



South Coast Air Quality Management District

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

TO: SCAQMD Technology Committee
John Benoit, Chair
Joe Buscaino, Judith Mitchell, Miguel Pulido, Janice Rutherford, Dennis Yates

FROM: Matt Miyasato, DEO, Science & Technology Advancement

TECHNOLOGY COMMITTEE

21865 Copley Drive, Diamond Bar, CA 91765

September 18, 2015 ♦ 12:00 p.m. ♦ Conference Room – CC-8

TELECONFERENCE LOCATIONS

73710 Fred Waring Drive
Suite 222
Palm Desert, CA 92260

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

20 Civic Center Plaza
8th Floor
Santa Ana, CA 92701


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

AGENDA

OCTOBER BOARD AGENDA ITEMS FOR ACTION/DISCUSSION


- 1. Execute Contracts for FY 2014-15 “Year 17” Carl Moyer Program and SOON Provision**

On June 3, 2015, proposals were received in response to the Program Announcements issued for the “Year 17” Carl Moyer Program and the SOON Provision. These actions are to execute contracts for the “Year 17” Carl Moyer Program and the SOON Provision in an amount not to exceed \$27,092,992, comprised of \$24,419,832 from the SB 1107 Fund (32), \$2,521,963 from the AB 923 Fund (80) and \$151,197 in accrued interest from the Carl Moyer Program Fund (32). This action is to also execute contracts for projects from a backup list upon availability of funds from returned or partially completed projects.

Fred Minassian
Assistant Deputy
Executive Officer
- 2. Approve Awards for School Bus Replacements and Retrofits** 


At its March 6, 2015 meeting, the Board issued a Program Announcement to solicit applications for replacement and retrofit of school buses. These actions are to approve awards to replace pre-1994 diesel school buses with new alternative fuel buses and to retrofit 1994 and newer buses with particulate traps in an amount not to exceed \$25,136,000 from the Carl Moyer Program AB 923 Fund (80).

Ranji George
Program
Supervisor

- 3. Execute Contract to Cosponsor Hydrogen Station Equipment Performance Project** 

The California Department of Food and Agriculture, Division of Measurement Standards (DMS) is requesting cofunding for the Hydrogen Station Equipment Performance (HyStEP) project to develop and operate equipment used to evaluate station performance pursuant to SAE Standard J2601. This action is to execute a contract with DMS to cosponsor the HyStEP project in an amount not to exceed \$100,000 from the Clean Fuels Fund (31).

Lisa Mirisola
Program
Supervisor

- 4. Execute Contract for Renewable Natural Gas Production and Vehicle Demonstration Project** 

In order to fuel their fleet of natural gas solid waste collection vehicles, CR&R Environmental Services (CR&R) is producing biomethane, a renewable natural gas (RNG), at its material recovery facility in Perris, CA. CR&R proposes to expand their current RNG production with the addition of a second anaerobic digester. This expansion would displace 890,000 gallons of fossil-based fuel annually used in their vehicles and additional RNG produced would be injected into the Southern California Gas Company pipeline. CR&R is also interested in demonstrating the use of RNG with the next generation natural gas engine that achieves 90 percent lower NOx emissions than the existing 2010 heavy-duty engine exhaust emissions standard. This action is to execute a contract with CR&R in an amount not to exceed \$900,000 from the Clean Fuels Fund (31) to cost-share construction of a second anaerobic digester and demonstrate the use of RNG with the next generation natural gas engine.

Phil Barroca
AQ Specialist

- 5. Recognize Funds and Amend Contracts to Extend Implementation of Enhanced Fleet Modernization Program**

On December 5, 2014, the Board recognized funds and authorized contracts to implement the Enhanced Fleet Modernization Program (EFMP) and EFMP Plus-Up, which provides increasing incentives to eligible low- and middle-income owners of older vehicles to scrap their existing vehicle and receive a voucher to help acquire a newer vehicle or cover the cost of alternative mobility options. The EFMP is well received by the public and already oversubscribed. Staff has requested \$21,400,000 from CARB to extend implementation of the EFMP. These actions are to: 1) recognize up to \$21,400,000 in grants as approved by CARB to extend implementation of the EFMP and authorize the Executive Officer to accept grant terms and conditions; 2) amend four contracts in an amount not to exceed \$1,000,000 from the HEROS II Special Revenue Fund (56); 3) authorize the Executive Officer to allocate up to an additional \$300,000 from the HEROS II Special Revenue Fund (56) to increase any of the four contracts on an as-needed basis; and 4) authorize the Executive Officer to approve vouchers to qualified program participants up to \$30,592,000.

Henry Hogo
Assistant Deputy
Executive Officer

6. **Recognize Revenue and Appropriate Funds to Support Air Quality Sensor Performance Evaluation Center Program**
SCAQMD applied for U.S. EPA “Community-Scale Air Toxics Ambient Monitoring” funds for FY 2015-16 through FY 2017-18 and was awarded \$569,682 to study air toxic emissions from refineries and the spatial and temporal distribution of such emissions over impacted local communities, utilizing next generation monitoring technologies. This action is to recognize \$569,682 in revenue into the General Fund and appropriate \$508,729 to the Science & Technology Advancement Budget (exclusive of the \$60,953 in Salaries and Benefits), to support the Air Quality Sensor Performance Evaluation Center Program.

Laki Tisopulos
Assistant Deputy
Executive Officer

INFORMATION ONLY ITEM

7. **Alternative Fuel Signage at SCAQMD (*presentation only*)**
Staff will provide an update on the progress in increased alternative fuel signage at the SCAQMD Headquarters and surrounding area.
8. **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)
9. **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.

Phil Barroca
AQ Specialist

Next Meeting: October 16, 2015 at SCAQMD Headquarters in CC-8

Document Availability

All documents (i) 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: October 2, 2015

AGENDA NO.

PROPOSAL: Execute Contracts for FY 2014-15 “Year 17” Carl Moyer Program and SOON Provision

SYNOPSIS: On June 3, 2015, proposals were received in response to the Program Announcements issued for the “Year 17” Carl Moyer Program and the SOON Provision. These actions are to execute contracts for the “Year 17” Carl Moyer Program and the SOON Provision in an amount not to exceed \$27,092,992, comprised of \$24,419,832 from the SB 1107 Fund (32), \$2,521,963 from the AB 923 Fund (80) and \$151,197 in accrued interest from the Carl Moyer Program Fund (32). This action is to also execute contracts for projects from a backup list upon availability of funds from returned or partially completed projects.

COMMITTEE: Technology, September 18, 2015; Recommended for Approval

RECOMMENDED ACTIONS:

- A. Authorize the Chairman to execute the following Carl Moyer Program contracts with funds from the Carl Moyer Program SB 1107 Fund (32) for a total of up to \$18,103,045:
1. Orange County Sheriff’s Department for the replacement of 4 transport buses in an amount not to exceed \$439,624;
 2. YRC Inc, dba YRC Freight for the diesel to electric repower of 9 off-road equipment, subject to CARB approval, in an amount not to exceed \$1,564,092;
 3. Neovia Logistics Distribution, LP for the diesel to electric repower of 6 off-road equipment, subject to CARB approval, in an amount not to exceed \$1,050,946;
 4. County Sanitation Districts of Los Angeles County for the replacement of 3 off-road equipment in an amount not to exceed \$357,659;
 5. JKM Equipment, Inc. for the repower of 1 off-road equipment in an amount not to exceed \$148,131;
 6. KEC Engineering for the replacement of 3 off-road equipment in an amount not to exceed \$299,578;
 7. L&S Construction, Inc. for the replacement of 1 off-road equipment in an amount not to exceed \$107,604;

8. McKenna General Engineering, Inc. for the repower of 2 off-road equipment in an amount not to exceed \$232,026;
9. Patriot Grading & Engineering, Inc. for the repower of 7 and retrofit of 4 off-road equipment in an amount not to exceed \$1,179,604;
10. Rentrac, Inc for the replacement of 6 for 3 off-road equipment in an amount not to exceed \$2,626,223;
11. Sharma General Engineering Contractors, Inc. for the replacement of 3 and the repower and retrofit of 5 off-road equipment in an amount not to exceed \$1,164,452;
12. Sukut Equipment Inc. for the replacement of 1 off-road equipment in an amount not to exceed \$144,673;
13. West Coast Equipment LLC for the replacement of 7 for 3 off-road equipment in an amount not to exceed \$104,010;
14. A&I Rock Company, Inc. for the repower of 3 off-road equipment in an amount not to exceed \$315,971;
15. Apollo Wood Recovery for the replacement of 3 off-road equipment in an amount not to exceed \$576,730;
16. Bill Higgins Inc. for the replacement of 1, and the repower of 1 off-road equipment in an amount not to exceed \$246,114;
17. C&R Farms Inc. for the replacement of 14 off-road equipment in an amount not to exceed \$1,414,411;
18. Carniello Enterprises for the replacement of 1 off-road equipment in an amount not to exceed \$78,845;
19. Dependable Grading, Inc. for the repower of 2 off-road equipment in an amount not to exceed \$245,846;
20. Desert Custom Farming Inc. for the replacement of 1 off-road equipment in an amount not to exceed \$213,126;
21. Goodwin Enterprises, Inc. for the replacement of 1 off-road equipment in an amount not to exceed \$234,876;
22. Joe B. Talley, Jr. for the replacement of 1 off-road equipment in an amount not to exceed \$40,167;
23. Las Virgenes Municipal Water District for the replacement of 1 off-road equipment in an amount not to exceed \$38,936;
24. LM Finance LLC for the replacement of 2 for 1 off-road equipment in an amount not to exceed \$65,985;
25. M&H Transport, Inc. for the replacement of 1 off-road equipment in an amount not to exceed \$269,612;
26. Michael Willemsen for the repower of 1 off-road equipment in an amount not to exceed \$207,215;
27. Muth Equipment, Inc. for the repower 1 off-road equipment in an amount not to exceed \$125,448;
28. Oasis Ranch Management, Inc. for the replacement of 2 off-road equipment in an amount not to exceed \$140,526;

29. Oostdam Dairy for the replacement of 1 off-road equipment in an amount not to exceed \$145,059;
 30. P. Riley Enterprises, Inc. for the repower of 1 off-road equipment in an amount not to exceed \$117,940;
 31. Paul J. Nelson Equipment Rental for the replacement of 2 for 1 off-road equipment in an amount not to exceed \$112,642;
 32. Pro-Organic Farms LLC for the replacement of 1 off-road equipment in an amount not to exceed \$404,172;
 33. Sage Green, LLC for the replacement of 5 off-road equipment in an amount not to exceed \$2,017,942;
 34. Rick's Backhoe for the replacement of 1 off-road equipment in an amount not to exceed \$105,988;
 35. Shinkle & Sons Greenhouse Inc. for the replacement of 3 off-road equipment in an amount not to exceed \$101,927;
 36. Southern California Landscape Supply LLC for the replacement of 1 off-road equipment in an amount not to exceed \$216,000;
 37. Sunny Slope Tree Farm, Inc. for the replacement of 8 off-road equipment in an amount not to exceed \$378,325;
 38. T&W Parks Construction, Inc. for the replacement of 1 off-road equipment in an amount not to exceed \$453,657;
 39. Viramontes Express Inc. for the replacement of 3 off-road equipment in an amount not to exceed \$212,183;
 40. Washburn Grove Management, Inc. for the replacement of 3 off-road equipment in an amount not to exceed \$120,740; and
 41. Whittier Fertilizer Company for the replacement of 1 off-road equipment in an amount not to exceed \$84,040.
- B. Authorize the Chairman to execute the following Carl Moyer Program contracts with funds from the Carl Moyer Program AB 923 Fund (80) for a total of up to \$2,225,112:
1. JC Farming, Inc. for the replacement of 1 off-road equipment in an amount not to exceed \$951,188; and
 2. Ralph D. Mitzel, Inc. for the repower of 8 off-road equipment in an amount not to exceed \$1,273,924.
- C. Authorize the Chairman to execute the following Carl Moyer Program contracts with:
1. Jones Water Trucks, Inc. for the replacement of 2 off-road equipment in an amount not to exceed \$1,344,000, comprised of \$1,063,085 from the Carl Moyer Program SB 1107 Fund (32), and \$280,915 from the Carl Moyer Program AB 923 Fund (80); and
 2. Williams Heavy Equipment Rentals, Inc. for the repower of 3 off-road equipment in an amount not to exceed \$167,133, comprised of \$15,936 from

the Carl Moyer Program AB 923 Fund (80), and \$151,197 from interest funds accrued in the Carl Moyer Program Fund (32).

- D. Authorize the Chairman to execute the following SOON Provision contracts with funds from the Carl Moyer Program SB 1107 Fund (32) for a total of up to \$5,253,702:
1. Coburn Equipment Rentals, Inc. for the repower of 16 off-road vehicles in an amount not to exceed \$4,693,702, and
 2. Peed Equipment Company for the replacement of 1 off-road equipment in an amount not to exceed \$560,000.
- E. Authorize the Chairman to execute contracts from the backup list of projects as outlined in Table 5, under the SOON Provision, upon availability of funds from returned or partially completed projects. Projects will be selected from the list based on their readiness to proceed and cost-effectiveness.

Barry R. Wallerstein, D.Env.
Executive Officer

MMM:FM

Background

This is the 17th year of the Carl Moyer Program and the 11th year of the Program with a long-term source of funding generated under SB 1107 and AB 923. For FY 2014-15, CARB has allocated \$25,515,326 in SB 1107 funds to the SCAQMD, comprised of \$24,239,560 in project funds and \$1,275,766 in administrative funds. In addition, \$3,827,299 is required from the SCAQMD as its local match. Table 1 shows a summary of the total available funds including accumulated interest and returned funds.

On June 3, 2015, proposals were received in response to the Program Announcements issued for the “Year 17” Carl Moyer Program and the SOON Provision. A total of 116 proposals were received requesting over \$66 million in funding.

Outreach

In accordance with SCAQMD’s Procurement Policy and Procedure, a public notice advertising the PAs and inviting bids was published in the Los Angeles Times, the Orange County Register, the San Bernardino Sun, and Riverside County’s Press Enterprise newspapers to leverage the most cost-effective method of outreach to the South Coast Basin.

Additionally, potential bidders may have been notified utilizing SCAQMD’s own electronic listing of certified minority vendors. Notice of the PAs 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 (<http://www.aqmd.gov>).

Proposal

These actions are to approve the recommended awards as outlined in Tables 2 and 3 under the Carl Moyer Program and the SOON Provision, respectively, in an amount not to exceed \$27,092,992, comprised of \$24,419,832 from the SB 1107 Fund (32), \$2,521,963 from the AB 923 Fund (80) and \$151,197 in accrued interest from the Carl Moyer Program Fund (32). This action is to also execute contracts from the list of backup projects as outlined in Table 5, under the SOON Provision, upon availability of funds from returned or partially completed projects. Projects will be selected from the list based on their readiness to proceed and cost-effectiveness.

The applications have been evaluated according to CARB's Carl Moyer Program Guidelines released on June 6, 2011. The transport bus project with the Orange County Sheriff's Department is subject to and will be implemented after obtaining a case-by-case approval from CARB. Since there were more eligible projects than available funds, the marine projects operating as fishing vessels are not recommended for funding at this time. Instead, the majority of the off-road construction projects have been recommended for funding, as emissions reductions from this category is highly important according to the white paper published by the SCAQMD under the 2016 AQMP process.

Table 4 summarizes staff's recommendation for the Carl Moyer Program and the SOON Provision awards in disproportionately impacted areas under the requirements of AB 1390. The total amount of projects funded in disproportionately impacted areas is \$6,803,069, while the total amount of projects funded solely based on cost-effectiveness is \$20,289,923. In summary, 25% of the projects are in disproportionately impacted areas. At its September 4, 2015 meeting, the Board approved passenger locomotive projects operated by the Southern California Regional Rail Authority in the amount of \$22.85 million from the Carl Moyer Program AB 923 Fund (80). Since these locomotives will mostly operate in disproportionately impacted areas, the overall goal of the Program will be met.

Funding Distribution

Funding for projects has been recommended based on the priorities of the "Carl Moyer Program Guideline under SB 1107 & AB 923" adopted by the Board on July 8, 2005. The priorities of the Guideline are:

- Goods Movement (no less than 40%)
- Environmental Justice (no less than 50%)
- Cost-Effectiveness
- Low-Emission Engine/Vehicle Preference

- Early Commercialization of Advanced Technologies/Fuels
- Fleet Rules
- School Buses

The Board's allocation of funds for the implementation of the Proposition 1B–Goods Movement Program by far exceeds the goods movement objective. About 25% of the award dollars are recommended for projects under the Environmental Justice category in disproportionately impacted areas.

Disproportionate Impact Point Ranking

The requirements of AB 1390 are implemented according to the following criteria:

- 1) All projects must qualify for the Carl Moyer Program by meeting the cost effectiveness limits established in the Program Announcement.
- 2) All projects will be evaluated according to the following criteria to qualify for funding as a disproportionately impacted area:
 - a. Poverty Level: Detailed socioeconomic information is not included in the 2010 Census. Such data is collected yearly from a small percentage of the population on a rotating basis by the American Community Survey (ACS). All projects in areas where at least 10 percent of the population falls below the Federal poverty level based on the 2008-2012 ACS data are eligible to be included in this category, and
 - b. PM2.5 Exposure: All projects in areas with the highest 15 percent of PM2.5 concentration measured within a 2 km grid will be eligible to be ranked in this category. The highest 15 percent of PM2.5 concentration is 11.10 micrograms per cubic meter and above, on an annual average, or
 - c. Air Toxics Exposure: All projects in areas with a cancer risk of 894 in a million and above (based on MATES IV estimates) will be eligible to be ranked in this category.

The maximum score is comprised of 40 percent for poverty level and 30 percent each for PM and toxic exposures.

Benefits to SCAQMD

The successful implementation of the Carl Moyer Program will provide direct emissions reductions for both NOx and PM as required by the programs. Since the vehicles and equipment funded under this program will operate for many years, the emissions reductions will provide long-term benefits. Total annual NOx, PM and ROG emissions reductions from the recommended Carl Moyer Program projects are approximately 184.5 tons, 7.2 tons and 19.6 tons, respectively. Total annual NOx emission reductions from the recommended SOON Provision projects are approximately 62.6 tons.

Resource Impacts

Funding for the Carl Moyer Program and the SOON Provision projects shall not exceed \$27,092,992, comprised of \$24,419,832 from the SB 1107 Fund (32), \$2,521,963 from the AB 923 Fund (80) and \$151,197 in accrued interest from the Carl Moyer Program Fund (32).

Attachments

Table 1 – Carl Moyer Program Available Funds

Table 2 – Recommended Carl Moyer Program Awards

Table 3 – Recommended SOON Provision Awards

Table 4 – Funding Distribution of Recommended Awards

Table 5 – List of Backup Projects

Table 1: Carl Moyer Program Available Funds

Funding Source	Funds Required to be Encumbered	Comment
SB 1107	\$24,419,832	From \$25,515,326 “Year 17” funds allocated by CARB: less \$1,275,766 in administration funds; plus \$180,272 in returned projects.
Carl Moyer Fund Interest	\$151,197	Total unobligated interest funds in Fund 32 by 6/30/15.
Match Funds	\$3,827,299	This is the required match amount for “Year 16”, which the SCAQMD has already met. However, in case of increased demand, projects can be funded with AB 923 funds that can be used either towards future match requirements or as backup for canceled or partially completed projects.
Total	\$28,398,328	

Table 2: Recommended Carl Moyer Program Awards

SB 1107 Awards (Fund 32)			
Orange County Sheriff's Dept.	\$439,624	YRC Inc, dba YRC Freight	\$1,564,092
Neovia Logistics Distribution, LP	\$1,050,946	County Sanitation District of LA County	\$357,659
JKM Equipment, Inc.	\$148,131	KEC Engineering	\$299,578
L&S Construction, Inc.	\$107,604	McKenna General Engineering	\$232,026
Patriot Grading & Engineering, Inc.	\$1,179,604	Rentrac, Inc.	\$2,626,223
Sharma General Engineering Contr.	\$1,164,452	Sukut Equipment Inc.	\$144,673
West Coast Equipment, LLC	\$104,010	A&I Rock Company, Inc.	\$315,971
Apollo Wood Recovery	\$576,730	Bill Higgins Inc.	\$246,114
C&R Farms Inc.	\$1,414,411	Carniello Enterprises	\$78,845
Dependable Grading, Inc.	\$245,846	Desert Custom Farming Inc.	\$213,126
Goodwin Enterprises, Inc.	\$234,876	Joe B. Talley, Jr.	\$40,167
Las Virgenes Mineral Water District	\$38,936	LM Finance, LLC	\$65,985
M&H Transport, Inc.	\$269,612	Michael Willemssen	\$207,215
Muth Equipment, Inc.	\$125,448	Oasis Ranch Management, Inc.	\$140,526
Oostdam Dairy	\$145,059	P. Riley Enterprises, Inc.	\$117,940
Paul J. Nelson Equipment Rental	\$112,642	Pro-Organic Farms LLC	\$404,172
Sage Green, LLC	\$2,017,942	Rick's Backhoe	\$105,988
Shinkle & Sons Greenhouse Inc.	\$101,927	Southern California Landscape Supply	\$216,000
Sunny Slope Tree Farm, Inc.	\$378,325	T&W Parks Construction, Inc.	\$453,657
Viramontes Express Inc.	\$212,183	Washburn Grove Management, Inc.	\$120,740
Whittier Fertilizer Company	\$84,040	Jones Water Truck, Inc.	\$1,063,085
Total: \$19,166,130			
AB 923 Awards (Fund 80)			
JC Farming, Inc.	\$951,188	Jones Water Truck, Inc.	\$280,915
Williams Heavy Equipment Rentals, Inc.	\$15,936	Ralph D. Mitzel, Inc.	\$1,273,924
Total: \$2,521,963			
Carl Moyer Interest Awards (Fund 32)			
Williams Heavy Equipment Rentals, Inc.	\$151,197		
Total: \$151,197			
Grand Total \$21,839,290			

Table 3: Recommended SOON Provision Awards

SB 1107 Awards (Fund 32)			
Coburn Equipment Rentals, Inc.	\$4,693,702	Peed Equipment Company	\$560,000
Total: \$5,253,702			

Table 4: Funding Distribution of Recommended Awards

Awards in Disproportionately Impacted Areas			
Orange County Sheriff's Dept.	\$439,624	YRC Inc, dba YRC Freight	\$1,564,092
County Sanitation District of LA County	\$357,659	JKM Equipment, Inc.	\$148,131
KEC Engineering	\$299,578	L&S Construction, Inc.	\$107,604
Patriot Grading & Engineering, Inc.	\$1,179,604	West Coast Equipment, LLC	\$104,010
A&I Rock Company, Inc.	\$315,971	Apollo Wood Recovery	\$576,730
Bill Higgins Inc.	\$246,114	Rick's Backhoe	\$105,988
Whittier Fertilizer Company	\$84,040	Ralph D. Mitzel, Inc.	\$1,273,924
Total:		\$6,803,069	
Awards Solely Based on Cost Effectiveness			
McKenna General Engineering	\$232,026	Rentrac, Inc.	\$2,626,223
Sharma General Engineering Contr.	\$1,164,452	Neovia Logistics Distribution, LP	\$1,050,946
C&R Farms Inc.	\$1,414,411	Sukut Equipment Inc.	\$144,673
Dependable Grading, Inc.	\$245,846	Carniello Enterprises	\$78,845
Goodwin Enterprises, Inc.	\$234,876	Desert Custom Farming	\$213,126
Las Virgenes Mineral Water District	\$38,936	Joe B. Talley, Jr.	\$40,167
M&H Transport, Inc.	\$269,612	LM Finance, LLC	\$65,985
Muth Equipment, Inc.	\$125,448	Michael Willemsen	\$207,215
Oostdam Dairy	\$145,059	Oasis Ranch Management, Inc.	\$140,526
Paul J. Nelson Equipment Rental	\$112,642	P. Riley Enterprises, Inc.	\$117,940
Sage Green, LLC	\$2,017,942	Pro-Organic Farms LLC	\$404,172
Shinkle & Sons Greenhouse Inc.	\$101,927	Southern California Landscape Supply	\$216,000
Sunny Slope Tree Farm, Inc.	\$378,325	T&W Parks Construction, Inc.	\$453,657
Viramontes Express Inc.	\$212,183	Washburn Grove Management, Inc.	\$120,740
Williams Heavy Equipment Rentals, Inc.	\$167,133	JC Farming	\$951,188
Jones Water Trucks, Inc.	\$1,344,000	Coburn Equipment Rental	\$4,693,702
Peed Equipment Company	\$560,000		
Total:		\$20,289,923	

Table 5: List of Backup Projects

	Program	Project Description	Funding
Independent Construction	SOON	Replace 7 Off-Road Equipment	\$6,661,156
Power Move, Inc. / Crew, Inc.	SOON	Replace 6 Off-Road Equipment	\$1,456,293

Agenda Item #1

Fred Minassian

Execute Contracts for FY 2014-15
“Year 17” Carl Moyer Program
and SOON Provision

“Year 17” Carl Moyer Funds

- \$25,515,326 in SB 1107 funds is allocated to SCAQMD by CARB comprised of:
 - \$24,239,560 project funds
 - \$ 1,275,766 administrative funds
- \$3,827,299 is required from SCAQMD as local match (funded with AB 923 funds)

Overall “Year 17” Project Funds

<u>Funding Source</u>	<u>Funding Amount</u>	
SB 1107	\$24,419,832	- \$25,515,326 in “Year 17” funds - less \$1,275,766 administrative funds - plus \$180,272 returned project funds
AB 923	\$ 3,827,299	- required match
Interest	<u>\$ 151,197</u>	- available interest funds
Total	\$28,398,328	

Program Announcements

- Carl Moyer Program & SOON Provision PAs were:
 - Issued: March 6, 2015
 - Closed: June 3, 2015
- 116 proposals were received requesting over \$66 million in funding

Proposed Carl Moyer Awards

<u>Funding Category</u>	<u>No. of Engines</u>	<u>Total Awards</u>
On-Road	4	\$439,624
Cargo Handling Electrification	15	\$2,615,038
Construction	<u>119</u>	<u>\$18,784,628</u>
Total	138	\$21,839,290

Proposed SOON Provision Awards

- Provide funding for two off-road projects to repower 16 and replace 1 off-road vehicles in the amount of \$5,253,702

Projects Distributions & Benefits

- Annual emissions reductions for Carl Moyer projects:
 - NO_x = 184.5 tons
 - PM = 7.2 tons
 - ROG = 19.6 tons
- Annual emissions reductions for SOON Provision projects
 - NO_x = 62.6 tons
- 25% of all recommended awards are in EJ areas

Funding Summary of Proposed Awards

- Total funding amount and source of funds for proposed Carl Moyer and SOON awards:

<u>Funds</u>	<u>Amount</u>
SB 1107	\$24,419,832
AB 923	\$2,521,963
Interest	<u>\$151,197</u>
Total	\$27,092,992

Backup Projects

- Two backup projects under the SOON Provision may be funded upon availability of funds from returned or partially completed projects:
 - Projects Type: replace 13 off-road equipment
 - Funding: \$8,117,449

Recommended Actions

- Approve Carl Moyer Program projects for \$21,839,290, comprised of \$19,166,130 from SB 1107 Fund (32), \$2,521,963 from AB 923 Fund (80) and \$151,197 in Carl Moyer Interest Fund (32)
- Approve SOON Provision projects in the amount of \$5,253,702 from the SB 1107 Fund (32)
- Approve backup projects under SOON Provision if funds from returned or partially completed projects become available

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DRAFT
Technology Committee Agenda #2

BOARD MEETING DATE: October 2, 2015

AGENDA NO.

PROPOSAL: Approve Awards for School Bus Replacements and Retrofits 

SYNOPSIS: At its March 6, 2015 meeting, the Board issued a Program Announcement to solicit applications for replacement and retrofit of school buses. These actions are to approve awards to replace pre-1994 diesel school buses with new alternative fuel buses and to retrofit 1994 and newer buses with particulate traps in an amount not to exceed \$25,136,000 from the Carl Moyer Program AB 923 Fund (80).

COMMITTEE: Technology, September 18, 2015; Recommended for Approval

RECOMMENDED ACTIONS:

- A. Authorize the Chairman to execute contracts with the following public school districts, and as shown in Table 1, to replace 144 pre-1994 diesel school buses with new alternative fuel buses and infrastructure in an amount not to exceed \$25,016,000 from the Carl Moyer Program AB 923 Fund (80):
1. ABC Unified School District for 1 CNG bus in an amount not to exceed \$180,500;
 2. Alta Loma Unified School District for 1 CNG bus in an amount not to exceed \$180,500;
 3. Anaheim City School for 1 CNG bus in an amount not to exceed \$180,500;
 4. Anaheim Union School District for 7 propane buses in an amount not to exceed \$906,500;
 5. Baldwin Park Unified School District for 1 CNG bus in an amount not to exceed \$166,500;
 6. Bear Valley Unified School District for 1 CNG bus in an amount not to exceed \$166,500;
 7. Beaumont Unified School District for 2 CNG buses in an amount not to exceed \$361,000;
 8. Bellflower Unified School District for 1 CNG bus in an amount not to exceed \$180,500;

9. Bonita Unified School District for 1 CNG bus in an amount not to exceed \$166,500;
10. Capistrano Unified School District for 2 CNG buses in an amount not to exceed \$361,000;
11. Centralia Unified School District for 1 propane buses in an amount not to exceed \$129,500;
12. Chaffey Joint Union High School District for 2 CNG buses in an amount not to exceed \$333,000;
13. Chino Valley Unified School District for 1 CNG bus in an amount not to exceed \$180,500;
14. Coachella Valley Unified School District for 1 CNG bus in an amount not to exceed \$166,500;
15. Colton Joint Unified School District for 1 CNG bus in an amount not to exceed \$180,500;
16. Covina Valley Unified School District for 1 CNG bus in an amount not to exceed \$166,500;
17. Cypress Unified School District for 1 CNG bus in an amount not to exceed \$166,500;
18. Desert Sands Unified School District for 1 CNG bus in an amount not to exceed \$166,500;
19. Downey Unified School District for 1 CNG bus in an amount not to exceed \$180,500;
20. Etiwanda Unified School District for 1 CNG bus in an amount not to exceed \$166,500;
21. Fontana Unified School District for 2 CNG buses in an amount not to exceed \$361,000;
22. Fountain Valley Unified School District for 1 CNG bus in an amount not to exceed \$166,500;
23. Fullerton School District for 1 propane bus in an amount not to exceed \$129,500;
24. Fullerton Joint Union High School District for 1 CNG bus in an amount not to exceed \$180,500;
25. Garden Grove Unified School District for 2 CNG buses in an amount not to exceed \$361,000;
26. Huntington Beach City School for 1 CNG bus in an amount not to exceed \$166,500;
27. Huntington Beach Union High School District for 2 CNG buses in an amount not to exceed \$361,000;
28. Hemet Unified School District for 3 CNG buses in an amount not to exceed \$541,500;
29. La Habra City School District for 1 CNG bus in an amount not to exceed \$166,500;
30. Los Alamitos Unified School District for 1 CNG bus in an amount not to exceed \$180,500;

31. Los Angeles Unified School District for 71 CNG buses in an amount not to exceed \$12,815,500;
32. Montebello Unified School District for 1 CNG bus in an amount not to exceed \$180,500;
33. Murrieta Valley Unified School District for 3 CNG buses in an amount not to exceed \$499,500;
34. Newhall Unified School District for 1 propane bus in an amount not to exceed \$129,500;
35. Newport-Mesa Unified School District for 1 CNG bus in an amount not to exceed \$180,500;
36. Nuview Union School District for 4 CNG buses in an amount not to exceed \$722,000;
37. Ocean View School District for 1 propane bus in an amount not to exceed \$129,500;
38. Ontario-Montclair School District for 1 CNG buses in an amount not to exceed \$180,500;
39. Orange Unified School District for 1 CNG bus in an amount not to exceed \$180,500;
40. Placentia-Yorba Linda Unified School District for 1 CNG bus in an amount not to exceed \$180,500;
41. Pupil Transportation Cooperative for 1 CNG bus in an amount not to exceed \$180,500;
42. Redlands Unified School District for 2 CNG buses in an amount not to exceed \$361,000;
43. Rialto Unified School District for 2 CNG buses in an amount not to exceed \$361,000;
44. Rim of the World Unified School District for 1 CNG bus in an amount not to exceed \$166,500;
45. San Jacinto Unified School District for 2 CNG buses in an amount not to exceed \$361,000;
46. Santa Monica-Malibu Unified School District for 1 CNG bus in an amount not to exceed \$166,500;
47. Saugus Union School District for 1 propane bus in an amount not to exceed \$124,500;
48. Savanna Unified School District for 1 propane bus in an amount not to exceed \$124,500;
49. Temecula Valley Unified School District for 2 CNG buses in an amount not to exceed \$361,000;
50. Walnut Valley Unified School District for 1 CNG bus in an amount not to exceed \$180,500; and
51. Westminster Unified School District for 1 propane bus in an amount not to exceed \$129,500.

B. Authorize the Chairman to execute contracts with the following public school districts, and as shown in Table 2, to retrofit 6 diesel school buses with particulate traps in an amount not to exceed \$120,000 from the Carl Moyer Program AB 923 Fund (80):

1. Fullerton Joint Union High School District for 1 trap in an amount not to exceed \$20,000;
2. Huntington Beach Union High School District for 2 traps in amount not to exceed \$40,000;
3. La Habra City School District for 2 traps in an amount not to exceed \$40,000;
and
4. Walnut Unified School District for 1 trap in an amount not to exceed \$20,000.

Barry R. Wallerstein, D.Env.
Executive Officer

MMM:FM

Background

Since the commencement of the Lower-Emission School Bus Program in 2001, SCAQMD has spent over \$242 million in state and local funds to replace over 1,500 highly polluting school buses with alternative fuel buses and to retrofit over 2,800 school buses with particulate traps.

At its March 6, 2015 meeting, the Board approved the issuance of Program Announcement #PA2015-06 for the replacement of pre-1994 school buses with new alternative fuel buses and the retrofit of 1994 and newer school buses with particulate traps. By the June 5, 2015 closing date of the Program Announcement, 52 public school districts applied for 510 school bus replacements and 6 particulate traps. The City of Irwindale applied for two school buses, but it was not considered for award since it is neither a public school district nor a joint powers authority.

Outreach

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

Additionally, potential bidders may have been notified utilizing SCAQMD's own electronic listing of certified minority vendors. Notice of the PA 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 (<http://www.aqmd.gov>).

Proposal

This action is to execute contracts for the replacement of 144 pre-1994 school buses with new alternative fuel buses and the retrofit of 6 particulate traps for 1994 and newer school buses as shown in Tables 1 and 2, respectively, for an amount not to exceed \$25,136,000 from the Carl Moyer Program AB 923 Fund (80).

Funding is distributed among the four counties of Los Angeles, Orange, Riverside and San Bernardino proportional to their populations per the 2010 census, as follows:

- Los Angeles: 59%
- Orange: 18%
- Riverside: 13%
- San Bernardino: 10%

Each applicant is recommended to receive at least one new alternative fuel school bus, and replacement of pre-1987 school buses is given priority within each county. School districts are required to provide \$15,000 per CNG bus and \$10,000 per propane bus as their local match.

SCAQMD will provide up to \$162,000 for a new CNG and \$120,000 for a new propane school bus. In addition, the SCAQMD will pay \$4,500 per bus for the option of fire suppressant. Furthermore, infrastructure funding of \$14,000 per CNG bus and \$5,000 per propane bus is recommended, if requested by the applicant.

Benefits to SCAQMD

The successful implementation of the Lower-Emission School Bus Replacement and Retrofit Program will provide less-polluting and safer school transportation for school children and will reduce public exposure to toxic diesel particulate matter emissions. In addition, these awards comply with AB 1390 requirements, such that it would reduce air pollution in low-income, high-diesel and high-PM10 exposure areas as well as enhance the objectives of the Environmental Justice and Children's Health Initiatives adopted by the SCAQMD Board.

Resource Impacts

Total funding for the recommended awards shall not exceed \$25,136,000 from the Carl Moyer Program AB 923 Fund (80).

Attachments

Table 1: Recommended Awards for Pre-1994 School Bus Replacements

Table 2: Recommended Awards for PM Traps

Table 1: Recommended Awards for Pre-1994 School Bus Replacements

#PA2015-06 A Applicant (USD)	County	Proposed Award	Pre-1987	Fuel Type	School Match (\$15,000/CNG bus)	Bus Award (\$162K/CNG, \$120K/Propane)	Fire Suppr. \$4,500/bus	Infrastructure	Total SCAQMD Award
ABC	LA	1	No	CNG	\$15,000	\$162,000	\$4,500	\$14,000	\$180,500
Baldwin Park	LA	1	No	CNG	\$15,000	\$162,000	\$4,500	Not Requested	\$166,500
Bellflower	LA	1	No	CNG	\$15,000	\$162,000	\$4,500	\$14,000	\$180,500
Bonita	LA	1	No	CNG	\$15,000	\$162,000	\$4,500	Not Requested	\$166,500
Covina Valley	LA	1	No	CNG	\$15,000	\$162,000	\$4,500	Not Requested	\$166,500
Downey	LA	1	No	CNG	\$15,000	\$162,000	\$4,500	\$14,000	\$180,500
Los Angeles	LA	71	Yes	CNG	\$1,065,000	\$11,502,000	\$319,500	\$994,000	\$12,815,500
Montebello	LA	1	No	CNG	\$15,000	\$162,000	\$4,500	\$14,000	\$180,500
Newhall	LA	1	No	Propane	\$10,000	\$120,000	\$4,500	\$5,000	\$129,500
Pupil Transportation	LA	1	No	CNG	\$15,000	\$162,000	\$4,500	\$14,000	\$180,500
Santa Monica-Malibu	LA	1	No	CNG	\$15,000	\$162,000	\$4,500	Not Requested	\$166,500
Saugus Union	LA	1	No	Propane	\$10,000	\$120,000	\$4,500	Not Requested	\$124,500
Walnut Valley	LA	1	No	CNG	\$15,000	\$162,000	\$4,500	\$14,000	\$180,500
Total LA Co.		83				\$13,362,000	\$373,500	\$1,083,000	\$14,818,500
Anaheim City	OR	1	No	CNG	\$15,000	\$162,000	\$4,500	\$14,000	\$180,500
Anaheim Union	OR	7	Yes	Propane	\$70,000	\$840,000	\$31,500	\$35,000	\$906,500
Capistrano	OR	2	No	CNG	\$30,000	\$324,000	\$9,000	\$28,000	\$361,000
Centralia	OR	1	Yes	Propane	\$10,000	\$120,000	\$4,500	\$5,000	\$129,500
Cypress	OR	1	No	CNG	\$15,000	\$162,000	\$4,500	Not Requested	\$166,500
Fountain Valley	OR	1	No	CNG	\$15,000	\$162,000	\$4,500	Not Requested	\$166,500
Fullerton Joint Union	OR	1	No	CNG	\$15,000	\$162,000	\$4,500	\$14,000	\$180,500
Fullerton	OR	1	No	Propane	\$10,000	\$120,000	\$4,500	\$5,000	\$129,500
Garden Grove	OR	2	No	CNG	\$30,000	\$324,000	\$9,000	\$28,000	\$361,000
Huntington Beach City	OR	1	No	CNG	\$15,000	\$162,000	\$4,500	Not Requested	\$166,500
Huntington Beach Union	OR	2	No	CNG	\$30,000	\$324,000	\$9,000	\$28,000	\$361,000

Table 1: Recommended Awards for Pre-1994 School Bus Replacements

#PA2015-06 A Applicant (USD)	County	Proposed Award	Pre- 1987	Fuel Type	School Match (\$15,000/ CNG bus)	Bus Award (\$162K/CNG, \$120K/Propane)	Fire Suppr. \$4,500/bus	Infrastructure	Total SCAQMD Award
La Habra City	OR	1	No	CNG	\$15,000	\$162,000	\$4,500	Not Requested	\$166,500
Los Alamitos	OR	1	No	CNG	\$15,000	\$162,000	\$4,500	\$14,000	\$180,500
Newport-Mesa	OR	1	No	CNG	\$15,000	\$162,000	\$4,500	\$14,000	\$180,500
Ocean View	OR	1	No	Propane	\$10,000	\$120,000	\$4,500	\$5,000	\$129,500
Orange	OR	1	No	CNG	\$15,000	\$162,000	\$4,500	\$14,000	\$180,500
Placentia-Yorba Linda	OR	1	No	CNG	\$15,000	\$162,000	\$4,500	\$14,000	\$180,500
Savanna	OR	1	No	Propane	\$10,000	\$120,000	\$4,500	Not Requested	\$124,500
Westminster	OR	1	No	Propane	\$10,000	\$120,000	\$4,500	\$5,000	\$129,500
Total Orange Co.		28				\$4,032,000	\$126,000	\$244,000	\$4,381,000
Beaumont	RV	2	No	CNG	\$30,000	\$324,000	\$9,000	\$28,000	\$361,000
Coachella Valley	RV	1	No	CNG	\$15,000	\$162,000	\$4,500	Not Requested	\$166,500
Desert Sands	RV	1	No	CNG	\$15,000	\$162,000	\$4,500	Not Requested	\$166,500
Hemet	RV	3	No	CNG	\$45,000	\$486,000	\$13,500	\$42,000	\$541,500
Murrieta Valley	RV	3	No	CNG	\$45,000	\$486,000	\$13,500	Not Requested	\$499,500
Nuvieu Union	RV	4	Yes	CNG	\$60,000	\$648,000	\$18,000	\$56,000	\$722,000
San Jacinto	RV	2	No	CNG	\$30,000	\$324,000	\$9,000	\$28,000	\$361,000
Temecula Valley	RV	2	No	CNG	\$30,000	\$324,000	\$9,000	\$28,000	\$361,000
Total RV Co.		18				\$2,916,000	\$81,000	\$182,000	\$3,179,000
Alta Loma	SB	1	No	CNG	\$15,000	\$162,000	\$4,500	\$14,000	\$180,500
Bear Valley USD	SB	1	No	CNG	\$15,000	\$162,000	\$4,500	Not Requested	\$166,500
Chaffey Joint Union	SB	2	No	CNG	\$30,000	\$324,000	\$9,000	Not Requested	\$333,000
Chino Valley	SB	1	No	CNG	\$15,000	\$162,000	\$4,500	\$14,000	\$180,500
Colton Joint	SB	1	No	CNG	\$15,000	\$162,000	\$4,500	\$14,000	\$180,500
Etiwanda	SB	1	No	CNG	\$15,000	\$162,000	\$4,500	Not Requested	\$166,500
Fontana	SB	2	No	CNG	\$30,000	\$324,000	\$9,000	\$28,000	\$361,000

Table 1: Recommended Awards for Pre-1994 School Bus Replacements

#PA2015-06 A Applicant (USD)	County	Proposed Award	Pre- 1987	Fuel Type	School Match (\$15,000/ CNG bus)	Bus Award (\$162K/CNG, \$120K/Propane)	Fire Suppr. \$4,500/bus	Infrastructure	Total SCAQMD Award
Ontario-Montclair	SB	1	No	CNG	\$15,000	\$162,000	\$4,500	\$14,000	\$180,500
Redlands	SB	2	No	CNG	\$30,000	\$324,000	\$9,000	\$28,000	\$361,000
Rialto	SB	2	No	CNG	\$30,000	\$324,000	\$9,000	\$28,000	\$361,000
Rim of the World	SB	1	No	CNG	\$15,000	\$162,000	\$4,500	Not Requested	\$166,500
Total SB Co.		15				\$2,430,000	\$67,500	\$140,000	\$2,637,500
Total, All Applicants		144							\$25,016,000

Table 2: Recommended Awards for PM Traps

#PA2015-06 B Applicant	No. of Traps	County	Total SCAQMD Award
Fullerton Joint Union High School District	1	OR	\$20,000
Huntington Beach Union High School District	2	OR	\$40,000
La Habra City School District	2	OR	\$40,000
Walnut Valley Unified School District	1	LA	\$20,000
Total	6		\$120,000

Agenda Item #2

Ranji George

Approve Awards for School Bus
Replacements and Retrofits



Background

- Since 2001, SCAQMD has awarded nearly \$242 million to:
 - Replace over 1,500 highly polluting pre-1994 school buses, and
 - Retrofit over 2,800 school buses with Level 3 PM traps

Background

- At its March 6, 2015 meeting the Board issued # PA 2015-06 with AB 923 funds to:
 - Replace pre-1994 school buses with alternative fuel buses (public school districts only); and
 - Retrofit 1994 to 2006 school buses with Level 3 PM traps (public school districts & private contractors)

Applications Summary

- 52 public school districts applied for 510 pre-1994 school bus replacements
 - City of Irwindale applied but was not eligible, since it is neither a public school nor a Joint Powers Authority
- 4 public school districts applied for 6 Level 3 PM traps

Criteria for Awards

- Award 1 bus each to all eligible applicants
- Distribute awards within 4 counties of SCAQMD proportional to their populations:
 - Los Angeles: 59%
 - Orange: 18%
 - Riverside: 13%
 - San Bernardino: 10%
- Priority to replacement of pre-1987 buses

Funding Amounts per School Bus

- CNG School Bus:
 - School bus: \$162,000
 - Fire suppressant: \$ 4,500
 - Fueling Infrastructure: \$ 14,000 (if requested)
- Propane Bus:
 - School bus: \$120,000
 - Fire suppressant: \$ 4,500
 - Fueling Infrastructure: \$ 5,000 (if requested)
- Particulate Trap: \$20,000

Proposed Funding for School Bus Replacements

County	No. of Schools	No. of Buses	Pre-1987 Buses	Proposed SCAQMD Award
Los Angeles	13	83	71	\$14,818,500
Orange	19	28	8	\$4,381,000
Riverside	8	18	4	\$3,179,000
San Bernardino	11	15	0	\$2,637,500
Total	51	144	83	\$25,016,000

Proposed Funding for School Bus Retrofits

Applicant	No. of Traps	Proposed SCAQMD Award
Fullerton Joint Union High	1	\$20,000
Huntington Beach Union High	2	\$40,000
La Habra City SD	2	\$40,000
Walnut Valley USD	1	\$20,000
Total	6	\$120,000

Recommendation Action

Approve awards for 144 school buses and 6 PM traps for up to \$25,136,000 from the Carl Moyer Program AB 923 Fund (80)

[Go to SLIDES](#)

DRAFT
Technology Committee Agenda #3

BOARD MEETING DATE: October 2, 2015

AGENDA NO.

PROPOSAL: Execute Contract to Cosponsor Hydrogen Station Equipment Performance Project 

SYNOPSIS: The California Department of Food and Agriculture, Division of Measurement Standards (DMS) is requesting cofunding for the Hydrogen Station Equipment Performance (HyStEP) project to develop and operate equipment used to evaluate station performance pursuant to SAE Standard J2601. This action is to execute a contract with DMS to cosponsor the HyStEP project in an amount not to exceed \$100,000 from the Clean Fuels Fund (31).

COMMITTEE: Technology, September 18; Recommended for Approval

RECOMMENDED ACTION:

Authorize the Chairman to execute a contract with the California Department of Food and Agriculture, Division of Measurement Standards to cosponsor the HyStEP project in an amount not to exceed \$100,000 from the Clean Fuels Fund (31).

Barry R. Wallerstein, D.Env.
Executive Officer

MMM:FM:NB:LHM:mg

Background

In 2013, U.S. DOE, along with automakers and other key stakeholders, launched H2USA, a new public-private partnership to address the key challenges of hydrogen infrastructure. To help ensure a safe, fast, full customer fill at commercial hydrogen stations, testing equipment needs to be developed and used to validate or audit fill performance of hydrogen stations to meet SAE Standard J2601 using test methods in CSA HGV 4.3. CARB and DOE are leading an effort to fund, design and build a new Hydrogen Station Equipment Performance (HyStEP) Device that will provide such services. Phase I, which is being overseen by a national project team, is to design, fabricate and initially validate and field test a device. It is currently funded with approximately \$881,000 from DOE, Sandia National Laboratories, the National Renewable Energy Laboratory (NREL), Air Liquide Industrial U.S. LP, Toyota,

CARB and Boyd Hydrogen as part of the H2USA H2FIRST Project. The equipment, which is owned by Sandia, was assembled, mounted in a trailer by Powertech, and was validation tested by NREL through September 2015.

Proposal

Phase II is California implementation and being overseen by a California task force, which includes representatives from CARB, CEC, DMS, CaFCP, SCAQMD, Toyota, Mercedes, BMW, Air Liquide, NREL and Sandia. The equipment validation device will be loaned for the California implementation portion for up to a two-year period. The total cost for Phase II is estimated to be approximately \$805,000, with \$100,000 each in cofunding already committed from both the California Fuel Cell Partnership (CaFCP) and the CEC. CARB is contributing \$100,000 for a tow vehicle and in-kind for a staff Air Resources Engineer. Successful testing in California may ultimately lead to certification and/or listing by nationally recognized testing laboratories, reduced time for hydrogen station commissioning and increased deployment of zero-emission vehicles in our region. Some automakers may still choose to conduct their own additional hydrogen station test program, especially in the early years of station development.

This action is to execute a contract with DMS to cosponsor the HyStEP project. DMS has experience with hydrogen station testing for weights and measures accuracy and plans to operate HyStEP in California. The proposed budget will support approximately 150 days of on-site testing with 4 days planned for each station. In this schedule, 38 new stations can be tested and there would sufficient hydrogen to support estimated throughput demand from fuel cell vehicles through 2016. The HyStEP equipment is scheduled to arrive in California in early fall for a series of shakedown, validation and operational tests. Station validation testing is scheduled to begin late 2015 and continue through 2016. CARB is planning on taking comments and having stakeholder discussions in a series of workshops planned for the summer of 2016 to explore who should have authority of jurisdiction over the fueling protocols in SAE Standard J2601.

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. DMS has the authority for certifying weights and measures for fueling stations in California and experience testing hydrogen stations for weights and measures certification. Operation of the HyStEP device for testing the fill performance of hydrogen stations would lay the foundation for SAE J2601 testing in California and the U.S. This project involves cost-sharing by multiple sponsors.

Benefits to SCAQMD

There are several elements to commissioning a hydrogen fueling station. Currently, automakers are testing hydrogen station fill performance with their own specially instrumented fuel cell vehicles, which often takes weeks or months depending on the availability of these vehicles and the degree of reprogramming required. The HyStEP device provides an opportunity to standardize testing such that commissioned stations are ensured to meet safety and performance standards under recommended SAE Standard J2601 using test methods in CSA HGV 4.3, rendering repeat visits from multiple automakers unnecessary. Successful implementation of the HyStEP device by DMS in California should lead to certification by nationally recognized testing laboratories, reduced time for hydrogen station commissioning, and increased deployment of zero-emission vehicles in our region. This proposed project is included in the *Technology Advancement Office Clean Fuels Program 2015 Plan Update* under the category of “Develop and Demonstrate Distributed Hydrogen Production and Fueling Stations.”

Resource Impacts

The contract with DMS shall not exceed \$100,000 from the Clean Fuels Fund (31). In addition to the \$881,000 committed to build and field test HyStEP for Phase I, funding from the following cosponsors for operation in California (Phase II) is anticipated as follows:

HyStEP Phase II Anticipated Funding

Organizations	Anticipated Funding	Percent
CaFCP	\$100,000	12.5%
CARB*	\$405,000	50.0%
CEC	\$100,000	12.5%
Other	\$100,000	12.5%
SCAQMD (<i>requested</i>)	\$100,000	12.5%
Total	\$805,000	100%

*cash and in-kind

Sufficient funds are available for the proposed projects from the Clean Fuels Fund (31), 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

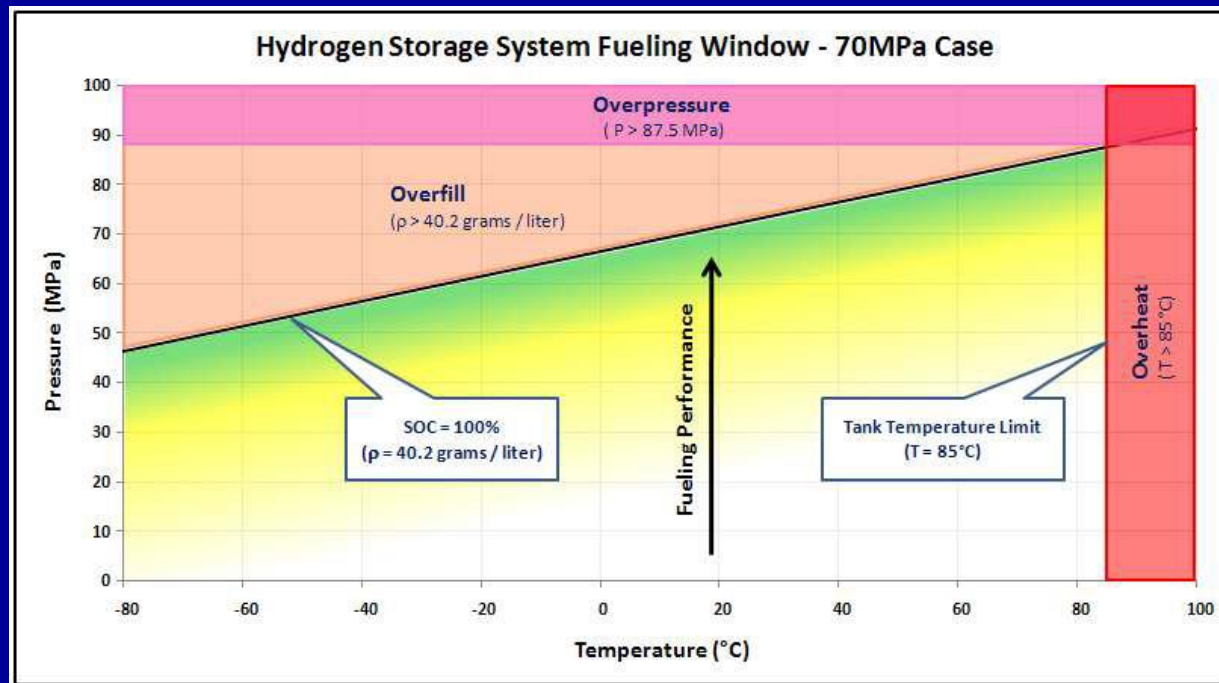
Lisa Mirisola

Execute Contract to Cosponsor
Hydrogen Station Equipment
Performance Project 

Hydrogen Fueling Background

An optimal fueling protocol ...

- will fuel all hydrogen storage systems quickly to a high state of charge (SOC)
- will never violate the storage system operating limits of 85°C internal tank temperature (**don't overheat**) or 100% SOC (**don't overfill**)



Background

- Customers need a safe, fast and complete fill
- The Society of Automotive Engineers has adopted SAE J2601: 2014 as the standard hydrogen fueling protocol http://standards.sae.org/j2601_201407/
- The Canadian Standards Association CSA HGV 4.3 (test method) defines how to test hydrogen dispensers for compliance with SAE J2601
- Currently, auto manufacturers individually test station performance using their own specially equipped vehicles
- CARB and DOE have led efforts to build a Hydrogen Station Equipment Performance (HyStEP) testing device

HyStEP

Implementation Overview

- **Phase 1: 2014/15 Device Development (DOE lead)**
 - RFP and Contract with Sandia National Laboratory
 - Design review and safety analysis, device built by Powertech
 - Validation testing at NREL ESIF facility Colorado
- **Phase 2: 2015/16 Device Implementation in California (CARB lead with CDFR Division of Measurement Standards)**
 - Field validation and test plan
 - Funding and staff for field testing
 - Tow vehicle, consumables, spares, equipment, etc.
- **Phase 3: 2016/17 Determination of ultimate AHJ/Certification**
 - Continue station evaluations
 - Workshops, potential rule making
 - Nationally Recognized Testing Laboratory (NRTL) nexus investigated

H2 FIRST HyStEP Teams

Sandia Project Team & CA Task Force

Jul 2014*	National Project Team		Dec. 2014*	California Task Force
Sandia	T. Johnson, D. Terlip, ++		CARB	M. Kashuba, R. Mahdi
NREL	C. Ainscouth, M. Peters, +		CEC	J. Barones, L. Vittoni
Powertech	G. Meadows, L. Quinlam, B. Wong, P. Horacek, ++		DMS CaFCP	K. Schnepf J. Hamilton
Toyota	S. Quong		SCAQMD	L. Mirisola
Boyd H.	B. Boyd		Toyota	S. Quong, J. Birdsall
Air Liquide	A. Harris		Mercedes	T. McGuire
CARB	M. Kashuba		BMW	J. Schneider
			Air Liquide	A. Harris
* estab. + co-leads			Sandia NREL	T. Johnson C. Ainscouth

Proposal

HyStEP CA Implementation

- Perform complete shakedown tests in CA
- Validate HyStEP field performance with station developers and automakers
- Optimize testing logistics at different types of stations
- Perform validation testing at up to 38 hydrogen stations in CA (24+/- in our region)

Benefits to SCAQMD

- The HyStEP device provides an opportunity to standardize testing procedures and reduce validation time
- Future validation by nationally recognized laboratories will reduce station commissioning time and support increasing FCEV deployment

HyStEP Phase II Cost

Organizations	Funding	Percent
CAFCP	\$405,000	50%
CARB	\$100,000	12.5%
CEC	\$100,000	12.5%
Other	\$100,000	12.5%
SCAQMD (<i>requested</i>)	\$100,000	12.5%
Total	\$805,000	100%

Recommended Action

- Execute a contract with DMS to support the HyStEP Phase II Program in an amount not to exceed \$100,000 from the Clean Fuels Fund (31)

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**DRAFT
Technology Committee Agenda 4**

BOARD MEETING DATE: October 2, 2015

AGENDA NO.

TITLE: Execute Contract for Renewable Natural Gas Production and Vehicle Demonstration Project 

SYNOPSIS: In order to fuel their fleet of natural gas solid waste collection vehicles, CR&R Environmental Services (CR&R) is producing biomethane, a renewable natural gas (RNG), at its material recovery facility in Perris, CA. CR&R proposes to expand their current RNG production with the addition of a second anaerobic digester. This expansion would displace 890,000 gallons of fossil-based fuel annually used in their vehicles and additional RNG produced would be injected into the Southern California Gas Company pipeline. CR&R is also interested in demonstrating the use of RNG with the next generation natural gas engine that achieves 90 percent lower NOx emissions than the existing 2010 heavy-duty engine exhaust emissions standard. This action is to execute a contract with CR&R in an amount not to exceed \$900,000 from the Clean Fuels Fund (31) to cost-share construction of a second anaerobic digester and demonstrate the use of RNG with the next generation natural gas engine.

COMMITTEE: Technology, September 18, 2015; Recommended for Approval

RECOMMENDED ACTION:

Authorize the Chairman to execute a contract with CR&R to cost-share construction of a second anaerobic digester to expand RNG production at their material recovery facility in Perris and demonstrate the use of RNG with next generation natural gas engines in an amount not to exceed \$900,000 from the Clean Fuels Fund (31).

Barry R. Wallerstein, D.Env.
Executive Officer

MMM:HH:DKS:DRC:PMB

Background

Renewable natural gas (RNG), also known as biomethane, biogas, digester gas or landfill gas, refers to natural gas from unconventional sources where biological processes like anaerobic digestion produce methane from organic matter. Natural gas derived in this fashion is considered “renewable” because the feedstock is part of a continuous organic cycle, namely the decomposition of biological waste products. The feedstock used in the anaerobic digestion system is solid and liquid organic materials derived from green waste, food waste and organic liquid waste products. Anaerobic digestion is part of the waste industry’s concept of “zero waste” as the separated digested solids can be composted, utilized for dairy bedding, directly applied to cropland or converted into other products. Nutrients in the liquid stream are used in agriculture as fertilizer.

One such RNG system is a commercially proven technology manufactured by Eisenmann AG in Germany. The system uses a series of biological processes in which microorganisms break down biodegradable material in the absence of oxygen. RNG produced through anaerobic digestion is cleaned to pipeline quality standards and blended with fossil natural gas. This project includes a gas conditioning system to produce pipeline and fuel grade methane. RNG is fully interchangeable with conventional natural gas and can be injected into existing natural gas pipelines and used in natural gas vehicles in the form of CNG or LNG.

CR&R Environmental Services (CR&R), which serves approximately 2.5 million customers within the SCAQMD, has been constructing an anaerobic digestion system at its material recovery facility (MRF) located in Perris, CA. Phase I of CR&R’s anaerobic digestion and biomethane facility (ADBF) is nearing completion and is expected to commence operations in the fall of 2015. Phase I will divert 83,000 tons annually of organic solid waste from Southern California landfills while producing 890,000 diesel gallon equivalents (DGEs) of RNG annually. This fuel will be wholly utilized by CR&R’s heavy-duty natural gas-powered waste collection vehicles deployed in Riverside and North Orange County. The ADBF project has been designed to support up to three additional expansion phases to increase production of RNG, and staff recommends cost-sharing Phase II.

Currently, the SCAQMD, in collaboration with Cummins Westport Inc. and other partners, is cosponsoring the development of the next generation, on-road heavy-duty natural gas engines in both the 8.9L ISL G and the 11.9L ISX G platforms. It is expected they will achieve a 0.02 g/bhp-hr NO_x emissions level, which is 90% less NO_x when compared to the current on-road heavy-duty engine standard of 0.2 NO_x g/bhp-hr. CR&R is interested in demonstrating the RNG produced at its facility in their solid waste collection and transfer vehicle fleet using the next generation natural gas-powered engines, and staff recommends cost-sharing this additional project element.

Proposal

CR&R seeks a seamless transition to Phase II of the ADBF expansion to utilize project and construction efficiencies from Phase I and reduce costs associated with construction delays. Phase II will divert an additional 83,000 tons annually from landfills and produce another 890,000 DGEs of RNG annually. The RNG produced from Phase II will exceed CR&R's own vehicle fuel demands, and this RNG supply has received interconnect approval from Southern California Gas Company for introduction into the existing natural gas pipeline system.

CR&R is also proposing to demonstrate RNG produced from this facility into the next generation of heavy-duty natural gas-powered vehicles. The combination of using advanced natural gas engines that achieve 0.02 g NOx/bhp-hr, with the significant GHG and lifecycle emission benefits of RNG, will help demonstrate near-zero on-road heavy-duty engine technology in this region.

This action is to execute a contract with CR&R to cost-share construction of a second anaerobic digester to expand RNG production at CR&R's MRF in Perris and demonstrate next generation natural gas engines in CR&R's solid waste collection and transfer vehicle fleet operating on RNG produced from their ADBF.

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. CR&R has secured cost-sharing from CEC and the California Department of Resources Recycling and Recovery (CalRecycle) and is contributing its own significant financial and in-kind resources for the Phase II expansion project at their ADBF in Perris.

Benefits to SCAQMD

Further expansion of CR&R's ADBF in Perris and the demonstration of next generation natural gas-powered on-road heavy duty vehicles using locally produced RNG addresses local, state and federal environmental regulations and goals. Locally, this project will result in lower NOx emissions, lower diesel PM emissions and demonstration of viable near-zero emission on-road transportation technology. Statewide, the project addresses the AB 32 Scoping Plan which calls for the reduction of GHG emissions resulting from decomposition of organic wastes in landfills as well as legislation adopted last year (AB 1826) requiring businesses to recycle organic waste depending upon the amount of waste produced. Nationally, RNG production and the use of RNG for transportation fuels would help displace petroleum-based fuels used in the transportation sector. In addition,

the injection of RNG into existing pipeline infrastructure would also displace fossil-based natural gas and the transmission-related impacts from out-of-state produced natural gas and its transportation and pipeline distribution. This expansion project is estimated to displace 15,000 metric tons of GHGs annually. This proposed project is included in the *Technology Advancement Office Clean Fuels Program 2015 Plan Update* under the category of “Infrastructure and Deployment” as “Demonstrate Natural Gas Manufacturing and Distribution Technologies including Renewables.”

Resource Impacts

SCAQMD’s total cost-share for the project shall not exceed \$900,000 from the Clean Fuels Fund (31). Project development costs for both Phases I and II are as follows:

Project Development Costs (Phases I and II)

Funding Sources	Funding Amount	Percent
CalRecycle	\$3,000,000	5.4%
CEC	\$4,520,000	8.2%
CR&R	\$47,000,000	84.8%
SCAQMD (<i>requested</i>)	\$900,000	1.6%
Total	\$55,420,000	100%

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 #4

Phil Barroca

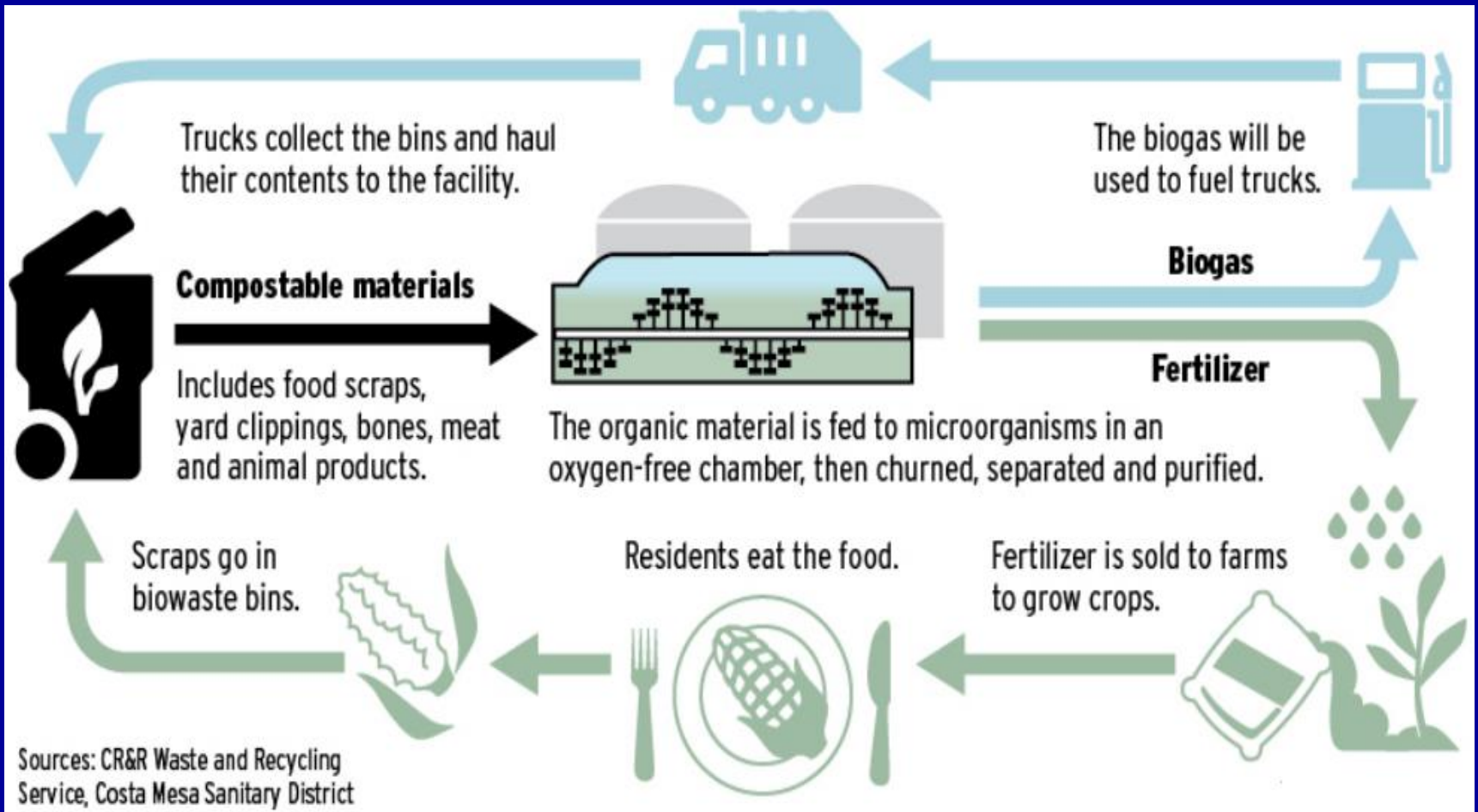
Execute Contract for Renewable Natural
Gas Production and Vehicle
Demonstration Project



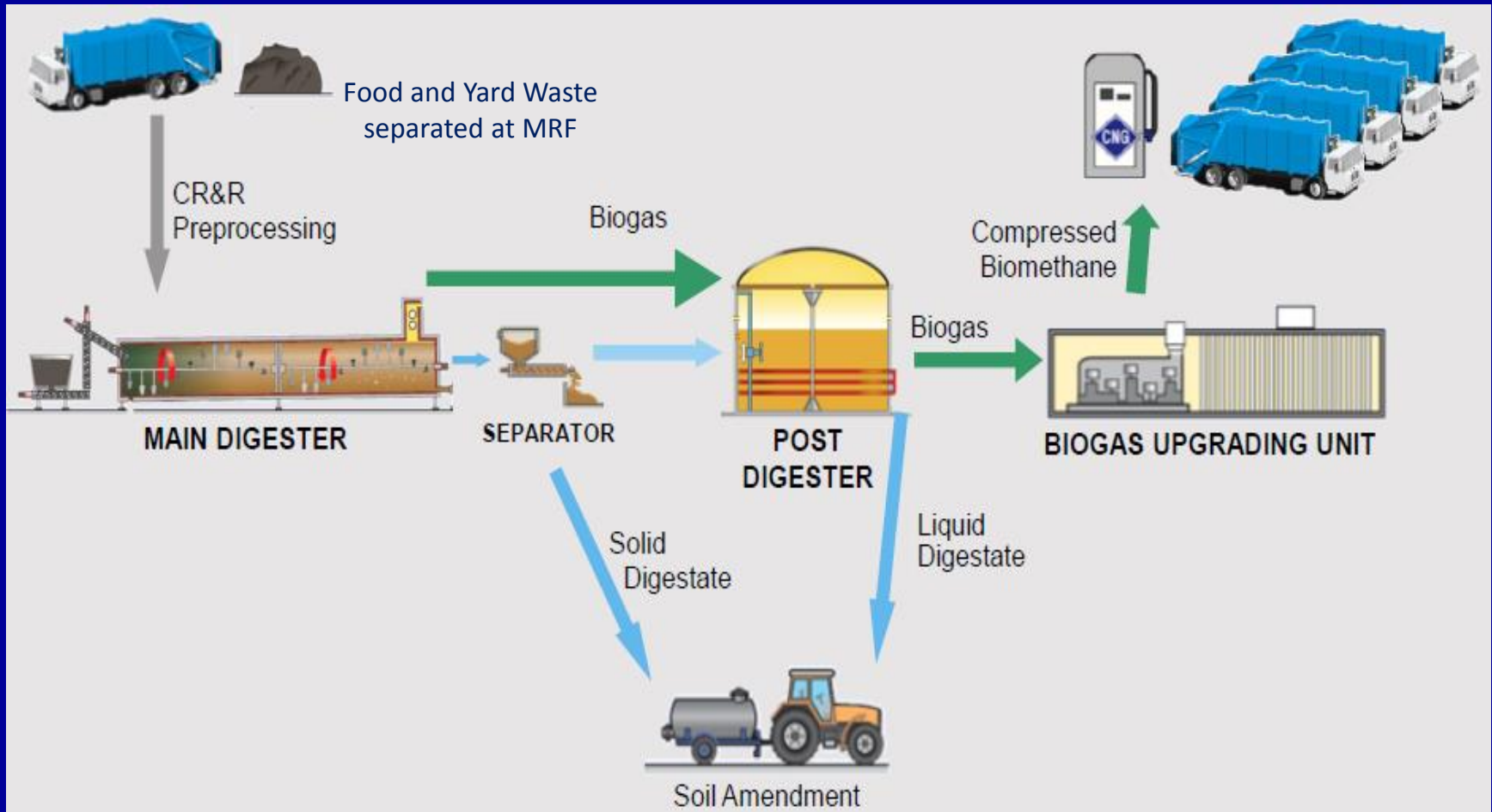
Background

- CR&R Material Recovery Facility - Perris, CA
- Phased Construction of Anaerobic Digester and Biomethane Production System
 - Phase 1: completed Fall 2015 – CEC co-fund
 - Phase 2: commence Fall 2015 – CalRecycle co-fund
CR&R request for SCAQMD co-fund
 - Phases 3 and 4 to be completed by 2020

Zero Waste Cycle



CR&R Anaerobic Digestion and Biomethane Production Facility



AD Feedstocks and RNG Production

- Feedstock Type and Throughput
 - High Solids Food and Yard Waste
 - 229 Tons/Day; 80,000 Tons/Year per Phase
 - 300,000+ Tons/Year by 2020 (full scale)
- RNG Production
 - 890,000 DGE/Year per Phase
 - 3.5 million DGE/Year (full scale)

Project Scope

- Cost Share for Phase II of the CR&R Anaerobic Digester / Biomethane (RNG) Production Facility
- Cost Share Demonstration of Ultra Low NOx Heavy-Duty Engine Technology Utilizing RNG
 - CR&R's Refuse Vehicles & RNG Fuel
 - CW's 0.02 gNOx/bhp-hr, 8.9L & 11.9L

Expected Benefits

- GHG –
RNG - ~80% lower GHG potential than diesel or fossil natural gas
- NOx
0.02 gNOx/bhp-hr – 90% lower NOx relative to most stringent standards
- “Zero Emission Transportation”
RNG + ULow NOx < EV + NG Power Plant

CR&R Project Development Costs (Phases I and II)

Funding Sources	Funding Amount	Percent
CalRecycle	\$3,000,000	5.4%
CEC	4,520,000	8.2%
CR&R	47,000,000	84.8%
SCAQMD (<i>requested</i>)	900,000	1.6%
Total	\$55,420,000	100%

Recommended Actions

Execute a Cost Share contract with CR&R to Construct Second Anaerobic Digester at CR&R Biomethane Facility in Perris, CA;

and

Demonstrate RNG from this Facility with Next Generation Heavy-Duty Natural Gas Engines

Amount of Contract Not-to-Exceed \$900,000 from the Clean Fuels Fund (31).

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DRAFT
Technology Committee Agenda #5

BOARD MEETING DATE: October 2, 2015

AGENDA NO.

PROPOSAL: Recognize Funds and Amend Contracts to Extend Implementation of Enhanced Fleet Modernization Program

SYNOPSIS: On December 5, 2014, the Board recognized funds and authorized contracts to implement the Enhanced Fleet Modernization Program (EFMP) and EFMP Plus-Up, which provides increasing incentives to eligible low- and middle-income owners of older vehicles to scrap their existing vehicle and receive a voucher to help acquire a newer vehicle or cover the cost of alternative mobility options. The EFMP is well received by the public and already oversubscribed. Staff has requested \$21,400,000 from CARB to extend implementation of the EFMP. These actions are to: 1) recognize up to \$21,400,000 in grants as approved by CARB to extend implementation of the EFMP and authorize the Executive Officer to accept grant terms and conditions; 2) amend four contracts in an amount not to exceed \$1,000,000 from the HEROS II Special Revenue Fund (56); 3) authorize the Executive Officer to allocate up to an additional \$300,000 from the HEROS II Special Revenue Fund (56) to increase any of the four contracts on an as-needed basis; and 4) authorize the Executive Officer to approve vouchers to qualified program participants up to \$30,592,000.

COMMITTEE: Technology, September 18, 2015; Recommended for Approval

RECOMMENDED ACTIONS:

1. Recognize, upon receipt, up to \$1,400,000 from CARB or the California Bureau of Automotive Repair (BAR) into the HEROS II Special Revenue Fund (56) and authorize the Executive Officer to accept terms and conditions of an AB 118 grant award from either CARB or BAR for implementation of the retire and replace component of the EFMP.
2. Recognize, upon receipt, up to \$20,000,000 million from CARB into the HEROS II Special Revenue Fund (56) and authorize the Executive Officer to accept terms and conditions of a Greenhouse Gas Reduction Fund (GGRF) grant award for implementation of the Vehicle Retirement and Replacement Plus-Up Program.
3. Authorize the Executive Officer to amend contracts with the following entities, increasing contract funding in an amount not to exceed a total of up to \$1,000,000 (from the \$3,210,000 allowed by CARB for use in administering and

conducting outreach for the EFMP and EFMP Plus-Up) from the HEROS II Special Revenue Fund (56) to assist program participants in processing vehicle retirements and identifying replacement vehicles or alternative mobility options:

- a. Foundation for California Community Colleges in an amount not to exceed \$250,000;
 - b. Opus Inspection in an amount not to exceed \$375,000; and
 - c. Top Shelf Environmental Consulting, LLC in an amount not to exceed \$375,000.
4. Authorize the Executive Officer to allocate up to an additional \$300,000 (from the remaining \$2,210,000 designated for use in administering and conducting outreach for the EFMP and EFMP Plus-Up) from the HEROS II Special Revenue Fund (56) to increase any of the four contracts currently implementing the EFMP on an as-needed basis depending on workload of each contractor and in accordance with the SCAQMD Procurement Policy and Procedure.
 5. Authorize the Executive Officer to approve vouchers to program participants in an amount up to \$30,592,000, which consists of up to \$20,257,000 from the HEROS II Special Revenue Fund (56), up to \$4,134,000 from the Clean Fuels Fund (31); and up to \$6,201,000 from the Mobile Source Air Pollution Reduction Fund (23), contingent upon approval by the MSRC, for a minimum of 3,570 replacement vehicles or alternative mobility options (additional vouchers will depend on voucher monetary level provided to each eligible applicant).

Barry R. Wallerstein, D.Env.
Executive Officer

MMM:HH

Background

On December 5, 2014, the Board recognized \$2.4 million in funds from CARB and authorized contracts to implement the Enhanced Fleet Modernization Program (EFMP) and EFMP Plus-Up. The EFMP 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 SCAQMD is implementing the vehicle retire and replacement element of the EFMP using \$1.4 million in funding from CARB.

In conjunction with the EFMP, CARB is implementing an additional incentive program called Low Carbon Transportation Fund Investments Vehicle Retirement and Replacement Plus-Up Pilot Project (EFMP Plus-Up). EFMP Plus-Up supplements the EFMP by increasing incentives for certain advanced technology replacement vehicles, including hybrid, plug-in hybrid and zero-emission vehicles, for eligible participants residing in disadvantaged communities. Funding for EFMP Plus-Up comes from the

Low Carbon Transportation Greenhouse Gas Emission Reduction Fund (GGRF), and CARB provided an additional \$1 million to SCAQMD to implement the EFMP Plus-Up, which the Board also recognized on December 5, 2014.

Additionally, the SCAQMD and MSRC with Board approval augmented the CARB funding with an additional \$1,025,000 and \$800,000, respectively, for a combined total of \$4,225,000 for the EFMP as follows: \$825,000 for four contract awards to provide assistance to program participants and program outreach, \$70,000 for additional program outreach by SCAQMD and \$3,330,000 for replacement vehicle vouchers. The \$3,330,000 was estimated to cover between 550 to 992 vouchers for replacement vehicles or alternative mobility options. The face value of the vouchers would depend on the participant’s household income, whether the participant resides in a disadvantaged community and type of replacement vehicle. Participants could also choose an alternative mobility option, such as transit passes or participation in car-sharing programs in lieu of a replacement vehicle voucher, thus impacting the total number of vouchers issued.

The four contracts authorized by the Board were set up so the contractors would work together collaboratively to implement the EFMP and EFMP Plus-Up. Table 1 outlines the activities to date by the four contractors.

Table 1: Contractor Activities to Implement the EFMP and EFMP Plus-Up

Contractor	Funding	Activities
Foundation for California Community Colleges (FCCC)	\$225,000	<ul style="list-style-type: none"> • Developed central website “ReplaceYourRide.com” • Established central call center and call-in number • Drafted program operations manual and dealership templates • Conducted vehicle emissions testing • Processed applications
Gladstein, Neandross & Associates (GNA)	\$200,000	<ul style="list-style-type: none"> • Developed “ReplaceYourRide.com” pamphlets • Developed educational materials for use by all contractors • Initiated development of marketing materials
Opus Inspection (Opus)	\$200,000	<ul style="list-style-type: none"> • Conducted remote sensing to identify high-emitting vehicles (identified 8,000 vehicles to date) • Conducted vehicle emissions testing and outreach at community events • Processed applications
Top Shelf Environmental Consulting, LLC (Top Shelf)	\$200,000	<ul style="list-style-type: none"> • Conducted early outreach at community events (partnered with Communities for a Better Environment) • Processed early applications to test and refine application process • Identified automobile dealerships and financial institutions to participate in Program • Coordinated outreach with local legislative offices • Conducted vehicle emissions testing events (in partnership with Opus Inspection) • Processed applications

As the implementation process was being developed, each contractor began to ramp up their initial efforts to identify and conduct outreach to potential consumers. The EMFP officially launched in May 2015, with approximately 200 applicants signed up by Top Shelf and another 100 to 200 by Opus and FCCC. In addition, SCAQMD staff conducted limited outreach with local governments, state legislative offices and school districts. A press event in Sacramento sparked interest by local news reporters and peaked with a CBS 2 news article in early July 2015, resulting in the submission of more than 1,500 applications in a two-week period. Staff mobilized the contractors to suspend outreach and marketing and focus on processing applications and testing existing vehicles as quickly as possible.

Since the original funding could only cover 550 to 992 vouchers, additional funding is clearly needed to process existing applications and fund additional vouchers. Staff informed CARB of the need to cover not only the additional existing applications, but also anticipated applications to be received, and has requested \$21,400,000 from CARB to extend implementation of the EFMP. Discussions about the need for additional funding were also conducted with MSRC staff.

Proposal

This action is to recognize upon receipt an additional \$1,400,000 in funding from CARB (or BAR) to extend implementation of the EFMP. CARB also allocated an additional \$20 million statewide from the GGRF for the EFMP Plus-Up, and this action is to also recognize up to \$20,000,000 million from CARB, subject to their approval, to extend implementation of the EFMP Plus-Up. Furthermore, CARB is requiring air districts interested in receiving the EFMP Plus-Up funding to provide local funding for the base EFMP portion. Consequently, these actions would include allocating an additional \$6,201,000 from the SCAQMD. At its September 17, 2015 meeting, the MSRC will consider a staff proposal to also provide up to \$6,201,000 to partner with the SCAQMD.

Since CARB allows up to 15 percent for administration (10 percent) and outreach (5 percent) of the EFMP and EFMP Plus-Up funding (\$1,400,000 and \$20,000,000, respectively), a total of \$3,210,000 is available for administrative costs. Given the significant demand, the contractors working on the programs need additional funding to continue their current efforts and assignments and processing both existing and future applications. This action would amend three of the four contracts adding additional funds to FCCC, Opus and Top Shelf contracts as provided in Table 4 for a total amount not to exceed \$1,000,000 from the \$3,210,000 designated to cover administrative costs. In addition, this action is to also authorize the Executive Officer to allocate up to an additional \$300,000 (from the remaining \$2,210,000 designated to cover administrative costs) to increase any of the four contracts on an as-needed basis depending on workload of each contractor to assist program participants in processing vehicle retirements and identifying replacement vehicles or alternative mobility options. The

Executive Officer may adjust any one contract up to the Executive Officer’s spending authority for contracts in accordance with the SCAQMD Procurement Policy and Procedure. This would leave a balance of \$1,910,000 in administrative funds available for future allocation.

The remaining \$18,190,000 in funds from CARB as well as the funding from the SCAQMD and MSRC (\$6,201,000 each) would be used to fund vouchers for a total of \$30,592,000. The current funds from the first year will cover 550 vouchers while the requested funding should cover at minimum an additional 3,020 vouchers. These numbers assume that all vouchers will be used for replacement vehicles and the face value of each voucher will be issued at the maximum incentive level of \$9,500 (\$4,500 from EFMP plus \$5,000 from EFMP Plus-up) for consumers at the lowest income levels in disadvantaged communities. Therefore, the final action is to authorize the Executive Officer to approve vouchers to program participants up to \$30,592,000 to fund a minimum of 3,570 (inclusive of the original 550) replacement vehicles or alternative mobility options.

Table 2 provides a summary of the original and supplemental funding and how it will be distributed.

Table 2: Summary of Funding Distributions

	CARB		SCAQMD		MSRC		Totals
	Amount	No. of Vouchers	Amount	No. of Vouchers	Amount	No. of Vouchers	
Current Funding for Vouchers							
EFMP Base (1 st Year)	\$1,190,000	264	\$690,000	153	\$600,000	133	
Plus Up (1 st Year)	\$850,000	170					
Total Funding – 1st Year	\$2,040,000	264*	\$690,000	153	\$600,000	133	\$3,330,000 Funding 550 Vouchers

*Inclusive of the 170 Plus-Up for vouchers issued at \$9,500 (EFMP base provides up to \$4,500 and Plus-Up up to \$5,000)

New Funding Request for Vouchers							
EFMP Base (2 nd Year)	\$1,190,000	264	\$6,201,000	1,378	\$6,201,000	1,378	3,020 Vouchers
Plus Up (2 nd Year)	\$17,000,000	3,400*					
Total Funding – 2nd Year	\$18,190,000	3,400*	\$6,201,000	1,378	\$6,201,000	1,378	\$30,592,000 Funding
							3,020 Vouchers
15% Administrative & Marketing Costs	\$3,210,000						
Total	\$21,400,000						

*Inclusive of the 3,020 EFMP base, plus 380 EFMP Plus-Up for which there is a shortfall in EFMP base funding

With the initial experiences of the pilot program, staff will be developing a work plan that will lay out the implementation of the EFMP and EFMP Plus-up in the longer term and identify the necessary funding levels needed for the Program.

Benefits to SCAQMD

Successful continued implementation of the EFMP and the pilot EFMP Plus-Up will reduce emissions by accelerating the turnover of high-emitting vehicles with cleaner, more environmentally friendly replacement vehicles or employment of alternative mobility options. Incentives for program participation will be provided to low- and middle-income vehicle owners to ensure that disadvantaged communities benefit from cleaner replacement vehicles.

Resource Impacts

A total of up to \$21,400,000 in revenue has been requested from CARB (and/or BAR), which will be recognized upon receipt in the HEROS II Special Revenue Fund (56), for the EFMP and EFMP Plus-Up. At its September 17, 2015 meeting, the MSRC approved providing up to \$6,201,000 from the Mobile Source Air Pollution Reduction Fund (23). Of the \$6,201,000 from the SCAQMD, \$2,067,000 would be from the HEROS II Special Revenue Fund (56) and \$4,134,000 from the Clean Fuels Fund (31). CARB staff indicated that only the scrapping portion of the EFMP voucher, which is \$1,500 per voucher or \$2,067,000 for the total request, are allowed from the AB 923 program funds for purposes of local matching with the EFMP Plus-Up. As such, staff is proposing that \$4,134,000 from the Clean Fuels Fund (31) should be used for the remaining portion of the local match. The additional local and state funding to extend EFMP implementation shall not exceed \$33,802,000 as summarized in Table 3.

Table 3: Proposed Additional Funding Request to Extend Implementation of the EFMP

Source	Fund	Amount
CARB or BAR	HEROS II Special Revenue Fund (56)	\$1,400,000
CARB	HEROS II Special Revenue Fund (56)	20,000,000
MSRC (contingent upon MSRC approval)	Mobile Source Air Pollution Reduction Fund (23)	6,201,000
SCAQMD	HEROS II Special Revenue Fund (56) – AB 923	2,067,000
SCAQMD	Clean Fuels Fund (31)	4,134,000
Total		\$33,802,000

The \$33,802,000 is broken down as follows: \$30,592,000 for vouchers for replacement vehicles or alternative mobility options, \$1,300,000 for contract modifications and \$1,910,000 for future administration of the Program.

The following table further breaks down the \$33,802,000 by funding source, including specifying whether the CARB (or BAR) dollars are AB 118 or GGRF funds.

Table 4: Proposed Funding Sources for Implementation of the EFMP

Proposed Funding	Funding	Funding Source
FCCC	\$250,000	\$210,000 – AB 118 from CARB (Administration) \$40,000 – GGRF from CARB (Administration)
Opus	\$375,000	GGRF from CARB (Administration)
Top Shelf	\$375,000	GGRF from CARB (Administration)
Additional Contractor Funds Set Aside as Needed	\$300,000	GGRF from CARB (Administration)
Funding for Vouchers	\$1,190,000	AB 118 from CARB
Funding for Eligible Participants Residing in Disadvantaged Communities	\$17,000,000	GGRF from CARB
Funding for Vouchers	\$6,201,000	\$2,067,000 – SCAQMD AB 923 \$4,134,000 – SCAQMD Clean Fuels Fund (31)
Funding for Vouchers	\$6,201,000	MSRC (FY 2014–16 Work Program)
Remaining Unallocated Administration Funds	\$1,910,000	GGRF from CARB (Administration)
Total Funding	\$33,802,000	

Agenda Item #5

Henry Hogo

Recognize Funds and Amend Contracts
to Extend Implementation of
Enhanced Fleet Modernization Program

Enhanced Fleet Modernization Program (EFMP)

- Voluntary retirement & replacement of light- and medium-duty vehicles available to low- to moderate-income residents to access more fuel efficient vehicles or advanced technology vehicles
- Additional incentives for residents living in disadvantaged communities
- Dec 2014 SCAQMD Governing Board approval:
 - CARB - \$1,400,000 – AB 118 funding
\$1,000,000 - Greenhouse Gas Reduction Fund
 - SCAQMD - \$1,025,000; MSRC - \$800,000
 - Funding for 550 – 992 vouchers



EFMP Implementation in SCAQMD

- “Replace Your Ride” Program
- Board approved 4 contractors to conduct outreach and marketing and process applications to implement Program
 - Foundation for California Community Colleges (FCCC)
 - Gladstein, Neandross & Associates (GNA)
 - Opus Inspection (Opus), and
 - Top Shelf Environmental Consulting, LLC (Top Shelf)
- Generated higher than expected number of applicants ~1,900 to date
- Need for additional funding



Summary of Current Funding for Vouchers

- First round of funding

	CARB		SCAQMD		MSRC		Total	
	Funding Amount	# of Vouchers	Funding Amount	# of Vouchers	Funding Amount	# of Vouchers	Funding Amount	# of Vouchers
EFMP Base	\$1,190,000	264	\$690,000	153	\$600,000	133	\$2,480,000	550
Plus-Up	\$850,000	170	--	--	--	--	\$850,000	170
Total Funding	\$2,040,000	264	\$690,000	153	\$600,000	133	\$3,300,000	550

- 380 Plus-Up vouchers needed to complement base program (\$1,900,000 for vouchers; assuming \$5,000/vouchers)

Funding Available from CARB

- \$1,400,000 – AB 118 EFMP (direct to SCAQMD)
 - Up to 15% of total may be used to cover administrative costs
 - Maximum voucher face value – \$4,500
 - Minimum number of vouchers – 264
- \$20,000,000 – Greenhouse Gas Reduction Funds (GGRF)
 - Funding available statewide
 - Air districts must request funding and provide funding for base portion of EFMP (i.e., funding of \$4,500 per voucher)
 - Up to 15% of total may be used to cover administrative costs
 - Maximum voucher face value – \$5,000
 - Minimum number of vouchers – 3,400

Funding Needed for Current/Future Voucher Applications

- Assuming up to \$21.4 million available from CARB

	CARB		SCAQMD		MSRC		Total	
	Funding Amount	# of Vouchers	Funding Amount	# of Vouchers	Funding Amount	# of Vouchers	Funding Amount	# of Vouchers
EFMP Base	\$1,190,000	264	\$6,201,000	1,378	\$6,201,000*	1,378	\$13,592,000	3,020
Plus-Up	\$17,000,000	3,400**	--	--	--	--	\$17,000,000	3,400**
Total Funding	\$18,190,000	3,400**	\$6,201,000	1,378	\$6,201,000	1,378	\$30,592,000	3,400**
Admin. Costs	\$3,210,000	--	--	--	--	--	\$3,210,000	--
Total Request	\$21,400,000	3,400**	\$6,201,000	1,378	\$6,201,000	1,378	\$33,802,000	3,400**

* MSRC approved funding at its September 16, 2015 meeting

** Includes 380 Plus-Up vouchers needed to complement base program from first round of funding

Staff Actions and Proposal

- Anticipate ~3,500 applications over the coming year
- Recognize 2nd round of funding from CARB
- Request additional funding from EFMP Plus-Up
- Identify local funding to match EFMP Plus-Up

Proposed Funding

	Funding	Funding Source
FCCC	\$250,000	\$210,000 – AB 118 (Administration) \$40,000 – GGRF (Administration)
Opus	\$375,000	GGRF (Administration)
Top Shelf	\$375,000	GGRF (Administration)
Addl. Contractor Funding	\$300,000	GGRF (Administration)
Vouchers	\$1,190,000	AB 118 from CARB or BAR
Vouchers	\$17,000,000	GGRF
Vouchers	\$2,067,000	SCAQMD AB 923
Vouchers	\$4,134,000	Clean Fuels Fund (31)
Vouchers	\$6,201,000	MSRC Fiscal Year 2014-16 Work Program
Remaining Admin	\$1,910,000	GGRF
Total Funding	\$33,802,000	

Recommended Actions

- Recognize \$1,400,000 from CARB to implement EFMP
- Request up to \$20,000,000 from CARB to implement EFMP Plus-Up
- Amend existing contracts increasing value by \$250,000 each for \$1M total
- Authorize Executive Officer to increase contract funding up to \$300,000 on as-needed basis depending on workload
- Authorize Executive Officer to approve vouchers in an amount not to exceed \$30,592,000, which consists of:
 - \$20,257,000 from HEROS II Special Revenue Fund (56)
 - \$4,134,000 from the Clean Fuels Fund (31); and,
 - \$6,201,000 from the MSRC (Fund 23)

[Go to SLIDES](#)

DRAFT
Technology Committee Agenda #6

BOARD MEETING DATE: October 2, 2015

AGENDA NO.

PROPOSAL: Recognize Revenue and Appropriate Funds to Support Air Quality Sensor Performance Evaluation Center Program

SYNOPSIS: SCAQMD applied for U.S. EPA “Community-Scale Air Toxics Ambient Monitoring” funds for FY 2015-16 through FY 2017-18 and was awarded \$569,682 to study air toxic emissions from refineries and the spatial and temporal distribution of such emissions over impacted local communities, utilizing next generation monitoring technologies. This action is to recognize \$569,682 in revenue into the General Fund and appropriate \$508,729 to the Science & Technology Advancement Budget (exclusive of the \$60,953 in Salaries and Benefits), to support the Air Quality Sensor Performance Evaluation Center Program.

COMMITTEE: Technology, September 18, 2015; Recommended for Approval

RECOMMENDED ACTION:

Recognize \$569,682 in revenue into the General Fund, and as set forth in the Attachment, appropriate \$508,729, upon receipt into Science & Technology Advancement’s FY 2015-16, FY 2016-17, and/or FY 2017-18 Budget, Services and Supplies/Capital Outlays Major Objects, as needed (exclusive of the \$60,953 in Salaries and Benefits already included in the Budget).

Barry R. Wallerstein, D.Env.
Executive Officer

MMM:LT:AP

Background

On November 7, 2014, the U.S. EPA released RFP #EPA-OAR-OAQPS-15-01 to announce the availability of funds for “Community-Scale Air Toxics Ambient Monitoring” projects. Specifically, the RFP solicited proposals for projects designed to assist state, local and tribal communities in identifying and profiling air toxics sources,

assessing emerging measurement methods, characterizing the degree and extent of local-scale air toxics problems and tracking progress of air toxics reduction activities.

To be considered for funding under this RFP, each project had to address only one of the following four categories: community-scale monitoring, monitoring in the near-road environment, methods evaluation or analysis of existing data. SCAQMD staff submitted a grant proposal to U.S. EPA within the community-scale monitoring category requesting funding in the amount of \$569,682.

On June 25, 2015, U.S. EPA informed staff that the SCAQMD proposal was selected for award based on its score, rank and technical merit.

Proposal

This comprehensive three-year effort is to apply next generation air monitoring methods to characterize hazardous air pollutant (HAP) emissions from refineries and assess potential impacts to surrounding communities. The project will use low-cost air quality sensors and optical remote sensing techniques to accurately measure air toxic emissions from refineries and their potential impact on local communities. These state-of-the-art measurement methods are currently being tested and used within our existing Air Quality Sensor Performance Evaluation Center (AQ-SPEC) and fence-line monitoring programs.

The amount of air pollutants released from refineries is typically estimated using empirical calculations provided by available emission inventories and is not completely characterized. There is also a growing body of evidence suggesting that emission inventories for most pollutants, particularly VOCs, may be largely underestimated. Furthermore, there is a dearth of information regarding the dispersion patterns of such emissions over the surrounding communities. Therefore, improved knowledge of the actual magnitude of VOC and other HAP emissions from industrial facilities as well as a better understanding of their temporal and spatial distribution is crucial for attaining EPA's air quality standards and for protecting surrounding communities. This challenge is further augmented by the fact that HAPs are usually present at very low ambient concentrations and are difficult to measure with conventional monitoring instruments.

Most available monitoring methods for air toxics are limited to the collection of integrated field samples (e.g., using canisters), followed by laboratory analysis, and do not allow for continuous monitoring or dense spatial coverage, nor do they provide the ability to realistically ascertain total emissions from a facility. Emerging novel technologies, such as low-cost air monitoring sensors and optical remote sensing (ORS) methods (often referred to as Next Generation Air Monitoring or NGAM), may represent viable alternatives to reliably measure the atmospheric concentrations of these air toxics in real time. However, field data obtained using NGAM technology is scarce,

and significant work is needed to gather long-term monitoring data to ascertain its feasibility, accuracy and cost-effectiveness and fully characterize industrial emissions and their impact on nearby communities.

Staff applied to U.S. EPA for funding and was awarded \$569,682 to conduct a comprehensive study targeted at making significant advancements in these areas that focuses on the following specific objectives:

1. Long-term use of ORS methods to monitor HAP emissions from refineries and to estimate their annual VOC emissions; and
2. Long-term use of ORS methods and low-cost sensors for assessing the impact of industrial HAP emissions on surrounding communities.

EJ communities, such as Carson and Wilmington, are potentially impacted by increased ground level VOC concentrations, diesel particulate matter, ultrafine particles and other air toxics due to their close proximity to refineries, industrial facilities, the port complex and major transportation corridors. Many Carson and Wilmington residents live directly downwind from these industrial, commercial and transportation sources and are consequently at a greater risk of HAP exposure. This three-year study will for the first time utilize ORS methods in conjunction with low-cost air quality sensors to monitor HAP emissions from large industrial facilities in the Carson-Wilmington area and the spatial and temporal distribution of such emissions over neighboring communities.

Benefits to SCAQMD

This work will provide unprecedented monitoring information on HAP emissions from refineries and other industrial sources and allow mapping of ambient level HAP concentrations in surrounding neighborhoods. The work will also assist in identifying and addressing specific concerns related to air toxic exposure in the Carson-Wilmington area. Additionally, it will serve as a template for developing monitoring strategies and/or studies to provide information on mitigation efforts and their future implementation.

Resource Impacts

The \$569,682 in U.S. EPA funding will partially support the AQ-SPEC and fence-line monitoring programs. In summary, \$569,682 in revenue from U.S. EPA shall be recognized into the General Fund, and as set forth in the Attachment, \$508,729 will be appropriated into Science and Technology Advancement's FY 2015-16, FY 2016-17, and/or FY 2017-18 Budget, Services and Supplies/Capital Outlays Major Objects as needed. The remaining \$60,953 was already included in the adopted budget in the Salaries and Employee Benefits Major Object.

Attachment

Proposed Appropriations for FY 2015-16, FY 2016-17, and/or FY 2017-18

Attachment
Proposed Appropriations for FY 2015-16, FY 2016-17, and/or FY 2017-18

Account Description	Account Number	Estimated Expenditure
Services and Supplies/Capital Outlays Major Objects		
Solar Occultation Flux (SOF) Instrument (purchase or lease)	67300/77000	\$ 388,729
Communications	67900	\$ 25,000
Lab Supplies	68050	\$ 15,000
Small Tools, Instruments, Equipment	68300	\$ 50,000
Miscellaneous Expenses	69700	\$ 30,000
Total Services and Supplies/Capital Outlays Major Objects		\$508,729
Total Appropriations		\$508,729
Salaries and Benefits Major Object*		\$60,953
Total Award		\$569,682

* Salaries and Benefits are already included in the adopted budget

Agenda Item #6

Laki Tisopoulos, Ph.D., P.E.

Recognize Revenue and Appropriate
Funds to Support Air Quality Sensor
Performance Evaluation Center

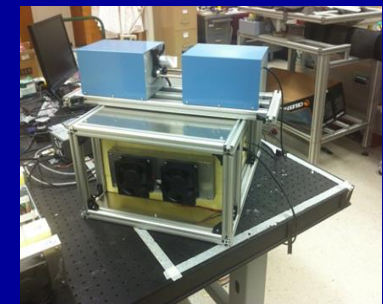
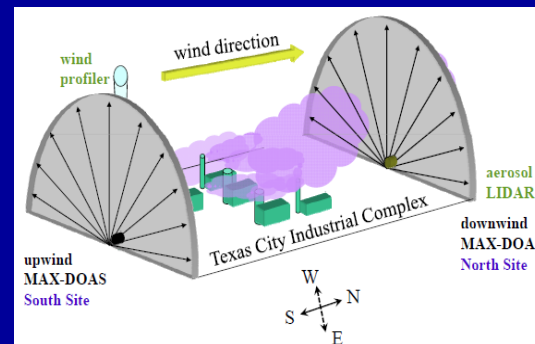
Background

- On January 5, 2015 staff applied for a U.S. EPA “Community-Scale Air Toxics Ambient Monitoring” grant
- \$569,682 in funding was awarded on June 25, 2015
- This grant will partially support the Air Quality-Sensor Performance Evaluation Center (AQ-SPEC) and fence-line monitoring programs



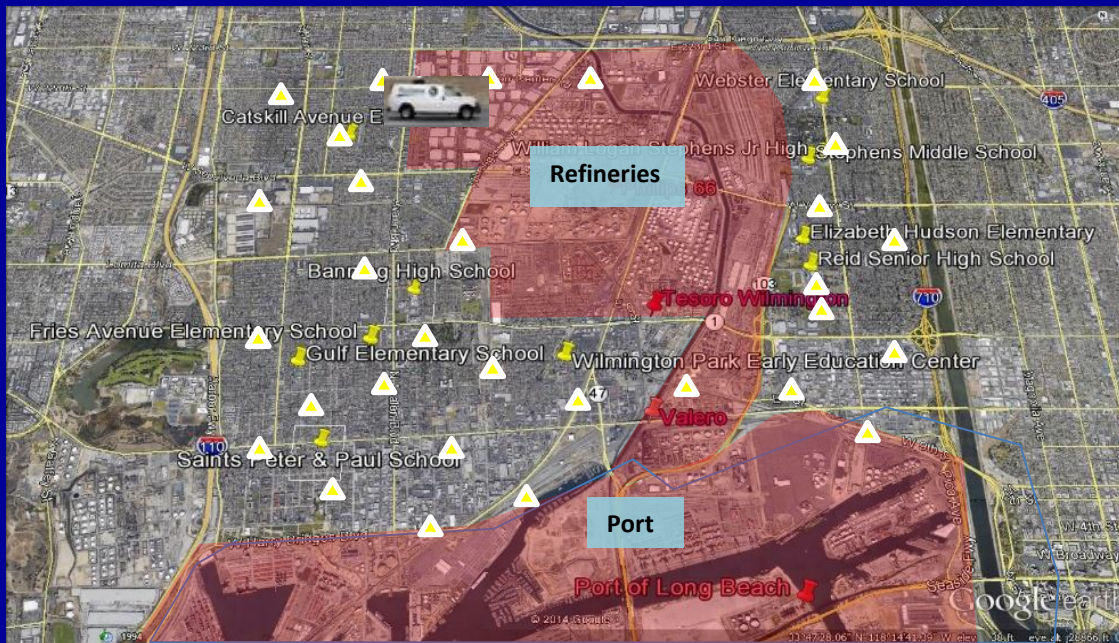
Proposed Study

- Use of Optical Remote Sensing (ORS) methods to:
 - Monitor air toxic emissions from refineries
 - Estimate annual VOC emissions
- Use ORS methods in conjunction with low-cost sensors to:
 - Assess refinery/industrial emission impacts on nearby EJ communities
 - Study temporal and spatial dispersion
- Technologies used will include:
 - Solar Occultation Flux (SOF; Fluxsense)
 - Differential Optical Absorption Spectroscopy (DOAS)
 - Low-cost sensors (e.g. VOC, NO₂, and SO₂)



Proposed Study (continued)

- Three-year study
- Focus on EJ communities in Carson-Wilmington



- Deploy 30 low-cost sensors
- One-year VOC, NO₂ and SO₂ measurements: 2016-2017



- Mobile SOF platform
- Two-year VOC measurements: 2016-2018

Recommended Actions

- Recognize \$569,682 in revenue into the General Fund
- Appropriate \$508,729 upon receipt into Science & Technology Advancement's FY 2015-16, FY 2016-17, and/or FY 2017-18 Budget, Services and Supplies/Capital Outlays Major Objects as needed (exclusive of the \$60,953 in Salaries and Employee Benefits already included in the Budget)

Informational Item

Phil Barroca

Update on Alternative Fuel
Signage at SCAQMD



Background

- April 17, 2015 Technology Committee - discussion on greater public visibility for CNG fueling station
- Visibility to include H2 fueling and EV charging
- Ongoing research and discussions with:
 - Gateway Corporate Association - property
 - City of Diamond Bar – surface streets
 - Caltrans - freeways and off-ramps

Examples of Station Property Signage



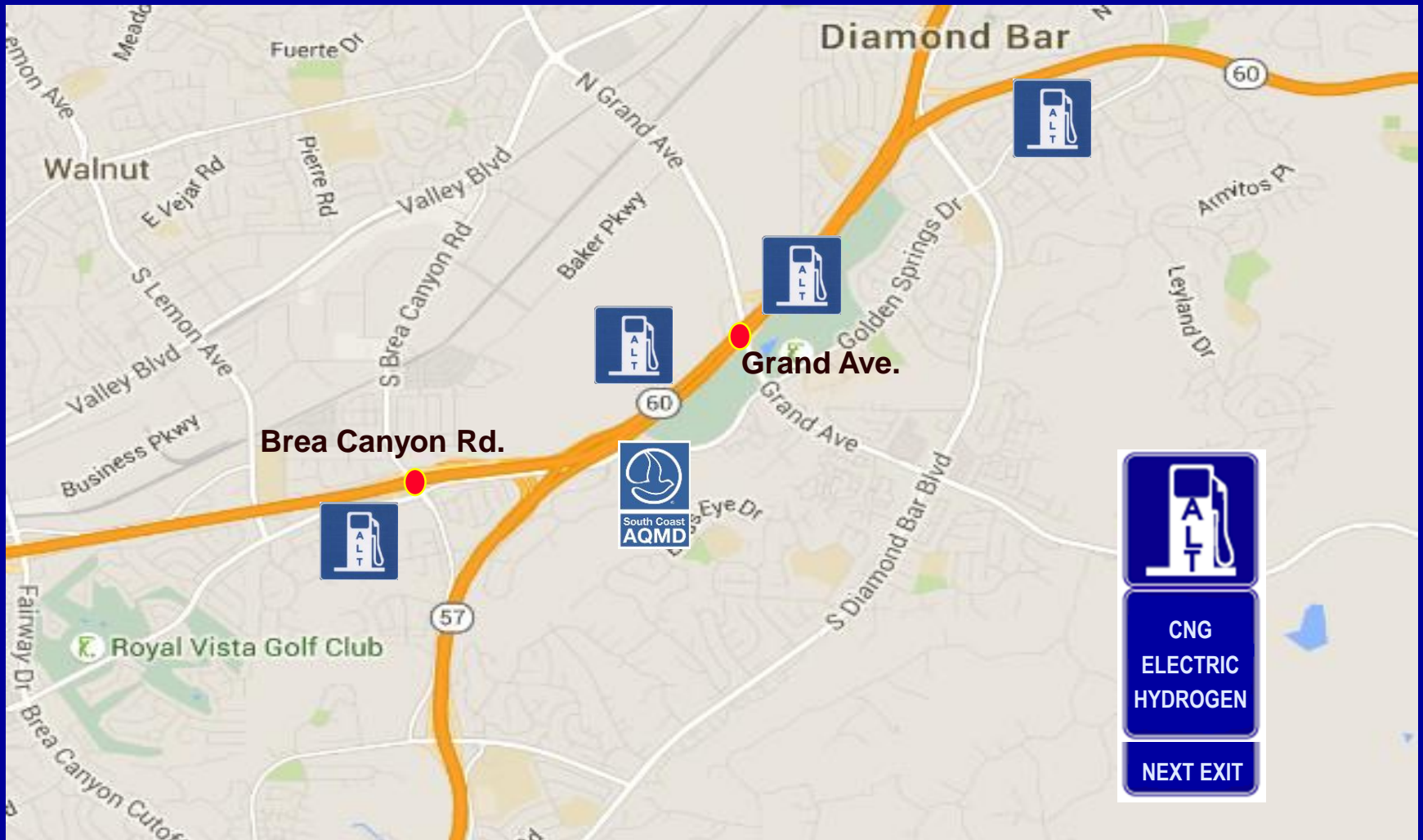
Property/Monument Sign Proposed Design & Placement



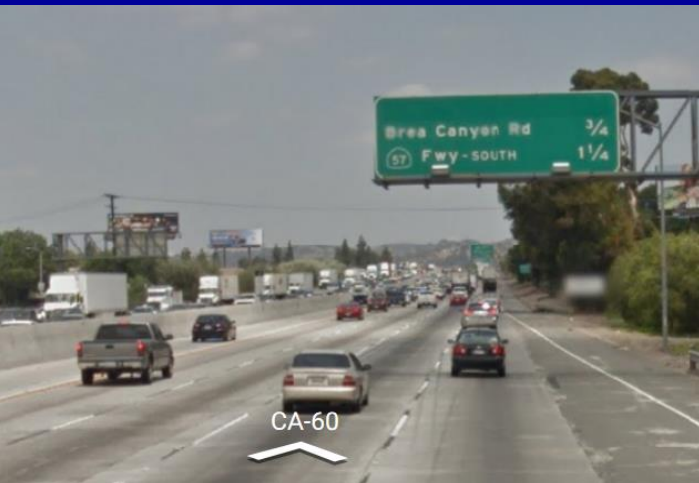
Typical Street/Highway Signage



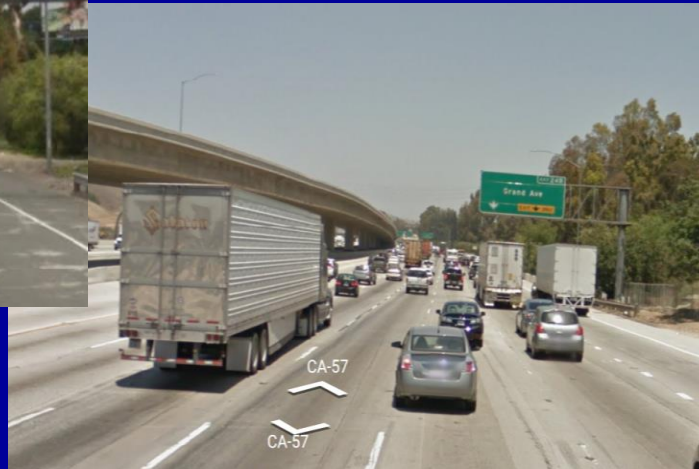
Proposed Freeway Sign Locations



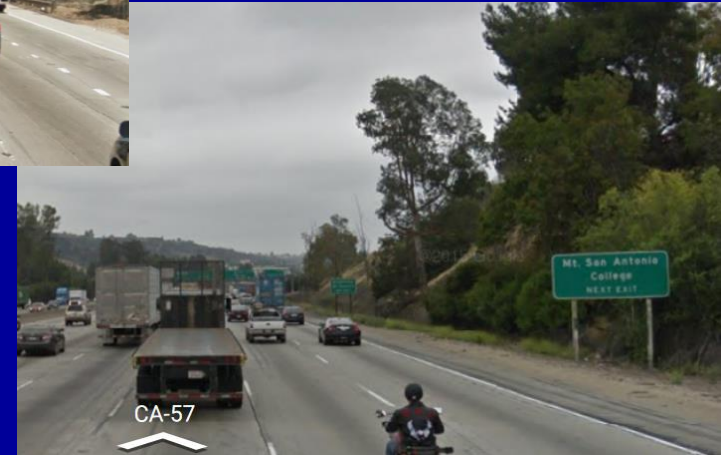
Proposed Freeway Sign Locations



57N/60E Prior to Exit 23 (Brea Canyon Rd.)



57S/60W Prior to Exit 24B (Grand Ave.)



57S/60W Prior to Exit 24B (Grand Ave.)

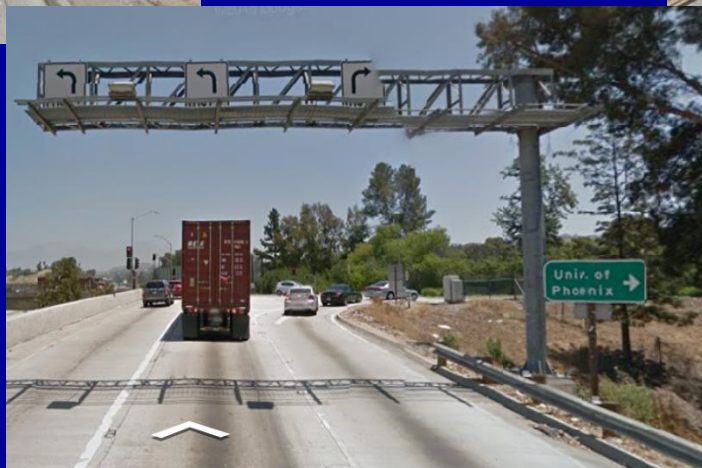
NEXT EXIT

Freeway Off-Ramps

Exit 23 east bound
Brea Canyon Rd. (57N/60E)



Exit 24B east bound
Grand Ave. (57N/60E)



Exit 24B west bound
Grand Ave. (57S/60W)

Surface Sign Locations

Grand Ave. to
Golden Springs Dr.



Grand Ave



Golden Springs Dr



Golden Springs Dr

Golden Springs Dr.
south to Copley Dr.

Golden Springs Dr.
north to Copley Dr.

Recent Activities

- Monument Sign – Gateway Corporate Association (GCA)
 - Proposal submitted to GCA & City
 - Comments from City – color scheme
 - Decision pending (30 days typical)
- Surface Streets – City of Diamond Bar
 - Public Works, Legal Offices
 - Signs per Manual on Uniform Traffic Control Devices (MUTCD)
 - Proposed locations provided to City
 - Decision to be made by City Council
- Freeways – Caltrans
 - Proposing 8 MUTCD signs: 4 fwy and 4 off-ramps
 - Design and purchase orders pending City agreement