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Air Resources Board

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Arnold Schwarzenegger
Governor

June 13, 2007

Mr. Jack Broadbent
Air Pollution Control Officer
Bay Area Air Quality Management District
939 Ellis Street
San Francisco, California 94109

Dear Mr. Broadbent: *JSA*

As you know, the Air Resources Board recently conducted a review of the Bay Area Air Quality Management District's Carl Moyer Program and Lower Emission School Bus Program. This was part of our oversight responsibility per state law [Health and Safety Code section 44291(d)]. We appreciate the assistance of your staff during the audit.

Our report is enclosed and the results can be summarized as follows. There are areas in which the District's program is exemplary. Most notable among these is the District's expenditure of funds in areas with the most significant pollution exposures, including communities of minority populations and/or low-income populations. However, we have a number of critical findings that require action.

The most serious concern is that the District's operation and oversight of the Carl Moyer Program is deficient. Over 80% of the projects audited contained errors or were missing information critical to determining eligibility. While many of those projects may prove to be eligible once the documentation is found, at least \$350,000 in match funds were expended on five projects that were ineligible. We are concerned that as additional past projects are fully reviewed by the District, this dollar amount will increase. In addition, the District has been tardy in its expenditure of funds, although all past funds were expended by the time of the audit. We've received your initial mitigation plan with promising commitments. We want to continue to work with you to more fully develop this plan and monitor its implementation, especially with respect to match projects. We are also initiating quarterly on-site reviews to ensure progress.

The ARB's audit of the BAAQMD's implementation of the School Bus Program found only minor documentation-related errors and no major program deficiencies during the audit's target years.

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our website: <http://www.arb.ca.gov>.

California Environmental Protection Agency

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As a formality, I need to remind you that ARB's audit guidelines give the District a maximum of 30 days from the date of this letter to submit a written plan of action to address the findings in the audit report. Also per the guidelines, if the District does not act, its Carl Moyer Program will be deemed "at-risk" and additional oversight from ARB may be required.

Our audit report and your written responses are public, and will be posted on the ARB's website. We encourage the District to make this information public locally as well. If you have any questions about the audit, please contact me at (916) 445-4383 or contact Mr. Robert H. Cross, Chief, at (626) 575-6807.

Sincerely,



Catherine Witherspoon
Executive Officer

Enclosure

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**Carl Moyer Memorial Air Quality Standards
Attainment Program**

Lower-Emission School Bus Program

AUDIT REPORT

**Bay Area Air Quality Management District
Fiscal Years 2002/2003-2004/2005**

**Prepared by:
Mobile Source Control Division
Air Resources Board**

June 2007

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The ARB audit team included:

ARB management: Robert Cross, Jack Kitowski, Lucina Negrete, and Renee Marshall;

ARB Carl Moyer Program staff: Heather Arias (audit program lead), Bruce Tuter (BAAQMD audit lead), Robin Myers (BAAQMD liaison), Joe Calavita, Elise Keddie, Johanna Levine, Araliza Manuel, Liz Ota, Dinh Quach, and Tom Roemer;

ARB Lower-Emission School Bus Program staff: Krista Fregoso (School Bus Program audit lead) and Lisa Jennings.

Staff from the Department of Finance, who performed the financial review of the audit under contract with ARB, included Mary Kelly, Tim Hartigan, Dan Jenkinson, Agnieszka Yeager, and Billy Struble.

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Attachment 1: List of Carl Moyer Program Projects Reviewed

Attachment 2: List of School Bus Program Projects Reviewed

Executive Summary

This report covers the 2007 audit of the Bay Area Air Quality Management District's (BAAQMD) implementation of the Carl Moyer Memorial Air Quality Standards Attainment Program (Carl Moyer Program) and the Lower-Emission School Bus Program (School Bus Program).

The Carl Moyer Program achieves reductions in air pollution by providing grants that fund the extra cost of voluntary purchases of heavy-duty diesel vehicles, engines, and equipment that meets program cost effectiveness criteria and provides emission reductions surplus to regulatory requirements. The Carl Moyer Program is implemented at the local level by California's 35 local air pollution control/air quality management districts under the oversight of the ARB.

The School Bus Program is a voluntary grant program to clean up the aging school bus fleet that serves California's public schools. That program provides grants to purchase new school buses to replace older, high-emitting buses and to retrofit existing buses with the ARB-verified emission control systems. Some of the more populous air districts, including the BAAQMD, implement the new bus purchase component in their respective regions.

The BAAQMD is responsible for air quality in Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, and Santa Clara counties, as well as portions of Sonoma and Solano counties. While the region's air quality meets the federal health-based ambient air standard for ozone (smog), it exceeds the federal health-based standard for particulate matter, (soot), as well as the State health-based standard for ozone. The emission reductions achieved by the Carl Moyer Program play an important role in improving the BAAQMD's air quality and that of downwind districts impacted by transported pollutants. In addition, the emission reductions achieved by the School Bus Program play an important role in reducing children's exposure to harmful air pollutants during their developing years.

The ARB has awarded the BAAQMD more than \$38 million in State funds over the first nine years of the Carl Moyer Program (fiscal years 1998/1999 to 2006/2007). The BAAQMD currently receives a total of over \$20 million each year in State and local motor vehicle funds that can be used for the Carl Moyer Program. The ARB has also awarded the BAAQMD over \$17 million in State funds for the Lower Emission School Bus Program since its inception in 2000. Finally, the BAAQMD has contributed significant local match funds – nearly \$10 million for the Carl Moyer Program and over \$6 million to replace older school buses.

This audit focused on the BAAQMD State funded mobile source incentive programs (Carl Moyer and School Bus) as conducted during the 2002/2003 and 2003/2004 fiscal

years. In addition, ARB staff reviewed aspects of those programs as they were conducted during the 2004/2005 and 2005/2006 fiscal years.

The ARB contracted with the California Department of Finance Office of State Audits and Evaluations (DoF) to perform an in-depth review of the fiscal elements of the District's Carl Moyer and School Bus Programs during the same four audit years. While ARB staff worked closely with DoF staff, and while there is some overlap between the two reviews, the DoF focused on fiscal issues and followed their own departmental procedures for their portion of the audit. The methods and results of the fiscal portion of the audit are covered in a separate report. Therefore, both reports should be viewed together to get a complete perspective of District operations.

The audit of the BAAQMD's Carl Moyer Program found that overall the District had pervasive deficiencies in its operation and oversight of the program. More than 80% of the projects audited used incorrect data in the evaluation or the files were missing critical information needed to determine eligibility. In addition, at least five projects that were used as required match were not eligible projects, and therefore represent misspent funds. Finally, the BAAQMD was late in expending funds and has submitted to ARB an inaccurate accounting of the emissions benefits of their program.

The ARB's audit of the BAAQMD's implementation of the School Bus Program found only minor documentation-related errors and no major program deficiencies during the audit's target years.

The BAAQMD moved quickly to provide the ARB with initial plans and commitments for returning the District operations to an acceptable level. These include a review of all projects by outside consultants and increased staff resources. The District is also committing to an all-encompassing review of their Carl Moyer Program procedures, processes, and controls. These initial commitments are promising, and the ARB will continue to monitor and work with the BAAQMD to ensure success as it fully develops and implements its mitigation plan. ARB will conduct quarterly on-site progress reviews of the District and will conduct a complete follow-up audit after one year.

Despite the above findings, the audit also revealed that the BAAQMD Carl Moyer Program includes a number of commendable elements that go above and beyond the basic Carl Moyer Program requirements. Most noteworthy are the BAAQMD's evaluation procedures for environmental justice (i.e. at-risk communities), use of electronic applications to streamline the process, and use of innovative tools in their outreach process. For the School Bus Program, commendable elements include program funding spent in environmental justice regions and the BAAQMD's use of local funding to replace the oldest school buses still in operation.

I. Overview

A. Background

This report covers the 2007 audit of the Bay Area Air Quality Management District's (BAAQMD) implementation of the Carl Moyer Memorial Air Quality Standards Attainment Program (Carl Moyer Program) and the Lower-Emission School Bus Program (School Bus Program).

The Carl Moyer Program provides grant funds for the incremental cost of voluntary purchases of a variety of cleaner-than-required heavy-duty diesel vehicles, engines, and equipment. The Carl Moyer Program accelerates the turnover of old highly-polluting engines, reduces costs to the regulated community, and accelerates the commercialization of advanced emission controls. The Air Resources Board (ARB) distributes State funds to California's 35 local air pollution control/air quality management districts, develops the Carl Moyer Program Guidelines (<http://www.arb.ca.gov/msprog/moyer/moyer.htm>) to assist in program implementation, and provides program oversight. Local air districts implement a major part of the Carl Moyer Program. Districts select, fund, and monitor specific clean air projects in their areas.

The School Bus Program helps clean up the aging school bus fleet that serves California's public schools. It provides grants to 1) purchase new school buses to replace older, high-emitting buses; and 2) retrofit existing buses with ARB-verified emission control devices. The ARB distributes State School Bus Program funds to the California Energy Commission and qualifying local air districts, develops the School Bus Program Guidelines (<http://www.arb.ca.gov/msprog/schoolbus/schoolbus.htm>), and provides program oversight. The California Energy Commission and participating local air districts implement the program using ARB's Guidelines.

Bay Area Air Quality Management District

The BAAQMD is responsible for air quality in Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, and Santa Clara counties, as well as portions of Sonoma and Solano counties. While the region's air quality meets the federal health-based ambient air standard for ozone (smog), it exceeds the federal health-based standard for particulate matter (soot), as well as the State health-based standard for ozone.

The emission reductions achieved by the Carl Moyer Program play an important role in improving the BAAQMD's air quality and that of downwind districts impacted by the transport of pollutants from the Bay Area. Over the first six years of the Carl Moyer Program, the BAAQMD has funded over 500 cleaner engines. Per the BAAQMD's estimates, these projects have reduced NO_x emissions by an estimated 700 tons per year and particulate matter emissions by about 50 tons per year. However, as a follow-up to this audit, these emissions benefits may increase or decrease as project evaluations are revised. In addition, the emission reductions achieved by the School Bus Program help reduce Bay Area children's exposure to harmful air pollutants during their developing years. Through a combination of State and local funding, the BAAQMD has replaced about 180 older, high-polluting buses. Additionally, the BAAQMD has retrofitted about 340 existing diesel school buses with emission control devices.

The Bay Area AQMD ranks third after the South Coast Air Quality Management District and the San Joaquin Valley Air Pollution Control District in total Carl Moyer Program funds received. The BAAQMD has been awarded more than \$26 million in Carl Moyer Program funds over the first eight years of the Carl Moyer Program (from the 1998/1999 fiscal year through the 2005/2006 fiscal year). In addition, the BAAQMD has been awarded over \$12 million in Carl Moyer Program funds in the 2006/2007 fiscal year. The BAAQMD has leveraged State funds with over \$8 million in local match funds over the first eight years of the Carl Moyer Program. It will contribute over \$1.8 million in local match funds during the 2006/2007 fiscal year. Since the School Bus Program's inception in 2000, the BAAQMD has been awarded over \$17 million in State funds, with over \$4.8 million awarded during the audit's target years. To date, the BAAQMD has also leveraged its State School Bus Program funds with over \$6 million in local funds. Additionally, the BAAQMD has collected over \$19 million in local vehicle registration fees since April of 2005. These vehicle registration fees typically overlap both the Carl Moyer and School Bus Programs in that they must be used for either Carl Moyer eligible projects, projects adhering to the Lower Emission School Bus guidelines, or for an Agricultural Assistance Program.

Overview of ARB's Audit

To ensure funded projects achieve the expected emission reductions and that district programs are conducted in a manner that is consistent with the ARB's Carl Moyer Program Guidelines, advisories, and Grant Award and Authorizations, State law (Health and Safety Code 44291) requires that the ARB monitor district Carl Moyer Programs as part of its oversight responsibilities. Also, the ARB audited the BAAQMD's implementation of this program as part of its general oversight responsibilities (H&SC 39500). Additionally, the audit included a review of Assembly Bill 923 (AB 923; Statutes of 2004, Chapter 707) funds as the projects funded through these motor vehicle fees must meet ARB's requirements of the Carl Moyer Program or the Lower Emission School Bus Program requirements and are therefore subject to State oversight.

To maximize the efficiency of the audit process and reduce the resource impact on the BAAQMD, and due to the number of similarities between the Carl Moyer Program and the School Bus Program, parallel audits were conducted. Both programs are voluntary grant programs for heavy-duty vehicles/engines, there is some overlap in their sources of funding, and there is also some overlap in the staff who administer those programs.

In 2006, ARB conducted audits of the Carl Moyer Programs of the Ventura County Air Pollution Control District, the Sacramento Metropolitan Air Quality Management District, the South Coast Air Quality Management District, and the Butte County Air Quality Management District. Detailed reports on completed audits can be viewed at <http://www.arb.ca.gov/msprog/moyer/audits/audits.htm>. While the Carl Moyer Program audits conducted in 2006 included general monitoring for the School Bus Program, this was the first formal ARB audit of a district's implementation of its School Bus Program.

This audit focused on the BAAQMD's Carl Moyer Program and the School Bus Program as conducted during the 2002/2003 and 2003/2004 fiscal years. ARB staff also reviewed aspects of the BAAQMD's programs as they were conducted during the 2004/2005 and 2005/2006 fiscal years. However, a review of projects paid for with Carl Moyer Program for fiscal year 2005/2006 was not included in this audit because the BAAQMD had not paid for any of these projects by the time of the audit. The BAAQMD was still in its early stages of

project selection and grant awards for that funding year. The audit for both programs followed a number of similar general procedures. More detailed information regarding the audit procedures is presented later in this report in the sections specific to each of the two programs. Generally, though, the audit was conducted in two main phases; a desk review and an on-site review.

For the desk review, the ARB staff first developed criteria to select projects. Staff then visited the BAAQMD office, copied files of selected projects, and brought those copies back to the ARB offices for review. Audit staff also reviewed other BAAQMD documents such as forms, contracts, and procedure manuals. Staff remained in communication with the BAAQMD throughout this process to clarify issues as they arose and to request additional materials as needed. For the Carl Moyer Program, it was deemed necessary that the ARB staff return to BAAQMD to obtain additional information.

The on-site review included field inspections of selected Carl Moyer Program projects, followed by a third visit to the BAAQMD office. During that visit, ARB audit staff presented the BAAQMD with the questions and concerns uncovered during the audit and gave the BAAQMD an opportunity to present additional information to address them. Any remaining concerns were discussed with BAAQMD management during the exit interview.

The BAAQMD was given an opportunity to provide information that mitigated concerns raised as well as a mitigation plan to ARB for consideration prior to finalizing the audit results. Such corrective actions, which were provided to ARB within a few days after the exit interview, have been taken into account in this report. The BAAQMD is also given an opportunity to formally respond to the audit results. The BAAQMD's formal response to this report, along with any additional mitigation plans, will complete this audit.

In addition to the programmatic audit conducted by the ARB staff, the ARB contracted with the California Department of Finance, Office of Audits and Evaluation (DoF) to perform an in-depth financial review of the fiscal elements of the BAAQMD's Carl Moyer and Lower-Emission School Bus Programs during the same four audit years (i.e., the 2002/2003 – 2005/2006 fiscal years). While the ARB staff worked closely with DoF staff during their portion of the audit, DoF staff followed their own departmental procedures for their portion of the audit. The methods and results of the fiscal portion of the audit will be covered in a separate report written by the DoF. Therefore, both reports should be viewed together to get a complete perspective of District operations.

II. Carl Moyer Program Audit

A. Bay Area AQMD's Implementation of the Carl Moyer Program

The BAAQMD uses an annual call for grant application process (equivalent to a request for proposal process) to fund projects. Prior to issuing the call for applications, the BAAQMD staff develops guidelines for the upcoming funding process and presents these to the BAAQMD's Mobile Source Committee and its Board of Directors for their approvals. The guidelines cover criteria that will be used to evaluate and rank the applications received. Typically, the BAAQMD accepts grant applications for all eligible project types and does not designate in advance a specific amount of funds to any particular project category.

The BAAQMD issues a notice of its call for grant applications and sets an application deadline. The notice is posted on the BAAQMD's website and sent to individuals on the BAAQMD's Carl Moyer Program mailing list. The BAAQMD also conducts public workshops to attract potential applicants and provide assistance in the application process. Outreach activities also include giving presentations to groups, developing a fact sheet on the Carl Moyer Program in English and in Spanish, and requesting other Bay Area government agencies to post Carl Moyer Program information on their websites.

The BAAQMD's call for grant applications provides a link to the BAAQMD's Carl Moyer Program application forms, briefly describes the Carl Moyer Program, outlines eligibility requirements, discusses the BAAQMD's environmental justice criteria, outlines how applications will be evaluated and ranked, describes eligible costs, and lists requirements for successful applicants (must sign a contract, destroy old engine, report to the BAAQMD, etc.). The document also includes a concise listing of the key steps involved in a typical project.

Once applications are received, BAAQMD staff first evaluate each application for completeness and notify applicants of incomplete applications within the required timeline. BAAQMD staff then screen applications for eligibility and cost-effectiveness using the ARB Carl Moyer Program Guidelines and BAAQMD criteria. Projects that pass this initial screen are evaluated and ranked regarding factors that consider PM_{2.5} exposure to sensitive populations (i.e., children and the elderly), location in low-income areas, and the degree to which a project would reduce emissions in an impacted community. A secondary ranking criterion is cost-effectiveness. This procedure is designed to ensure that at least 50 percent of Carl Moyer Program funds are expended in impacted communities consistent with State law regarding environmental justice (Health and Safety Code section 43023.5), and that remaining funds are applied to the most cost-effective projects.

Staff proposes a list of recommended grant awards for approval by the BAAQMD Board of Directors. Once a project is approved by the Board of Directors, grant award letters are sent to successful applicants. Such letters may also include a contract to be signed by the applicant, but sometimes the contract is sent later. Projects are pre-inspected by BAAQMD staff to verify that information in the application and contract are correct and to document the project prior to implementing the grant. When a project is completed (e.g., a new engine is installed), the grantee submits an invoice to the BAAQMD for reimbursement not to exceed the contracted amount. Prior to making a grant payment, BAAQMD personnel conduct a post-inspection to verify and document proper completion of the project. After verifying that the project is complete and that all invoiced costs are eligible, BAAQMD Carl Moyer Program staff sign an Authorization to Release Funds form, which is submitted to the BAAQMD accounting office along with supporting documents. The accounting office issues a check to the grantee and sends a copy of the check back to the Carl Moyer Program staff for filing in the project file. Throughout the term of the contract, the BAAQMD requires grantees to report annually.

B. Audit Procedure

State law (Health and Safety Code 44291) requires the ARB, as part of its oversight responsibilities, to monitor district Carl Moyer Programs to ensure that funded projects actually achieve the expected emission reductions. Further, the ARB is required to monitor district Carl Moyer Programs to ensure that they are conducted in a manner that is consistent

with the ARB's Carl Moyer Program Guidelines. The law also directs the ARB to recapture funds from a district under circumstances where the ARB identifies district Carl Moyer Program deficiencies and the district fails to correct such deficiencies. Besides identifying Carl Moyer Program deficiencies, audits also provide the ARB with a mechanism for identifying the strengths of district Carl Moyer Programs. These strengths are shared with other districts and can be useful in improving the State Carl Moyer Program as a whole.

This section describes in more detail the audit procedures used to evaluate the BAAQMD's implementation of the Carl Moyer Program. In order to minimize resource impacts on the BAAQMD and to better utilize ARB staff resources, the audit procedure was modified somewhat from that of previous Carl Moyer Program audits conducted in 2006.

This part of the audit focused on the BAAQMD's Carl Moyer Program as conducted during the 2002/2003 and 2003/2004 fiscal years (years 5 and 6 of the Carl Moyer Program). During those fiscal years, State Carl Moyer Program funds were provided under Proposition 40 – California's Clean Water, Clean Air, Safe Neighborhood Parks and Coastal Protection Act. The ARB reviewed the BAAQMD's Carl Moyer Program for years 5 and 6 for consistency with the Health and Safety Code and with the 2003 Carl Moyer Program Guidelines, which were the Guidelines in effect for those two Carl Moyer Program years.

The ARB staff also reviewed the BAAQMD's Carl Moyer Program as it was conducted during the 2004/2005 fiscal year to determine how well the BAAQMD adapted to changes in State law that provided for a significant influx in funding, resulting in Carl Moyer Program expansion (Assembly Bill 923, Statutes of 2004, Chapter 707; and Senate Bill 1107, Statutes of 2004, Chapter 230). Although FY 2004/2005 funds are not required to be fully expended until June 30, 2007, the ARB staff evaluated the BAAQMD's process for that year's funds because FY 2004/2005 is the most recent funding year that includes completed projects. A review of projects paid for with Carl Moyer Program funds for 2005/2006 fiscal year was not included in this audit because the BAAQMD was still in the early stages of project selection and grant awards for those fiscal year funds.

For the same three fiscal years (2002/2003 – 2004/2005), ARB staff also reviewed related projects that were funded with local BAAQMD match funds, earned interest funds, and BAAQMD funds collected from an additional \$2 motor vehicle registration fee authorized by AB 923.

Desk Review

As discussed earlier, the audit was conducted in two main phases; a desk review and an on-site review. The desk review began on January 10, 2007. This phase included a number of steps; a file review of selected projects for project eligibility, an in-depth review of a subset of those project files, and a review of a number of key BAAQMD forms and procedures such as:

1. Program solicitations
2. Project applications
3. Funding award letter and contract templates
4. Purchase orders
5. Invoices
6. The BAAQMD's environmental justice policy
7. Board approval letters

To initiate the audit, the ARB audit staff met with BAAQMD management and staff at the BAAQMD office in San Francisco and conducted an entrance interview. During the entrance interview, BAAQMD management and staff were briefed on the audit process and introduced to key ARB and DoF audit staff. Also during this initial visit, BAAQMD Carl Moyer Program staff were asked to provide specific program documents and access to BAAQMD files. BAAQMD staff also met with audit team members and guided them through the procedures the BAAQMD uses to run its Carl Moyer Program.

Prior to the visit, the ARB audit staff developed procedures to guide selection of specific projects to audit. The main objective of those procedures was to develop scoring criteria to choose projects that would be considered a higher risk, and thus a higher audit priority. This was done in response to a recommendation made by the DoF in its 2006 evaluation of the administration, funding, and tracking procedures of the ARB Carl Moyer Program (http://www.arb.ca.gov/msprog/moyer/audits/2006/dof_eval_12-21-06.pdf). Another purpose was to focus on a broad sample of project types that reflected the source category types funded under the Carl Moyer Program. Projects that ranked higher in risk from each project category funded by the BAAQMD were chosen for audit. Another criterion used to select projects was the source of funding for the project (e.g., Carl Moyer, match, funds authorized by AB 923). While the ARB had planned to audit projects from each of those funding sources, the BAAQMD had not funded any projects with AB 923 funds or earned interest funds at the time of the audit.

During the visit to the BAAQMD office on January 10, 2007, the ARB staff photocopied individual project files and general program files. This initial file-gathering process ended on January 11, 2007, at which time the ARB staff brought the photocopied files back to the ARB's office in Sacramento to conduct the desk review over the span of the next few weeks. Because the BAAQMD had no prior knowledge of what files would be chosen, audit staff provided the BAAQMD with a list of such projects at the end of the visit. Attachment 1 lists all the 25 projects reviewed for the Carl Moyer Program audit. The projects selected for review included:

- Eight FY 2002/2003 projects, representing the off-road, marine, and agricultural pump source categories;
- Eleven FY 2003/2004 projects, representing the on-road, off-road, marine, agricultural pump, and locomotive source categories;
- Six FY 2004/2005 projects, representing the on-road, off-road, marine, and locomotive source categories; and
- One FY 2003/2004 project, which was initially selected but not reviewed because it was cancelled prior to its implementation.

After returning to the ARB office, audit staff performed an initial desk review of the selected projects to check whether the BAAQMD properly determined eligibility for funding. To conduct this review, staff evaluated information contained in project applications, BAAQMD scoring and ranking information, cost effectiveness data and calculations, applicable regulatory, H&SC, and Carl Moyer Program Guideline and advisory requirements, and any relevant BAAQMD eligibility requirements.

Throughout the course of the audit, the ARB staff maintained frequent contact with BAAQMD staff to clarify issues and to request additional information. On January 31, 2007, the ARB staff returned to the BAAQMD office to obtain additional information regarding concerns that

were identified during the early stages of the desk review. Also, the ARB staff conducted conference calls with the BAAQMD on February 2, 15, and 22, 2007, to give BAAQMD staff the opportunity to provide additional information that would assist in the project review.

Audit staff next conducted a more in-depth review of a subset of the 25 projects. The six projects selected for in-depth review (shown in Attachment 1) represent each of five source categories (i.e., the on-road, off-road, marine, agricultural pump, and locomotive categories). This step of the process checked important administrative and technical details, consistent with audits of Carl Moyer Programs in other districts that the ARB conducted in 2006. For this in-depth review, audit staff followed the project documentation throughout the life of the project – from the time of application through the purchase of the equipment and into the grantee's reporting period. The ARB staff investigated whether all required documents were in the project file and whether such documents were consistent from project start to finish. This investigation also checked whether information in the project file was consistent with the requirements of the BAAQMD's contract, H&SC, the appropriate Carl Moyer Program guidelines and advisories, and any applicable regulations.

Another step in the desk review was an evaluation of key BAAQMD Carl Moyer Program documents. These included the following:

- The BAAQMD's newly-developed Policies and Procedures manual
- The Call for Projects (Request for Proposals) of the current funding cycle (fiscal year 2005/2006) as well as the previous cycle (fiscal year 2004/2005) including the associated application templates
- Environmental justice policies from the years under audit
- Contract templates

On-site review

The on-site portion of the audit began March 14, 2007. That day marked the first field inspection conducted by the ARB audit staff. For this phase of the audit review, a subset of the projects selected for eligibility review were inspected by audit staff. Such inspections covered six of the 25 projects selected for eligibility review, which were chosen to represent the range of project types funded. These included two marine projects, an agricultural pump project, an on-road project, an off-road project, and a locomotive project. The specific projects inspected are indicated in Attachment 1.

Field inspections were conducted on different days during the last weeks of March through the middle of April, 2007. The field inspections checked whether the specific engine/project on-site was in proper working order and consistent with information in the project file such as the application, contract, and invoices. ARB audit staff met with project grantees and inspected and photographed the projects. BAAQMD staff, due to resource constraints, opted not to accompany ARB staff on most of these site visits.

The last part of the on-site phase of the audit was conducted from April 9 through April 12, 2007. Over those days, the ARB audit staff visited the BAAQMD office and first met with BAAQMD staff to brief them in detail regarding the issues and concerns identified. This afforded the BAAQMD staff another opportunity to provide the ARB auditors with information to address those issues and concerns.

While on site, the ARB staff continued their evaluation of the BAAQMD's Carl Moyer Program. The ARB staff selected several files at random from earlier years in the program and checked for differences in Carl Moyer Program implementation that might have occurred due to staff changes. The ARB audit staff also interviewed key BAAQMD fiscal and Carl Moyer Program managers and staff regarding their practices in implementing the Carl Moyer Program.

The on-site review concluded with two meetings. The first meeting was an exit interview with the ARB and BAAQMD's Air Pollution Control Officer and other executive management where policy level discussions took place regarding remaining concerns and their implications to the Carl Moyer Program. The second meeting was an in-depth briefing of BAAQMD staff regarding the details of the audit's potential findings and recommendations. Once the on-site audit was complete, the BAAQMD had fifteen working days to provide the ARB with additional information that the ARB could consider in this audit report. The BAAQMD has provided the ARB with information to mitigate some issues raised, as well as a mitigation plan, addressing many of the findings in the audit. This information has been taken into account in Section IV of this report.

C. Commendable Efforts

The commendable efforts included in this section are noteworthy accomplishments by the BAAQMD. Commendable efforts are exceptional practices that may serve as a model for other California district's Carl Moyer Programs.

1. Environmental Justice

The BAAQMD's commitment to obtaining the greatest benefit to the population in areas disproportionately impacted by air pollution is exemplary. State law (Health and Safety Code section 43023.5) requires that the BAAQMD expend at least 50 percent of its Carl Moyer Program funds in a manner that reduces air contaminants in communities that are disproportionately impacted by air pollution, especially low-income communities and communities of color. The BAAQMD evaluates projects not only based on socio-economic factors, but also exposure to PM_{2.5}. Further, to ensure that the benefits of the Carl Moyer Program remain in impacted areas, the BAAQMD weights the analysis based on the time the equipment will remain in these areas and requires that the applicant operate in these areas for a specified percent of the contract time. The applicant is required to report annually on equipment operation to confirm this criterion is met. At the time of the audit no annual reports were available for review to document this process as no applicable projects had yet completed one year of operation.

2. Outreach

The BAAQMD has been innovative in developing tools to conduct outreach. Carl Moyer Program outreach is critical in ensuring that all qualified applicants are provided the opportunity to participate in the Carl Moyer Program. One innovative method has already been employed by BAAQMD staff by using data obtained from the Department of Motor Vehicles to develop mailing lists that will assist in outreach to heavy-duty vehicle owners.

3. Electronic Application

Accessibility and ease of use are critical elements of a local program to encourage potential applicant participation. One element that the ARB has encouraged is the development of electronic applications to help streamline the process for both the applicant and the local air district. The BAAQMD has developed an electronic application, and beginning with the FY 2005/2006 the BAAQMD is providing applicants the opportunity to submit applications electronically.

D. Recommendations for Future Carl Moyer Program Improvement

The BAAQMD should consider improving the current implementation of the Carl Moyer Program as noted below. A number of these improvements are required starting with Year 8 funds as noted in the 2005 Guidelines. These recommendations are not "findings", which are listed in section IV, and therefore do not require a response from the BAAQMD. However, the BAAQMD may comment on the recommendations in their written response.

1. Documentation

During the audit the ARB staff observed numerous instances where the hard copy project files did not consistently include cost-effectiveness calculations, documentation of inspection, eligibility determinations and environmental justice analysis. Beginning with FY 2005/2006, districts are required to maintain documentation of the project's eligibility verification and compliance with Carl Moyer Program requirements (sections V.D.2. and V.E.) in each of the project's hard copy files or to clearly describe its location in the BAAQMD's Policies and Procedures. In some instances, BAAQMD staff was able to provide this information in electronic form. The ARB recommends that the BAAQMD fully describe the location of all electronic documents in its *Carl Moyer Program Policies and Procedures Manual* or ensure that copies of the required information are included in the project file.

During the audit, BAAQMD staff described Carl Moyer Program procedures that were not explained in the BAAQMD's Policies and Procedures (i.e. Program/financial reconciliation, procedures staff follows in determining which projects are selected for match). All procedures that impact selection, contracting, invoicing, payment, monitoring, and enforcement must be included in the Policies and Procedures document. The ARB has reviewed the BAAQMD's Policies and Procedures independently from the audit process. Recommendations from that review should assist the BAAQMD in developing more robust Policies and Procedures.

2. Itemized Invoices

The BAAQMD currently includes invoices from grantees in its hard copy project and fiscal files. However, in some cases an itemized vendor invoice is not provided with the participant invoice. There are also cases in which an itemized invoice was provided, yet it is unclear which items on the invoices are being paid for with Carl Moyer Program funds. The 2005 Carl Moyer Guidelines—Administration of the Carl Moyer Program (section X.) require all project files to have itemized invoices that clearly delineate eligible expenses the BAAQMD approves to be paid. The ARB staff recommends the BAAQMD include the itemized invoice in the project file along with a clear delineation of the costs that were reimbursed with Carl

Moyer Program funds. In addition, the practice for this delineation should be included in the BAAQMD's policies and procedures manual (see Recommendation 1 above).

3. Earned Interest

During the financial audit of the BAAQMD's Carl Moyer Program, DoF found that interest had been earned on Carl Moyer Program funds, and that these funds had not been expended. At the time of the audit, the BAAQMD program staff were unaware that this earned interest was associated with the Carl Moyer Program. The ARB recommends that earned interest on Carl Moyer Program funds be carefully tracked and allocated back to the Carl Moyer Program. While the 2003 Carl Moyer Program guidelines did not specify an expenditure deadline for earned interest, we urge the BAAQMD to expend these funds as soon as practicable so that the region will obtain the clean air benefit in a timely manner.

It is important to note that the BAAQMD's Board took the first necessary step on May 2, 2007 by allocating over \$900,000 in interest earned since the inception of the Carl Moyer Program to pay for eligible projects.

4. Expenditure of AB 923 Funds

Local motor vehicle registration fees collected under AB 923 can be used for projects under the Carl Moyer Program guidelines, Lower Emission School Bus Program, and agricultural assistance program. When these funds are used as part of the Carl Moyer Program, they must comply with all program requirements. As such, these funds must be spent within the 2-year time frame required by the Carl Moyer Program. The ARB recommends that the BAAQMD tracks all funds received under AB 923 by fiscal year to ensure that these funds are spent within the appropriate time limits. The BAAQMD began collecting these funds in April 2005, received its first funds from the Department of Motor Vehicles in July 2005—FY 2005/2006. At the time of the audit, the District had not expended any of the \$19 million in program funds it had collected. As part of the 2005/2006 fiscal year, these funds must be expended by June 30, 2008.

III. School Bus Program Audit

A. Bay Area AQMD's Implementation of the School Bus Program

To implement the School Bus Program, the BAAQMD uses a procedure similar to that used to implement the Carl Moyer Program, which was described in Section II of this report. Implementation variations between the two programs are primarily a function of differing requirements.

Similar to the Carl Moyer Program process, the BAAQMD's Mobile Source Committee approves staff's recommendations to accept State funding allocations, to adhere to the ARB's Guidelines, and to incorporate any additional program provisions specific to the Bay Area region. The staff's recommendations to its Mobile Source Committee are generally preceded by a notification to interested parties to advise them of the upcoming funding opportunity and to solicit public comments on its proposed recommendations to the Mobile Source Committee. This notification is made by using the BAAQMD's mailing lists and by posting

information on its website. Once approved by the Mobile Source Committee, the recommendations are presented to the BAAQMD Board of Directors for approval.

For the 2002/2003 and 2003/2004 fiscal years, the BAAQMD then issued a call for applications to public school districts by using its mailing lists and by posting information on its website. The call for applications consisted of an application packet with instructions for its submittal, a summary of project eligibility criteria, and other program requirements. During these fiscal years, the program Guidelines required funding awards to be made on a non-competitive basis. As such, the BAAQMD's call for applications specified a date at which it would begin accepting applications; eligible projects were then funded through a lottery-type selection process. The BAAQMD also screened projects to ensure at least 50 percent of its new bus purchase funds were spent in areas with the most significant exposures to air contaminants, as required by Health and Safety Code section 43023.5. Unlike the Carl Moyer Program, the grant awards to specific eligible projects did not require approval by the BAAQMD Board of Directors.

For the 2005/2006 fiscal year funding, the process for accepting applications differed from that used by the BAAQMD in previous years. Because the Legislature directed these funds to specifically replace pre-1977 model year buses, in order of oldest bus first, the BAAQMD did not issue a general call for applications to all public school districts. Instead, BAAQMD staff called specific school districts identified by the ARB as eligible for program funding and requested that they submit applications for funding. Using its AB 923 funds, the BAAQMD offered to replace remaining eligible pre-1977 model year buses, also in order of oldest bus first, by directly contacting eligible school districts.

The BAAQMD's process for issuing funding award letters¹ to successful applicants and the subsequent invoicing and reimbursement process generally mirrored that used for the Carl Moyer Program, while incorporating differences in the program's requirements.

B. Audit Procedure

This section describes in more detail the audit procedures used to evaluate the BAAQMD's implementation of the School Bus Program. Although the audit process for the School Bus Program differed somewhat from the Carl Moyer Program process, the two audit components followed the same general procedures.

As with the Carl Moyer Program audit, the focus of School Bus Program audit was on the 2002/2003 and 2003/2004 fiscal years. It also included a review of the BAAQMD's status in obligating its State allocation of 2005/2006 fiscal year new bus purchase funds and AB 923 funds dedicated to new school bus purchases. It did not include the 2004/2005 fiscal year because the School Bus Program did not receive a funding appropriation that year.

The School Bus Program audit targeted only new bus purchase funding and not the BAAQMD's implementation of the retrofit component of the program because funds available during the audit's primary target years (2002/2003 and 2003/2004 fiscal years) were for new bus purchases only. Additionally, retrofit funds available to the BAAQMD from 2005/2006

¹ The BAAQMD issued funding award letters in lieu of contracts in the 2002/2003 and 2003/2004 fiscal years. The BAAQMD issued contracts in the 2005/2006 fiscal year.

On-Site Review

Based on the homogeneity in project types and applicants and the need to minimize impacts on staff resources for both the ARB and the BAAQMD, the School Bus Program audit did not include field inspections of audited projects as was done for the Carl Moyer Program audit.

The ARB staff participated in a meeting (via teleconferencing) on April 9, 2007, to discuss with BAAQMD staff the outstanding School Bus Program issues, in conjunction with Carl Moyer Program audit discussions. On April 12, 2007, the ARB staff participated in the exit interview with the BAAQMD's Air Pollution Control Officer and Executive Management to present its potential findings and program recommendations.

C. Commendable Efforts

The commendable efforts included in this section are noteworthy accomplishments by the BAAQMD. These accomplishments pertain to program funding spent in environmental justice regions, and AB 923 funding used to replace the oldest school buses still in operation.

1. Environmental Justice

Health and Safety Code section 43023.5 requires air districts with populations of one million inhabitants or greater to distribute at least 50 percent of the funds appropriated by the State Legislature for the purchase of new, lower-emitting school buses to directly reduce air contaminants or the associated public health risk in communities with the most significant exposures, including communities of minority populations and/or low-income populations. These provisions are sometimes referred to as environmental justice (EJ) provisions. The BAAQMD developed a methodology for determining compliance with Health and Safety Code section 43023.5 based on total exposure of children and senior citizens to PM₁₀.

In the 2002/2003 fiscal year, the BAAQMD spent nearly 70 percent of its State funding allocation on new school buses in EJ communities, exceeding its 50 percent funding requirement. In the 2003/2004 fiscal year, the BAAQMD spent close to 55 percent of its State funding allocation in EJ communities.

2. AB 923 Funding to Replace Pre-1977 School Buses

The BAAQMD has dedicated a portion of its AB 923 funding to replacing the oldest and highest polluting buses that remain in service in its region. On September 20, 2006, the BAAQMD approved \$2,240,000 in AB 923 funds to replace 16 remaining eligible pre-1977 model year school buses still on the road after replacing the oldest four pre-1977 model year buses with 2005/2006 fiscal year State funds. These 16 new buses are expected to be delivered to school districts by August 1, 2007.

D. Recommendations for Future School Bus Program Improvement

The BAAQMD shall consider the following recommendations for future program improvement. These recommendations do not require a response from the BAAQMD, although it may choose to comment in its written response to this audit report.

fiscal year are not required to be fully expended until June 30, 2008, and the 2006 School Bus Program Guidelines did not contain any deliverables by which the BAAQMD's implementation progress could be evaluated at the time the ARB staff conducted the audit. As such, this audit report does not include any formal findings regarding the BAAQMD's use of State School Bus Program retrofit funds.

Desk review

The ARB's audit of the BAAQMD's School Bus Program began on January 10, 2007, as a component of the ARB's site visit and entrance interview described in Section II of this report. Similar to the Carl Moyer Program audit procedure, ARB staff photocopied individual project files and general program files, including the same type of key documents described in Section II, but specific to the School Bus Program. Because the School Bus Program is structured differently than the Carl Moyer Program and has less diversity in project types, the ARB staff used a more streamlined project selection and review process for the School Bus Program.

Prior to the entrance interview, the ARB staff selected projects from each of the audit years for the desk review; the ARB staff did not inform BAAQMD staff of the selected projects prior to or during the site visit. The ARB staff's selection process was designed to ensure a representative sampling of the school bus projects that were funded during the audit years. These projects included new compressed natural gas (CNG) and diesel school buses funded through the program, including those in communities identified by BAAQMD staff as having the most significant pollution exposures, as required by Health and Safety Code section 43023.5. The ARB staff also selected one new bus purchase project funded with AB 923 fees because ARB has general oversight responsibility for the fees and because these new school buses must meet the criteria in the School Bus Program Guidelines. Attachment 2 presents the list of the seven new bus purchase projects selected for audit by the ARB staff.

For audited projects from the 2002/2003 and 2003/2004 fiscal years, the ARB staff reviewed the BAAQMD's files for consistency with School Bus Program Guidelines issued in April 2001 and the addendums for the respective fiscal years issued in May 2003 and June 2004. The program Guidelines for these fiscal years prescribed minimal solicitation, application, contract, and reporting requirements to which air districts (and thus school districts) must adhere.

Starting with the 2005/2006 fiscal year funds, the ARB staff enhanced the program Guidelines to be more prescriptive regarding solicitation, application, contract, and reporting requirements. The 2005/2006 fiscal year projects were reviewed for consistency with the enhanced 2006 Guidelines to the extent possible, since these projects are not yet complete.

On February 9, 2007, the ARB staff participated in a teleconference call with BAAQMD staff to ask additional questions regarding specific project files and clarifying questions regarding the BAAQMD's implementation process in general. To the extent possible, BAAQMD staff provided the ARB with written responses and requested documents, if available, within two weeks.

1. Funding Expenditures

The ARB is under increasing legislative pressure to quickly move program funds into the hands of the end-users (public school districts and eligible private transportation providers) to provide students with immediate benefits—safer transportation and reduced pollution exposure. In addition, DoF evaluates both the ARB's and the air districts' efficiency in disbursing program funds. In response to legislative pressure, the ARB staff has expedited its own procedures for updating program Guidelines and allocating funds to the administering agencies while taking special care to ensure that the ARB's public process is not short-changed.

With a significant increase in school bus funding over the next two years, the ARB expects all participating air districts to respond to the Legislature's desire that funds be disbursed and spent as quickly as possible in order to benefit California's school children.

2. Retrofit Funding

As stated previously, this audit did not include a review of the BAAQMD's implementation of State retrofit funds because the program did not provide retrofit funds during the audit's primary target years, and because the BAAQMD had not missed any deliverable deadlines for the 2005/2006 fiscal year funds at the time the audit was conducted. The ARB is aware, however, that the BAAQMD has unspent retrofit funds from the first year of the program (the 2000/2001 fiscal year) and the ARB is in the process of recapturing the unspent retrofit funds. The retrofit portion of the program is critical because it provides the most cost-effective solution for reducing emissions from school buses. The ARB will continue to monitor the BAAQMD's practices in administering the retrofit funds to ensure it adheres to sound implementation and fiscal practices, and expects the BAAQMD to expand and strengthen its efforts to achieve the retrofit program's objectives.

The DoF's audit report of the fiscal elements of the BAAQMD's implementation of the School Bus Program will likely cite the unspent retrofit funds from the 2000/2001 fiscal year, including accumulated interest on those funds. The DoF's findings will be presented in a separate report. The BAAQMD has submitted a resolution to the ARB, approved by its Board on May 2, 2007, committing the interest funds to the School Bus Program. Because the resolution did not explicitly describe how the funds shall be spent, the ARB has advised BAAQMD staff that any interest earned from State retrofit funds must be spent on eligible school bus retrofit projects.

To assist the BAAQMD and other participating air districts with program implementation, the ARB staff will be evaluating mechanisms to strengthen expenditure requirements and to provide clarity and specificity to other program requirements during the ARB's next Guideline update, which is scheduled for fall 2007.

IV. Findings, Conditions and Required Actions

The following sections describe the audit findings, conditions, and required actions of the BAAQMD's Carl Moyer Program and the School Bus Program. "Findings" are brief descriptions of practices that are inconsistent with State requirements under the H&SC sections 44275 through 44299.2, and those found throughout the Carl Moyer Program

Guidelines (<http://www.arb.ca.gov/msprog/moyer/guidelines/current.htm>), the School Bus Program Guidelines (<http://www.arb.ca.gov/msprog/schoolbus/schoolbus.htm>); Advisories; Grant Award and Authorizations; and/or the BAAQMD's written policies and procedures, including its contracts with the engine owners/grant recipients. "Conditions" are more detailed descriptions of the practices the ARB audit team observed during the audit period. "Required Actions" are the minimum actions the BAAQMD must take to remedy the findings.

A. Carl Moyer Program

This section specifies findings, conditions and required actions as a result of the ARB's review of the BAAQMD's Carl Moyer Program. The BAAQMD must provide the ARB with a written response to the required actions by submitting a plan or method to remedy the respective findings listed below. The BAAQMD's written response must be submitted to the ARB within 30 days of notification of the findings. Where quarterly reporting is required, the first quarterly reporting deadline will be September 30, 2007 with subsequent quarterly deadline in three month intervals to follow.

Finally, it is important to note that some of the following findings have been mitigated, fully or in part. That is, in some cases the BAAQMD has already acted to correct the error, omission, or practice that was the cause of concern. This will be discussed in more detail below where applicable.

Finding 1: Deficient Carl Moyer Program Operation

Condition: Based on the ARB's review of the BAAQMD's Carl Moyer Program, there were significant errors and omissions in numerous program elements. This led the ARB to conclude that their overall Carl Moyer Program operation is deficient and that there is a general misunderstanding of some of the minimal program requirements. The extent and pervasiveness of these errors cause serious concerns with project eligibility, misrepresentation of the air quality benefits obtained through the Carl Moyer Program and/or enforceability of emission reductions paid for by the Carl Moyer Program. The ARB found that at a minimum, \$350,000 in local district required matching funds were misspent on projects that do not comply with the requirements of the Carl Moyer Program guidelines. Due to the high percentage of misspent funds among the sample of match projects reviewed, the ARB believes the total amount of misspent funds will be significantly higher.

The magnitude of the errors and the condition of the program files ultimately led the ARB staff to strongly question the eligibility of most of the BAAQMD project funds audited. Hence, this concern relates to the general, overall state of the BAAQMD's local Carl Moyer Program. Below is a brief description of three of the major elements of the BAAQMD's Carl Moyer Program leading the ARB to this finding.

- **Incorrect Data/Missing Information:** The initial review revealed that more than 80 percent of the files lacked the most basic and critical information needed to determine project eligibility, used incorrect data, or used data in conflict with required Carl Moyer Program source category-specific criteria

used for determining project eligibility. Examples of this type of information include emission factors, project life, and vehicle usage.

Ultimately, the District was able to gather data to demonstrate eligibility for some of these projects. However, in other instances, the District was not able to demonstrate the information used in the original eligibility determination was correct or had been considered in the review.

The Carl Moyer Program Guidelines specify certain default emission factors and project lives to be used in project evaluation. These default values are critical and have been established by the ARB to most accurately represent the magnitude and duration of the emissions benefits anticipated for the specific project categories. Of the projects reviewed, over 30 percent used the incorrect emission factors and over 30 percent used the wrong project life when calculating emission benefits.

- **Unsigned Applications/No Application:** Project applications provide much of the necessary information to evaluate the emission reductions and cost-effectiveness of a project. The information provided in the application is used to determine the eligibility of the project. When signed, the information provided in the application is verified as true and correct by the applicant and has the effect of a legally binding document. Of the projects audited, over 40 percent of the files had unsigned applications or no application at all. This led to ARB concerns with the enforceability of the emission reductions claimed for the projects.
- **Eligibility of Match Projects:** Five of the six match projects selected for audit have been determined as ineligible for use as "match" projects in accordance with H&SC and Carl Moyer Program Guideline requirements, this issue will be discussed further below.

Required
Actions:

Comprehensive Plan to Minimize Errors:

The ARB is requiring the BAAQMD to develop a comprehensive plan to eliminate future errors. With the recent increase in Carl Moyer Program funds and requirements, there is a critical need for greater quality assurance and quality control of program related documents. Therefore, the ARB requires that the BAAQMD develop an approach to ensure proper quality of its Carl Moyer Program, and to ensure that all necessary eligibility and enforceability documents are in the project file or another clearly described location. These procedures must also be included in the BAAQMD's policies and procedures manual. This plan must be submitted to ARB for review, consultation, and approval by September 30, 2007.

The BAAQMD acted quickly to take steps to correct not only the problems noted during the audit, but to ensure that they do not occur in the future. They have already reevaluated many of the audited projects using the correct data; they have been able to gather documentation after the fact that demonstrated project eligibility and enforceability for some projects; they plan to hire additional

staff, and they have already hired an outside contractor to assist in improving program operation.

Follow-up Quarterly Progress Reviews:

Given the recent increases in funding and the severity of this finding, the ARB will conduct follow-up quarterly progress reviews of the BAAQMD beginning in September of 2007 through June of 2008 in order to ensure that improvements have been made to their local Carl Moyer Program. To provide any needed assistance, and for purposes of monitoring the BAAQMD's Carl Moyer Program, the ARB staff will conduct an on-site visit to the BAAQMD to sample random files from the funding cycles in progress. The ARB staff will evaluate these files for adherence to State law and the Carl Moyer Program Guidelines in a similar process as we followed during this audit. As determined necessary, this evaluation may include reviewing: project applications for completeness and accuracy, the emissions benefit/cost effectiveness calculations, and project files for documentation of the information required to determine eligibility.

If, after review of the BAAQMD's Carl Moyer Program during any of these quarterly on-sites, it is determined that the BAAQMD is still deficient in its operation of the Carl Moyer Program, the ARB will place the BAAQMD "at-risk" as defined in section XI.B. of the 2005 Guidelines. It is important to note that as an at risk district, future funding could be delayed or withheld.

Finding 2: Funds Misspent or in Jeopardy

Condition: This issue is in two-parts, one is projects which are ineligible and should not have been funded as part of the Carl Moyer Program. The second is projects in which the ARB believes there are enforcement issues that could jeopardize expected emission reductions.

Ineligible Projects: During the audit, the ARB determined that five projects ineligible for the Carl Moyer Program were selected to meet the BAAQMD's match funding requirement. These projects totaled more than \$350,000. Health and Safety Code section 44287(e) requires that projects used to meet a district's match funding requirement meet the eligibility requirements of the Carl Moyer Program. The Carl Moyer Program only allows for funding of the incremental cost between the applicable baseline technology and the cleaner, lower emissions technology. The ARB has determined that the BAAQMD funded more than the incremental cost for contracts 02LESBP17 and 02LESBP13. Also, there is insufficient data to determine the eligibility of the vehicles funded under contracts 02LESBP11, 03R58, and 02R17 - also used to meet the BAAQMD's match funding requirement.

The audit revealed significantly more funding was potentially at risk. Specifically, two additional projects (04MOY04 and 02MOY61) totaling nearly \$300,000 were missing critical information such that the files were unauditible. District-or in some cases ARB- staff were able to eventually gather the necessary information for these projects. However, it is clear from the files, and discussions with staff, that the BAAQMD did not have enough information when

the projects were funded to make a determination that the projects were eligible Moyer projects. The fact that both projects are now deemed eligible does not entirely mitigate the risk associated with the funding of these projects.

Enforceability of Emission Reductions: Enforceability is also included in this issue, as the ARB has identified nine files in which signed applications are not available and/or contracts do not contain all elements to ensure legally binding anticipated or minimum emission reductions. The information provided in the application is used to determine the eligibility of the project. If the applicant does not verify this information as being true and accurate with a signature, it may not be enforceable. Further, the project contract must be consistent with information contained in the application or other documentation in the file. If the requirements in the contract are inconsistent with the parameters on which the project's cost-effectiveness was based, the eligibility of the project can not be ensured.

Required
Action:

Ineligible Projects:

The determination of ineligible projects requires repayment to the Carl Moyer Program. The most straightforward way to accomplish this repayment is by substituting the ineligible projects with other projects that meet all Carl Moyer Program requirements, up to the full amount of Carl Moyer Program funds that were spent on the ineligible projects. The BAAQMD must provide a plan describing reallocation of funds under its fiduciary control to fulfill the mandated match requirement by September 30, 2007. Additionally, the reductions associated with these projects can not be used for any other purpose than providing clean air in the region. Emission reductions can not be used as air pollution reduction credits, mitigation, or claimed by any other entity for any reason. As fulfillment of any legal requirement for air pollution, projects that may be substituted for those not eligible for the Carl Moyer Program funds will need to provide emission benefits at least equal to those originally reported. This will mitigate the improper expenditure of funds on contracts 02LESBP 17, 02LESBP13, 02LESBP11, 03R58, and 02R17.

Enforcement:

As a result of the audit, ARB requires that the BAAQMD review eligibility and cost-effectiveness of all project files since the inception of the Carl Moyer Program to determine if Moyer and Match funds were used to pay for any other ineligible projects. The ARB also requires the BAAQMD to update the erroneous cost effectiveness spreadsheets by September 30, 2007. Based on a cursory review, we believe there will be additional match projects that received funding but were not eligible. If additional ineligible projects are found, the BAAQMD must repay the Carl Moyer Program and provide emission reductions that equal those in the ineligible projects. The BAAQMD must report the progress of this review and remediation on a quarterly basis. Ineligible projects must be identified by September 30, 2007. Also, to remain consistent with State law and the Carl Moyer Program Guidelines, funds used to repay the Carl Moyer Program (Moyer or match) must be expended within two years. Thus, repayment to the Program shall be completed by June 30, 2009. The

BAAQMD has indicated that they will re-evaluate these projects and has hired outside consultants to assist with this task.

The BAAQMD expeditiously returned the unsigned/missing applications noted in this finding to the grantees for signature. Signed copies have already been returned to the BAAQMD, thereby mitigating this aspect of the finding. However, the BAAQMD must develop a strategy to ensure that future emission reductions claimed for projects are secure. This strategy must ensure that applications and other information upon which the cost-effectiveness determination is based is accurate, documented, and enforceable.

Finding 3: Complete, but Late Expenditures

Condition: Carl Moyer Program funds must be expended within two years of June 30 for the year in which funds were reserved. Funds for FY 2002/2003 and FY 2003/2004 were reserved in June 2003 and June 2004, respectively. Therefore, June 30, 2005 and June 30, 2006 were the deadlines for expending all FY 2003/2004 funds.

For FY 2002/2003 and FY 2003/2004, Carl Moyer Program funds were expended after the applicable deadlines for 8 of the 25 projects audited, accounting for late expenditure on over 45 percent of the BAAQMD's Carl Moyer Program funding for those years. However, all funds were expended by the beginning of the audit period. Of the projects audited for Carl Moyer Program FY 2002/2003, funding on four projects totaling \$542,815 was expended after the June 30, 2005 deadline. For the projects audited for Carl Moyer Program FY 2003/2004, funding for an additional four projects totaling \$1,101,144 was expended after the June 30, 2006 deadline. It is important to note that prior to the start of this audit, the BAAQMD had expended these funds, thereby mitigating the finding.

BAAQMD staff have stated that expenditure of FY 2004/2005 Carl Moyer Program funds would meet the applicable deadline (June 30, 2007). However, ARB recognizes that with the increased amount of funding now available, it is difficult to get back on target with the upcoming deadline. In addition to the recently increased funding directly to the Carl Moyer Program, the BAAQMD has in excess of \$19 million in AB 923 funds (motor vehicle registration surcharge) that it has collected since April of 2005. While over \$13 million of these funds were obligated by the BAAQMD on March 15, 2006, to projects under the Carl Moyer Program, at the time of the audit, these funds had not been expended. Any funds spent on projects that meet the Carl Moyer Program guidelines, as well as funds used for any agriculture assistance program (as described in Section X. of the Program Administration chapter of the 2005 Carl Moyer Program Guidelines) also have a two-year timeline to obtain reductions.

**Required
Actions:**

The ARB recognizes the importance of ensuring that anticipated emission reductions are achieved on time in order to provide healthful air to those in the

region. This requires expediting projects to obtain reductions at the earliest, most practicable date.

As a condition of the audit, the BAAQMD shall develop a plan to ensure that funding is spent within the legally mandated deadline. ARB will work closely with the BAAQMD to monitor obligation and expenditure deadlines as it moves forward. The ARB recommends that the BAAQMD review best practices of other districts to determine the pertinent practices that can be incorporated to help ensure timely expenditures. The BAAQMD must submit this plan by September 30, 2007, and submit quarterly status reports on the progress of FY2005/2006 Carl Moyer Program fund expenditure beginning September 30, 2007.

Finding 4: Inaccurate Reporting to the ARB

Condition: Reports provided by the BAAQMD to the ARB include incorrect emission factors, incorrect project life, information that conflicts with the contracts, or did not contain sufficient data to determine eligibility of the projects.

This inaccurate reporting leads to misrepresentation of the emission benefits claimed in the Carl Moyer Program. That these benefits are real and quantifiable, and surplus to required reductions is required by law and is of the utmost importance. While the BAAQMD does not claim these benefits in its State Implementation Plan (SIP), the State claims these state-funded emission reductions to be used for attaining ambient air quality standards regionally. For all projects except those involving match funds, the BAAQMD has already mitigated the issue by correcting the information in the final report. The data for match funded projects remains unresolved.

Carl Moyer Program Guidelines require that the BAAQMD submit a detailed final report to the ARB. While ARB recognizes that project details may change throughout the funding cycle, updated accurate reports must be submitted to the ARB to accurately quantify emission reductions and ensure the success of the Carl Moyer Program.

**Required
Actions:**

To ensure that all projects previously awarded funding were correctly evaluated, the BAAQMD must review all cost effectiveness calculations (both Moyer and match), and where necessary, update all reports and resubmit them to the ARB. The BAAQMD has begun some necessary steps towards minimizing errors in reporting to the ARB by expeditiously correcting these errors for the non-match projects audited. As previously noted, the BAAQMD has, or plans to, contract with outside consultants to assist with the Carl Moyer Program. Additionally, finance staff has indicated that they will be reviewing and reconciling reports submitted to the ARB. The BAAQMD shall submit corrected reports by September 30, 2007. Additionally, the BAAQMD shall develop methods for minimizing these errors: the Plan submitted under *Finding 1; Deficient Carl Moyer Program Operation* should provide sufficient information to meet this requirement.

B. School Bus Program

This section specifies the findings, conditions, and required actions as a result of the ARB's audit of the BAAQMD's School Bus Program. The BAAQMD must provide the ARB with a written response to required actions by submitting a plan to remedy the respective findings listed below. The BAAQMD's written response must be submitted to the ARB within 30 days of notification of the findings, and shall be included in the BAAQMD's response to required actions for the School Bus Program.

Finding 1: Missing CHP Safety Certificate

Condition: The safety certificate (CHP Inspection Approval Certificate; Form 292) was missing from the project file for one bus replaced with 2002/2003 fiscal year funds (project number 02LESBP09), and could not be located by BAAQMD staff. The safety certificate is issued by the California Highway Patrol (CHP) and updated each year to reflect that a bus has passed a required annual safety inspection. This ensures that the bus is roadworthy and capable of safely transporting students. The Lower-Emission School Bus Program Guidelines (April 2001, Appendix A) required school districts to submit a copy of the current CHP safety certificate for each bus replaced to verify that it was an in-use bus, thus ensuring that program funds were used to achieve real emission reductions.

Consistent with the School Bus Program Guidelines, the BAAQMD's application packet to school districts stated that buses must possess current CHP certification. It was the BAAQMD's general procedure to obtain a copy of the CHP safety certificate to verify that a replaced bus was an in-use bus. All other files reviewed during the audit contained the CHP safety certificate for replaced buses.

In response to this finding, the BAAQMD staff attempted to obtain a copy of the missing CHP safety certificate from both the school district and the CHP. The CHP was able to provide the BAAQMD with a copy of a different inspection form (Form 343; Safety Compliance Report/Terminal Record Update) that referenced the safety certificate for the replaced bus, including an inspection date, thus demonstrating that it was CHP safety certified and eligible for program funding at the time it was replaced.

**Required
Actions:**

For future program implementation, the BAAQMD must ensure that it obtains and maintains proper documentation in individual project files verifying that each replaced bus is CHP safety certified. This shall be demonstrated by requiring school districts to submit copies of the appropriate Inspection Approval Certificate (CHP Form 292) to the BAAQMD for every bus replaced with School Bus Program funding.

Finding 2: Missing Purchase Order

Condition: A purchase order (the purchase contract between the school district and the school bus vendor) for four new buses funded with 2002/2003 fiscal year funds (project number 02LESBP06) was missing from the project file.

The purchase order is the mechanism by which certain program requirements are imposed on the school bus vendor, such as the bus delivery deadline, notification that a performance penalty will be levied if a bus is delivered after the required deadline, and emission standard criteria. The Lower-Emission School Bus Program Guidelines (April 2001, Appendix A) required only that school districts notify the air district when buses are ordered from the bus vendor --- one way to do this would be for the school district to submit a purchase order to the air district. However, the BAAQMD's own funding award letters to school districts specifically required applicants to submit purchase orders in order to receive School Bus Program funding. For this project, the file contained a letter from the BAAQMD to the school district acknowledging receipt of the purchase order, although the purchase order could not be located by BAAQMD staff.

In response to this finding, the BAAQMD contacted the school district and obtained another copy of the purchase order for the project file.

Required

Actions: For future program implementation, the BAAQMD must ensure that all project documentation required either by the Guidelines or by the BAAQMD's own procedures are maintained in the project files.

Finding 3: Lack of Required Performance Penalty Statement

Condition: In the 2002/2003 and 2003/2004 fiscal years, the BAAQMD's funding award letters to school districts failed to advise them to include the delivery deadline and the performance penalty statement in their purchase orders with school bus vendors, as required by the Lower-Emission School Bus Program Guidelines (Guideline Addendums dated May 2003 and June 2004). Without the delivery deadlines and penalty performance statement in the purchase orders, school districts could be held liable for any penalty fees levied for buses delivered after the required delivery deadlines.

Fortunately, all school buses funded in the 2002/2003 and 2003/2004 fiscal years were delivered to school districts by the applicable delivery deadlines; therefore, no school district was at risk for paying a performance penalty.

Required

Actions: Prior to this audit, the BAAQMD remedied this issue for the 2005/2006 fiscal year by issuing contracts to school districts that specifically stated that all purchase orders must contain the performance penalty statement and the required delivery deadline for the 2005/2006 fiscal year State funds. All funding contracts issued by the BAAQMD for future year funds must also include any

applicable performance penalty language and specified delivery deadlines, as required by School Bus Program Guidelines.

C. Fiscal Findings

As previously discussed, the ARB contracted with DoF to perform an in-depth review of the fiscal elements of the District's Carl Moyer and School Bus Programs during the same four audit years. ARB staff worked closely with DoF staff; however, the DoF audit focused on fiscal issues and followed their own departmental procedures for their portion of the audit. The methods and results of the fiscal portion of the audit are covered in a separate report, and are not represented in this report. Therefore, both reports should be viewed together to get a complete perspective of District operations.

Attachment 1

List of Projects Reviewed

2007 Carl Moyer Program Audit of the
Bay Area Air Quality Management District

**Bay Area Air Quality Management District
2007 Carl Moyer Program Audit
List of Projects Reviewed**

Bay Area AQMD Project Name	BAAQMD Number	Source Category	Eligibility Review	In-Depth File Review	Site Visit
Carl Moyer Program FY 2002/2003					
Amnav Maritime Services- MV Enterprise	02MOY68	Marine	X		
Amnav Maritime Services- MV Patriot	02MOY69	Marine	X		X
Blue and Gold Fleet- MV Monarch	02MOY41	Marine	X	X	
Crossroads Associates	02MOY03	Ag Pump	X		
Cypress Ranch	02MOY05	Ag Pump	X	X	X
Independent Construction	03MOY01	Off-road	X	X	X
Westar Marine Services- Fat Cat	02MOY80	Marine	X		
City of Oakland (match)	02R17	On-road	X		
Carl Moyer Program FY 2003/2004					
Amnav Maritime Services	02MOY67	Marine	X	X	X
Amnav Maritime Services- MV Marauder	02MOY71	Marine	N/A ¹	N/A	N/A
Bode Concrete, LLC	04MOY150	On-road	X	X	X
Brusco Tug & Barge	02MOY52	Marine	X		
Cypress Ranch	2MOY07	Ag Pump	X		

**Bay Area Air Quality Management District
2007 Carl Moyer Program Audit
List of Projects Reviewed**

Bay Area AQMD Project Name	BAAQMD Number	Source Category	Eligibility Review	In-Depth File Review	Site Visit
Independent Construction	02MOY61	Off-road	X		
Richmond Pacific Railroad	04MOY04	Locomotive	X	X	X
Acalanes Union HSD (match)	02LESB17	On-road	X		
Metropolitan Transportation Commission (match)	03R58	On-road	X		
West Co. Transportation Co., (match)	02LESBP11	On-road	X		
Travis USD (match)	02LESBP13	On-road	X		
Carl Moyer Program FY 2004/2005					
Amtrak	04MOY03	Locomotive	X		
Brusco - Amy B	04MOY25	Marine	X		
Brusco - Western Comet	04MOY26	Marine	X		
Independent Construction	04MOY44	Off-road	X		
Independent Construction	04MOY85	Off-road	X		
Waste Management	04MOY131	On-road	X		

¹Project cancelled by applicant

Attachment 2

List of Projects Reviewed

2007 School Bus Program Audit of the
Bay Area Air Quality Management District

**Bay Area Air Quality Management District
2007 School Bus Program Audit
List of Projects Reviewed**

Project Number	Public School District	Project Type	Environmental Justice Community^a
02LESBP09	Mountain House Elementary School District	New Bus	No
02LESBP06	Sequoia Union High School District	New Bus	Yes
03LESBP06	Morgan Hill Unified School District	New Bus	No
03LESBP02	Newark Unified School District	New Bus	Yes
05LESBP03	Berryessa Union School District	New Bus	N/A ^b
05LESBP04	San Mateo Union High School District	New Bus	N/A ^b
05LESBP05 (AB 923 Funds)	Campbell Union High School District	New Bus	N/A ^b

^aBAAQMD staff developed criteria for use in identifying communities significantly impacted by air pollution, including communities of minority populations and/or low-income populations, as required by Health and Safety Code section 43023.5. The BAAQMD's Board of Directors approved the criteria for use in the Carl Moyer Program on April 11, 2002. BAAQMD staff chose to use these criteria to implement the Lower-Emission School Bus Program as well, which is allowable under the Lower-Emission School Bus Program Guidelines.

^bThe Legislature directed that 2005/06 fiscal year State funds must be used to replace pre-1977 model year buses in order of oldest bus first; this Legislative directive takes precedence over other environmental justice criteria. For its AB 923 funds, the BAAQMD continued to replace pre-1977 model year buses in order of oldest bus first.