owner has reviewed the application and that the application information is correct.
- I certify that neither the owner nor equipment identified in the equipment project application has any outstanding violations of CARB regulations.
- I understand as an applicant that incentive programs have limited funds and shall terminate upon depletion of program funding

FORM C: Application Statement

Applicant Signature

Applicant Name (please print)

If this application was prepared by an entity other than the applicant, please provide the information requested below.

Applicant Preparer's Signature

Applicant Preparer's Name (please print)

Compensation for application preparation:

I certify that no Program funds are the source for this compensation: _

Signature of Preparer

Date

Title

Phone Number/E-mail

Date

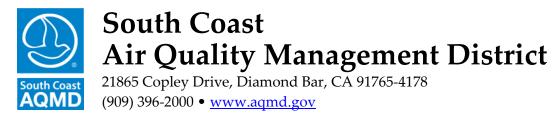
South Coast AQMD



FORM C: Application Statement

Please initial each section.

	e emission reductions that will result from this project are NOT required by anylocal, e, and/or federal rule or regulation.
03)	e types of eligible projects are described in this Program Announcement (PA#2016- These definitions have been reviewed and this application is consistent with those nitions.
	e equipment will be committed to 100% operation within the four California trade idors for the duration of contract term.
The	grant contract language cannot be modified without the written consent of all parties.
unc	nderstand that an IRS Form 1099 may be issued to me for incentive funds received ler this Program Announcement. I understand that it is my responsibility to determine tax liability associated with participating in the Program.
veh	nderstand that an AQMD-funded electronic monitoring unit will be installed on icles/equipment if deemed necessary by AQMD. I will submit data as requested and erwise cooperate with all data reporting requirements.
full	nderstand that the AQMD has the right to conduct unannounced inspections for the project life to ensure the project equipment is fully operational at the activity level nmitted to by the contract.
To mag	nderstand that all emission reductions resulting from funded projects will be retired. avoid double counting of emission reductions, project vehicles and/or equipment y not receive funding from any other government grant program that is designed to uce mobile source emissions.
	nderstand that any tax credits claimed must be deducted from the Program request. ase check one:
	I do not plan to claim a tax credit or deduction for costs funded by the
	Program. I do plan to claim a tax credit or deduction for costs funded by the
	Program. 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 Program. If so, please indicate amount here: \$



Business Information Request

Dear SCAQMD Contractor/Supplier:

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

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

If you do not return this information, we will <u>not</u> be able to establish you as a vendor. This will delay any payments and would <u>still</u> 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.

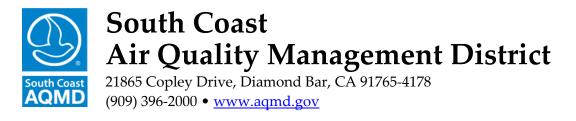
If you have any questions or need assistance in completing this information, please contact Accounting at (909) 396-3777. We appreciate your cooperation in completing this necessary information.

Sincerely,

Michael B. O'Kelly Chief Administrative 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



BUSINESS INFORMATION REQUEST

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

REMITTING ADDRESS INFORMATION

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

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

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

BUSINESS STATUS CERTIFICATIONS

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

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

Statements of certification:

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

- 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 Local business Minority-owned Business Enterprise Women-owned Business Enterprise 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

<u>Definitions</u>

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Departr	Rev. December 2014) epartment of the Treasury ternal Revenue Service							Give Form to the requester. Do no send to the IRS.				
je 2.		on your income tax return). Name is required on this line; do disregarded entity name, if different from above	not leave this line blank.									
Print or type See Specific Instructions on pag	Individual/sole proprietor or single-member LLC C Corporation S Corporation Partnership Trust/estate certain ei instruction Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=partnership) Exempt p Note. 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. Exempt p Other (see instructions) 5 Address (number, street, and apt. or suite no.) Requester's name and address							in entitie actions of apt paye aption fro (if any) s to accourt	ccounts maintained outside the U.S.)			
	-											
Par		yer Identification Number (TIN) propriate box. The TIN provided must match the nam	e given on line 1 to av	oid	Soc	sial so	urity	number				
backu reside entitie	p withholding. For nt alien, sole prop	ber (SSN). However, fo s on page 3. For other umber, see <i>How to ge</i>	ora ta	or] -		_				
Note. If the account is in more than one name, see the instructions for line 1 and the chart on page				4 for	Em	ployer	identi	fication	numbo	ər		
guidel	ines on whose nu	mber to enter.					-					
Par	Certifi	cation					-					
Under	penalties of perju	ry, I certify that:										
		on this form is my correct taxpayer identification numb										
Sei	rvice (IRS) that I ar	ackup withholding because: (a) I am exempt from bac n subject to backup withholding as a result of a failur backup withholding; and										
3. Iar	m a U.S. citizen or	other U.S. person (defined below); and										
4. The	FATCA code(s) e	ntered on this form (if any) indicating that I am exemp	t from FATCA reportin	g is corr	rect.							
becau interes genera	se you have failed st paid, acquisitior	ns. You must cross out item 2 above if you have been to report all interest and dividends on your tax return or abandonment of secured property, cancellation of er than interest and dividends, you are not required to	 For real estate transa f debt, contributions to 	actions, o an indi	item ividu	al reti	és not remer	apply. nt arran	For m gemer	ortgag nt (IRA	e), and	
Sign Here		•	Da	ite 🕨								
Gen	eral Instruc	tions	Form 1098 (home more (tuition)	• Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T								
Section	n references are to th	e Internal Revenue Code unless otherwise noted.	Form 1099-C (cancele	ed debt)								
		rmation about developments affecting Form W-9 (such we release it) is at www.irs.gov/fw9.	Form 1099-A (acquisition or abandonment of secured property)									
Purp	ose of Form	Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.										
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			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:									
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			 Certify that the TIN you are giving is correct (or you are waiting for a number to be issued), 									
	1099-INT (interest e	limited to, the following: arned or paid)	 Certify that you are not subject to backup withholding, or Claim exemption from backup withholding if you are a U.S. exempt payee. If 									
• Form	1099-DIV (dividends	s, including those from stocks or mutual funds) types of income, prizes, awards, or gross proceeds)	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									
	1099-B (stock or mu	utual fund sales and certain other transactions by	 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 									

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.

Cat. No. 10231X

· Form 1099-S (proceeds from real estate transactions)

Form 1099-K (merchant card and third party network transactions)

Form W-9 (Rev. 12-2014)

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 to orbusiness 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:

 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.

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 gualifies for the exemption from tax.

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.

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,

 You do not certify your TIN when required (see the Part II instructions on page 3 for details), Page 2

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

 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

 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 entregarded 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 ¹	Generally, exempt payees 1 through 5 ²
Payments made in settlement of payment card or third party network transactions	Exempt payees 1 through 4

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

² However, the following payments made to a corporation and reportable on Form 1099-MISC are not exempt from backup withholding: medical and health care payments, attorneys' fees, gross proceeds paid to an attorney 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(o) 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. 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 TIN, or Form SS-4, Application for Employer Identification Number, to apply for an EIN. You can apply for an EIN online by accessing the IRS website at www.irs.gov/businesses and clicking on Employer Identification Number (EIN) under Starting a Business. You can get Forms W-7 and SS-4 from the IRS by visiting IRS.gov or by calling 1-800-TAX-FORM (1-800-829-3676).

If you are asked to complete Form W-9 but do not have a TIN, 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.

Form W-9 (Rev. 12-2014)

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.

 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.

 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 2. Two or more individuals (joint account)	The individual The actual owner of the account or, if combined funds, the first individual on the account'
 Custodian account of a minor (Uniform Gift to Minors Act) 	The minor ²
 a. The usual revocable savings trust (grantor is also trustee) b. So-called trust account that is not a legal or valid trust under 	The grantor-trustee' The actual owner'
state law 5. Sole proprietorship or disregarded entity owned by an individual	The owner ^a
6. Grantor trust filing under Optional Form 1099 Filing Method 1 (see Regulations section 1.671-4(b)(2)(i) (A))	The grantor*
For this type of account:	Give name and EIN of:
 Disregarded entity not owned by an individual 	The owner
8. A valid trust, estate, or pension trust	Legal entity ⁴
 Corporation or LLC electing corporate status on Form 8832 or Form 2553 	The corporation
 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
 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

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.

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

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

⁴List 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*. 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* or contact them at *www.ftc.gov/idtheft* or 1-877-IDTHEFT (1-877-438-4338).

Visit IRS.gov to learn more about identity theft and how to reduce your risk.

Privacy Act Notice

Section 6109 of the Internal Revenue Code requires you to provide your correct TIN to persons (including federal agencies) who are required to file information returns with the IRS to report interest, dividends, or certain other income paid to you; mortgage interest you paid; the acquisition or abandonment of secured property; the cancellation of debt; or contributions you made to an IRA, Archer MSA, or HSA. The person collecting this form uses the information on the form to file information returns with the IRS, reporting the above information. Routine uses of this information include giving it to the Department of Justice for civil and criminal litigation and to cities, states, the District of Columbia, and U.S. 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.

Withholding Exemption Certificate 2016

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

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Nam	ne de la constante de la const
Pay	ee
Nam	
Add	ress (apt./ste., room, PO box, or PMB no.)
City	(If you have a foreign address, see instructions.) State ZIP code
Exe	mption Reason
Che	eck only one reason box below that applies to the payee.
	checking the appropriate box below, the payee certifies the reason for the exemption from the California income tax withholding uirements 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.

To learn about your privacy rights, how we may use your information, and the consequences for not providing the requested information, go to ftb.ca.gov and search for privacy notice. To request this notice by mail, call 800.852.5711.

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.

Telephone ()	
Date	

2016 Instructions for Form 590

Withholding Exemption Certificate

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

General Information

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

A Purpose

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

Form 590 does not apply to payments of backup withholding. For more information, go to **ftb.ca.gov** 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 or call 888.745.3886.

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

The following are excluded from withholding and completing this form:

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

B Income Subject to Withholding

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

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

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

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

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

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

C Who Certifies this Form

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

An incomplete certificate is invalid and the withholding agent should not accept it. If the withholding agent receives an incomplete certificate, the withholding agent is required to withhold tax on payments made to the payee until a valid certificate is received. In lieu of a completed exemption certificate, the withholding agent may accept a letter from the payee as a substitute explaining why they are not subject to withholding. The letter must contain all the information required on the certificate in similar language, including the under penalty of perjury statement and the payee's taxpayer identification number. 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.

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

E Military Spouse Residency Relief Act (MSRRA)

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

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

Domicile is defined as the one place:

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

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

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

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

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

Specific Instructions

Payee Instructions

Enter the withholding agent's name.

Enter the payee's information, including the 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 – Follow the country's practice for entering the city, county, province, state, country, and postal code, as applicable, in the appropriate boxes. Do not abbreviate the country name.

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

Withholding Agent Instructions

Keep Form 590 for your records. The certification remains valid for 5 years or until the payee's status changes. **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
 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**.

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** Telephone: 800.852.5711 from within the United States 916.845.6500 from outside the United States
- TTY/TDD: 800.822.6268 for persons with hearing or speech impairments

Asistencia Por Internet y Teléfono

- Sitio web: ftb.ca.gov
- Teléfono: 800.852.5711 dentro de los Estados Unidos 916.845.6500 fuera de los Estados Unidos
- TTY/TDD: 800.822.6268 para personas con discapacidades auditivas o del habla



CAMPAIGN CONTRIBUTIONS DISCLOSURE

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

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

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

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

<u>SECTION I</u>.

Contractor (Legal Name): _____

DBA, Name Corporation, ID No LLC/LLP, ID No	 List any parent, subsidiaries, or otherwise affiliated business entities of Contractor:
See definition below).	

SECTION II.

Attachment 5

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	l correct.	
By:	_	

Title:_____

Date:_____

Attachment 5

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.

↑ Back to Agenda

Agenda Item #4

Vicki White

Issue Program Announcement for Ships at Berth and Cargo Handling Equipment Projects Under Proposition 1B-Goods Movement Program



- In September 2015, CARB approved new funding awards for final cycle of the Program
- \$14.5M for ships at berth and cargo handling equipment projects
- A Program Announcement was issued in February 2016
- In July 2016, the Board approved projects totaling approximately \$12.5M

Need for a Second Solicitation

- One project deemed ineligible by CARB because the proposed technology was not verified
- About \$6.1M in Program funds remaining
- Inquiry from POLB indicating 1-2 terminals interested in zero emission yard trucks and rubber-tired gantry (RTG) crane electrification projects
- Plan to outreach to both Ports, railyards and freight facilities who are eligible to apply

Proposal

Issue a new PA for eligible projects:

- Shore power for vessels not subject to CARB's ships at berth regulation
- Ship emissions capture and control system (≥ 80% for NOx and PM, CARB verified)



 Zero emission cargo handling equipment



Schedule

- Issue PA
- Application Deadline
- Evaluation Period
- SCAQMD Board Approval
- Issue Contracts

Feb 3, 2017 Mar 31, 2017 Apr-May 2017 Jul 2017 Jul-Aug 2017

Recommended Action

Issue Program Announcement for ships at berth and cargo handling equipment for Proposition 1B-Goods Movement Program

Go to SLIDES

DRAFT Technology Committee Agenda #5

BOARD MEETING DATE: February 3, 2017

AGENDA NO.

- PROPOSAL: Recognize, Transfer and Appropriate Revenue, Amend and Execute Contracts, and Approve Eligible Participant Vouchers to Continue Implementation of Enhanced Fleet Modernization Program
- SYNOPSIS: Last September, the Board recognized up to \$10 million from CARB, approved issuance of vouchers to continue the Enhanced Fleet Modernization Program (EFMP) Plus-Up for FY 2016-17, and released an RFP to solicit proposals to administer the application process and conduct vehicle emissions testing. Subsequently, CARB advised that SCAQMD would receive \$15 million. Additionally, older vehicles retired under the EFMP are crushed for scrap metal generating revenue for EFMP. These actions are to: 1) recognize revenue up to \$5 million from CARB and up to \$500,000 from the scrap metal value of the vehicles retired under the EFMP into the HEROS II Special Revenue Fund (56); 2) authorize the Executive Officer to approve vouchers to qualified participants up to \$4,250,000 and execute agreements with participating dismantlers, dealerships and financial institutions; 3) amend and execute contracts for a total amount not to exceed \$765,000 from the HEROS II Special Revenue Fund (56); and 4) transfer and appropriate \$250,000 from the HEROS II Special Revenue Fund (56) into Science and Technology Advancement's FY 2016-17 and/or 2017-18 Budget for EFMP implementation and outreach.

COMMITTEE: Technology, January 20, 2017; Recommended for Approval

RECOMMENDED ACTIONS:

- 1. Recognize, upon receipt, up to \$5 million from CARB's Greenhouse Gas Reduction Fund (GGRF) into the HEROS II Special Revenue Fund (56) and authorize the Executive Officer to accept terms and conditions of a GGRF grant award for implementation of the Vehicle Retirement and Replacement Plus-Up Program.
- 2. Recognize, upon receipt, up to \$500,000 in revenue into the HEROS II Special Revenue Fund (56) from vehicle dismantlers for the scrap metal value of the vehicles retired through the EFMP and authorize the Executive Officer to

execute agreements with participating vehicle dismantlers to receive this revenue.

- 3. Authorize the Executive Officer to approve vouchers to program participants in an amount not to exceed \$4,250,000 from the HEROS II Special Revenue Fund (56) for a minimum of 450 replacement vehicles or alternative mobility options (additional vouchers will depend on voucher monetary level provided to each eligible applicant).
- 4. Authorize the Chairman to amend and execute contracts from the HEROS II Special Revenue Fund (56) with the following entities:
 - a. Amend the contract with Foundation for California Community Colleges (FCCC) to add an amount not to exceed \$115,000 for conducting outreach activities, assisting program participants in processing vehicle retirements and identifying replacement vehicles, transit pass programs or car-sharing programs;
 - b. Amend the contract with Opus Inspection to add an amount not to exceed \$350,000 for conducting outreach activities and vehicle emissions testing as well as assisting program participants to identify replacement vehicles, transit pass programs or car-sharing programs; and
 - c. Execute a contract with Top Shelf Consulting, LLC, in an amount not to exceed \$300,000 for conducting outreach activities, assisting program participants in processing vehicle retirements and identifying replacement vehicles, transit pass programs or car-sharing programs.
- 5. Authorize the Executive Officer to execute agreements, as needed, with auto dealerships and financial institutions to establish their participation in the EFMP.
- 6. Transfer and appropriate up to a total of \$250,000 from the HEROS II Special Revenue Fund (56) to Science and Technology Advancement's FY 2016-17 and/or 2017-18 Budget (Org 44), Services and Supplies Major Object, as needed for EFMP outreach efforts.

Wayne Nastri Executive Officer

MMM:HH:DS:DRC:LB

Background

The SCAQMD implements the Enhanced Fleet Modernization Program (EFMP), which is authorized by the AB 118 California Alternative and Renewable Fuel, Vehicle Technology, Clean Air, and Carbon Reduction Act of 2007 (Health and Safety Code Sections 44125-44126). The EFMP is a comprehensive statewide program with two elements: a vehicle retirement-only element and a vehicle retire-and-replacement element. The EFMP Plus-Up, which is funded through the Low Carbon Transportation Greenhouse Gas Emission Reduction Fund (GGRF), complements the EFMP by providing additional funds for light-duty pilot projects in disadvantaged communities.

The EFMP and EFMP Plus-Up is branded as the "Replace Your Ride" Program in the South Coast Air Quality Management District. To date, the SCAQMD has provided funding for vouchers to replace over 1,100 older passenger vehicles with newer fuel-efficient conventional vehicles, hybrid electric vehicles, plug-in hybrid electric vehicles and dedicated electric vehicles. Since the majority of the participants to date reside in Los Angeles County, staff recommends enhancing outreach to residents in Orange County, the Inland Empire and the Coachella Valley.

The Replace Your Ride Program is currently implemented by four contractors approved by the Board in December 2014. These contractors have provided excellent service in assisting applicants through the process and providing education to consumers regarding the program guidelines and understanding of advanced technology vehicles. There has been considerable interest in the Program with over 400 applicants currently going through the process.

On September 2, 2016, the Board issued RFP #P2017-02 to solicit proposals for new contract services to continue assisting eligible participants in the application process and/or to conduct vehicle emissions testing for the EFMP and EFMP Plus-Up. The Board also recognized up to \$3.7 million from CARB to continue the EFMP Base Program and \$10 million to continue the implementation of the EFMP Plus-Up for FY 2016-17. The EFMP base funding for vouchers will be made available to eligible consumers residing in non-disadvantaged communities as defined by CARB. A total voucher value of \$4,500 may be provided to eligible consumers for the EFMP Base Program. For eligible consumers residing in disadvantaged communities, a maximum voucher amount of \$9,500 may be provided from the EFMP Plus-Up.

At its October 2016 meeting, the CARB Board approved up to \$15 million for the SCAQMD, \$5 million more than anticipated, to continue implementation of the EFMP Plus-Up for FY 2016-17.

Outreach

In accordance with SCAQMD's Procurement Policy and Procedure, a public notice advertising the RFP 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 were notified utilizing SCAQMD's own electronic listing of certified minority vendors. Notice of the RFP was 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 (<u>http://www.aqmd.gov</u>) where it could be viewed by making the selection "Grants & Bids".

Bid Evaluation

By the November 10, 2016 deadline for the RFP, four proposals were received. The proposals were reviewed and evaluated by a four-member panel in accordance with established SCAQMD guidelines, using technical and cost criteria outlined in the RFP. The four-member panel consisted of a Planning and Rules Manager and a Program Supervisor from SCAQMD as well as a Staff Air Pollution Specialist and an Air Pollution Specialist from CARB. The panel members included one Asian-American and three Caucasians; all male.

Table 1 shows the four proposals and summarizes the evaluation scores. Proposals receiving a technical score of at least 56 out of 70 points were considered qualified and eligible for contract awards. Proposals with scores above 56 points were also awarded up to 30 points for the cost score and a maximum of 15 additional points for special business categories as defined in the RFP.

Proposer	Technical Score*	Cost Score	Additional Points	Total Score
Opus Inspection	66	30		96
Top Shelf Consulting, LLC	65	25	15	105
Foundation for California Community Colleges	63	29		92
Gladstein, Neandross & Associates	56	9	15	80

 Table 1. Proposal Scores

*ranked by Technical Score

All proposals received are from entities currently under contract with the SCAQMD to implement the existing program. Each proponent demonstrated a familiarity with program eligibility requirements and logistical implementation, but the submittals made by Opus Inspection, Top Shelf and FCCC provided the greatest level of detail, experience and working knowledge of program implementation. In the discussions among the technical review panel members, it was noted that each proposal provided a unique approach to the outreach and vehicle emissions testing elements of the Program. Based on the technical scores from the review panel, all four proposals are deemed technically qualified to perform the services requested in the RFP.

Proposal

This action is to recognize, upon receipt, up to \$5 million in EFMP Plus-Up funding from CARB (in addition to the \$10 million already recognized by the Board in September 2016) to extend implementation of the EFMP Program and to authorize the

Executive Officer to accept terms and conditions of a GGRF grant award for implementation of the Vehicle Retirement and Replacement Plus-Up Program.

The total FY 2016-17 and FY 2017-18 funding for the continued Program implementation would be up to \$15 million for the EFMP Plus-Up, and \$3.7 million for the EFMP Base Program for a total of \$18.7 million. CARB allows up to 15 percent of the award (or \$2,805,000) to cover administrative costs. With the \$18.7 million award, staff estimates that a minimum of 2,500 vouchers would be available to eligible consumers.

Additionally, in implementing the scrap element of the EFMP pilot program, the participating auto dismantler agreed to pay the SCAQMD up to \$200 for each vehicle scrapped, reflecting the value of the scrapped metal. Therefore, this action is to also recognize up to \$500,000 in revenue into the HEROS II Special Revenue Fund (56) from participating auto dismantlers for the scrap metal value of the vehicles retired and crushed under this program. Agreements will be executed with participating auto dismantlers to receive this revenue, which will be used for future voucher awards, subject to Board approval.

To implement the Program using the new funding, these actions are to: 1) authorize the Executive Officer or his designee to approve vouchers to qualified participants in an amount up to \$4,250,000 for a minimum of 450 vouchers (such authority was already granted for the revenue recognized in September 2016); and 2) transfer and appropriate up to \$250,000 from the HEROS II Special Revenue Fund (56) to Science and Technology Advancement's FY 2016-17 and/or 2017-18 Budget (Org 44), Services and Supplies Major Object, as needed, to cover administrative costs and outreach efforts.

There is also a need to provide greater outreach to residents living in Orange, Riverside and San Bernardino counties to encourage participation in the Program. This final action is to amend or execute contracts with FCCC, Opus Inspection and Top Shelf. Multiple contract awards will provide greater resources geographically across the South Coast Air Basin and Coachella Valley. While each of the proposed contractors will provide consumer outreach and application processing for all eligible consumers residing in the South Coast Air Basin and Coachella Valley, staff is proposing that Top Shelf focus its outreach efforts in Los Angeles County, while FCCC and Opus Inspection focus their outreach efforts in Orange, San Bernardino and Riverside counties including the Coachella Valley, based on the scope of work provided in each proposal. It is also anticipated that additional special outreach events will be conducted at which time all of the proposed consultants will be participating.

Opus Inspection and Top Shelf based their costs on processing 2,000 applications, while FCCC based their costs on processing a smaller number of applications. These actions are to, amend the contract with FCCC to add an amount not to exceed \$115,000; amend

the contract with Opus Inspection to add an amount not to exceed \$350,000, and execute a contract with Top Shelf Consulting, LLC, in an amount not to exceed \$300,000 from the HEROS Special Revenue Fund (56) for an 18-month performance period. There is sufficient administrative funds available in Fund 56 to cover the cost of the three contracts.

FCCC will provide bilingual case management to process applications and walk applicants through the process. FCCC will develop a Frequently Asked Questions component for the program website, which will address the most commonly asked questions FCCC encountered during current program implementation by call center staff and case managers. Because a significant challenge in the application process is to obtain sufficient supporting documentation, FCCC will provide specific examples of supporting documentation and alternatives, with helpful Web links (e.g. to the Department of Motor Vehicles) for posting on the program website. FCCC will also maintain and update program operations manuals and develop training materials and deliver training courses to dealerships, dismantlers and other strategic partners. Lastly, FCCC will hold sign-up and emissions testing events at community colleges, as needed, to complement the weekend vehicle emissions testing to be performed by Opus Inspection.

Opus Inspection will also provide bilingual case management to process applications and walk applicants through the process. Opus Inspection proposes to dedicate nearly 97 percent of its labor hours to case processing and outreach in addition to the weekend vehicle emissions testing events. Case managers would be hired from the communities that they serve and will operate out of Fullerton. Opus Inspection is offering to provide more frequent vehicle emissions testing on weekends and will be integrating the emissions data into the SCAQMD's website database.

Top Shelf Consulting will provide bilingual case management to process applications and walk applicants through the process. They will provide face-to-face interaction with applicants who have the option to meet with case managers at their Whittier office. This is especially effective for those with functional literacy limitations or limited English proficiency. They are offering a streamlined and reduced cost procedure for participants to relinquish their vehicles to dismantlers. They will partner with smog check stations to improve the logistics for participants to obtain vehicle emissions data. They will continue to work with established community outreach partnerships in disadvantaged communities, especially within Los Angeles County. They will also continue their efforts to secure new auto dealerships and financial institutions to participate in the Program.

All entities have sufficient related experiences and qualifications to cover the array of tasks required for effective implementation of the EFMP. After discussions with each of the entities, proposal details will be used to allocate program tasks and funding for

the execution of multiple contracts. In addition to covering all of the tasks identified in the RFP, an effort will be made to award contracts in a manner that best addresses outreach in low-income and disadvantaged communities. This includes optimizing the spatial coverage of outreach efforts, utilizing community-based organizations for outreach, and also supporting event-oriented outreach.

Currently, participating auto dealerships and financial institutions establish their participation and understanding of the EFMP provision through execution of an agreement with one of the three Contractors. Moving forward, staff is recommending that the SCAQMD execute agreements directly with participating auto dealerships and financial institutions, as needed, or be named as a third-party beneficiary in an agreement between one of SCAQMD's Contractors and the participating dealership or financial institution, in order to provide additional oversight on the implementation of the Program.

Lastly, as mentioned above, staff proposes to make a concerted outreach effort to solicit consumers residing in Orange, Riverside and San Bernardino counties to participate in the EFMP. Prior outreach events held in Los Angeles County and Orange County entailed having the Contractors set up booths to process current applicants and having the applicant's vehicle emissions tested. In addition, new applications may be taken on site. The events were typically held at an auto dealership providing applicants the convenience to shop for a replacement vehicle once their application had been approved to proceed with the purchase of a replacement vehicle. Moving forward, staff anticipates conducting a greater number of outreach events to solicit greater participation. Staff will also work with participating auto dealerships and nongovernment organizations including local community organizations to provide outreach on the Program and encourage program participation. To help cover the costs associated with the outreach events, staff is recommending that the Board transfer \$250,000 from the administrative fund portion of the HEROS II Special Revenue Fund (56) to Science and Technology Advancement's FY 2016-17 and/or FY 2017-18 Budget, Services and Supplies Major Object, to conduct up to 12 outreach events. In addition to the special outreach events, the funds will be used to cover call center activities and other associated administrative costs including the cost of printing outreach materials such as program brochures. The remaining funds will be used primarily for assistance, which may include temporary or contract services, to process vouchers for final approval.

Benefits to SCAQMD

Continued successful implementation of the Pilot Retire and Replace Program element of the EFMP will further reduce emissions by accelerating the turnover of high-emitting vehicles with cleaner, more environmentally friendly replacement vehicles or alternatively provide vouchers for public transportation, car sharing and other mobility options. Incentives for program participation will continue to be provided to low- and middle-income vehicle owners to ensure that their neighborhoods will benefit from cleaner replacement vehicles.

Resource Impacts

At its October 2016 meeting, the CARB Board approved up to \$15 million from the GGRF to continue implementation of the EFMP Plus-Up for FY 2016-17. This action will provide additional funds to continue implementing the EFMP Plus-Up Program in the South Coast Air Basin and Coachella Valley as proposed by this Board letter. Table 2 below provides a summary of the proposed funding.

Proposed Funding	Funding Amount	
Funding for Vouchers		
EFMP Plus-Up	\$4,250,000	
Total Funding for Vouchers	\$4,250,000	
EFMP Marketing and Outreach		
Foundation for California Community Colleges	\$115,000	
Opus Inspection	\$350,000	
Top Shelf	\$300,000	
Event Outreach & Administrative Support	\$250,000	
Total Marketing and Outreach Funds	\$1,015,000	
Grand Total	\$5,265,000	

Table 2: Proposed Funding from the GGRFfor the Continued Implementation of the EFMP Plus-Up Program



Agenda Item #5

Lori Berard

Recognize, Transfer and Appropriate Revenue, Amend and Execute Contracts, and Approve Eligible Participant Vouchers to Continue Implementation of Enhanced Fleet Modernization Program



Background

Enhanced Fleet Modernization Program (EFMP)

- CARB AB 118 & Greenhouse Gas Reduction Fund (GGRF)
- Voluntarily scrap & replace light- & medium-duty vehicles
- Income eligibility requirement
- 8-yr old or newer fuel-efficient replacement vehicle or transit voucher

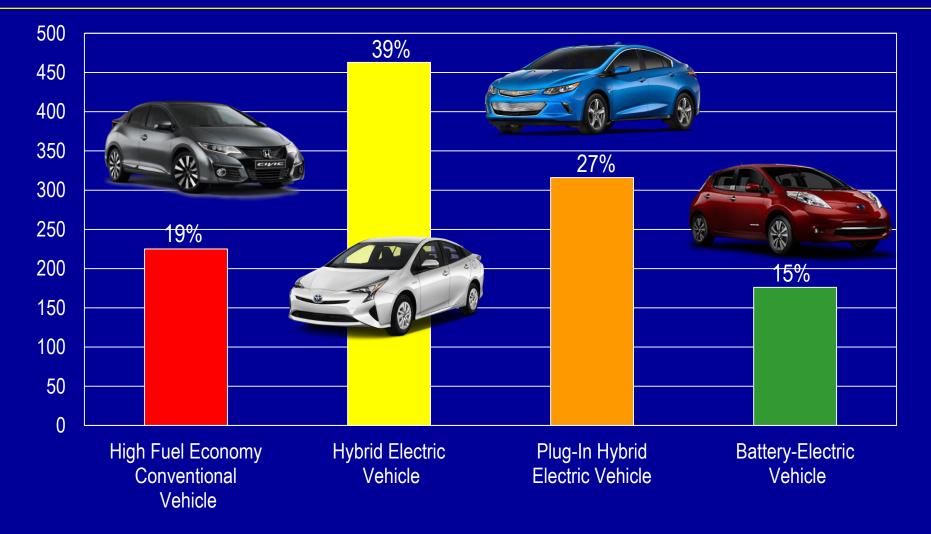


- Added incentives
 - Reside in disadvantaged community; and
 - Replace with advanced technology vehicle

Current Program Status

- Over 1,200 approved vouchers
- Average fuel economy improvement 40 mpg
- Participants
 - > 94% in disadvantaged communities
 - > 78% received added incentive
 - 88% in lowest-income category
 - Threshold depends on size of household
 - Individual < \$26,730 per year</p>
 - ▶ Household of four < \$54,675 per year

Replacement Vehicle Types



Past SCAQMD Board Actions

• First year pilot program

- > \$8,800,000 CARB funding
- Local match funds from SCAQMD and MSRC



September and October 2016 Actions

- Released RFP for continued implementation assistance
- Recognized CARB funding \$13,700,000
- Approved in-house web application/database development and maintenance \$175,000
- Reimburse Call Center staff support \$10,000
- Transfer funds for miscellaneous expenses (outreach material printing, special event support) \$70,000

CARB Board Action

 CARB staff initially proposed \$10 million to SCAQMD from GGRF



- SCAQMD Board recognized these funds in September 2016
- In October, CARB Board approved total of \$15 million
 - \$5 million in additional revenue to be recognized by SCAQMD Board

RFP for EFMP Implementation

- Released RFP #P2017-02 September 2016
- Four proposals received by November 10, 2016
- Proposals evaluated by four-member panel
 - SCAQMD Planning and Rules Manager & Program Supervisor
 - CARB Staff Air Pollution Specialist & Air Pollution Specialist
- Evaluation criteria
 - Technical score (70 pts max, 56 pt min)
 - Cost score (30 pts max)
 - ✓ Additional points (15 points max)



Proposal Evaluation Scores

Proposer	Technical Score*	Cost Score	Additional Points	Total Score
Opus Inspection	66	30		96
Top Shelf Consulting, LLC	65	25	15	105
Foundation for California Community Colleges (FCCC)	63	29		92
Gladstein, Neandross & Associates	56	9	15	80

*ranked by Technical Score



- Amend or execute three contracts for outreach and implementation of the EFMP
- Recognize additional funds for EFMP
- Transfer and appropriate funds for EFMP outreach and administrative efforts

Proposed Funding from Greenhouse Gas Reduction Fund

Proposed Funding	Amount	
Funding for Vouchers		
EFMP Plus-Up	\$4,250,000	
Total Funding for Vouchers	\$4,250,000	
EFMP Administration		
Foundation for California Community Colleges	\$115,000	
Opus Inspection	\$350,000	
Top Shelf Consulting	\$300,000	
Outreach Event & Administrative Support	\$250,000	
Total Administration Funds	\$1,015,000	
Grand Total	\$5,265,000	

Recommended Actions

- Amend or execute contracts from the HEROS II Special Revenue Fund (56) as shown:
 - FCCC Add up to \$115,000Opus Inspection Add up to \$350,000
 - Top Shelf Up to \$300,000
- Authorize the Executive Officer to execute agreements with auto dealerships and financial institutions, as needed
- Transfer and appropriate up to \$250,000 from the HEROS II Special Revenue Fund (56) to STA's FY 2016-17 and/or 2017-18 Budget, as needed, for EFMP administrative costs

Recommended Actions (continued)

- Recognize up to an additional \$5 million from CARB's GGRF into the HEROS II Special Revenue Fund (56) and accept terms and conditions of grant award
- Recognize up to \$500,000 into the HEROS II Special Revenue Fund (56) from vehicle dismantlers for the scrap metal value of the vehicles retired through the EFMP and authorize the Executive Officer to execute agreements with participating auto dismantlers
- Approve vouchers for program participants in an amount up to \$4,250,000 from the HEROS II Special Revenue Fund (56)



1

Agenda Item #6

Patricia Kwon

EVSE Installation and Charging Policy Recommendations



Golden Springs Dr

10

121

A DELEMAN

36, 99

Front Lobby/ Guest Parking Area

Copley DI

No. of Concession, Name of Street, or other Distances, or other Di

AN NOTION.

ALC: N

-

Upper Parking Deck

(copeyou

Solar Carport

Colley

Background

- In September 2016, Board approved installation of EV chargers
- First phase of installation for upper deck completed (36)
- Remaining phases to be completed early 2017



EV Charging Policy

 Many options for EV charging and cost recovery

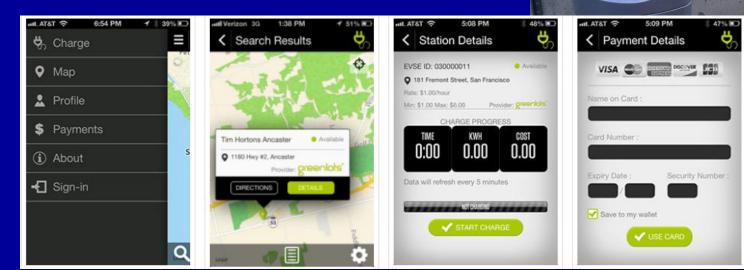
• Goals:

- -Equitable costs for staff/public
- Electricity cost recovery for facility



Greenlots Software

- Real-time availability of charging stations
- Access by phone app or RFID card
- User notifications (charging starts/stops, change in rate structure)
- Capable to charge
 - Flat rate
 - Per hour
 - Per kWh
 - Time of day or other rates



Workplace Charging

- Some workplaces charge for workplace charging:
 - Honda charges employees \$.24/kWh, guests \$.27/kWh
- Some workplaces offer free workplace charging as amenity – Google, LADWP offer employees free charging
- Workplace charging on par with residential rates, as low as \$.13 - \$.14/kWh



Proposal

 Phased-in electricity cost recovery - 6 cents/kWh Flat rate of \$1/hour additional when > 5 hours • Full cost recovery: 12.6 cents/kWh*

*Blended peak-mid-off peak rate based on overall building use



Typical Costs for Full Charging¹

Vehicle	Battery Size	Charging Rate	Recharge Time	Cost
Nissan Leaf (2017)	30 kWh	6.6 kW	4.5 hours	\$1.80
Ford Focus (2017)	33.5 kWh	6.6 kW	5 hours	\$2.01
GM Volt (2017)	18.4 kWh	3.6 kW	4.5 hours	\$1.10
GM Bolt (2017)	60 kWh	7.2 kW	9 hours ²	\$3.60
Tesla Model S (2016)	100 kWh	10 kW	10.7 hours ²	\$6.00

¹ 6 cents per kWh ² Plus additional hourly rate

Recommended Actions

- Partial cost recovery to allow 6-12 months data collection with Energy Management System to understand impact of demand charges
- Input from TAO, HR, will consult employee unions
- Discourage parking without charging
- Reconsider after 12 months

