

# **Air Pollution Reduction Incentive Programs**

## **PROGRAM REVIEW REPORT**

**Sacramento Metropolitan Air Quality Management District  
Fiscal Years 2008-09 through 2014-15**

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**State of California  
Air Resources Board  
February 2017**

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## **1. Introduction**

The Air Resources Board (ARB) is responsible for oversight of the State of California's voluntary air pollution reduction incentive programs, which are implemented through California's 35 local air pollution control districts and air quality management districts (air districts). As part of this oversight responsibility, ARB staff in the Mobile Source Control Division and the Transportation and Toxics Division has conducted a review of the incentive programs implemented by the Sacramento Metropolitan Air Quality Management District (Sacramento Metropolitan AQMD or District).

ARB incentive program reviews serve the public interest for transparency and accountability, helping to ensure that expenditures of State funds achieve intended outcomes and are within legal requirements. Projects are selected for review following a risk evaluation. These projects represent a percentage of the funds expended during the years within the overall scope of the review. Unless noted, issues and findings reported here pertain to the individual circumstances described and do not apply to other projects, although they may be indicative of similar issues occurring with projects not reviewed.

The Sacramento Metropolitan AQMD is one of the largest of California's local air districts and is responsible for air quality within Sacramento County. The District implements air pollution reduction incentive projects in Sacramento County and neighboring counties. Incentive programs are an important element of regional attainment strategies, reducing emissions to help meet requirements of the federal Clean Air Act Amendments and the California Clean Air Act.

The review that is the subject of this report was conducted between October 2015 and August 2016. ARB staff reviewed District implementation of the following programs:

- The Air Quality Improvement Program (AB 118) (AQIP)
- The Carl Moyer Memorial Air Quality Standards Attainment Program (Carl Moyer Program)
- The Proposition 1B Goods Movement Emission Reduction Program (Goods Movement Program)
- The Lower-Emission School Bus Program (School Bus Program)

AQIP was established by the California Alternative and Renewable Fuel, Vehicle Technology, Clean Air, and Carbon Reduction Act of 2007 (Assembly Bill 118) to fund clean vehicle and equipment projects that reduce criteria and toxic air pollutants. AQIP is funded by smog abatement, vehicle registration, and vessel registration fees. ARB develops statewide implementation guidelines, distributes funds to air districts, and conducts periodic oversight. The statute lists eight broad categories for project types, of which the District has implemented a Lawn and Garden Program that replaces

gas-powered lawn mowers with electric lawn mowers. The District has also implemented a Technology Demonstration Program including a Locomotive Demonstration Project; this is the second ARB incentive program review to include this type of AQIP-funded project. The Sacramento Metropolitan AQMD (like other large and medium-sized air districts) contributes match funds as required by AQIP.

The Carl Moyer Program funds the extra capital cost of cleaner-than-required vehicles and equipment to help achieve air pollution reductions that are both early and surplus to regulations. Funds for the Carl Moyer Program come from tire replacement and vehicle registration (smog abatement) fees. ARB develops statewide implementation guidelines, distributes funds to air districts, and conducts periodic oversight. Air districts choose which project types to fund from a variety of eligible categories, including on-road and off-road vehicles and equipment, marine, shore power, locomotives, stationary agriculture pumps, emergency equipment, lawn and garden equipment, and light duty vehicle scrappage. Funded projects must achieve early or extra emission reductions not otherwise required by law or regulation. The Sacramento Metropolitan AQMD (like other large and medium-sized air districts) contributes match funds as required by the Carl Moyer Program.

The Goods Movement Program offers grants to owners of equipment used in freight movement to fund the purchase of cleaner technologies to reduce air pollution emissions and health risk from freight movement along California's trade corridors. The Goods Movement Program is funded by bonds authorized by Proposition 1B, and is implemented by local agencies that apply to ARB for grants to fund specific project categories. Project categories include heavy duty trucks used in freight transportation, including those serving seaports or railroad intermodal transportation hubs, as well as locomotives, ships at berth and commercial harbor craft, and cargo handling equipment. ARB develops guidelines, awards grants to fund projects proposed by air districts and seaports, and conducts periodic oversight. As with the Carl Moyer Program, projects funded must achieve early or extra emission reductions that are not otherwise required by law or regulation. The Goods Movement Program does not require the District to contribute match funds.

The School Bus Program helps clean up the school buses that serve California's public schools in order to reduce the exposure of school children to diesel exhaust. The School Bus Program is funded by bonds authorized by Proposition 1B, by local Assembly Bill 923 (AB 923) funds, and by grants of federal Diesel Emission Reduction Act funds. The program provides grants to purchase new school buses that replace older, high-emitting buses or to retrofit existing diesel bus engines with ARB-verified diesel emission control systems. ARB develops statewide implementation guidelines, distributes State and federal funds to air districts, and provides oversight of program implementation. Air districts select and fund school bus projects with public school districts and transportation providers in their areas. The School Bus Program does not require the District to contribute match funds.

This review was conducted in accordance with ARB's policies and procedures for review of incentive programs, which are available at the following ARB website: <http://www.arb.ca.gov/msprog/moyer/audits/audits.htm>. The scope of the review includes grant agreements between ARB and the District made in fiscal years (FY) 2008-09 through 2014-15. The review began with an entrance conference held on October 26, 2015, at the District office. The results of the program review were presented during an exit meeting held with the District on December 22, 2016.

ARB's programmatic review was supplemented by a fiscal compliance review conducted by the California Department of Finance Office of State Audits and Evaluations (Department of Finance). The Department of Finance presented their report summary at the exit meeting held with the District on December 22, 2016, no findings were identified. The Department of Finance final report dated December 30, 2016 is posted on the Department of Finance and ARB websites.

This report describes the scope of the review, the projects selected for review and site inspection, and any findings, recommendations, and commendable efforts. Under established policies and procedures for program reviews, the District has 30 days from the date of this report's cover letter to submit its comments. ARB and the Department of Finance reports are posted with air district comments on ARB Incentive Program Oversight webpage, at: <http://www.arb.ca.gov/msprog/moyer/audits/audits.htm>.

## **2. Overall Assessment**

ARB program review has concluded that the District's incentive programs are efficiently and effectively achieving their emission reduction objectives. A summary review of each program follows below.

### *a. Air Quality Improvement Program*

The District received approximately \$635,063 in AQIP funds for the years within the scope of review, FYs 2009-10 and 2010-11. The largest grant was awarded for an Advanced Technology Demonstration Locomotive Project, which was selected for review. In June 2010 a grant of \$502,865 was used for demonstration of feasibility using an Electro Motive Diesel (EMD) Tier 4 particulate matter (PM) and diesel oxidation catalyst aftertreatment technology on a Tier 2 experimental line haul locomotive.

*ARB staff identified no findings or recommendations for the District's implementation of the Air Quality Improvement Program.*

*b. Carl Moyer Program*

For the years within the scope of review, FYs 2009-10 through 2013-14, the District's Carl Moyer Program funded 247 projects and 450 engines with \$26,324,670 in State funds and District match funds. Project categories within the review scope included mobile and stationary agricultural equipment, on-road heavy-duty trucks, and off-road construction equipment. The District has implemented the Carl Moyer Program for three neighboring air districts, including Placer County Air Pollution Control District (APCD), Yolo-Solano AQMD, and (through FY2013-14) El Dorado County AQMD.

*ARB staff identified no findings regarding the District's implementation of the Carl Moyer Program, but offers two recommendations following review of project files. The recommendations are discussed in Section 5 of this report.*

*c. Goods Movement Program*

For the years within the scope of review, the District accepted three Goods Movement Program Grants totaling \$22,764,747. This includes FY2008-09 (\$9,806,826), FY2011-12 (\$752,053), and FY2013-14 (\$12,205,868<sup>1</sup>). Funds were spent through two projects. The first project, referred to as Year 2, used monies from the FY2008-2009 grant to fund the replacement of 178 heavy-duty diesel trucks and the installation of ARB-certified level 3 retrofit devices on 15 diesel trucks. The second project, referred to as Year 4, included funds reallocated from the FY2008-2009 and FY2011-2012 grants, and the FY2013-2014 grant. These combined grant funds replaced 140 heavy-duty diesel trucks, with contracts in progress to replace ten additional diesel trucks. Not including the contracts still in progress, the Year 2 and Year 4 projects combined have funded the replacement of 318 heavy-duty diesel trucks and the installation of 15 ARB-certified level 3 retrofit devices.

*ARB identified no findings regarding the District's implementation of the Goods Movement Program, but offers one recommendation following review of project files. The recommendation is discussed in Section 5 of this report.*

*d. School Bus Program*

For the years within the scope of the review, the District accepted six Lower-Emission School Bus grants totaling about \$19,194,828. One FY2007-08 grant for \$9,284,914 enabled the district to fund school bus projects within its own boundary. Five FY2007-08 grants totaling \$9,909,914 enabled the District to implement the School Bus Program for five other air districts: Butte County AQMD, El Dorado County AQMD, Glenn County APCD, Placer County APCD, and Yolo-Solano AQMD. The grants

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<sup>1</sup> This grant includes \$6,300,000, which was added by grant amendment in August 2015 for Filter Substrate Replacement Projects. These funds are being administered by SMAQMD through a contract with ESW Cleantech Inc., which was executed October 22, 2015. No projects were funded prior to the file review portion of this Program Review.

funded 78 school bus replacements, 463 retrofits, and nine compressed natural gas (CNG) tank replacements, within a total of 89 projects. For FYs 2008-09 through 2013-14, local AB 923 funds totaling \$1,407,228 were used to fund school bus projects. The District's projects met Lower-Emission School Bus Program goals and reduced exposure to diesel exhaust for thousands of school children.

*ARB identified no findings or recommendations for the District's implementation of the Lower-Emission School Bus Program.*

### 3. Scope of the Program Review

The scope of the review covered the District's implementation of incentive programs associated with grants awarded during fiscal years 2007-08 through 2014-15. Scope varies somewhat by program, as discussed below.

#### *a. Air Quality Improvement Program*

The District received funding for three AQIP projects for FY2009-10 and FY2010-11. Two Lawn and Garden Equipment Replacement projects delivered emission benefits by providing funds to aid consumers in replacing 2,376 higher polluting gasoline mowers with cordless, zero-emission mowers. The Advanced Technology Demonstration Locomotive Project was also funded and received the largest grant award of \$502,865 as described in the previous section. Table 1 lists the projects and administration funding that the District received to implement the AQIP projects, as well as the District's matching funds.

<b>Table 1: Air Quality Improvement Program Funds for Fiscal Years 2009-10 and 2010-11<sup>1</sup></b>							
Fiscal Year	Grant Number	Project Name	AQIP Grant			Matching Funds	Total AQIP Grant and Matching Funds
			Project Funds	Administration Funds	Grant Amount		
2009-10	G09-AQIP-09	Lawn & Garden Equipment Replacement Project	\$75,000	\$0.00	\$75,000	\$75,000	\$150,000
2009-10	G09-AQIP-14	Electro-Motive Diesel Inc. Tier 4 PM Aftertreatment Upgrade on Experimental Line Haul Locomotive	\$478,335	\$24,530	\$502,865	\$502,865	\$1,005,730
2010-11	G10-AQIP-06	Lawn & Garden Equipment Replacement Project	\$57,198 <sup>2</sup>	\$0.00	\$57,198	\$57,198	\$114,396
<b>Totals</b>			<b>\$610,533</b>	<b>\$24,530</b>	<b>\$635,063</b>	<b>\$635,063</b>	<b>\$1,270,126</b>

<sup>1</sup> Interest earned by the District is not included in table.  
<sup>2</sup> A decrease of \$7,802 plus interest of the original grant award (\$65,000) was transferred to Grant Number G10-AQIP-04 to Yolo-Solano AQMD for incentives for zero emission lawn mower replacements program.

*b. Carl Moyer Program*

For the Carl Moyer Program, the scope of the review covered grants awarded in FYs 2009-10 through 2013-14. Project categories within the review scope included mobile and stationary agricultural equipment, on-road heavy-duty trucks, and off-road construction equipment. Table 2 lists the project and administration funds granted to the District by FY (including Carl Moyer Program Multi-district funds), and the District's matching funds commitment for each year's grant.

<b>Table 2: Carl Moyer Program Funds<sup>1</sup></b>						
<b>Fiscal Year</b>	<b>Grant Number</b>	<b>Carl Moyer Grant</b>			<b>Matching Funds<sup>2</sup></b>	<b>Total Carl Moyer Grant and Matching Funds</b>
		<b>Project Funds</b>	<b>Administration Funds</b>	<b>Grant Amount</b>		
<b>Carl Moyer Program</b>						
2009-10	G09-M031	\$4,182,742	\$291,693	\$4,474,435	\$671,166	\$5,145,601
2010-11	G10-M022	\$3,941,017	\$276,257	\$4,217,274	\$632,591	\$4,849,865
2011-12	G11-M021	\$4,212,914	\$293,776	\$4,506,690	\$676,004	\$5,182,694
2012-13	G12-M021	\$3,795,988	\$268,173	\$4,064,161	\$609,625	\$4,673,786
2013-14	G13-M021	\$3,951,688	\$278,275	\$4,229,963	\$634,494	\$4,864,457
<b>Total</b>		<b>\$20,084,349</b>	<b>\$1,408,174</b>	<b>\$21,492,523</b>	<b>\$3,223,880</b>	<b>\$24,716,403</b>
<b>Carl Moyer Program—Multi-District</b>						
2009-10	G09-M034	\$316,021	\$22,343	\$338,364	-	\$338,364
2010-11	G10-M035	\$498,204	\$31,470	\$529,674	-	\$529,674
2011-12	G11-M036	\$464,853	\$29,099	\$493,952	-	\$493,952
2012-13	G12-M042	\$113,963	\$ 5,998	\$119,961	-	\$119,961
2013-14	G13-M042	\$120,000	\$ 6,316	\$126,316	-	\$126,316
<b>Total</b>		<b>\$1,513,041</b>	<b>\$95,226</b>	<b>\$1,608,267</b>	<b>-</b>	<b>\$1,608,267</b>
<sup>1</sup> Interest earned by the District is not included in table.						
<sup>2</sup> ARB waived the match requirement for the Multi-District grants.						

*c. Goods Movement Program*

For the Goods Movement Emission Reduction Program the scope of the review covered grants for fiscal years 2008-09, 2011-12, and 2013-14, which provided funds for Year 2 and Year 4 projects. Table 3 lists the project and administration grant amounts awarded.

<b>Table 3: Goods Movement Program Funds<sup>1</sup></b>				
<b>Fiscal Year</b>	<b>Grant Number</b>	<b>Project Funds</b>	<b>Administration Funds</b>	<b>Total Grant Funds</b>
2008-2009	G08GMCT2	\$9,339,834	\$466,992	\$9,806,826
2011-2012	G11GMCT2	\$716,241	\$35,812	\$752,053
2013-2014	13GMC02	\$11,741,141	\$464,727	\$12,205,868 <sup>2</sup>
<b>Total</b>		<b>\$21,797,216</b>	<b>\$967,531</b>	<b>\$22,764,747</b>

<sup>1</sup>Interest earned by the District is not included in table.  
<sup>2</sup>This grant includes \$6,300,000, which was added by grant amendment in August 2015 for Filter Substrate Replacement Projects. These funds are being administered by SMAQMD through a contract with ESW Cleantech, Inc. executed October 22, 2015. No projects were funded prior to the file review portion of this Program Review.

*d. School Bus Program*

For the Lower-Emission School Bus Program, the review scope covered funding cycles for a FY2007-08 Proposition 1B grant and Lower-Emission School Bus local AB 923 funds for FY2008-09 through FY2013-14. Tables 4a and 4b list the School Bus Program grants the District implemented for the years within the scope of the review, including those implemented for neighboring air districts.

<b>Table 4a: Lower-Emission School Bus Funds<sup>1</sup></b>				
<b>FY 2007-08 Proposition 1B Lower-Emission School Bus Program Funds</b>				
	<b>Grantee and Grant Number</b>	<b>Project Funds</b>	<b>Administration Funds</b>	<b>Total Grant Funds</b>
1	Sacramento Metropolitan AQMD G07-SB024	\$8,968,634.52	\$316,279.48	\$9,284,914
2	Butte County AQMD G07-SB04	\$2,527,386.92	\$104,981.08	\$2,632,368
3	El Dorado County AQMD G07-SB07	\$2,021,970.53	\$111,441.47	\$2,133,412
4	Glenn County APCD G07-SB09	\$452,512.73	\$24,796.27	\$477,309
5	Placer County APCD G07-SB023	\$2,597,386.24	\$140,202.76	\$2,737,589
6	Yolo-Solano County AQMD G07-SB035	\$1,832,102.89	\$97,133.11	\$1,929,236
<b>Total 2007-08 Grant Awards</b>		<b>\$18,399,993.83</b>	<b>\$794,834.17</b>	<b>\$19,194,828</b>

<sup>1</sup>Interest earned by the District is not included in table.

<b>Table 4b: Lower-Emission School Bus Program Funds<sup>1</sup></b>			
<b>FY 2008-09 through 2013-14 AB 923 Lower-Emission School Bus Program Funds</b>			
<b>AB 923 FUNDS</b>	<b>AB 923 Project Funds</b>	<b>AB 923 Administration Funds</b>	<b>AB 923 Total Funds</b>
AB 923 School Bus Projects	\$1,407,882	--	<b>\$1,407,882</b>
<sup>1</sup> Interest and administration not within the scope of this review, as AB 923 funds can be used for several purposes at District discretion.			

#### **4. Project Selection and Review**

In choosing specific projects for review, ARB staff considered the diversity of project types funded by the District within the scope of the program review. The funding sources considered in selecting the review sample included all grant and match funds listed in Table 1 through 4 above, as well as the interest earned on those grant funds and expended on projects.

The District also used AB 923 \$2 Department of Motor Vehicle (DMV) fees to fund match and non-match projects during the time period covered by the review. Such projects were considered in selecting the review sample. ARB evaluated one project funded in part with \$2 DMV funds. No irregularities were found and a separate report will not be issued.

Below is an overview of projects within the scope for each program. The projects selected for review and inspection are shown in Appendix Tables 1 – 4.

##### *a. Air Quality Improvement Program*

As discussed in Section 2 and 3, three AQIP project grants were made to the District in FY2009-10 and FY2010-11, as shown in Table A1. The District project selected for review was in partnership with EMD and Union Pacific Railroad. The goal of the project was to demonstrate feasibility and reduce emissions in the Sacramento and San Joaquin trade corridor regions. Emission testing showed PM reductions 95 percent lower than Tier 2 levels, and well below the Tier 4 line haul standard of 0.03 g/bhp-hr. Hydrocarbon emission reductions were also reduced by 90 percent.

No inspection was conducted for the project selected for review.

##### *b. Carl Moyer Program*

Table 5 summarizes the source categories funded and the number of engines and projects funded for each Moyer Program fund source within the scope of the review. Because projects often include multiple engines, engines are shown in the table along

with the total number of projects by source category. The review team selected ten projects for full file review. Following the file review and based on its results, the review team selected three projects for inspection in the field, as shown in Table A2 of the Appendix.

**Table 5: Carl Moyer Program Engines and Projects<sup>1</sup>**

Fund Source	Source Category	2009-10		2010-11		2011-12		2012-13		2013-14		Total	
		Engines / Projects	Engines / Projects	Engines / Projects	Engines / Projects	Engines / Projects	Engines / Projects	Engines / Projects	Engines / Projects	Engines / Projects			
Carl Moyer Program	Off-Road Construction	5	1	0	0	0	0	0	0	0	0	5	1
	Off-Road Mobile Agriculture	72	27	46	23	35	15	43	21	48	33	244	119
	Stationary Repower	3	2	2	1	96	51	1	1	4	2	106	57
Carl Moyer Program Multi-District	On-Road Voucher	12	12	18	18	13	13	3	3	4	4	50	50
Match	Off-Road Mobile Agriculture	12	6	11	2	7	4	9	4	6	4	45	20
<b>Total</b>		<b>104</b>	<b>48</b>	<b>77</b>	<b>44</b>	<b>151</b>	<b>83</b>	<b>56</b>	<b>29</b>	<b>62</b>	<b>43</b>	<b>450</b>	<b>247</b>

<sup>1</sup>Projects for which funding is split among multiple funding sources are shown in each source, but are counted as one project in the totals. Source of Data: Carl Moyer Program Clean Air Reporting Log (CARL) database query May 17, 2016.

*c. Goods Movement Program*

Table 6 summarizes the Goods Movement Program grants, with the number of truck retrofit and truck replacement funded as of the entrance conference held on October 26, 2015. District reports identified ten additional projects were under contract as of October 2015; however, they had not yet been funded and so are not included in Table 6. The review team selected 16 funded projects for full file review. Following the file review and based on its results, the review team selected two projects for inspection in the field, as shown in Table A3 of the Appendix.

<b>Table 6: Goods Movement Program Projects Ranked and Funded</b>			
<b>Grant Number Grant Name</b>	<b>Retrofits</b>	<b>Replacement Diesel</b>	<b>Total Projects</b>
G08GMCT2 Heavy Duty Trucks	15	178	193
G08GMCT2/G11GMCT2/ 13GMC02 <sup>1</sup> Heavy Duty Trucks	0	140	140
<b>Total</b>	<b>15</b>	<b>318</b>	<b>333</b>

<sup>1</sup>A portion of the FY2008-09 grant and the entire FY2011-12 grant were reallocated for Year 4 truck projects. These funds were combined with the FY2013-14 grant to fund Year 4 projects, which were from the same statewide solicitation and the same ranked lists.

*d. School Bus Program*

Tables 7a and 7b summarize the School Bus Program project types, the number of projects, and individual buses funded by the District within the scope of the review. Projects were selected for review to include the different sources of funding and three types of projects: retrofits of school bus diesel engines, replacements of old school buses, and replacement of school bus CNG tanks. The review team selected three projects for full review as shown in Table A4 of the Appendix. No Lower-Emission School Bus Program projects were selected for inspection.

<b>Table 7a: Lower-Emission School Bus Program Projects and Number of Buses Funded<sup>1</sup></b>					
<b>Grant Fiscal Years</b>	<b>Project Type</b>	<b>Retrofits</b>	<b>Replacements</b>	<b>CNG Tank Replacements</b>	<b>Total</b>
2008-09 through 2013-14 District Projects <sup>2</sup>	Buses	149	49	0	198
	Projects	10	13	0	23
2008-09 through 2013-14 Other District Projects <sup>2</sup>	Buses	314	29	0	343
	Projects	45	20	0	65
<b>Total</b>	<b>Buses</b>	<b>463</b>	<b>78</b>	<b>0</b>	<b>541</b>
	<b>Projects</b>	<b>55</b>	<b>33</b>	<b>0</b>	<b>88</b>

<sup>1</sup> Each contract with a public school or transportation provider is counted as a project; one project may include multiple buses.  
<sup>2</sup> Current as of November 6, 2014 (from Proposition 1B bond database).

<b>Table 7b: Lower-Emission School Bus Program 2008-09 through 2013-14 AB 923 Program Funds<sup>1</sup></b>					
<b>AB 923 FUNDS</b>	<b>Project Type</b>	<b>Retrofits</b>	<b>Replacements</b>	<b>CNG Tank Replacements</b>	<b>Total</b>
AB 923 School Bus Projects	Buses	0	48 <sup>2</sup>	9	57
	Projects	0	12 <sup>2</sup>	1	13
<b>Total</b>	<b>Buses</b>	<b>0</b>	<b>48</b>	<b>9</b>	<b>57</b>
	<b>Projects</b>	<b>0</b>	<b>12</b>	<b>1</b>	<b>13</b>

<sup>1</sup> Each contract with a public school or transportation provider is counted as a project; one project may include multiple buses.  
<sup>2</sup> Some AB 923 funds reported were used to co-fund Proposition 1B projects.

## 5. Review Findings and Recommendations

“Findings” are district practices found to be inconsistent with one or more of the items below. “Conditions” are detailed descriptions of the District’s practices that resulted in findings as revealed by the review. “Required Actions” are the minimum actions the District must take to mitigate the findings.

ARB staff may offer “Recommendations” when district practices are found to be consistent with items below and mitigation is not required, but a change in practices would improve program effectiveness, efficiency, or transparency.

- State requirements including those under Health and Safety Code sections as follows:
  - 39625 through 39627.5—Goods Movement Program.
  - 44275 through 44299.2—Carl Moyer Program.
  - 44299.90 through 44299.91—School Bus Program.
- Governor’s Executive Order S-02-07.
- *Carl Moyer Program 2008 Guidelines* (April 21, 2008), and *Carl Moyer Program 2011 Guidelines* (December 31, 2014), (<http://www.arb.ca.gov/msprog/moyer/guidelines/current.htm>)
- Carl Moyer and School Bus Program advisories, Mail-outs, and other written communications.
- Carl Moyer and School Bus Program Grant Award and Authorization requirements.
- Lower-Emission School Bus Program Guidelines (2006 and newer versions). (<http://arb.ca.gov/bonds/schoolbus/guidelines/2008lesbp.pdf>)
- Goods Movement Program Local Agency Grant Agreements.

- Goods Movement Program Guidelines  
[http://www.arb.ca.gov/bonds/gmbond/docs/prop\\_1b\\_goods\\_movement\\_2015\\_program\\_guidelines\\_for\\_implementation.pdf](http://www.arb.ca.gov/bonds/gmbond/docs/prop_1b_goods_movement_2015_program_guidelines_for_implementation.pdf).
- District policies and procedures and forms, including contracts with the engine owners/grant recipients.

ARB staff identified no findings for the District's implementation of incentive programs from either file review or project inspections. Note that the results of the Department of Finance's independent fiscal review is included in their separate report, to be posted on the ARB's incentive program review website at <http://www.arb.ca.gov/msprog/moyer/audits/audits.htm>.

Following completion of project file reviews for the Carl Moyer Program and Goods Movement Emission Reduction Program, ARB staff offers two recommendations below. District staff has responded and acknowledged these recommendations, indicating the intent to augment their file documentation procedures with additional detail.

*Recommendation for the Carl Moyer Program and the Goods Movement Emission Reduction Program*

*Clarify reasons when data are not verified at inspection.* During file reviews for projects involving off-road agricultural equipment, agricultural pumps, and heavy-duty trucks (HDT), ARB's Carl Moyer Program and Goods Movement Program staff often found the notation "NV" in District inspection documents. This notation is defined on the inspection form as "data field applicable to equipment but not verified during inspection." The reason for not completing verification of these data fields is not always clear, and there is not an indication of subsequent verification. In its own inspections ARB staff observed that causes for the use of "NV" were varied, and that often data sought in the inspection were not present on the inspected equipment. For example, Volvo HDT engines do not display model information, and Peterbilt engines do not display a model year. Although the information not verified during inspection could be found by reviewers through a search of the project file, a more specific notation practice would expedite future reviews and help in understanding why inspections sometimes do not yield identifying information.

*Additional Recommendation for the Carl Moyer Program*

*Development of additional project file procedures may ensure file completeness.* For three reviewed project files, reviewing staff found instances of incomplete information that required follow-up. Both occurrences were fully corrected by District staff upon learning of them. Further attention to detail in file documentation may help ensure the file provides all necessary information.

After discussion of the recommendations at pre-exit and exit meetings with District staff and management, the District has taken prompt action to respond proactively, clarifying definitions in the District field inspection manual and re-examining file review procedures to determine additional steps that may help ensure file completeness.

## **6. Commendable Efforts**

A commendable effort is an exceptional practice that goes beyond the basic requirements for implementing an incentive program. As a result of this review, ARB staff has identified two areas of commendable effort by the District.

### *Commendable Effort for the Carl Moyer Program*

*ARB staff commends the District for its efforts to generate additional revenue through the auctioning of dismantled off-road equipment and on-road vehicles. Prior to auction, District staff conducts an inspection of the old equipment to ensure the equipment is rendered unusable. ARB Carl Moyer Program and Goods Movement Program staff were given the opportunity to tour the Bar None scrap facility, which conducts auctions of scrapped equipment under contract to the District. At the time of the tour, the District had generated close to \$400,000 in revenue for the Carl Moyer Program since the inception of the contract.*

### *Commendable Effort for the Lower-Emission School Bus Program*

*ARB commends the District for its successful implementation of the Lower-Emission School Bus Program for five other air districts, and for the completeness of School Bus Program project files.*

## **7. Resources**

1. Air Resources Board Lower-Emission School Bus website  
<http://www.arb.ca.gov/msprog/schoolbus/schoolbus.htm>.
2. Air Resources Board Carl Moyer Program website  
<http://www.arb.ca.gov/msprog/moyer/moyer.htm>.
3. Air Resources Board Goods Movement Emissions Reduction Program website, <http://www.arb.ca.gov/bonds/gmbond/gmbond.htm>.
4. Air Resources Board Incentives Program Audit and Program Reviews website (includes previous reports and Policies and Procedures)  
<http://www.arb.ca.gov/msprog/moyer/audits/audits.htm>.
5. *Lower-Emission School Bus 2006 Guidelines* (March 2, 2006), Air Resources Board.
6. *Lower-Emission School Bus 2008 Guidelines* (April 15, 2008), Air Resources Board.

7. *Carl Moyer Program 2005 Guidelines* (January 6, 2006), Air Resources Board.
8. *Carl Moyer Program 2008 Guidelines* (April 21, 2008), Air Resources Board.
9. *Carl Moyer Program 2011 Guidelines* (December 31, 2014), Air Resources Board.
10. *Proposition 1B: Goods Movement Emission Reduction Program, Final 2015 Guidelines for Implementation* (June 25, 2015).
11. Governor's *Executive Order S-02-0*.

## Appendix

<b>Table A1 Project Reviewed -- Air Quality Improvement Program</b>		
<b>Grantee</b>	<b>Contract Number</b>	<b>Project Inspected by ARB</b>
Sacramento Metropolitan AQMD Demonstration of an Electro-Motive Diesel Inc. Tier 4 (PM) Aftertreatment Upgrade on an Experimental Line Haul Locomotive	G09-AQIP-14	No

<b>Table A2 Projects Reviewed -- Carl Moyer Program</b>				
<b>Fiscal Year</b>	<b>Project Number</b>	<b>Grantee</b>	<b>Source Category</b>	<b>Project Inspected by ARB (√)</b>
2009-10	VET-10-0166	Mary Lynn Vaughn Mezger	Portable/Stationary Agricultural Sources	√
2009-10	VET-10-0020	Reveille Farms	Off-Road Equipment Replacement	
2009-10	VET-09-0214	Hemington Landscape Services	Off-Road Construction	
2009-10	VET-11-0076	Borchard Farms	Off-Road Equipment Replacement (Moyer + match)	√
2010-11	VET-11-0057	Aoki Farms, Inc.	Off-Road Equipment Replacement	√
2011-12	VET-14-0074	Alberto Juarez	On-Road TIMBER	
2011-12	VET-11-0036	Gurmail Singh Farms	Portable/Stationary Agricultural Sources	
2011-12	VET-13-0108	Clay Station Vineyard	Portable/Stationary Agricultural Sources	
2012-13	VET-11-0164	Fong Farms Inc.	Off-Road Equipment Replacement	
2010-11	1FUJA6CK38LZ86113	William Erickson	On-Road Voucher Incentive Program	

<b>Table A3</b>				
<b>Projects Reviewed -- Goods Movement Emission Reduction Program</b>				
<b>Fiscal Year</b>	<b>Project Number</b>	<b>Grantee</b>	<b>Project Type</b>	<b>Project Inspected by ARB (√)</b>
2008-09	VET-11-0130	Amrik Dosanjh	Replacement	
2008-09	VET-11-0051	Magenheimer Express Freight	Replacement	
2008-09	VET-11-0077	Sandhu trucking	Replacement	
2008-09	VET-11-0108	BC Leaseco	Replacement	√
2008-09	VET-11-0103	Vernon Transportation	Replacement	
2008-09	VET-11-0056	Quickcrete of Northern California	Replacement	
2008-09	VET-11-0109	Cesar's Trucking	Retrofit	
2008-09	VET-11-0225	Raygoza Hay Sales	2 for 1	
2008-09	VET-11-0115	Wilbur Ellis Company	Replacement	
2013-14	VET-13-0277	Gary Beebe Industries Inc.	Replacement	
2013-14	VET-13-0247	Mike Lowrie Trucking	Replacement	√
2013-14	VET-13-0250	Ozark Trucking Inc.	Replacement	
2013-14	VET-13-0324	Ramiro Benitez	Replacement, Used	
2013-14	VET-13-0378	Fermin Jaime Martinez	Replacement	
2013-14	VET-13-0281	Roy E. Lay Trucking	Replacement	
2013-14	VET-13-0255	John Aguilar & Company Inc.	Replacement	

<b>Table A4</b>				
<b>Projects Reviewed -- Lower-Emission School Bus Program</b>				
<b>Fiscal Year</b>	<b>Project Number</b>	<b>Grantee</b>	<b>Project Type</b>	<b>Project Inspected by ARB (√)</b>
2010-11	VET-09-0055	Center Unified School District	Retrofit	
2010-11	VET-09-0019	Orland Unified School District	Replacement	
2013-14	VET-13-0218	Elk Grove Unified School District	Compressed Natural Gas Tank Replacement	