The Carl Moyer Memorial Air Quality Standards Attainment Program:

Improved Practices in Applicant Selection, Contracting, and Marketing Could Lead to More Cost-Effective Emission Reductions and Enhanced Operations

June 2007 Report 2006-115

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June 14, 2007 2006-115

The Governor of California
President pro Tempore of the Senate
Speaker of the Assembly
State Capitol
Sacramento, California 95814

Dear Governor and Legislative Leaders:

As requested by the Joint Legislative Audit Committee, the Bureau of State Audits presents its audit report concerning the administration of the Carl Moyer Memorial Air Quality Standards Attainment Program (Moyer Program) by the State Air Resources Board (state board) and the four local air districts we visited.

This report concludes that some policies and practices used by the state board and the four local air districts resulted in the Moyer Program achieving less cost-effective emission reductions than it otherwise could have achieved. California law impedes emission reductions by allowing the state board to set aside only 10 percent of Moyer Program funds for projects that operate in more than one district. A higher cap could lead to projects having intended emission reductions with lower costs per ton. Also, the methodology the state board uses to select projects for the multidistrict component undervalues the cost-effectiveness of emission reductions. As a result, the state board did not select some projects with lower costs per ton of intended emission reductions. Additionally, most projects the Bay Area Air Quality Management District used to meet the Moyer Program fund-matching requirement for fiscal year 2003–04 exceeded the maximum cost per ton of emission reductions established by the state board.

Further, we identified some concerns with the administration of the Moyer Program at the state board and the local air districts. The South Coast Air Quality Management District did not spend $24.1 million in Moyer Program funds by the statutory deadline. Thus, the district cannot ensure that it is achieving the prompt emission reductions intended by law. The state board is monitoring the district to ensure it spends the funds by July 1, 2007. Also, the state board may not perform on-site audits of local air districts' Moyer programs with sufficient frequency. Without sufficiently frequent on-site audits, errors in the districts' program administration may occur.

Finally, this report includes additional findings related to marketing and project inspections. It also identifies several best practices that can help local air districts select projects that will reduce pollution emissions more cost-effectively, reduce workload, or allow more time for applicants to complete their projects.

Respectfully submitted,

Elaine M. Howle

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State Auditor

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Contents

Summary

Results in Brief

The Carl Moyer Memorial Air Quality Standards Attainment Program (Moyer Program) is an incentive program offered by the State Air Resources Board (state board) in conjunction with participating air pollution control districts and air quality management districts (collectively, local air districts). The Moyer Program provides funds to help private companies, public agencies, and individuals undertake projects to retrofit, repower, or replace existing engines to reduce pollution emissions beyond what is required by law or regulations. A local air district can fund a project that provides cost-effective emission reductions. Emission reductions are considered cost-effective when the cost to reduce 1 ton of emissions is at or below the cost ceiling imposed by the state board.

Some policies and practices of the state board and the four local air districts we visited resulted in projects funded by the Moyer Program not maximizing emission reductions; that is, the projects did not achieve the same emission reductions for a lower cost or more emission reductions for the same cost. California law impedes emission reductions by allowing the state board to set aside only 10 percent of Moyer Program funds for projects that operate in more than one district. A higher cap could lead to emission reductions with lower costs per ton. For example, if the cap for multidistrict projects were increased to 15 percent for funds appropriated in fiscal year 2004–05, the state board could have selected three additional projects with intended emission reductions costing an average of $2,600 per ton. Shifting this funding would have reduced the money available to local air districts, thus preventing the four districts we visited from selecting 13 projects. However, the average cost of the intended emission reductions from those projects was nearly $11,000 per ton, clearly not as good a value as the multidistrict projects.

Further, three of the six categories the state board uses to assign points when scoring applications for multidistrict projects are neither required nor encouraged by state law. Of the 100 possible points, these three categories accounted for 35 and 55 points, respectively, in the two fiscal years we reviewed. An applicant who received no points for any one of the three categories likely had limited ability to compete with other applicants under consideration. As a result, the state board selected some projects with higher costs per ton of intended emission reductions than it would have if the point values for the three optional categories were lower.

Audit Highlights . . .

Our review of the Carl Moyer Memorial Air Quality Standards Attainment Program (Moyer Program) revealed the following:

- ***California law impedes emission reductions by allowing the State Air Resources Board (state board) to set aside only 10 percent of Moyer Program funds for projects that operate in more than one local air district.***
- ***The methodology the state board used to select projects for the multidistrict component undervalues the cost per ton of intended emission reductions.***
- ***For fiscal year 2003–04, 14 of the 16 projects the Bay Area Air Quality Management District designated as matching projects exceeded the Moyer Program's ceiling for cost per ton of intended emission reductions.***
- ***The South Coast Air Quality Management District did not spend $24.1 million in Moyer Program funds within the required two years and the state board is monitoring the district to ensure these funds are spent by July 1, 2007.***
- ***We identified several best practices that, among other things, can help local air districts select projects with lower costs per ton of intended emission reductions.***

Also, we believe the changes the state board made to its method of selecting multidistrict projects for Moyer Program funds for fiscal year 2006–07 still place too much weight on factors not required or encouraged by law. Our modeling shows that had the state board placed less weight on these optional factors, it could have achieved 298 more tons of emission reductions and reduced the average cost per ton for those emission reductions by more than half, from $3,247 to $1,555, based on fiscal year 2005–06 project data.

State law requires local air districts to provide their own funds to match Moyer Program funds provided by the state board. Further, projects funded with these matching funds must meet all Moyer Program criteria. Our review revealed that projects funded by one local air district did not meet the Moyer Program requirements for cost per ton of intended emission reductions. As allowed by state law, the Bay Area Air Quality Management District (Bay Area air district) designated 16 projects funded by other programs it administered as matching projects for the Moyer Program for fiscal year 2003–04. However, 14 of the 16 projects it identified exceeded the state board's cost ceiling of $13,600 per ton, and therefore did not meet the fund-matching requirement of the Moyer Program. The Bay Area air district knew the costs per ton for the projects it selected for matching exceeded the cost ceiling. Instead of selecting other eligible projects, the district attempted to make the 14 projects qualify as match under the Moyer Program by counting only a portion of the projects' total costs when it calculated the projects' costs per ton. Specifically, the district counted as the matching fund portion for the Moyer Program only $740,000 of the $2.5 million it awarded to these 14 projects. This approach is contrary to state law and Moyer Program guidelines because the district did not include all funds under its budgetary control when it calculated the costs per ton of intended emission reductions.

Local air districts use various methods to market the Moyer Program, such as brochures, mailing lists, Web pages, and workshops, but they do not adequately evaluate their efforts to determine whether they are reaching the business sectors that might be able to provide more cost-effective emission reductions. The districts rely primarily on one measure—whether they receive enough applications to distribute all Moyer Program funds—to evaluate their marketing efforts. Thus, they cannot ensure that their marketing efforts are resulting in applications that help maximize cost-effective emission reductions.

Our review revealed several best practices that can help local air districts select projects with lower costs per ton of intended emission reductions, reduce workload, or allow more time for projects to reach completion. For example, two districts used measures of pollution or the effects of pollution in their methods

for identifying communities that were disproportionately impacted by pollution. Other best practices relate to selecting and contracting for projects.

We also identified three concerns with the administration of the Moyer Program at the state board and the local air districts. First, as of December 2006 the South Coast Air Quality Management District (South Coast air district) had $24.1 million in Moyer Program funds it had not spent within the two-year time frame established by law. Unspent Moyer Program allocations are a strong indicator that intended emission reductions likely are not occurring. When allocating its fiscal year 2004–05 Moyer Program funds, the South Coast air district selected projects intended to reduce 1 ton of emissions for every $4,256 it spent, on average. Had the South Coast air district spent the $24.1 million on similarly cost-effective projects by the statutory deadline of June 30, 2006, 5,600 tons of pollutants would have been removed.

The South Coast air district cited differences in definition as its reason for not spending all the funds. State law requires that Moyer Program funds be "expended" within two years of allocation to the local air districts; funds not expended are to revert to the state board. The state board and the Department of Finance (Finance) define *expended* to mean "spent." The South Coast air district, however, interpreted *expended* to mean "obligated"; under its interpretation the $24.1 million was *expended*. We agree with the state board and Finance that the appropriate definition of *expended* is "spent." The state board noted that it has the district's assurance that it will fully expend all applicable Moyer Program funds by July 1, 2007. The state board is monitoring the district to ensure that this happens.

Our second concern with administration of the Moyer Program is that the timing requirements for conducting preinspections—inspecting the engine to be retrofit, repowered, or replaced to ensure that it is still operational—are overly restrictive. The Moyer Program guidelines generally require local air districts to perform preinspections after the districts have awarded funds but before they execute the related contracts. One district chose not to follow this requirement because delaying the execution of the contract would have delayed project implementation. The state board stated that it is considering whether to change this requirement for the next version of the Moyer Program guidelines.

Finally, the state board may not be performing on-site audits of local air districts with sufficient frequency. It conducted four on-site audits in 2006 and plans to complete four more in 2007. If it maintains the rate of four audits per year, the state board will audit districts participating in the Moyer Program, on average, once every

seven years. Audits released in 2006 demonstrate that some local air districts improperly administer the Moyer Program. More frequent audits would address identified problems earlier.

Recommendations

To maximize the use of Moyer Program funds, the state board should do the following:

- Seek legislation to revise state law to increase the 10 percent maximum proportion it can allocate for multidistrict projects. If the state board opts not to seek this revision, the Legislature may wish to consider it.

- When evaluating applications for multidistrict projects, assign more points to categories that help the state board achieve the lowest cost per ton of emission reductions.

To maximize the use of Moyer Program funds, local air districts should do the following:

- Include all funds under their budgetary control as part of the calculations when determining the cost per ton of a project's intended emission reductions. Further, districts should develop and implement policies and procedures that enable them to meet the requirements in the Moyer Program guidelines regarding matching funds.

- Develop and implement techniques to measure the effectiveness of their marketing methods, including targeting business sectors that could generate projects with the lowest cost per ton of emission reductions and assessing the results.

To improve their administration of the Moyer Program, local air districts should consider implementing the best practices we identify in this report.

The South Coast air district should ensure that by July 1, 2007, it spends Moyer Program funds that are beyond the two-year availability period as required by law and as interpreted by the state board and Finance.

To help ensure that the South Coast air district spends Moyer Program allocations that are beyond the two-year limit, the state board should continue monitoring the district's efforts and take appropriate action should its efforts falter. If the South Coast air

district does not spend the funds by July 1, 2007, the state board should initiate appropriate administrative action, up to or including recovering all remaining unspent funds.

To help streamline the process for performing preinspections, the state board should revise its requirement that local air districts must perform preinspections before executing contracts.

To ensure that local air districts administer the Moyer Program according to state law and Moyer Program guidelines, the state board should ensure that it audits a sufficient number of districts each year.

Agency Comments

The state board generally agreed with our recommendations and indicated it is taking steps to implement them. Although they generally agreed with our recommendations, the Bay Area air district provided more recent information on its program staffing, and the San Joaquin Valley air district raised a concern about a best practice we identified. The Sacramento Metropolitan and the South Coast air districts expressed concerns with our conclusions regarding increasing the cap for the multidistrict component and marketing. Also, the South Coast air district objected to our conclusions regarding its unexpended Moyer Program funds.

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Introduction

Background

California has 21 air pollution control districts and 14 air quality management districts (collectively, local air districts). These local air districts and the State Air Resources Board (state board) are responsible for developing and implementing strategies to reduce air pollution and meet air quality requirements established by the federal government. The Carl Moyer Memorial Air Quality Standards Attainment Program (Moyer Program), established in 1998, is an incentive program offered jointly by the state board and participating local air districts to help reduce air pollution.[1] Incentive programs provide monetary grants to achieve specific purposes—in the case of the Moyer Program, to encourage private companies, public agencies, and individuals to achieve more emission reductions than those required by federal, state, or local governments. Like other incentive programs, the Moyer Program is voluntary; therefore, local air districts can choose to participate by offering the Moyer Program, and private companies, public agencies, or individuals can choose to participate by applying for Moyer Program funds and agreeing to adhere to stricter emission standards.

Originally designed as an incentive program for diesel-powered equipment, the Moyer Program now includes nondiesel engines and other types of equipment. Eligible vehicles or equipment that can be included in projects funded by the Moyer Program are divided into categories, including locomotives; stationary and portable agricultural engines; on-road vehicles such as buses, street sweepers, and delivery trucks; off-road vehicles such as construction and farm equipment and forklifts; marine vessels such as tugboats, ferries, and nonrecreational fishing boats; and airport ground support equipment such as baggage vehicles, cargo vehicles, and air-conditioning units. In some instances light-duty vehicles such as passenger cars, pick-up trucks, and vans are also eligible. According to the state board, more than 1.2 million diesel-fueled engines operate in California, powering most trucks, buses, off-road equipment, agricultural equipment, locomotives, and marine vessels.

[1] Dr. Carl Moyer, who died in 1997, was a scientist who worked to improve air quality. According to the state board, he was an advocate for positive solutions to the air pollution challenges in California and sought to unite business, government, and environmental groups in a common effort to reduce pollution from heavy-duty vehicles. The state board also indicates that the Moyer Program is his vision for how to meet current air quality goals through reductions in emissions from heavy-duty sources.

Projects eligible to receive Moyer Program funds typically fall into three categories: retrofit, repower, or replacement. Retrofit projects involve modifying or purchasing add-on equipment to reduce emissions from existing engines. For example, a retrofit project might install diesel emission control devices on a fleet of city buses. Repower projects involve replacing old engines with newer ones that have zero or very low emissions, or with newer engines certified as meeting more stringent emission standards. An example of a repower project is removing old diesel engines in construction equipment and installing new low-emission diesel engines. Replacement projects involve opting to purchase new engines or vehicles with very low or zero emissions rather than buying other new engines or vehicles that emit higher levels of pollutants, even though they meet existing emission requirements. For example, instead of purchasing new diesel-powered refuse trucks, a project could include purchasing refuse trucks powered by liquified natural gas.

Under state law, emission reductions to be achieved under the Moyer Program must be real, enforceable, quantifiable, and surplus. Although the state board asserts that the Moyer Program guidelines describe the criteria for ensuring that projects funded by the program achieve this requirement, it does not specifically define all these terms individually.[2] State law also limits the funding of a project to its incremental cost. The Health and Safety Code defines *incremental cost* as the total cost of a project less a baseline cost that might otherwise be part of the normal course of business. For example, instead of rebuilding a vehicle's diesel engine for $10,000, an applicant for Moyer Program funds might propose to repower the vehicle with a newer, less polluting engine for $25,000. If selected as a recipient, this project could receive up to the $15,000 incremental difference.

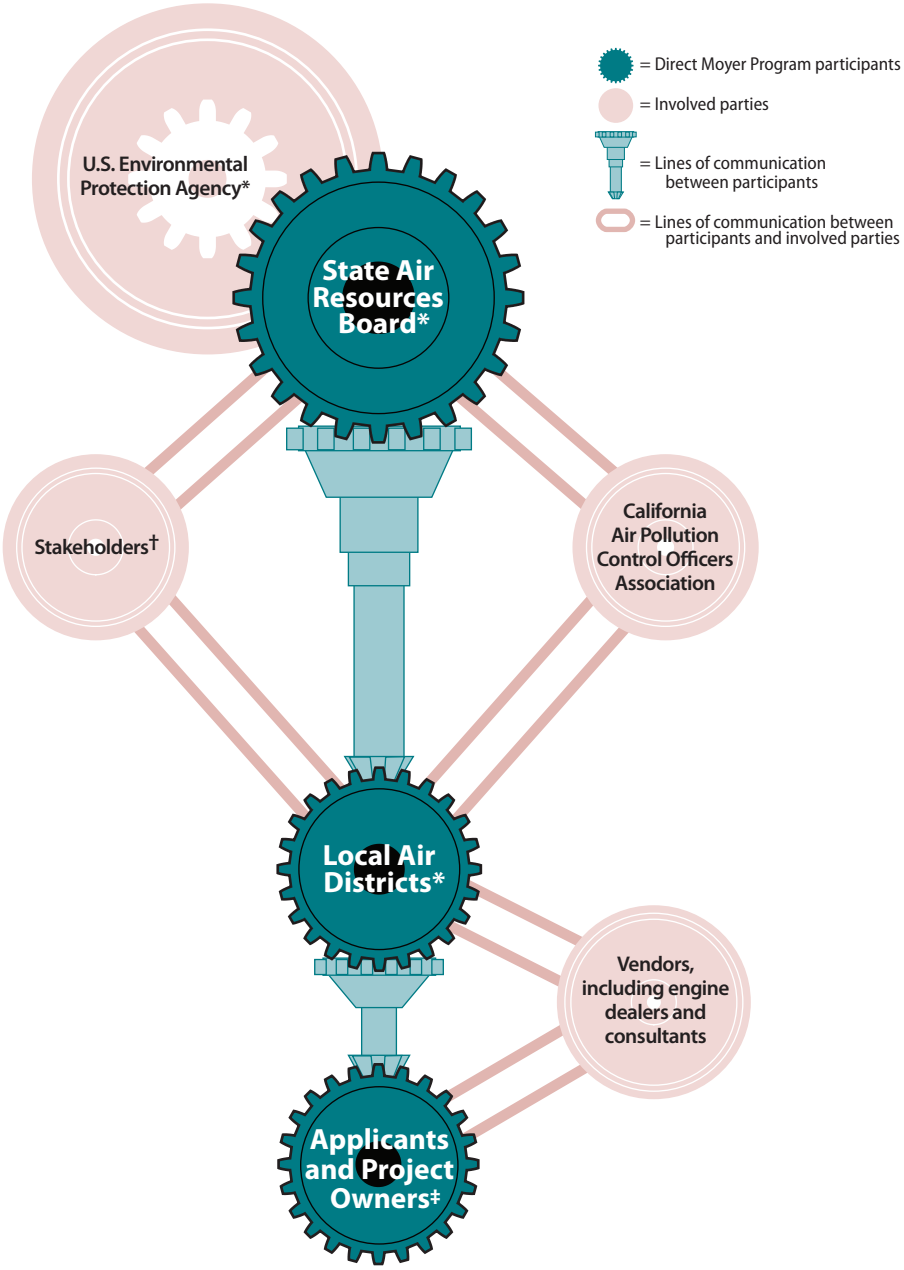
Roles and Responsibilities

The Moyer Program is a partnership between the state board and the local air districts. As illustrated in Figure 1, several other entities are also involved.

The state board has primary responsibility for protecting air quality in California. According to state law, this responsibility includes coordinating efforts to attain and maintain ambient air quality standards, conducting research into the causes of and solutions

[2] The only term defined is *surplus*. The Moyer Program guidelines state that to be labeled surplus, emission reductions must be early or extra—that is, occurring before a required compliance date or exceeding the requirements of a rule or regulation.

Figure 1
Entities Involved in the Carl Moyer Memorial Air Quality Standards Attainment Program



Sources: State law and information provided by the State Air Resources Board and local air districts.

Note: Under state law, the State Energy Resources Conservation and Development Commission (commission) is responsible for the fueling infrastructure demonstration program and the technology development efforts under the Carl Moyer Memorial Air Quality Standards Attainment Program (Moyer Program). Commission staff told us these types of programs have not received appropriations under the Moyer Program since fiscal year 2000–01.

* These entities are government entities.

† Includes environmental groups, industry groups, and members of the general public.

‡ Entities under Moyer Program contracts.

to air pollution, and systematically attacking the serious problem caused by motor vehicles, which is a major source of air pollution in many areas of the State.

The state board's responsibilities for the Moyer Program include issuing guidelines for administering the program, allocating program funds to local air districts, monitoring districts' administration of their Moyer Program projects, and selecting projects for the program's multidistrict component. The multidistrict component allows the state board to select projects that operate in more than one district and, according to the state board, may not otherwise be eligible to receive Moyer Program funds because of the operational restrictions imposed by most districts.

The Moyer Program guidelines establish the minimum requirements the state board and local air districts must follow to administer projects. The guidelines are binding and enforceable. Further, California law requires the state board to monitor participating districts to ensure compliance. Although these guidelines provide the framework for districts to implement the Moyer Program, the state board allows them to impose stricter requirements and to determine how they will implement the guidelines. For example, although the guidelines require projects to operate at least 75 percent of their "activity" (typically measured in hours of operation, fuel consumption, or miles traveled) in California, some districts require projects to operate at least 75 percent of their activity within the funding district.

According to a program manager at the state board, although organizational differences formerly existed between the two types of local air districts (air pollution control districts formerly served single counties and air quality management districts encompassed multiple counties), no legal distinction currently exists between them. Appendix A includes a map of California's 35 local air districts.

Local air districts are separate governmental entities with their own boundaries, jurisdictions, governing boards, executives, staff, and policies. Table 1 shows some characteristics of the four districts we visited as part of this review. Among the differences we observed, the most notable is that the South Coast Air Quality Management District (South Coast air district) received the largest allocations of Moyer Program funds for fiscal years 2004–05 and 2005–06, more than the other three districts combined.

All participating local air districts are responsible for administering their Moyer Program funds and reporting project results to the state board. Districts also solicit applications and conduct outreach

to encourage applications from all eligible sectors. The districts select projects to fund and then monitor those projects to ensure that they are meeting program goals.

Table 1
Characteristics of Audited Local Air Districts and Their Moyer Programs as of February 2007

CHARACTERISTIC	BAY AREA AIR QUALITY MANAGEMENT DISTRICT	SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT	SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT	SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
Headquarters	San Francisco	Sacramento	Fresno	Diamond Bar
Number of whole/ partial counties in the air district	7/2	1/0	7/1	1/3
Number of governing board members	22	14	11	12
Staffing levels for Moyer Program	1 manager/ supervisor*, 2 staff†	3 managers/ supervisors*, 11 staff	2 managers/ supervisors*, 11 staff	1 manager/ supervisor, 12 staff
Total Moyer Program allocations, fiscal years 2004–05 and 2005–06	$12.8 million	$8.7 million‡	$14.7 million	$46.5 million
When are projects selected	March	Year-round	Year-round	February

Source: Information provided by the four local air districts we reviewed.

* Staff work only part of their time on the Carl Moyer Memorial Air Quality Standards Attainment Program (Moyer Program).

† Does not include one additional staff member recently hired.

‡ The Sacramento Metropolitan Air Quality Management District (Sacramento Metropolitan air district) also administers the Moyer Program for the El Dorado County and Yolo-Solano Air Quality Management districts as well as the Placer County Air Pollution Control District. Moyer Program allocations for the Sacramento Metropolitan air district reflect all four of these districts.

Private companies, public entities such as public works departments and transit agencies, and individuals can apply to local air districts for Moyer Program funds. Projects may include single or multiple engines—for example, single agricultural irrigation pumps, dual-engine commercial fishing vessels, or fleets of multiengine construction vehicles. Applicants are responsible for ensuring that their applications are complete and accurate and for performing the projects as described in their contracts. Entities under program contracts (project owners) are required to periodically report on the use of their engines or vehicles for a specific number of years after implementing their projects.

Sources of Moyer Program Funds

Funding for the Moyer Program currently comes from specific statutorily defined sources, although this was not always the case. According to the state board's January 2007 report on the Moyer Program, for fiscal years 1998–99 through 2001–02 the program received funding through annual appropriations. Voter approval in March 2002 of Proposition 40—the California Clean Water, Clean Air, Safe Neighborhood Parks, and Coastal Protection Act of 2002—provided funding for the Moyer Program in fiscal years 2002–03 and 2003–04. The state board's report shows that through fiscal year 2003–04, annual funding levels for the Moyer Program ranged from $16 million (fiscal year 2001–02) to $44 million (fiscal year 2000–01).

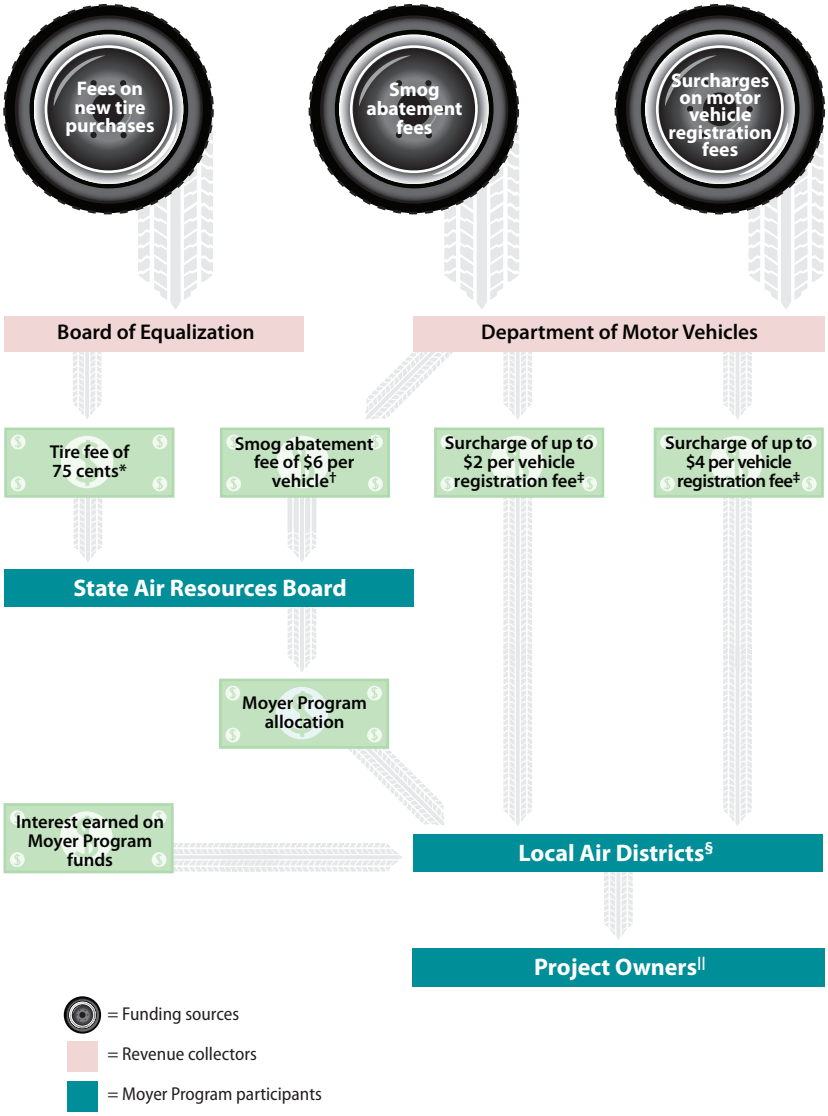
Legislation enacted in 2004 designated two sources of funds for the Moyer Program: fees on new tire purchases and smog abatement fees. The state board estimated that these sources would increase annual funding levels to an estimated $30.5 million for fiscal year 2004–05 and an estimated $86 million for fiscal year 2005–06. Figure 2 depicts these new fund sources.

According to the Health and Safety Code, $6 of each smog abatement fee collected by the Department of Motor Vehicles may be used to fund the Moyer Program to mitigate or remediate the harm caused by the type of motor vehicles on which the fee is imposed. According to the Public Resources Code, 75 cents per tire sold in California beginning January 1, 2005, will be transferred by the Board of Equalization to the state board for funding programs or projects that reduce the types of air pollution caused by the tires subject to the fee. The state board uses revenues from tire fees for the Moyer Program.

State law mandates that local air districts match one local dollar for every two state dollars to implement Moyer Program projects. The law also allows the state board to adjust the matching amount to maximize the use of the Moyer Program or the air quality benefits it provides based on the financial resources of districts. For the two fiscal years we reviewed, the state board established a total maximum matching amount per year of $12 million to be distributed proportionately among the districts to which it annually allocated Moyer Program funds.[3] For example, the state board allocated 44 percent of the Moyer Program funds appropriated in fiscal year 2005–06 to the South Coast air district. The South Coast air district's share of matching funds was $5.2 million, or 44 percent of the $12 million total.

[3] The state board generally waived the matching requirements for local air districts receiving $200,000 or less in Moyer Program funds each year.

Figure 2
Current Flow of Funding for the Carl Moyer Memorial Air Quality Standards Attainment Program



Sources: State law and information provided by the State Air Resources Board (state board).

* Under the Public Resources Code this fee is to fund costs related to reducing air pollution.

† Under the Health and Safety Code this fee is to be used to fund the Carl Moyer Memorial Air Quality Standards Attainment Program (Moyer Program) to the extent that the state board or a participating local air district determines that the project will mitigate or remediate the harms caused by the type of motor vehicles on which the fee is imposed.

‡ The $2 and $4 registration fee surcharges are shown separately as they have different spending restrictions. Under the Health and Safety Code local air districts can adopt the surcharge of up to $2 to help remediate the air pollution caused by motor vehicles. They adopt the surcharge of up to $4 to help implement the California Clean Air Act of 1988. Both are potential sources of matching funds under the Moyer Program for local air districts.

§ Includes air pollution control districts and air quality management districts.

|| Entities under Moyer Program project contracts.

Matching funds can come from any funds under a local air district's budgetary control. However, state law specifically designates two surcharges on motor vehicle registration fees that districts can impose on vehicles registered in their districts. The districts may use funds from these surcharges as matching funds to pay for Moyer Program projects. As previously shown in Figure 2, the Department of Motor Vehicles sends these revenues directly to the districts. The state board indicated that as of January 2007, 27 of the 35 local air districts had adopted the surcharge of up to $4, which can be used to reduce air pollution from motor vehicles and to perform the related planning, monitoring, enforcement, and technical studies needed to implement the California Clean Air Act of 1988. Four of the 27 districts charge only $2 or $3. Also, 17 districts had adopted the $2 surcharge, which can be used for specified programs that remediate air pollution harm from motor vehicles. According to the state board, the four districts we visited as part of this review adopted both surcharges.

Timing for Distributing and Spending Moyer Program Funds

Moyer Program funds must be spent within three years from when the State appropriates them to the state board. State law requires the state board to allocate the funds to the local air districts each year as expeditiously as possible. The state board allocated the funds in December of each fiscal year we examined (2004–05 and 2005–06) to the districts we visited. Moyer Program guidelines require local air districts to allocate the funds to specific projects by June 30 of the first year following the allocation from the state board. Finally, state law requires districts to expend their Moyer Program allocations by June 30 of the second year following the date they received the funds.

State law also allows local air districts to use a portion of their allocated funds for costs incurred to administer the program. Districts with populations greater than 1 million may use up to 5 percent of their allocated funds on administration, and districts with populations less than 1 million may spend 10 percent.

According to Moyer Program guidelines, the state board generally does not provide local air districts the entire amount of their funds immediately after awarding the allocations. Districts may request funds once they have met any stipulations to their awards. For example, the state board required the San Joaquin Valley Unified Air Pollution Control District (San Joaquin Valley air district) to submit a resolution adopted by its governing board that accepted the terms and conditions of the fiscal year 2004–05 allocations.

To begin receiving their allocations, local air districts must also show that they have obligated at least 90 percent of the previous fiscal year's Moyer Program funds and required matching funds. They also must show that they have obligated and expended 100 percent of the Moyer Program and matching funds awarded for at least the two years before the previous year. The state board's initial payment to a district is typically 10 percent of that district's allocation and 50 percent of the amount set aside for program administration, although the district may submit documentation demonstrating the need for a greater amount. To receive additional payments, districts must show that they have obligated 100 percent of previous years' Moyer Program funds and 50 percent of their initial disbursement for the current year. Districts may request the remaining half of their administrative funds when they have obligated 50 percent of the current year's program funds.

Cost-Effectiveness of Moyer Program Projects

A key requirement for eligibility of a potential Moyer Program project is cost-effectiveness, which is specified by state law. The calculation of cost-effectiveness indicates the amount a project requires and is eligible to receive to reduce 1 ton of emissions. For example, cost-effectiveness of $5,000 means the Moyer Program will pay $5,000 per ton of reduced emissions. A lower cost-effectiveness value is better than a higher one because it means the Moyer Program is paying less to achieve emission reductions. An explanation of the formula for calculating cost-effectiveness appears in Appendix B.

To ensure that Moyer Program funds are awarded only to projects able to achieve cost-effective emission reductions, state law originally imposed a $12,000 cost ceiling for each ton of reduced emissions. An amendment later increased this amount to $13,600. Because state law requires an adjustment to account for inflation, the state board later raised the ceiling to $14,300 per ton beginning with Moyer Program funds appropriated in fiscal year 2005–06.

The state board made available to the districts a spreadsheet for calculating a project's cost per ton of intended emission reductions. Both the South Coast air district and the Bay Area Air Quality Management District (Bay Area air district) use this spreadsheet, while the Sacramento Metropolitan Air Quality Management District (Sacramento Metropolitan air district) and the San Joaquin Valley air district each developed a tool for calculating their projects' cost-effectiveness.

Small projects can be competitive for funding with large ones because of the cost-effectiveness calculation. They can have similar cost-effectiveness values but markedly different ratios of total costs to tons of annual emission reductions because of the effect of other factors, such as project life. For example, state board records indicate that, using Moyer Program funds appropriated in fiscal year 2004–05, the Bay Area air district funded a project with a calculated cost of $2,158 per ton of reduced emissions. The district spent only $112,400 on this project and expects to achieve more than 4 tons of reduced emissions per year over the project's 10-year life. For Moyer Program funds from the same fiscal year, the South Coast air district selected a project with a cost-effectiveness value of $2,163 per ton of reduced emissions. However, this project cost $750,700 and expects to reduce more than 62 tons of pollutants per year over its six-year life.[4]

Although local air districts use these calculations for ensuring that they select cost-effective projects, they use different methods for identifying and selecting projects to fund. The Bay Area and South Coast air districts issue public announcements similar to requests for proposals calling for Moyer Program applications to be submitted by a specific date. They then calculate the cost per ton for each application's intended emission reductions and use these values in their rankings. This method works well when districts receive more applications than they can fund; it helps ensure that they select annually those projects that achieve more cost-effective emission reductions.

On the other hand, the Sacramento Metropolitan and San Joaquin Valley air districts provide Moyer Program funds to projects on a first-come, first-served basis. When these districts receive applications during the year, they calculate the cost per ton for each application's intended emission reductions, ensuring that they are not funding projects that exceed the state board's ceiling. This method works well when local air districts have sufficient funds to select all or nearly all eligible projects that apply; applicants do not have to wait until a certain date to submit their proposals.

Scope and Methodology

The Joint Legislative Audit Committee (audit committee) asked the Bureau of State Audits to review how key local air districts manage administration of the Moyer Program. The audit committee asked

[4] As mentioned in the Scope and Methodology, we did not determine the accuracy of the cost per ton of intended emission reductions because of the lack of hard-copy documentation of the calculations or because recalculating the values was beyond the scope of our audit. Thus, these data are of undetermined reliability.

us to examine several specific aspects of the Moyer Program. It asked us to determine the roles and responsibilities of the various entities involved and to evaluate the communication and coordination of the various functions in carrying out the Moyer Program. We were also asked to review the state board's policies, procedures, guidelines, and regulations related to the Moyer Program to determine if they establish program goals and measures; comply with laws; and encourage uniformity, consistency, and fairness in application. The audit committee also asked us to examine the state board's monitoring and oversight policies and practices to determine whether the state board exercises an appropriate level of timely oversight to ensure uniformity and consistency in how local air districts develop and implement their program, and whether districts comply with the state board's policies and guidelines.

We were also asked to review and compare Moyer Program processes at local air districts. We limited our review to four—the Bay Area, Sacramento Metropolitan,[5] San Joaquin Valley, and South Coast air districts—because information in the state board's status report shows that it allocated to these districts 77 percent of the Moyer Program funds from the program's inception in 1998 through fiscal year 2005–06 and that these districts were the four largest in terms of the Moyer Program funds they received. Our review covered mainly fiscal years 2004–05 and 2005–06.

For the local air districts included in our review, the audit committee asked us to review and compare the application, eligibility, selection, funding, and monitoring processes and practices and to do the following:

- Determine conformity to the state board's guidelines, consistency among local air districts, and best practices employed.
- Evaluate whether applicants received equitable treatment and did not face barriers to participating in the Moyer Program.
- Calculate and compare the time it takes to process applications, select projects, and distribute funds to determine whether those times are within the state board's guidelines.
- Determine whether the processes are streamlined, easy to use, and ensure that vehicles spending time in different local air districts receive funding from the Moyer Program.

[5] For the two fiscal years covered by this audit report, the Sacramento Metropolitan air district also administered the Moyer Program for the El Dorado County and Yolo-Solano Air Quality Management districts as well as the Placer County Air Pollution Control District. Therefore, we included funding to all four of these districts as part of our audit.

- Determine the extent to which processes for distributing funds consider public health protection and strive for achieving maximum emission reductions.

The audit committee asked us to determine how local air districts establish goals and priorities and whether those goals and priorities align with the state board's goals. Additionally, the audit committee requested that we determine the extent to which those goals are used in allocating funds. Finally, we were asked to review the state board's and local air districts' public outreach efforts and goals. Specifically, to the extent applicable, we were to determine how the state board and the districts identify potential project owners, disseminate public information, and market the Moyer Program to promote maximum participation. Additionally, we were to determine how the state board and the districts ensure that those efforts are effective.

To identify the roles and responsibilities of the various entities involved in the Moyer Program, we examined state law and the state board's guidelines. We also interviewed personnel from the state board, the local air districts we visited, and the State Energy Resources Conservation and Development Commission. To evaluate the communication and coordination of the various functions in carrying out the Moyer Program, we interviewed staff members of the state board and the four districts we visited. We also identified the tools each entity was using to communicate.

To determine whether the state board's policies, procedures, guidelines, and regulations related to the Moyer Program establish program goals and measures; comply with laws; and encourage uniformity, consistency, and fairness in application, we selected key sections of the Moyer Program guidelines that established goals and measures and compared those to relevant sections of the Health and Safety Code. We also compared those sections to the draft policies and procedures documents for the four local air districts in our review.

To determine whether the state board exercised an appropriate level of timely oversight and whether local air districts complied with the state board's policies and guidelines, we identified the activities the state board included in its oversight process. We also spoke with the liaisons—staff members of the state board who communicate with the districts—and the state board's management to determine how they implemented monitoring and what they did to ensure that districts complied with the Moyer Program guidelines.

To review and compare the application, eligibility, selection, funding, and monitoring processes and practices among the four local air districts, we obtained and reviewed relevant documents from the state board and the districts and interviewed staff members.

To determine conformity to the state board's guidelines and consistency among local air districts, we compared key portions of the districts' draft policies and procedures to the guidelines. To identify best practices, to determine equitable treatment among applicants, and to identify whether barriers to participation exist, we maintained awareness while performing audit steps during our visits to the districts. We defined *equitable* as "appropriate for the circumstances" and defined *barrier* as "an unnecessary impediment." Other than the concerns we raise in this report, we identified no inequitable treatment and no barriers to participating in the Moyer Program.

To calculate and compare the time it takes for processing the applications, selecting projects, and distributing funds, and to determine whether the time taken is within the state board's guidelines, we examined allocation and award documents from the state board and the four local air districts. We also examined 30 projects from each of the four districts we visited, a total of 120 projects. From each district we randomly selected 10 projects to which the district allocated Moyer Program funds appropriated in fiscal year 2004–05 and another 10 projects each for funds appropriated in fiscal year 2005–06. Because the Bay Area air district had not selected projects for fiscal year 2005–06 by the dates of our visits in November 2006 and January 2007, we selected 20 projects to which it awarded Moyer Program funds appropriated in fiscal year 2004–05. We then selected five projects with the highest awarded amounts from either year's Moyer Program funds for each of the four districts. We subjectively chose the final five projects for each district from either year's Moyer Program funds that seemed to take relatively longer to progress from the application receipt date.

For the 120 projects selected, we measured progression by tracking key dates (for example, the date a local air district sent a contract to a project owner for signature) and determined compliance with timing requirements found in Moyer Program guidelines. Because some project owners were still implementing their projects at the time of our review, we did not include the dates for all key events. We also spoke with district staff and management to determine the circumstances surrounding contracts that took relatively more or less time than others we examined.

To determine whether the application processes at the local air districts were streamlined and easy to use, we judgmentally selected several Moyer Program applicants, project owners, and engine dealers from each district and asked whether they had concerns with any part of the process. To ensure that applicants with operations in more than one district receive funding from the Moyer Program, we reviewed the state board's multidistrict component and the policies from the four districts regarding how much time applicants must operate within each district to qualify for funds. We also asked staff members of the four districts if they had funded or planned to fund Moyer Program projects jointly with other local air districts.

To determine the extent to which processes for distributing funds consider public health protection and strive for achieving maximum emission reductions, we examined the formula the Moyer Program guidelines specify for local air districts to use when calculating projects' costs per ton of intended emission reductions. Appendix B describes this formula. We also examined whether the districts we visited considered measures of pollution when determining whether a community was disproportionately impacted by air pollution or the results of air pollution.

To determine how local air districts in our review established goals and priorities, if they aligned with the state board's goals, and the extent to which the districts used those goals in awarding funds, we compared the draft policies and procedures from the four districts with the goals and measures established in the Moyer Program guidelines and with state law.

To review the state board's and local air districts' public outreach efforts and goals; to determine how the state board and the districts identified potential applicants, disseminated public information, and marketed the Moyer Program to promote maximum participation; and to determine how the state board and the districts ensure that their efforts are effective, we reviewed various materials districts used to conduct outreach and asked how they determined the effectiveness of their outreach and whether they measured the effects of their outreach efforts.

We received electronic data from each of the four local air districts we visited as well as the state board. The U.S. Government Accountability Office, whose standards we follow, requires us to assess the reliability of computer-processed data.

To assess whether the information was sufficiently reliable for the purposes of our audit, we conducted tests to determine the completeness and the accuracy of the information we were provided. Generally, to determine accuracy, we compared the

Table 2
Conclusions Regarding Our Assessment of Data Gathered From Electronic Sources

SOURCE	DATA TESTED	RELIABILITY DETERMINED
State Air Resources Board (multidistrict component)	Dollar values for the purpose of determining the total project contract amount	Sufficiently reliable
	Cost-effectiveness values for projects*	Undetermined reliability
	Scoring information	Undetermined reliability
Bay Area Air Quality Management District	Dollar values for the purpose of determining the total project contract amount	Sufficiently reliable
	Cost-effectiveness values for projects	Undetermined reliability
	Selected dates during the processing of applications	Sufficiently reliable
Sacramento Metropolitan Air Quality Management District	Dollar values for the purpose of determining the total project contract amount	Not sufficiently reliable
	Cost-effectiveness values for projects	Undetermined reliability
	Selected dates during the processing of applications	Not sufficiently reliable
San Joaquin Valley Unified Air Pollution Control District†	Dollar values for the purpose of determining the total project contract amount	Sufficiently reliable
	Cost-effectiveness values for projects	Undetermined reliability
South Coast Air Quality Management District†	Dollar values for the purpose of determining the total project contract amount	Sufficiently reliable
	Cost-effectiveness values for projects	Undetermined reliability
	Cancellation status of projects‡	Sufficiently reliable

Sources: Auditor determinations based on the data provided by the State Air Resources Board (state board) and local air districts.

* For fiscal year 2004–05, the data provided by the state board included only the final cost-effectiveness value; therefore, we could not trace the data to supporting documentation to determine the accuracy of the final cost-effectiveness value. For fiscal year 2005–06, the data provided by the state board did include sufficient information to recalculate the cost-effectiveness values; however, recalculating the cost-effectiveness value was beyond the scope of this audit. In both cases the data is of undetermined reliability.

† For the San Joaquin Valley and South Coast air districts, we relied solely on hard-copy information for our testing of selected dates during the application process.

‡ Our analysis on cancellation rates in Chapter 1 involved only the South Coast and Bay Area air districts as well as the state board's multidistrict component. For the Bay Area air district and the state board's multidistrict component, we relied only on hard-copy documentation.

information that we were provided to hard-copy information we were able to obtain and examined the differences. To determine the completeness of the information, we compared the data provided to us with other sources of information to ensure that all information

that should have been provided to us was in fact provided. In Table 2 as shown previously we present a description of all the electronic information we used in our report and examined using our testing method.

Definitions of Data Reliability

- **Sufficiently reliable data:** Based on audit work, an auditor can conclude that using the data would not weaken the analysis nor lead to an incorrect or unintentional message.
- **Not sufficiently reliable data:** Based on audit work, an auditor can conclude that using the data would most likely lead to an incorrect or unintentional message and the data have significant or potentially significant limitations given the research question and intended use of the data.
- **Data of undetermined reliability:** Based on audit work, an auditor can conclude that the use of the data could lead to an incorrect or unintentional message and the data have significant or potentially significant limitations given the research question and the intended use of the data.

Source: *Assessing the Reliability of Computer-Processed Data* from the U.S. Government Accountability Office.

We determined some data were sufficiently reliable for our purposes because we found no errors when we compared the information with hard-copy evidence and independent electronic reports. We determined other data were of undetermined reliability for the purposes of this audit generally because the data were solely in electronic format and therefore could not be verified to independent sources. However, because the information is vital to answering audit questions and our examination of the data did not reveal excessive blank or unreasonable values, we used the data in our report and note their limitations.

We also determined that some data were not sufficiently reliable for the purposes of this audit because we found several errors while conducting our testing. Given that the errors could materially affect our analysis, using the data would likely lead to an incorrect or unintentional message. However, we use this information in a limited fashion only to help fill in when hard-copy evidence was not available, and note its limitations when we do so.

Chapter 1

POLICIES AND PRACTICES RELATED TO SELECTION, CONTRACTING, AND MARKETING NEED IMPROVEMENT

Chapter Summary

Our review of the Carl Moyer Memorial Air Quality Standards Attainment Program (Moyer Program) revealed several concerns with the policies and practices that the State Air Resources Board (state board) and air pollution control districts and air quality management districts (collectively, local air districts) have established for selecting applicants, contracting with entities selected for projects (project owners), and marketing the program. For instance, some policies and practices result in the state board and local air districts not maximizing emission reductions under the Moyer Program. Achieving the same emission reductions for a lower cost or more emission reductions for the same cost is a key goal for both the state board and the districts.

California law allows the state board to set aside up to 10 percent of Moyer Program funds to pay for projects that operate in multiple local air districts. This cap limits funding for projects that could result in lower costs per ton of intended emission reductions compared with some single-district projects funded by the Moyer Program. Also, three of the six categories the state board uses to score and select applications for multidistrict projects are neither required nor encouraged by state law. The three categories accounted for as much as 55 percent of the maximum possible scores in the two fiscal years we reviewed and resulted in the state board selecting projects that did not necessarily have the lowest costs per ton of emission reductions.

Further, most projects the Bay Area Air Quality Management District (Bay Area air district) used to meet the Moyer Program's fund-matching requirement for fiscal year 2003–04 exceeded the maximum cost per ton for emission reductions established by the state board. As allowed by state law, the Bay Area air district designated 16 projects funded by other programs it administered as matching projects for the Moyer Program for fiscal year 2003–04. However, the district improperly excluded some project funds when calculating the costs per ton of emission reductions for 14 projects. Specifically, the district counted only $740,000 of the $2.5 million it awarded to the 14 projects as matching funds. This approach is contrary to state law and Moyer Program guidelines because the district did not include all the funds under its budgetary control when it calculated the cost per ton of intended emission reductions. Instead of selecting other eligible projects, the district attempted

to make these 14 projects qualify as matching by counting only the portion of the projects' costs that would be eligible under the Moyer Program when it calculated their costs per ton.

The local air districts we visited use various methods to market the Moyer Program, but none is adequately evaluating whether it is reaching business sectors that could provide emission reductions at a lower cost per ton. Thus, the four districts cannot ensure that their marketing efforts are resulting in applications that help them maximize the emission reductions from the projects they fund.

We identified several best practices that can help local air districts select projects with lower costs per ton of intended emission reductions, reduce workload, or allow more time for project completion. For example, two districts used measures of pollution or the effects of pollution in identifying communities in their districts that were disproportionately impacted by pollution. Other best practices relate to selecting and contracting for projects.

We found no concerns in two areas we examined. Projects that operate in multiple local air districts do have opportunities to apply for Moyer Program funds, and the relatively higher cancellation rate for applications to the Bay Area air district's projects does not appear to be the result of the district's procedures.

Some Policies or Practices Do Not Maximize Emission Reductions Under the Moyer Program

According to California law, the state board and local air districts should implement programs to achieve maximum cost-effective emission reductions.

We found policies or practices used by the state board and the four local air districts we visited that did not maximize the intended emission reductions from Moyer Program projects. California law requires the state board to work closely with districts to maximize the ability of the Moyer Program to achieve its goals. Further, according to the legislative findings and declarations for Chapter 707, Statutes of 2004,[6] the state board and local air districts "should adopt and implement programs to achieve the maximum feasible and cost-effective emission reductions from vehicular sources and off-road engines." Simply stated, one Moyer Program project that provides a lower cost per ton of intended emission reductions than another will provide a district with either greater air quality benefits at the same cost or the same benefits at a lower cost, thus enabling that district to maximize the intended emission reductions for which it paid.

[6] Many participants in the Moyer Program refer to this law by its bill number, AB 923.

State Law Impedes Maximum Emission Reductions

Existing law allows the state board to spend up to 10 percent of the appropriations for the Moyer Program on projects that take place in more than one local air district. Under this multidistrict component, using Moyer Program funds appropriated in fiscal year 2005–06, the state board selected a project for $860,000 that consisted of upgrading four dual-engine scrapers (construction equipment) that operate in Los Angeles, Orange, Riverside, San Bernardino, San Diego, and Ventura counties. These six counties are located in three local air districts. We determined that the 10 percent cap on the multidistrict component limits the state board's ability to fund projects that maximize emission reductions in the State.

For the two fiscal years we examined, the state board allocated the maximum portion of Moyer Program funds to the multidistrict component.[7] For appropriations in fiscal year 2004–05, the state board allocated $2.9 million to eight projects; for fiscal year 2005–06, it allocated $8.6 million to seven projects. However, the 10 percent cap prevented the funding of additional projects that could have provided lower costs per ton of intended emission reductions than did other projects funded individually by the four local air districts we visited. Thus, the cap imposed on the multidistrict component impeded the state board's ability to achieve greater emission reductions with the same amount of funds.

For Moyer Program funds appropriated in fiscal year 2005–06, the state board received applications totaling 350 percent of Moyer Program funds available for the multidistrict component.

The value of the project applications received by the state board far exceeded the amount it could fund under the multidistrict component. In fact, for Moyer Program funds appropriated in fiscal year 2004–05, the state board received applications totaling 900 percent of the amount of funds it had available for allocation, and it received applications totaling 350 percent of available Moyer Program funds appropriated in fiscal year 2005–06. Conversely, the four local air districts we visited funded all eligible applicants for Moyer Program projects for the two fiscal years.

We compared the costs per ton of intended emission reductions for those multidistrict projects the state board did not fund with the projects funded by the four local air districts. The results show that the low cap for the multidistrict component of the Moyer Program caused the state board to miss opportunities to select and fund projects that offered lower costs per ton of intended emission reductions than those offered by the projects funded individually by the four districts.

[7] The state board allocated funds to projects under the multidistrict component for only one of the six funding years before fiscal year 2004–05.

Table 3 summarizes the results of our modeling to compare the costs per ton of intended emission reductions.[8] We applied the selection procedures used by the state board and the four local air districts to identify additional projects we believe the state board would have funded with the increase in the cap and projects we believe the four districts would not have funded if their allocations were reduced. As Table 3 shows, had the cap been higher, the state board could have achieved a lower average cost per ton of intended emission reductions through projects selected from the multidistrict component than some projects selected by the four districts.

If the 10 percent cap imposed by law were increased, the state board could have funded projects that achieved four times more cost-effective emission reductions than projects selected by local air districts.

For example, when we increased the cap to 15 percent for fiscal year 2004–05 funds, the state board could have funded three additional projects, while the four districts we visited would not have been able to fund 13 projects. The cost of the intended emission reductions from the state board's three additional projects would have averaged about $2,600 per ton, whereas the cost of the intended emission reductions for the 13 projects the districts did fund averaged nearly $11,000 per ton. In other words, with an increase in the cap for its multidistrict component, the state board could have funded projects that achieved four times more cost-effective emission reductions than projects selected by the districts.

We acknowledge that increasing the 10 percent cap will affect each local air district differently depending on the method used to select projects. The greatest gain to the State in a lower average cost per ton of intended emission reductions would be derived from districts that use the public announcement method to select their Moyer Program projects.[9] Because these districts rank each potential project based on the cost per ton of intended emission reductions, they would not fund the projects with the highest costs per ton.

The average cost per ton of intended emission reductions of projects lost by local air districts that use the first-come, first-served method is less predictable. For example, under our model the San Joaquin Valley Unified Air Pollution Control District (San Joaquin Valley air district) would not have funded two projects with costs of intended emission reductions under $1,000 per ton. The district would not have funded these projects because they would have been among the applications received too late in the year. However, we observed that districts using the first-come,

[8] As mentioned in the Scope and Methodology, we did not determine the accuracy of the cost per ton of intended emission reductions because of the lack of hard-copy documentation of the calculations or because recalculating the values was beyond the scope of our audit. Thus, these data are of undetermined reliability.

[9] We describe the selection methods that local air districts use in the Introduction.

Table 3
Results of Our Modeling to Assess Increasing the Cap for the Multidistrict Component of the Carl Moyer Memorial Air Quality Standards Attainment Program

	REVISED CAP:	CHARACTERISTIC	STATE BOARD'S MULTIDISTRICT COMPONENT	FOUR LOCAL AIR DISTRICTS WE VISITED*
Fiscal Year 2004–05	15 percent	Change in funding amount†	+$1,464,000	-$1,067,760
		Change in number of funded projects from 10 percent	+3 projects‡	-13 projects§
		Average cost per ton of emission reductions for added/lost projects‖	$2,568 per ton	$10,957 per ton
		Estimated emission reductions for added/lost projects	570 tons	(97 tons)
	20 percent	Change in funding amount†	+$2,928,000	-$2,220,497
		Change in number of funded projects from 10 percent	+6 projects	-26 projects§
		Average cost per ton of emission reductions for added/lost projects‖	$3,301 per ton	$10,796 per ton
		Estimated emission reductions for added/lost projects	887 tons	(206 tons)
Fiscal Year 2005–06#	15 percent	Change in funding amount†	+$4,248,000	-$2,830,916
		Change in number of funded projects from 10 percent	+4 projects‡	-9 projects§
		Average cost per ton of emission reductions for added/lost projects‖	$2,208 per ton	$11,122 per ton
		Estimated emission reductions for added/lost projects	1,924 tons	(255 tons)
	20 percent	Change in funding amount†	+$8,496,000	-$5,666,196
		Change in number of funded projects from 10 percent	+16 projects	-17 projects§
		Average cost per ton of emission reductions for added/lost projects‖	$2,659 per ton	$11,360 per ton
		Estimated emission reductions for added/lost projects	3,195 tons	(499 tons)

Sources: Information provided by the State Air Resources Board and the four local air districts we visited.

* The Sacramento Metropolitan Air Quality Management District (Sacramento Metropolitan air district) also administers the Carl Moyer Memorial Air Quality Standards Attainment Program (Moyer Program) for the El Dorado County and Yolo-Solano Air Quality Management districts and the Placer County Air Pollution Control District. Numbers in this column reflect all four of these districts.

† The increase in funding for the multidistrict component represents the gain from all participating air districts, while the decrease represents the loss from only the four local air districts we visited.

‡ In both fiscal years the multidistrict component partially funded two projects. If the percentage of funds were increased, these projects could be fully funded. The additional funded projects include these projects.

§ For the Bay Area Air Quality Management District (Bay Area air district) and the South Coast Air Quality Management District (South Coast air district), the projects no longer funded would be those with the highest cost per ton of emission reductions. For the Sacramento Metropolitan air district and the San Joaquin Valley Unified Air Pollution Control District (San Joaquin air district), the projects not funded would be the last project applications to arrive during the funding year.

‖ As mentioned in the Scope and Methodology, we did not determine the accuracy of the cost per ton of emission reductions because of the lack of hard-copy evidence of these calculations or recalculating the values is beyond the scope of our audit. Therefore, these data are of undetermined reliability.

At the time of our visits in December 2006 and January 2007, the Bay Area air district had not yet selected the projects to fund with Moyer Program appropriations for fiscal year 2005–06. Therefore, the amounts for that fiscal year reflect the results of the Sacramento Metropolitan, San Joaquin Valley, and South Coast air districts only.

first-served method frequently considered applications during the next year after they had run out of the current year's Moyer Program funds.

Notwithstanding the example from the San Joaquin Valley air district, we believe the State could still achieve a lower average cost per ton of intended emission reductions by increasing the cap for the multidistrict component.

The state board has not sought a change in the 10 percent cap because it believes it has not gained enough evidence over two years of fully funding the multidistrict component to support an increase. However, allowing a higher cap for the multidistrict component should allow the state board to better evaluate the State's ability to maximize Moyer Program funds in the future. Also, by allowing the state board to allocate up to a certain proportion, the state board can adjust the amount it allocates to the multidistrict component based on the needs of the State as a whole.

The Largest Local Air Districts May Not Lose Funding With an Increased Cap for Multidistrict Projects

Although the number of projects the four local air districts we visited could fund would decrease with a higher multidistrict cap, the districts likely would not lose a significant amount of Moyer Program funds, based on our model. Further, they likely would achieve a lower average cost per ton of emission reductions overall. Most of the projects the state board would have funded with a higher cap operate mainly in these four districts.

The state board evaluates, ranks, and selects each project for the multidistrict component. It then delegates the contracting and monitoring responsibilities to the local air district where the project is primarily located and allocates Moyer Program funds to that district for the contract. The state board also provides funds to the district to cover the cost of administering the project and will begin providing direct administrative funds per project beginning with projects selected in fiscal year 2006–07. For the periods we reviewed, a minimum of 78 percent of the funds added to the multidistrict component by increasing the cap would have returned to the four districts we visited.

Local air districts could also benefit from greater emission reductions if the cap on funds for the multidistrict component is increased.

Emission reductions derived from increasing the 10 percent cap would benefit individual local air districts as well as the State. For example, had the cap been 15 percent for Moyer Program funds appropriated in fiscal year 2005–06, the South Coast Air Quality Management District (South Coast air district) would have lost 20 projects from six applicants. (To be consistent with the

one-contract-per-applicant method of administering projects that three of the districts use, Table 3, as previously shown, reflects these six applicants as six of the nine projects.) The annual emission reductions from all those projects totaled 7.6 tons for nitrogen oxide and reactive organic gases and 1.5 tons for particulate matter. For 10 of the 20 projects, total annual emission reductions were only 0.05 tons. On the other hand, two of the additional projects that would have been funded by the multidistrict component would have operated a portion of their time in the South Coast air district. One project would have annually achieved emission reductions totaling nearly 130 tons of nitrogen oxide and 4.5 tons of particulate matter.

The Methodology the State Board Uses to Select Projects Has Undervalued the Cost-Effectiveness of Emission Reductions

The state board's ranking system for selecting projects for the multidistrict component did not maximize the emission reductions for Moyer Program funds appropriated in fiscal years 2004–05 and 2005–06. Table 4 on the following page shows that under this system each applicant received points for the following six scoring categories:

- *Cost-effectiveness*: how efficiently, in terms of dollars, the proposed project intends to reduce emissions.
- *Environmental justice*:[10] whether the proposed project intends to operate in communities disproportionately impacted by air pollution or the results of air pollution.
- *Implementation plan*: how quickly the proposed project can be completed.
- *Hard to regulate*: how difficult it is for the local air districts to fund the proposed project with their own Moyer Program funds because of the multidistrict nature of the project.
- *Application completeness*: how clear and concise the information is in the application.
- *Zero emission*: whether the proposed project will use zero-emission technology.

[10] In this report we use the term *disproportionately impacted communities* rather than *environmental justice*, which is the term the state board uses.

Table 4
Scoring of Applications for Funding Under the Multidistrict Component of the Carl Moyer Memorial Air Quality Standards Attainment Program

SCORING CATEGORY	MAXIMUM POSSIBLE POINTS FOR APPLICATIONS FISCAL YEAR 2004–05 APPROPRIATIONS	MAXIMUM POSSIBLE POINTS FOR APPLICATIONS FISCAL YEAR 2005–06 APPROPRIATIONS
Cost-effectiveness	25	40
Environmental justice*	20	15
Implementation plan	20	15
Hard-to-regulate sources	20	10
Application completeness	15	10
Zero emission	NA†	10
Totals	100	100

Source: Multidistrict project solicitations issued by the State Air Resources Board for Moyer Program funds appropriated for the years indicated.

Note: NA = Not applicable.

* In our report we use the term *disproportionately impacted communities* rather than *environmental justice*, which is the term the state board uses.

† The state board did not include the zero emission category until fiscal year 2005–06.

An applicant who received no points for one of the three optional scoring categories the state board used to select projects for its multidistrict component would likely not have been selected to receive Moyer Program funds.

State law requires the state board to consider cost-effectiveness and disproportionately impacted communities when selecting projects, and encourages it to consider zero-emission engines. It does not require three of the six scoring categories—implementation plan, hard to regulate, and application completeness—that could have accounted for as much as 35 percent and 55 percent of the maximum possible scores for the multidistrict component in fiscal years 2004–05 and 2005–06, respectively. By assigning as much as 35 or 55 points (of the 100 points possible) for these optional scoring categories in its selection methodology, the state board selected projects that would provide higher costs per ton of intended emission reductions to receive funding under the multidistrict component. In fact, because of the dollar value of the projects considered and the degree to which the state board received more applications than it could fund, an applicant who received no points for one of the three scoring categories stood a good chance of not being selected to receive Moyer Program funds.

We developed a model in which we determined the effect of each of the three scoring categories on the cost per ton of intended emission reductions, assessing one category at a time while holding

the other five categories constant.[11] For example, we controlled for the effects of the implementation plan category by giving all applicants the same score. We then reranked the proposed projects based on the revised scores and identified any changes. When controlling for the implementation plan category, we determined that the state board would have funded two other applicants using Moyer Program funds appropriated in fiscal year 2005–06. It did not select these two applicants in part because it gave them only 10 of the 15 possible points for their implementation plans. These two other projects would have produced a lower cost per ton of intended emission reductions than the projects they replaced. The multidistrict component in total would have removed 172 more tons of nitrogen oxide and reactive organic gases and 6 more tons of particulate matter over the life of the projects. Further, the changes would have lowered the average cost per ton of emission reductions under the multidistrict component by 47 percent.

Similarly, when controlling for the other two optional scoring categories for the state board's fiscal year 2005–06 selections, we found that the state board would have lowered the average cost per ton of intended emission reductions by 22 percent for the application completeness category and nearly 7.5 percent for the hard to regulate category. Thus, by including the three optional scoring categories, the state board did not maximize the emission reductions it could have otherwise achieved under the Moyer Program.

The state board explained that it chose the scoring categories for selecting projects under the multidistrict component and their point values based on discussions among staff and management. According to the state board, the three categories that are not required by state law help in selecting the best applications and maximizing the use of staff time. Staff members pointed out that they are in only the third year of running a multidistrict program and they are still revising their methods. We understand the state board's reasons for including the three optional categories in its selection methods but question the need to give these categories such high point values.

The state board revised its methods for selecting applicants in fiscal year 2006–07. However, we do not believe these changes will address our concern that those scoring categories state law does not require or encourage impede the state board's ability to maximize emission reductions. The state board removed the environmental justice category, added a category for small business projects,

[11] As mentioned in the Scope and Methodology, we did not determine the accuracy of the cost-effectiveness values because there is no hard-copy evidence of these calculations or recalculating the values is beyond the scope of our audit. Therefore, these data are of undetermined reliability.

and increased the points for the cost-effectiveness category from 40 to 45. Also, for Moyer Program funds appropriated in fiscal year 2006–07, the state board has allocated 50 percent of its funds for the multidistrict component for projects from disproportionately impacted communities.

Although we agree with its approach for selecting projects from disproportionately impacted communities, we believe the state board still places too much weight on scoring categories not required or encouraged by law and thus is not maximizing the emission reductions it could otherwise achieve. To determine the impact of a revised scoring system that places greater weight on categories required or encouraged by law and less weight on optional categories, we created a model using the point values shown in Table 5. We then rescored all applicants for fiscal year 2005–06.

Table 5
Possible Scoring for the Multidistrict Component of the Carl Moyer Memorial Air Quality Standards Attainment Program

SCORING CATEGORY	STATE BOARD'S MAXIMUM POINT VALUES FISCAL YEAR 2005–06	BUREAU OF STATE AUDITS' MAXIMUM POINT VALUES
Cost-effectiveness	40	75
Environmental justice*	15	NA†
Zero emission	10	10
Hard to regulate	10	5
Implementation plan	15	5
Application completeness	10	5
Totals	100	100

Source: Fiscal year 2005–06 multidistrict solicitation from the state board.

Note: NA = Not applicable.

* In our report we use the term *disproportionately impacted communities* rather than *environmental justice*, which is the term the state board uses.

† To satisfy the requirement for disproportionately impacted communities, under our model we allocated the first 50 percent of funds to projects from these communities based on the state board's fiscal year 2006–07 methodology.

Under our model, by not funding four of the seven projects it selected, the state board would have funded an additional 12 projects. Moreover, the State would have achieved an additional 298 tons of emission reductions and overall would have achieved twice the intended emission reductions than the seven projects the state board selected. Further, the intended emission reductions for the projects selected under our model cost an average

of $1,555 per ton, less than half of the $3,247 average cost per ton for the projects selected using the state board's point values. Although it need not adopt our point values when assessing project applications, the state board should use point values that help it maximize the emission reductions to be achieved by the limited funds it has.

Some Projects the Bay Area Air District Funded for Match Purposes Do Not Meet the Moyer Program Requirements for Cost-Effective Emission Reductions

Existing state law requires local air districts to provide their own funds to match the Moyer Program funds provided by the state board. Matching funds are the districts' "buy-in" to the Moyer Program. They can use any funds under the districts' budgetary control as the source of their matching funds, including funds for other programs. Further, projects funded with matching funds must meet all Moyer Program criteria, including being at or below the cost ceiling that the state board established for Moyer Program funds.

Most projects the Bay Area air district designated as its matching projects for fiscal year 2003–04 exceeded the state board's cost ceiling of $13,600 per ton for that year. For Moyer Program funding appropriated in fiscal year 2003–04, the Bay Area air district designated 16 projects funded by other programs it administered as matching projects. However, 14 of these 16 projects had emission reductions that exceeded the cost ceiling. The district calculated the cost of the emission reductions from these 14 projects at an average of nearly $54,400 per ton, ranging from $15,300 per ton to nearly $143,000 per ton.

The Bay Area air district knew the costs for the projects it selected as matching projects exceeded the cost ceiling imposed by the state board. Contrary to the Moyer Program guidelines, rather than selecting other eligible projects, the district attempted to make these projects qualify as match under the Moyer Program by counting only that portion of the projects' costs that would be eligible under the Moyer Program when it calculated the projects' costs per ton. Specifically, the district counted as matching funds only $740,000 of the $2.5 million it awarded to the 14 projects as Moyer Program match.

Contrary to Moyer Program guidelines, the Bay Area air district attempted to make projects qualify by counting only a portion of the projects' total costs.

The approach used by the Bay Area air district resulted in a calculated cost per ton of emission reductions for each project that was at or under the state board's cost ceiling. For example in one project, the Bay Area air district paid $323,350 to convert two buses to electric power. According to the district's calculations,

the cost to reduce 1 ton of emissions for this project was nearly $120,000. To meet the Moyer Program limits, the district counted as matching funds only $36,760 of the $323,350 paid for the project. This approach is contrary to Moyer Program guidelines because the district did not include all funds under its budgetary control when it calculated the cost per ton of intended emission reductions of the 14 projects.[12]

Although Local Air Districts Market the Moyer Program in Various Ways, They Could Do More to Evaluate the Results of Their Efforts

The four local air districts we visited use several methods to market Moyer Program funding opportunities, including e-mail and regular mail lists, brochures, workshops and events, and Web pages. In addition, the South Coast air district published public notices in a number of area newspapers announcing the availability of funding from the Moyer Program. The Sacramento Metropolitan Air Quality Management District (Sacramento Metropolitan air district) published an advertisement in a farm magazine and, according to the district's policy and procedures manual, required projects funded with Moyer Program funds to display a sticker beginning in 2006.

Three of the four local air districts we visited are beginning to use mailing lists of specific types of individuals to advertise the Moyer Program. These mailing lists could enable the districts to attract new applicants who had not heard about the program through the districts' current outreach efforts. For example, the San Joaquin Valley air district said it included a flyer about the Moyer Program in a routine mailing to its list of holders of agricultural burn permits. Similarly, in 2006 the Sacramento Metropolitan air district purchased and used a mailing list of businesses it believed would be interested in the Moyer Program and other incentive programs the district offers. Neither district can say whether these mailings were effective in generating interest, although the San Joaquin Valley air district believes its mailing was responsible for generating calls from individuals asking about the Moyer Program. The Bay Area air district purchased a mailing list of owners of heavy-duty vehicles from the Department of Motor Vehicles to identify potential applicants to whom it could send information about the Moyer Program, but as of March 2007 it had not yet used the list.

The most common measure of marketing effectiveness the districts use is whether they receive enough project applications to allocate all their Moyer Program funds.

Notwithstanding the various marketing efforts they used, the four local air districts we visited have not adequately measured the effectiveness of their efforts. The most common measure of

[12] One of the 14 projects the Bay Area air district identified as match was actually funded by a county agency. Moyer Program guidelines require funds used to calculate costs per ton of emission reductions to be under the budgetary control of the local air district.

effectiveness, according to the districts, is whether they receive enough project applications to allocate all their Moyer Program funds. This measure, however, does not take into account whether they receive a sufficient number of applications from business sectors that can provide lower costs per ton of intended emission reductions.

The South Coast air district has identified and targeted such a sector. It indicated that cost per ton of intended emission reductions is one criterion it uses for deciding where to target outreach; it has identified off-road construction equipment as a sector that meets that criterion better than other sectors. The San Joaquin Valley air district said it targets its outreach based on several factors, including the cost per ton of emission reductions, the impact on air pollution, the available technology, the appropriateness of a voluntary incentive program, and the district's action plans for reducing emissions. According to the Bay Area and Sacramento Metropolitan air districts, they do not use the cost per ton of emission reductions to target their outreach efforts, although the Sacramento Metropolitan air district targets its efforts to off-road projects because it uses another incentive program to fund on-road projects.

Some types of projects currently eligible for Moyer Program funding may soon move from the unregulated to the regulated arena, thereby making emission reductions from these types of projects no longer surplus and therefore no longer eligible for Moyer Program funding.[13] For example, the state board adopted regulations that will, according to a senior air quality specialist at the San Joaquin Valley air district, reduce the number of agricultural pumps eligible for Moyer Program funds after 2008. The state board is also considering whether to implement regulations for off-road diesel engines beginning in 2009. As mentioned earlier, the Sacramento Metropolitan air district targets off-road projects for funding under the Moyer Program. Also, the San Joaquin Valley air district reported to the state board that agricultural pumps represented the largest share of engines in its Moyer Program projects for fiscal year 2004–05.

Some types of projects currently eligible for Moyer Program funds may lose their eligibility because of new regulations.

Local air districts that provide Moyer Program funds to these two types of projects may soon need to find new types of projects to fund and will need to identify and target their marketing efforts to new business sectors to continue receiving an adequate number of applications. By not adequately evaluating their

[13] As mentioned in the Introduction, state law requires emission reductions under the Moyer Program to be real, enforceable, quantifiable, and surplus. The Moyer Program guidelines state that to be considered surplus, emission reductions must be early or extra—that is, occurring before a required compliance date or exceeding the requirements of a rule or regulation.

marketing efforts, districts cannot know where to best target their marketing efforts and whether their efforts are effectively attracting applications that allow the lowest cost per ton of intended emission reductions.

Local Air Districts Use Some Best Practices for Contracting and Allocating Funds

During our visits to the state board and the four local air districts, we observed best practices that we believe can help districts select projects with lower costs per ton of intended emission reductions, reduce district workloads, and allow more time for project completion. Given the differences that exist among the districts, these practices may not be applicable in all cases. However, we believe they deserve serious consideration by the districts.

Some Best Practices Relate to Disproportionately Impacted Communities

One area in which we observed several best practices was the local air districts' identification of disproportionately impacted communities. Section 43023.5 of the Health and Safety Code requires local air districts with populations of 1 million or more to spend at least 50 percent of their Moyer Program funds in a manner that directly reduces air contaminants or the public health risk of those contaminants in communities with the most significant exposure to air contaminants, including communities of minority or low-income populations or both. Under the Moyer Program guidelines, each district can implement its own policy regarding how it defines and selects projects from those communities, which we call disproportionately impacted communities. Our legal counsel has advised us that districts have considerable discretion when making spending decisions under Section 43023.5 of the Health and Safety Code but that they must spend those funds so as to achieve the goals set out in that section.

The Bay Area and South Coast air districts included a measure of pollution or its effects when identifying disproportionately impacted communities.

The first best practice we observed was the Bay Area and South Coast air districts' inclusion of a measure of pollution or the effects of pollution in their approaches for identifying disproportionately impacted communities. One measure both districts use is the level of particulate matter—a pollutant that can be created by diesel exhaust—in the community. By including measures of pollution or the effects of pollution in their approaches, districts can better identify communities with the highest concentration of pollutants.

In the two fiscal years we examined, we found a second best practice in the state board's inclusion of a measure of the cost per ton of emission reductions when selecting projects from

disproportionately impacted communities for the multidistrict component of the Moyer Program. As described earlier, when assessing applications for the multidistrict component, the state board scores projects based on six categories, including the cost per ton of intended emission reductions. Although the state board could improve its process, assigning points for the cost per ton of intended emission reductions increases its ability to maximize emission reductions from multidistrict projects.

Although the Bay Area and South Coast air districts rank potential projects for funding from disproportionately impacted communities based on factors like cancer risk and exposure to particulate matter, they generally do not include a factor intended to maximize emission reductions. The state board's practice is most likely to help maximize emission reductions in local air districts that use the public announcement method when selecting their projects but may not be practicable for districts that operate on a first-come, first-served basis.[14] These districts typically fund projects as their applications are received as long as the projects are under the ceiling for the cost per ton of emission reductions established by the state board.

Finally, the Bay Area and Sacramento Metropolitan air districts include requirements in their contracts that projects selected from disproportionately impacted communities must continue to operate at least a specified percentage of their time in those communities after the project is completed and operational. This requirement helps local air districts ensure that completed projects reduce emissions in disproportionately impacted communities.

The Bay Area and Sacramento Metropolitan air districts require that projects selected from disproportionately impacted areas continue to operate at least some percentage of time in those areas.

Other Best Practices Pertain to Selecting Projects

We observed two best practices related to local air districts' selection of projects to receive Moyer Program funds. First, the Sacramento Metropolitan air district uses only one application form for all its incentive programs, including the Moyer Program. The other districts we visited used different application forms for different incentive programs as well as for different air pollution source categories within the Moyer Program (for example, locomotives, on-road vehicles, off-road construction, or agricultural vehicles). The San Joaquin Valley air district uses 20 different application forms. Having one form streamlines the application process for potential projects; applicants do not need to be concerned about choosing the correct application form.

[14] We describe the selection methods that local air districts use in the Introduction.

We also observed that all but one of the four local air districts we visited had, by December 31, 2006, already allocated to projects their Moyer Program funds appropriated in fiscal year 2005–06. This is well ahead of the deadline of June 30, 2007. By making allocations before the deadline, these three districts allow more time for completing projects before the end of the two-year availability period. The Bay Area air district allocated its funding from fiscal year 2005–06 in April 2007.[15]

Several Best Practices Related to Contracting

We also observed several best practices related to contracting. For instance, the Sacramento Metropolitan, San Joaquin Valley, and South Coast air districts use an approach of one contract per project owner. Local air districts that enter into only one contract with each project owner can reduce the administrative burden resulting from multiple contracts for one project owner with more than one engine or piece of equipment. Under the one-contract system, each contract can apply to multiple engines or vehicles used by one project owner. For example, the South Coast air district entered into one contract with a project owner for retrofitting 67 transit buses. The Bay Area air district, on the other hand, generally used one contract per vehicle for projects using funds appropriated through fiscal year 2004–05. If the South Coast air district had used the one-contract-per-vehicle contracting method, it would have required an unwieldy 67 contracts. The Bay Area air district states that it is evaluating options regarding implementation of this practice for contracts using funds appropriated in fiscal year 2007–08.

A second best practice we observed is the inclusion of milestones in Moyer Program contracts. Although all four local air districts we visited complied at least minimally with the requirement in the Moyer Program guidelines to include project milestones in their contracts, the Bay Area and South Coast air districts included more milestones for projects to meet for the years we examined. By establishing detailed project milestones, districts can more easily track the progress of their Moyer Program projects and take appropriate action if the projects veer off track.

The South Coast air district included specific due dates for various milestones in its contracts with Moyer Program participants.

The South Coast air district's contracts for Moyer Program funds appropriated in fiscal years 2004–05 and 2005–06 included specific due dates for equipment delivery and acceptance, putting the equipment in service, final receipt of invoices, and quarterly

[15] As of April 2007 the Bay Area air district allocated a total of $25.9 million in Moyer Program funds for fiscal years 2005–06 and 2006–07.

progress reports. Some of its contracts from fiscal year 2005–06 also included due dates for issuing purchase orders and for engine or equipment installation. The Bay Area air district's milestones were nearly as detailed as the South Coast air district's. By comparison, the Sacramento Metropolitan and San Joaquin Valley air districts merely required project owners to purchase and operate their new equipment within a certain number of months after contract execution.

Although we laud the South Coast air district for its use of project milestones, we also note that despite the presence of milestones in its contracts, this district was still the slowest of the four we visited to move projects past application receipt. We discuss this issue more fully in Chapter 2.

Another best practice is that local air districts required projects to be completed before the statutory limit for expending funds. This practice can help districts ensure that they have sufficient time to perform required inspections and pay project owners before the two-year availability period for Moyer Program funds expires. For projects we tested from fiscal year 2004–05, the Bay Area air district included provisions requiring that final project invoices be submitted to it on dates ranging from February 1 through May 15, allowing it time to perform required inspections and issue payments well before the end of the fiscal year on June 30. The Sacramento Metropolitan and San Joaquin Valley air districts obtain similar results by requiring some project owners to complete their projects within six to 12 months from the contract execution date.

The final best practice for contracting that we observed relates to delegating limited project approval and contract execution authority to staff of the local air districts. According to district policy and procedures manuals at the Sacramento Metropolitan and San Joaquin Valley air districts, the district governing boards delegate authority to approve Moyer Program projects and execute contracts meeting certain criteria to the respective district's air pollution control officer. We believe this practice may enable districts to issue contracts more quickly, thereby allowing more time for implementing projects before the end of the availability period. The governing board for the Sacramento Metropolitan air district delegated authority to the air pollution control officer to approve projects and execute contracts of up to $250,000 per project owner without governing board approval. The governing board for the San Joaquin Valley air district delegated authority to its air pollution control officer to approve projects and execute contracts up to $20,000, but also delegated to the chair of the governing board the authority to sign contracts at or above the $20,000 threshold. The San Joaquin Valley air district executed

The governing board for some districts have delegated limited project approval authority to their staff.

its contracts an average of 5.9 months from when it received the applications, and the Sacramento Metropolitan air district averaged 7.5 months.[16]

The governing boards for the other two local air districts we visited do not delegate such authority to staff. The contracts we examined at the South Coast air district took an average of 8.1 months to execute, and the Bay Area air district contracts took an average of 7.6 months. Project owners at the Sacramento Metropolitan and San Joaquin Valley air districts, therefore, had more time to implement the terms of their contracts than did project owners at the Bay Area or South Coast air districts.

Projects Operating in Multiple Districts Have Opportunities to Participate in the Moyer Program

A project that will operate in more than one local air district can receive funding under the Moyer Program in various ways. First, the state board administers the multidistrict component of the Moyer Program specifically for projects operating in more than one district. Through this component, an applicant can seek Moyer Program funds despite not meeting a district's operating requirements (because, for example, a minimum proportion of the project's operating time or miles will not occur within the district). For instance, in 2005 the state board allocated funds through the multidistrict component to a project for repowering six pieces of construction equipment operating throughout California but especially in the Bay Area and South Coast air districts and the San Diego County Air Pollution Control District. For the two fiscal years we examined, the state board allocated $11.4 million to 15 projects through the multidistrict component.

Local air districts allow projects to spend time in multiple districts to varying degrees and still receive Moyer Program funds.

Local air districts' policies allow projects to spend time in multiple districts to varying degrees and still receive Moyer Program funding. The Moyer Program guidelines require funded projects to operate at least 75 percent of the time within California. The Bay Area and South Coast air districts require projects receiving Moyer Program funds to have at least 75 percent of their operations within their respective districts. Projects may spend the other 25 percent

[16] As mentioned in the Scope and Methodology, we could not verify the accuracy of some dates used by the Sacramento Metropolitan air district because we were unable to trace the documents to hard-copy evidence. However, we took steps to mitigate the effects of these data on our analysis. Further, because of several data errors related to the dates the Sacramento Metropolitan air district received its applications, we based our calculations for the average number of days from when it received applications to when it received signed contracts on only the 14 projects for which we found hard-copy evidence of the date received. This does not change our determination that, for the purposes of this audit, the Sacramento Metropolitan air district's data was not sufficiently reliable.

in other districts or out of state. Applicants whose projects will operate less than 75 percent of the time in either of these two districts can apply to the state board's multidistrict component. The San Joaquin Valley and Sacramento Metropolitan air districts formerly imposed similar restrictions. A San Joaquin Valley air district supervisor said the district recently lowered its minimum from 75 percent to 25 percent. For example, the San Joaquin Valley air district approved a project in October 2006 that was expected to operate only 70 percent of its time in the district.

Additionally, according to its program coordinator, the Sacramento Metropolitan air district chose to remove the 75 percent requirement for operation in the Sacramento Federal Ozone Nonattainment Area (nonattainment area).[17] The district asks applicants to state how many miles or hours they will operate both inside and outside the nonattainment area. However, according to the program coordinator, the district calculates the project's cost per ton of emission reductions, and therefore its eligibility for Moyer Program funds, only on the hours or miles the project operates inside the nonattainment area.

Despite the relatively relaxed operating requirements, these two local air districts believe they received sufficient emission reduction benefits for their Moyer Program funds. The Sacramento Metropolitan air district stated that it funded only the portion of a project that operated within the district. According to its program coordinator, removing the restriction allows more projects the opportunity to receive Moyer Program funds. The San Joaquin Valley air district supervisor believes that by funding projects based in the district but operating more broadly, the program benefits not only the district but also the region and the State as a whole. It should also be noted that the largest category of projects the San Joaquin Valley air district reported it funded in fiscal year 2004–05 was agricultural pumps, which the district supervisor stated are not likely to move out of the district.

Two local air districts have each set aside $500,000 for joint projects that benefit both districts, although they have not yet funded any such efforts.

A final opportunity for projects operating in multiple local air districts to participate in the Moyer Program is when districts work together to fund projects. The Bay Area and Sacramento Metropolitan air districts signed a letter of agreement dated August 24, 2006, in which each assented to set aside $500,000 per year for joint projects that benefit both districts. According

[17] The U.S. Environmental Protection Agency has designated the Sacramento region as a serious nonattainment area for the federal eight-hour ozone standard and established a deadline of June 2013 to meet federal air quality standards for ozone. The nonattainment area includes all of Sacramento and Yolo counties and portions of El Dorado, Placer, Solano, and Sutter counties. With the exception of Sutter County, the Sacramento Metropolitan air district administers the Moyer Program for the local air districts within this area.

to the program coordinator from the Sacramento Metropolitan air district, as of February 2007 the districts had not funded any projects under this agreement.

The High Applicant Cancellation Rate at One Local Air District Does Not Appear to Be Caused by Problems With Its Procedures

As part of our work to determine consistency among the local air districts we visited, we examined the project cancellation rates for the three entities that use the public announcement method to solicit applications for the Moyer Program: the Bay Area and South Coast air districts and the state board's multidistrict component. (The two methods for identifying and selecting applicants are described in the Introduction.) *Cancellation rate* refers to the percentage of applicants that were selected to receive Moyer Program funds but later canceled all their projects. Significant differences in cancellation rates may indicate problems with the procedures at an entity with a higher cancellation rate relative to the others.

As of December 31, 2006, the Bay Area air district had a substantially higher cancellation rate for Moyer Program funds appropriated in fiscal year 2004–05 than did the other two entities we visited. Specifically, 32 percent of the original applicants approved by the Bay Area air district's board canceled all their projects. By comparison, only 13 percent of approved applicants in the South Coast air district and 13 percent of those in the state board's multidistrict component canceled all their projects during the same period.

Based on our conversations with five of the 11 applicants who canceled their projects, we cannot attribute the Bay Area air district's higher cancellation rate to its procedures. Three of the five applicants cited business-related reasons as the cause for canceling their projects. One of the three said he anticipated replacing his equipment before the end of the contract. Another said he no longer felt he could meet the required hours of operation for an agricultural pump because of changes in his irrigation methods. The third applicant believed he was no longer getting as much use out of the equipment for which he had applied for Moyer Program funds and was trying to sell it. Mechanics for a fourth applicant told him the work as originally planned could not be done. Although the fifth applicant expressed concerns about the process, he said he canceled because he could not meet the requirements for the Moyer Program.

Recommendations

To maximize the use of Moyer Program funds, the state board should do the following:

- Seek legislation to revise state law to increase the 10 percent maximum proportion it can allocate for multidistrict projects. If the state board opts not to seek this revision, the Legislature may wish to consider it.

- When evaluating applications for multidistrict projects, assign more points to scoring categories that help the state board achieve the lowest cost per ton of emission reductions.

To maximize the use of Moyer Program funds, local air districts should do the following:

- Include all funds under their budgetary authority as part of the calculations when determining the cost per ton of a project's intended emission reductions. Further, districts should develop and implement policies and procedures that enable them to meet the requirements in the Moyer Program guidelines regarding matching funds.

- Develop and implement techniques to measure the effectiveness of their marketing methods. Specifically, local air districts should identify business sectors from which they will obtain applications for more cost-effective projects, evaluate whether their current marketing efforts are reaching those sectors, implement marketing efforts to target sectors not being reached, and assess whether their marketing efforts enable them to select projects with more cost-effective emission reductions.

To improve their administration of the Moyer Program, local air districts should consider implementing the following best practices:

- Include measures of pollution or the effects of pollution in their approaches for identifying disproportionately impacted communities.

- Include a measure for comparing the cost per ton of intended emission reductions when selecting projects from disproportionately impacted communities.

- Include in their contracts the requirement that projects selected from disproportionately impacted communities continue to provide benefits from reduced emissions to those communities after implementation.

- Use a single application for their Moyer Program application process.
- Allocate Moyer Program funds to applicants as soon as possible.
- Implement a system of one contract per project owner.
- Include in their contracts specific milestones against which the project owners and local air district staff can measure the progress of their projects.
- Include in their contracts the requirement that project owners complete projects and submit invoices a specific number of days or weeks before the June 30 deadline.
- Obtain delegated authority from their governing boards to approve Moyer Program projects and execute contracts. If their governing boards are not comfortable in providing delegated authority to approve all Moyer Program projects, obtain delegated authority to approve the more routine projects or projects costing less than a specified amount.

Chapter 2

THREE AREAS OF CONCERN WEAKEN OTHERWISE REASONABLE OVERSIGHT AND ADMINISTRATION PRACTICES

Chapter Summary

We found three areas of concern in our review of the oversight and administration of the Carl Moyer Memorial Air Quality Standards Attainment Program (Moyer Program). Two of our concerns relate to management of the Moyer Program. Namely, air pollution control districts and air quality management districts (collectively, local air districts) that have unspent Moyer Program allocations strongly suggest that the districts are not achieving their intended emission reductions promptly. Also, overly restrictive requirements for conducting project inspections led one local air district to devise an alternative. The third concern relates to the State Air Resources Board (state board) not performing on-site audits of districts with sufficient frequency. Without sufficiently frequent audits, improper administration of the Moyer Program at the districts may go undetected longer than necessary.

In assessing whether local air districts' processes for the Moyer Program are streamlined and easy to use, we spoke with engine dealers, applicants, and project owners (entities under contract with a district to implement Moyer Program projects) who identified the lengthiness of the process as an issue. We identified three factors that can influence the length of the process: average size of a project in dollars, a project's participation in another program that involves electric utility companies, and delegated authority to approve projects. Also, for several areas of oversight and administration, we identified no concerns. The technical assistance provided by the state board to local air districts and the desk reviews it performed seem reasonable. Further, districts performed inspections of the projects they funded both before and after applicants implemented their projects. Also, several avenues of communication are used between the state board and districts and between districts and applicants. Finally, we noted that policies and procedures implemented by the state board and the districts were consistent with major requirements of state law and Moyer Program guidelines.

The State Board Should Address Two Concerns Related to Management of the Moyer Program

Under the broad heading of Moyer Program management, we identified two concerns the state board should address. First, Moyer Program funds remained in the hands of local air districts after the end of the two-year availability period. When districts do not spend their Moyer Program allocations promptly, they likely do not achieve their intended emission reductions. Second, the Moyer Program guidelines appear overly restrictive in their requirements related to the timing of preinspections of projects. One district told us it does not have sufficient time and staff to meet this requirement and implemented a reasonable alternative.

Unspent Moyer Program Funds Remained at Local Air Districts After Availability Had Expired

More than $26 million in Moyer Program funds reserved by the state board for local air districts had not been spent within two years as required by law.[18] Further, funds not expended by June 30 of the second calendar year following the date the state board allocated them are to revert to the state board, and districts must return them to the state board within 60 days after that. The Moyer Program guidelines in effect before January 6, 2006, encouraged districts to implement the program quickly and to have all Moyer Program funds obligated under contract within one year. The Moyer Program guidelines released on January 6, 2006, restate this requirement and state that local air districts have one year to obligate funds and two years from the allocation date to expend them.

Local air districts that do not spend Moyer Program funds within the two-year limit are likely not achieving the intended emission reductions.

By putting a two-year limit on districts' expenditure of Moyer Program funds, the Legislature demonstrated its goal of achieving emission reductions promptly. It is also reasonable to conclude that if local air districts are not spending their allocations, they likely are not implementing projects as quickly as intended and thus are not achieving the intended emission reductions from the projects.

Under the terms of Section 44287(k) of the Health and Safety Code, the two-year period of availability of Moyer Program funds appropriated by the Legislature and reserved by the state board in fiscal year 2003–04 ended June 30, 2006. Further, Section 44299.2(c) of the Health and Safety Code states that any unexpended funds must be returned to the state board within 60 days of the end of the two-year availability period.

[18] In the Introduction, we describe how the state board provides Moyer Program funds to local air districts.

Of the four local air districts we visited, the Sacramento Metropolitan Air Quality Management District (Sacramento Metropolitan air district) was the only one to report that it spent all its fiscal year 2003–04 Moyer Program funds by this deadline. The San Joaquin Valley Unified Air Pollution Control District (San Joaquin Valley air district) reported that it did not spend nearly $546,000 (20 percent) of its $2.8 million allocation from fiscal year 2003–04, and the Bay Area Air Quality Management District (Bay Area air district) reported that it did not spend about $1.4 million (83 percent) of its nearly $1.7 million allocation from fiscal year 2003–04. The Bay Area air district, however, later reported that it spent all these funds by January 2007, six months after the deadline. The most notable spending shortfall occurred at the South Coast Air Quality Management District (South Coast air district). As of December 2006 the district reported that it had nearly $24.1 million in unspent Moyer Program funds that had passed the two-year availability period, but it has not returned those unspent funds to the state board.

The South Coast air district's unspent funds come from several fiscal years. First, it held nearly $5.9 million (80 percent) of the $7.4 million it was allocated in fiscal year 2003–04 and had up to $5.5 million in unspent Moyer Program funds from earlier fiscal years. The district also had $3.6 million that was beyond the two-year availability deadline related to contracts for which it had made partial but not complete payments to the project owners, including some funds it had held for as long as six years. Finally, the district had $9.1 million that it had rolled forward from earlier fiscal years into contracts for projects funded by Moyer Program allocations from fiscal year 2004–05. In total 39 percent of the Moyer Program funds allocated to the South Coast air district during the first six years of the program remained unspent and had not been returned to the state board. This proportion is even more significant considering that the South Coast air district received 44 percent of the total Moyer Program funds provided to all local air districts during the first six years of the program.

Despite having passed the two-year deadline, up to 39 percent of the total funds allocated to the South Coast air district during the first six years of the program remain unspent.

Because the South Coast air district did not spend its Moyer Program allocations within the two-year availability period, it cannot ensure that it is achieving the prompt emission reductions intended by law. For example, the projects it selected for funding with its fiscal year 2004–05 Moyer Program funds are intended to reduce 1 ton of emissions for every $4,256 spent, on average. Had the district spent the $24.1 million on similarly cost-effective projects by June 30, 2006, nearly 5,600 tons of pollutants would have been removed. In addition, had the district returned the unspent funds as required, the state board could have reallocated the money for use on other eligible Moyer Program projects.

A Difference in Definitions Led to Unspent Funds

Not all participants in the Moyer Program agree on the definition of *expended*, as used in Section 44287(k) of the Health and Safety Code. Most participants interpret the word *expended* as used in the statute to mean "spent." In its Moyer Program guidelines dated January 2006, the state board, consistent with this interpretation, states that districts *expend* funds when they pay project owners for completing milestones of projects under contract. Under this definition, when a local air district receives Moyer Program funds from the state board, it has until June 30 of the second fiscal year to pay contractors for completing their projects and must return any unspent funds to the state board within the 60 days following June 30 for reallocation.

The South Coast air district, however, interprets *expended* to mean "obligated." Under that interpretation, as long as a local air district had obligated a specific amount of Moyer Program funds to pay for a project that will be completed in the future, unspent funds at June 30 would not revert to the state board. Therefore, the South Coast air district argues that it was not under a statutory obligation to spend the funds for which the two-year period of availability had expired, nor did it have to return unspent funds to the state board.

Both the state board and the Department of Finance expected the South Coast air district to spend Moyer Program funds before the deadline, not merely obligate them.

The state board and the Department of Finance (Finance) have recently both been critical of the lack of spending by the South Coast air district. In an October 2006 audit report, the state board criticized the district for not expending at least $10 million of the $15.6 million it was allocated from fiscal years 2002–03 and 2003–04 within the two-year availability period. In an audit report released in April 2007, Finance also admonished the South Coast air district for not fully expending Moyer Program funds as required. It is clear that within the context of their reports, both the state board and Finance expected the district to spend Moyer Program funds within the two-year availability period, not merely obligate them for projects.

The South Coast air district asserted that it was complying with the Moyer Program guidelines in effect at the time. In its response to Finance's audit, the South Coast air district said the 2003 Moyer Program guidelines required only that the funds allocated to a district be obligated, which the district has done. Regardless of the language in the guidelines in effect at the time, because state law related to the Moyer Program seeks prompt emission reductions, we agree with the state board and Finance that the appropriate definition of *expend* is "spent." If the funds are not being spent, the intended emission reductions likely are not being achieved.

In its plan of action responding to the audit report from the state board, the district acknowledged that the most recent version of the Moyer Program guidelines requires funds to be spent within the two years and stated that it had revised its process to meet that requirement. Also, the state board noted that it has the South Coast air district's assurance that it will fully expend all applicable Moyer Program funds by July 1, 2007.

The state board is withholding future Moyer Program allocations to the South Coast air district until it spends its expired funds. Also, the state board is monitoring the district to ensure that it spends the remainder of its expired funds by July 1, 2007.

By not spending its Moyer Program funds before the end of the two-year availability period specified in state law, the South Coast air district is not funding the projects needed to promptly achieve its intended emission reductions. One purpose of the Moyer Program is to reduce emissions sooner than required by law or other requirements. Further, had the district returned its unspent funds, the state board could have reallocated the money to other local air districts to fund projects that could have fulfilled the purpose of the Moyer Program.

The South Coast air district is not fulfilling one of the Moyer Program's purposes—achieving prompt emission reductions sooner than required.

Timing Requirements for Preinspections Can Be Overly Restrictive

State guidelines generally require local air districts to perform preinspections of all engines participating in the Moyer Program after the districts award funds to the projects but *before* they execute the related contracts.[19] Contrary to this requirement, the South Coast air district executed 20 of 23 contracts we examined before performing preinspections. Preinspections ensure that the old engines are operational and that the engine types and serial numbers match the information provided on the applications. This step helps ensure that local air districts and the State receive the intended emission reductions from the project.

The South Coast air district told us it is aware of the requirement to perform preinspections before it executes contracts but elected not to follow it. The district stated that it has neither sufficient time nor staff to do so. The project owners' time and scheduling restrictions also make this requirement impractical. Additionally, district management believe the intent of the requirement related to the timing of preinspections is to ensure that they do not slow

[19] State guidelines provide an exception for public agencies such as public works departments, transit agencies, and school districts. Local air districts may choose to allow public agencies to provide documentation of the engine and its use.

implementation of the project; had it followed this requirement, the district believes delaying the execution of the contracts would have slowed project implementation.

The state board is aware that the South Coast air district did not follow this requirement and told us other local air districts have also raised concerns about it. Further, the state board said it is considering whether to change this requirement for the next version of the Moyer Program guidelines, which it expects to issue in February 2008. The state board likened this requirement to something that looked good on paper but did not work well in practice. It also indicated that it did not know of an ill effect that would occur if it amended the guidelines to revise the requirement.

Although Some Aspects of Its Monitoring Efforts Appear Reasonable, the State Board's On-Site Audit Process Is Still Evolving

The state board appears to conduct both technical assistance and desk reviews reasonably well in its oversight of the Moyer Program, but its on-site audit process is still evolving. California law requires the state board to monitor how local air districts implement the Moyer Program to ensure that they operate in accordance with the criteria and guidelines the state board has established.

Infrequent On-Site Audits Are a Concern

The state board's policy is to periodically conduct on-site audits of local air districts to ensure that their implementation of the Moyer Program is consistent with applicable rules, regulations, and guidelines. According to a program manager, the state board began conducting full on-site audits of the Moyer Program at districts in 2006. During an on-site audit the state board reviews a district's policies, procedures, and processes; ensures that its Moyer Program contracts contain the minimum requirements outlined in the guidelines; and examines a selection of the district's Moyer Program projects to ensure that the project files contain all required information. Also, the state board conducts on-site inspections of engines included in the selected Moyer Program projects.

At its current pace, the state board would audit each participating air district only once every seven years, on average.

Under its current approach the state board may not audit local air districts participating in the Moyer Program with sufficient frequency. For example, 28 districts received Moyer Program funds appropriated in fiscal year 2006–07. According to a program manager, the state board intends to conduct four audits in 2007. If it continues to audit four districts per year, it would audit each district an average of only once every seven years. Further, if the state

board audits any local air district more frequently—for example, it audited the South Coast air district in 2006 and expects to follow up on the audit again in 2007—other districts may be audited even less frequently.

When local air districts are audited infrequently, improper Moyer Program administration may occur. The few full on-site audits the state board has performed so far have shown that districts do not always adhere to Moyer Program requirements. As of March 2007 the state board had issued reports for its on-site audits of the Butte County Air Quality Management District, the Ventura County Air Pollution Control District, and the Sacramento Metropolitan and South Coast air districts.[20] These audit reports noted several concerns, including not spending funds by deadlines, allocating Moyer Program funds to ineligible projects, and improperly calculating the costs per ton of the projects' intended emission reductions. The state board set deadlines for these four districts to submit written action plans to correct identified deficiencies. All four districts submitted their responses, which included their corrective action plans, by the deadline. The state board's liaisons to the districts are responsible for monitoring their progress in implementing the plans.

The State Board Is Revising Its On-site Audit Process

The state board is updating the procedures it uses to conduct on-site audits of local air districts, according to a program manager. These changes are based on findings from a 2006 review by Finance of the Moyer Program guidelines as well as feedback from the audited districts and from the state board's audit staff about the on-site audits it had already completed. In its report in December 2006, Finance made eight observations with recommendations for ways the state board could improve the Moyer Program guidelines and procedures. These recommendations included addressing a possible lack of agreement among program participants concerning ambiguities in state law about recapturing unexpended funds from a district and addressing the way the state board plans audits of the districts. Also, Finance recommended 12 revisions to the guidelines to make the language clearer, define terms, and provide more detail. The state board told us it has implemented or is still considering Finance's recommendations.

[20] According to the lead auditor for the Moyer Program, as of March 2007 the state board was performing on-site audits of the Bay Area and San Joaquin Valley air districts.

Regarding oversight, Finance recommended that the state board adopt a systematic, risk-based approach to selecting local air districts to audit. Some of the risk factors Finance suggested the state board include are the adequacy of the districts' policies and procedures documents, timeliness of districts' disbursements to project owners and updates of project data, and the validity of invoices and compliance with contract provisions.

The Department of Finance will assist the state board in conducting future audits of local air districts.

To address this recommendation, according to the program manager, the state board contracted with Finance to assist it in developing a risk assessment matrix. Also, Finance will conduct the financial portion of future on-site audits, allowing the state board's staff more time to focus on the programmatic portion of these audits. The program manager also described other changes the state board is making to its audit procedures, including establishing an audit coordinator, designating one person to have the lead responsibility for on-site audits, and revising the file review process to minimize the time state board staff will need to be at the districts.

Finance made additional recommendations regarding the state board's monitoring of the Moyer Program. It recommended that the state board either incorporate or reference an audit plan in the guidelines that includes a clearly defined work plan and evaluations of the local air districts' fiscal controls, application processing, reporting and follow-up, and other issues. The state board is in the process of revising its audit plan. Finance also recommended that the state board consolidate the sections of the Moyer Program guidelines related to monitoring. The state board indicated that it would seek input on this recommendation during the public process to revise the Moyer Program guidelines.

The State Board Reviewed Local Air Districts' Cost-Effectiveness Calculations as Part of Its On-site Audits

State requirements dictated that a project's cost-effectiveness (the cost to reduce 1 ton of emissions) not exceed a cost ceiling of $13,600 per ton for Moyer Program funds appropriated in fiscal year 2004–05; the cost ceiling was $14,300 per ton for funds appropriated in fiscal year 2005–06. The state board's Moyer Program guidelines set a specific formula local air districts use to derive a project's cost per ton of intended emission reductions. This formula is presented in Appendix B. According to the lead auditor of the Moyer Program, as part of its on-site audits, the state board validates the calculations each district used to generate the costs per ton and matches the input data, such as engine type and horsepower, emission ratings, or miles of use, from the application to the reporting spreadsheet to the contract.

As of March 2007 the state board has issued reports for its on-site audits of two of the four local air districts we visited. It reported no findings related to the calculation of costs per ton of emission reductions at the Sacramento Metropolitan air district. It did, however, develop a finding about the South Coast air district's calculation of costs. The state board found two miscalculations that resulted in projects exceeding the state board's cost ceiling. The state board required the district to seek repayment from one contract and amend the other. It also required the district to revise and submit progress reports for all affected years.

The State Board Provides Technical Assistance to Local Air Districts

The state board's methods for providing technical assistance as part of its monitoring role seem reasonable. Technical assistance includes providing guidance to local air districts regarding changes to the Moyer Program guidelines and implementing the program. To provide technical assistance, the state board employs staff members who act as liaisons between it and the districts.

The state board assigns liaisons to each local air district to provide technical assistance and act as a point-of-contact.

The liaisons help districts with understanding the Moyer Program guidelines and act as points of contact at the state board. According to the state board's liaisons for the four districts we visited and district staff, communication between the liaisons and the districts is frequent—often more than once a week. Much of the communication between liaisons and the districts is by e-mail, allowing both parties to document interactions. Liaisons maintain electronic and paper records of their communications, and the districts often print out and retain communications relevant to particular projects in the project files.

Liaisons may also refer district staff to the state board's experts for air pollution source categories—staff who are responsible for knowing the contents of the Moyer Program guidelines on categories of air pollution sources such as on-road or off-road vehicles—and to its Moyer Program management. One of the program liaisons indicated that the liaisons meet weekly with management of the state board's Moyer Program to discuss issues that arise during the course of their work. Finally, liaisons also monitor the implementation of the districts' Moyer Program projects by performing desk reviews and participating in on-site audits.

The State Board Performs Desk Reviews of Reports Submitted by Local Air Districts

The state board's methods for performing desk reviews also appear reasonable. Desk reviews consist of the liaisons reviewing reports that local air districts submit periodically. The state board requires each district to submit an annual report by June 30 of the year following the year of allocation. In the annual report the district describes its implementation of the Moyer Program. A final report, which each district must submit by June 30 of the second year following the allocation, must show that the district spent all the funds. The state board also requires districts to submit status reports documenting the districts' progress in spending the Moyer Program allocations. As part of their annual and final reports, districts must submit data on the projects to which the reports refer, copies of at least the signature and project description pages from contracts, and copies of invoices.

Liaisons to the local air districts review calculations of intended emission reductions in periodic reports to ensure they are accurate.

Several liaisons indicated that when they receive the reports, they review the local air districts' calculations of cost per ton of intended emission reductions and conduct spot checks of project data. The liaisons also compare the information in the contracts and invoices with the information the districts reported. If liaisons find discrepancies, they contact the districts for correction. For example, the liaison to the South Coast air district noted the district was requesting additional Moyer Program funds but had not submitted invoices demonstrating it had spent previous funds. In its audit the state board verified that these funds had not been spent.

If a report shows that a local air district is not making adequate progress, the state board may withhold further allocations. As noted earlier the South Coast air district has a large amount of unspent Moyer Program funds. The program manager said that in response the state board withheld $10.9 million of the district's $12.2 million allocation for fiscal year 2004–05 and it has not paid any of the district's $35.3 million allocation for fiscal year 2005–06.

Monitoring by Local Air Districts Is Also Evolving

Monitoring by local air districts of project owners' performance is evolving as well. Although districts perform the required inspections both before and after project completion, they have not yet fully implemented the process for monitoring ongoing emission reductions after project implementation.

Local Air Districts Performed Required Project Inspections

Notwithstanding the timing of conducting preinspections previously discussed, the four local air districts we visited did perform preinspections and postinspections. For Moyer Program funds appropriated in fiscal year 2005–06, the Moyer Program guidelines generally required districts to inspect the engines involved in a project both before (preinspections) and after (postinspections) the owner implements the project. Preinspections ensure that the old engines are operational and that the engine types and serial numbers match the information provided on the applications. Postinspections allow districts to verify that the project owners complied with the terms of their contracts. The guidelines also require districts to take photographs of engines and serial numbers at both preinspections and postinspections.

Although not required for the 2004–05 fiscal year, the local air districts we visited performed varying degrees of project inspections.

For Moyer Program funds appropriated in fiscal year 2004–05, preinspections and postinspections generally were not required. However, each local air district we visited performed varying degrees of these inspections. For example, the Sacramento Metropolitan air district consistently performed preinspections and often took photos to document engine information.

Our examination revealed that for Moyer Program funds appropriated in fiscal year 2005–06, both the Sacramento Metropolitan and San Joaquin Valley air districts complied with the inspection requirements. These districts performed both types of inspections within appropriate time frames and documented the inspections through photographs of the vehicles and engine serial numbers. The South Coast air district also performed both preinspections and postinspections, but as stated earlier in this chapter, it deviated from Moyer Program guidelines by executing most of its contracts with the applicants before performing preinspections. The Bay Area air district, as of December 31, 2006, had not selected the projects to which it will provide Moyer Program funds appropriated in fiscal year 2005–06. Consequently, this district has not yet performed its preinspections.

While examining the processes the four local air districts we visited used to perform their preinspections and postinspections, we observed a best practice. The South Coast air district performed multiple inspections at the same time when possible. For example, district staff performed the required inspections on a $1.6 million project for construction equipment powered by 16 diesel engines at two sites on the same day. The staff found that this practice of consolidating inspections allowed them to save time and allowed the affected projects to move forward without unnecessary delay. They also discovered that as dealers became more familiar

When possible the South Coast air district performed multiple project inspections at the same time.

with Moyer Program requirements, they helped ensure that all required information was easily verifiable, further speeding the preinspection process.

Postimplementation Monitoring Has Not Yet Been Fully Carried Out

For Moyer Program funds appropriated in fiscal year 2005–06 and later, Moyer Program guidelines require local air districts to perform postimplementation monitoring of funded projects. The guidelines require project owners to submit reports to the districts annually for the first five years after the completion of the project and biennially for the remainder of the project life. These reports must include a detailed listing of usage information for the project. For Moyer Program funds appropriated in fiscal year 2004–05, this type of monitoring was voluntary.

Postimplementation monitoring has yet to be fully carried out because projects receiving Moyer Program funds appropriated in fiscal year 2005–06 do not require completion until June 2008. As of December 31, 2006, none of the projects we examined that local air districts funded with fiscal year 2005–06 allocations had been completed for at least one year (the point at which the first annual report would be due). However, information provided by the districts we visited showed that they performed varying levels of postimplementation monitoring on their own for earlier fiscal years. The Sacramento Metropolitan, San Joaquin Valley, and South Coast air districts told us they generally have required project owners to submit annual reports.

Further, these local air districts indicated that they took actions based on the information in these reports. For example, the Sacramento Metropolitan and San Joaquin Valley air districts told us they have extended the terms of some contracts because the annual reports showed the project owners had not met the minimum usage amounts stated in the contracts. The Bay Area air district stated that it has required only two project owners to submit annual reports; it believes the reports were necessary in these cases to ensure the contract requirements were met.

The state board encouraged but did not require postimplementation reporting in the past. It indicated that it moved to require such reporting when, among other things, it noticed that some local air districts were not following its advice to require monitoring reports.

At Least Three Factors Influenced the Length of Time Local Air Districts Required to Complete Projects

We identified three factors that appear to affect the length of time it takes local air districts to move projects through the Moyer Program process. To assess whether the processes used by districts to select, approve, and pay for their Moyer Program projects were streamlined and easy to use, we contacted a total of 19 engine dealers, applicants, or project owners from the four districts we visited. These participants identified several concerns with the process, including excessive paperwork, burdensome reporting requirements, and changing rules and regulations. However, only one concern was mentioned by more than four participants; 11 voiced concern about the lengthiness of the process. Some participants were concerned about the time from the date a district approved an application to issuance of a contract, while others mentioned the long time it took a district to issue payments.

The lengthiness of the application process was a concern for many of the Moyer Program participants we contacted.

To review the length of time it took projects to move through the Moyer Program process at the local air districts, we divided the process into two major parts:

- From the date a district received an application to the date it received an applicant's signed contract, the date the applicant withdrew, or December 31, 2006, whichever occurred first.

- From the date a district received an invoice to the date it paid the invoice.

We then calculated the number of days between the dates in each part of the process for 100 projects, 25 from each of the four districts.[21] For the first part of the process, the San Joaquin Valley air district was the quickest, averaging 5.9 months. The Sacramento Metropolitan air district took an average of 7.5 months, the Bay Area air district's average was 7.6 months, and the South Coast air district's average was 8.1 months.[22]

[21] Because we did not want to skew the results of our review of how long it typically took districts to process Moyer Program projects, we did not include in this review the five projects we selected from each district that took relatively longer to proceed through the process.

[22] As mentioned in the Scope and Methodology, we could not verify the accuracy of some dates used by the Sacramento Metropolitan air district because we were unable to trace the documents to hard-copy evidence. However, we took steps to mitigate the effects of these data on our analysis. Further, because of several data errors related to the dates the Sacramento Metropolitan air district received its applications, we based our calculations for the average number of days from when it received applications to when it received signed contracts on only the 14 projects for which we found hard-copy evidence of the date received. This does not change our determination that, for the purposes of this audit, the Sacramento Metropolitan air district's data was not sufficiently reliable.

We identified the following three factors that we believe contributed to the time it took local air districts to move their Moyer Program projects from receipt of application to receipt of signed contract:

- *Average size of a project in terms of dollars*: It is reasonable that more costly projects are also more complex; they typically involve more engines, which adds to the length of time it takes a district to perform the steps necessary to receive signed contracts. It took the South Coast air district, whose average cost per project was $1.1 million for the projects we reviewed, an average of 8.1 months to move its projects from application receipt to receipt of a signed contract, withdrawal by the applicant, or December 31, 2006, whichever occurred first. The averages for the Sacramento Metropolitan air district were $151,000 and 7.5 months per project, and the averages for the San Joaquin Valley air district were $140,000 and 5.9 months per project.[23]

- *Participation in both the Moyer Program and an electrification program*: Projects involving agricultural pumps can participate in both the Moyer Program and another program designed to convert these pumps from diesel to electric power. Because these projects involve not only a local air district but also an electric utility company, it is reasonable that they can take longer to implement. Of the 19 agricultural pump projects we reviewed at the San Joaquin Valley air district, 11 participated in both programs; this district averaged an additional eight weeks to receive signed contracts for those 11 agricultural pump projects (one contract was still pending at December 31, 2006) than it did for eight projects not involved in the electrification program.

- *Delegated authority to approve projects*: We identified this factor as a possible best practice in Chapter 1. For the projects included in our review, those from the San Joaquin Valley air district took an average of 5.9 months to move from application receipt to receipt of the signed contract, withdrawal by the applicant, or December 31, 2006, whichever occurred first, and the Sacramento Metropolitan air district's average was 7.5 months. Both districts have delegated authority. It took the Bay Area air district an average of 7.6 months and South Coast air district an average of 8.1 months.

[23] Because the Bay Area air district generally issued one contract per vehicle (project owners could therefore have multiple contracts with this district), we did not include its projects in this analysis.

For that part of the Moyer Program process from the invoice receipt date through payment date, the projects we examined averaged 33 days overall. The averages ranged from a low of 19 days at the Bay Area air district to a high of 52 days at the South Coast air district. However, because two of the four districts had paid invoices for only a total of seven of the 50 projects we examined, we believe it would be inappropriate to draw conclusions from such a small number.

Other Areas of Moyer Program Management Appear Reasonable

We examined several other areas of the administration of the Moyer Program and found no issues. For instance, program participants were using many avenues for communicating with each other. Further, the policies and procedures developed by the state board and the local air districts included critical components.

Communication and Coordination Occur in the Moyer Program

The state board and local air districts use a number of avenues for communicating about the Moyer Program.

Given the complexity of the Moyer Program and the partnership between the state board and local air districts to operate it, communication and coordination are necessary to ensure the program's success. Multiple avenues of communication and coordination exist in the Moyer Program. The state board issues guidelines that establish minimum requirements it and the districts must follow to administer the Moyer Program. These guidelines also foster communication and coordination by requiring the districts to report periodically on their Moyer Program implementation and by describing how the state board provides training and technical assistance to the districts. As mentioned earlier, the state board designated specific employees to act as liaisons between it and each district.

Communication also occurs during quarterly meetings between the state board and the local air districts. These meetings are held to assess any issues the districts may have and serve as a convenient time for training on changes to the guidelines. The state board uses a collaborative approach with the districts when revising the Moyer Program guidelines biennially. According to the lead staff for the 2007 guidelines revision, the state board initiates working groups with the districts on potential revisions and holds public meetings to get input from interested parties. Following release of the 2005 Moyer Program guidelines, the state board conducted training sessions for the districts. Participants in these sessions identified areas of the guidelines that were unclear, and the state board issued clarifications in March 2006. These sessions also provided districts an opportunity to bring up issues with the program.

For example, the liaison to the South Coast air district recalled that the state board learned about that district's practice of conducting preinspections after issuing the contract during a training session shortly after the 2005 guidelines were released.

Local air districts have another communication tool available to them—the California Air Pollution Control Officers Association (association). Each district is led by an air pollution control officer who is a member of this association. According to its Web site, the association provides training to districts and information to the general public. The Web site also states that the association meets regularly with federal and state air quality officials to develop rules and ensure the consistent application of rules and regulations. The association developed the current formula for allocating Moyer Program funds to districts. One of the members stated that the association is an effective tool because it allows the air pollution control officers to discuss the challenges they face and develop solutions they all agree on.

Several avenues of communication also exist between the local air districts and program applicants. For instance, the districts market their Moyer programs by using electronic and hard-copy mailings, brochures and other printed material, and workshops. They also communicate with applicants during the application process. Project owners can communicate with districts during preinspections and postinspections and by submitting annual monitoring reports.

Nine elements to be addressed in policies and procedures manuals at local air districts:

- Marketing
- Project selection
- Obligation of funds to projects
- Contract development and boilerplate language
- Project monitoring
- Fund expenditures
- Project auditing and fund recapturing
- State board reporting
- Disbursement requests to the state board

Source: State Air Resources Board.

Policies and Procedures Are Consistent With the Major Requirements of Moyer Program Guidelines and State Law

The Moyer Program policies and procedures of the state board and the local air districts we visited are consistent with the major requirements of state law and the Moyer Program guidelines. Our comparison focused on selected major program requirements, including those related to calculating the cost per ton of intended emission reductions, disproportionately impacted communities, matching of state funds, oversight, and monitoring. In November 2006 the state board required districts to create written policies and procedures manuals for their implementation of the Moyer Program and submit them for approval. Each district's policies and procedures must address the nine elements identified in the text box.

The Moyer Program guidelines establish goals and measures for the program and for the local air districts' implementation of the program, based on requirements in the Health and Safety Code. The guidelines include the calculations districts must use to determine whether a project meets the requirements for achieving emission reductions at or below the ceiling established by the state board, directions to districts with populations of more than 1 million to ensure that 50 percent or more of their Moyer Program funds are expended in disproportionately impacted communities, and requirements for targeting outreach to encourage applications from all sectors. The guidelines also require districts to provide matching funds for the Moyer Program, as described in state law.

The Moyer Program guidelines include specific criteria for the various kinds of projects a local air district might fund. For example, the state board set a default project life—the length of time a project will be under contract—for various air pollution source categories and project types. To measure the effectiveness of the program, the guidelines require districts to submit annual reports on their progress in obligating and spending Moyer Program funds and to audit selected projects each year to ensure that they are operating as indicated in the contracts.

The state board also created its own policies and procedures manual, which incorporates its guidelines by reference, to guide its day-to-day work. According to a project manager, the document is meant to be a "living document." For example, Moyer Program staff are currently working on changes to the section of their policies and procedures on auditing the districts.

As of March 2007 all four of the local air districts we visited had submitted their draft policies and procedures to the state board. In general, the districts developed them based on current practices, state board sample language, and comments from their staff and management. The state board's district liaisons reviewed the documents to ensure that they addressed the nine required elements. The liaison to the Bay Area air district found that the district's draft policies and procedures had some information missing for four of the nine required elements, and each district liaison had suggestions for improvements. The state board asked the districts to provide updates on their policies and procedures when the districts apply for next year's Moyer Program funds. The state board also indicated that it will use the districts' policies and procedures during on-site audits.

Liaisons to the local air districts reviewed the districts' policies and procedures and made suggestions for improvement.

The guidelines require districts to audit at least 10 percent of projects with more than a three-year project life and all projects whose owners fail to report annually. Each district included these requirements in its draft policies and procedures. Also, the

guidelines require districts to take action when a project reports its usage was not within 30 percent of that specified in the contract. Each district indicated that it would do so and listed potential actions, including extending the life of a project, referring the contract to the district's legal department, or asking the project owner to return the funds. Moreover, in their draft policies and procedures, all districts acknowledged the requirement of state law and the Moyer Program guidelines that the districts provide $1 in matching funds for every $2 of Moyer Program funds.

Local air districts we visited set goals and priorities for selecting projects based on, and in some cases stricter than, Moyer Program guidelines. In fact, two districts used a best practice of imposing stricter funding requirements for projects. This best practice enables them to fund more projects; for example, they require project owners to pay a greater share of the costs. One of the districts—South Coast—requires that projects for off-road construction equipment not exceed $5,000 per ton for intended emission reductions rather than the $14,300 ceiling set by the state board for Moyer Program funds appropriated in fiscal year 2005–06. One way for a project owner to meet the stricter limit would be to agree to pay a greater share of the project's cost out of pocket, thus reducing the potential contract amount and making more funds available for other projects.

The San Joaquin Valley air district set maximum amounts it was willing to pay for certain project types and also set minimum baseline amounts.[24] For example, this district set a baseline cost of $5,000 for each new irrigation pump to be funded under the Moyer Program and caps payments for those pumps at $30,000 each. Neither district believes participation in the Moyer Program is diminished by these requirements.

Recommendations

To comply with its action plan, the South Coast air district should ensure that it spends by July 1, 2007, all remaining Moyer Program funds that are beyond the two-year availability period.

Also, to help ensure that the South Coast air district spends the allocations, the state board should continue monitoring the district's efforts and take appropriate action should its efforts falter. If the South Coast air district does not spend the funds

[24] We explain baseline costs in the Introduction.

by July 1, 2007, the state board should initiate appropriate administrative action, up to or including recovering all remaining unspent funds.

To help streamline the process for performing preinspections, the state board should revise its requirement that local air districts must perform preinspections before executing contracts.

To ensure that it monitors local air districts' implementation of the Moyer Program effectively, the state board should continue to implement its planned changes to audit procedures and address the recommendations in Finance's 2006 audit report, including the development of a risk-based approach to selecting districts to audit. As part of this effort, the state board should consider how frequently it will audit districts.

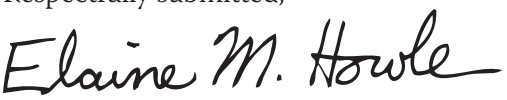
To improve their administration of the Moyer Program, local air districts should consider implementing the following best practices:

- Conduct consolidated preinspections to the extent practicable.

- Impose stricter standards (for example, caps on individual contract amounts or lower costs per ton of intended emission reductions) on project categories to the extent that such action does not reduce involvement in the Moyer Program.

We conducted this review under the authority vested in the California State Auditor by Section 8543 et seq. of the California Government Code and according to generally accepted government auditing standards. We limited our review to those areas specified in the audit scope section of this report.

Respectfully submitted,



ELAINE M. HOWLE
State Auditor

Date: June 14, 2007

Staff: Nancy C. Woodward, CPA, Audit Principal
Dale A. Carlson, CGFM, MPA
Nathan Briley, MPP
John Lewis, MPA
Richard Power, MBA, MPP

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Appendix A

MAP OF CALIFORNIA'S AIR POLLUTION CONTROL DISTRICTS AND AIR QUALITY MANAGEMENT DISTRICTS

Figure A on the following page shows the boundaries for California's 21 air pollution control districts and 14 air quality management districts (collectively, local air districts). It also highlights the four local air districts we visited.

Figure A
California's Local Air Districts

Source: State Air Resources Board.

Note: Includes air pollution control districts and air quality management districts.

* For the two fiscal years covered by this audit report, the Sacramento Metropolitan Air Quality Management District had agreements to administer the Carl Moyer Memorial Air Quality Standards Attainment Program for the El Dorado County, Placer County, and Yolo-Solano air districts. We included funding to all four of the districts as part of our audit.

Appendix B

FORMULA FOR CALCULATING THE COST-EFFECTIVENESS OF EMISSION REDUCTIONS UNDER THE CARL MOYER MEMORIAL AIR QUALITY STANDARDS ATTAINMENT PROGRAM

State law requires that projects seeking funding from the Carl Moyer Memorial Air Quality Standards Attainment Program (Moyer Program) not exceed a certain cost per ton of intended emission reductions (cost-effectiveness). The State Air Resources Board established the following formula to calculate cost-effectiveness:

$$\frac{\text{Annualized project cost}}{\text{Annual weighted emission reductions (per ton)}} = \text{Cost-effectiveness}$$

where

$$\text{Annualized project cost} = (\text{Moyer Program funds awarded} \times \text{capital recovery factor})$$

- *Annualized project cost* consists of the *Moyer Program funds awarded* and the *capital recovery factor.*

- *Moyer Program funds awarded* is the amount of funds provided by the local air district.

- *Capital recovery factor* uses an interest rate and project life to determine the rate at which earnings could reasonably be expected if the same funds were invested over the length of time equaling the project life. A longer project life improves the cost-effectiveness value. According to the Moyer Program guidelines, the capital recovery factor for a 10-year project life is 0.123 while the factor for a five-year project life is 0.225. Thus, providing funding of $10,000 to a project with a 10-year life would result in an annual cost of $1,230 while one with a project life of five years will have an annual cost of $2,250. If both projects had similar annual emission reductions, then the 10-year project will have a better cost-effectiveness value than the five-year project.

- *Annual weighted emission reductions* are the reductions in pollutants that the project intends to achieve. Pollutants include nitrogen oxides, reactive organic gases, and particulate matter. Greater amounts of reduced emissions improve its cost-effectiveness value. For example, if other factors are similar, a project to replace a 25-year old engine that intends to reduce 10 tons of nitrogen oxides likely will have a better cost-effectiveness value than a project to replace a 10-year old engine that intends to reduce 5 tons.

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(Agency response provided as text only.)

California Environmental Protection Agency
Linda S. Adams, Secretary for Environmental Protection
1001 I Street
Sacramento, California 95814

Elaine M. Howle, State Auditor
Bureau of State Audits
555 Capitol Mall, Suite 300
Sacramento, CA 95814

Dear Ms. Howle:

Thank you for providing the opportunity to respond to the Bureau of State Audits' (BSA) draft report, *The Carl Moyer Memorial Air Quality Standards Attainment Program: Improved Practices in Applicant Selection, Contracting, and Marketing Can Lead to More Cost-Effective Emission Reductions and Enhanced Operations.** I would also like to thank the BSA audit team for its hard work in evaluating the program and for its insightful recommendations.

While the audit report notes some areas of the Carl Moyer Program that need improvement, I am pleased the report finds the statewide program is well run overall. Your recommendations come at a good time. The Air Resources Board (ARB or Board) is in the process of revising the Carl Moyer Program Guidelines. I am enclosing ARB staff's more detailed response to the five recommendations BSA specifies for the ARB.

The report also includes recommendations for the four air districts BSA audited as well as a number of best practices that districts should consider. Although the enclosed responses do not address the specific recommendations for air districts, the ARB will work with the four air districts audited and the California Air Pollution Control Officers Association to implement your recommendations.

Thank you again for your recommendations and suggested improvements. If you have any questions or need further information, please contact Catherine Witherspoon, Executive Officer, ARB, at (916) 445-4383.

Sincerely,

(Signed by: CKT, Acting Secretary for)

Linda S. Adams
Secretary for Environmental Protection

Enclosure

* While preparing our draft report for publication, our title changed slightly.

Air Resources Board Responses to Bureau of State Audits Recommendations

Recommendation: To maximize the use of Moyer Program funds, the state board should seek legislation to increase the 10 percent maximum proportion it can allocate for multidistrict purposes. If the state board opts not to seek this revision, the Legislature may wish to consider it.

Response: We agree with the goal of maximizing the emission reductions achieved through the Carl Moyer Program. During the first six years of the program, projects averaged about $2,600 per ton of nitrogen oxides reduced, about one fifth of the statutory limit. However, we continue to look for ways to improve the program's cost-effectiveness.

We appreciate Bureau of State Audit's (BSA) confidence in the Air Resources Board's (ARB) ability to run a robust multidistrict program. The multidistrict solicitation is a relatively new component of the program. The ARB has funded about $11 million in multidistrict projects over the past two years, and we are in the process of awarding an additional $8 million. Once the third multidistrict funding cycle is complete, we will have more data to evaluate whether the program would benefit from a legislative change increasing the multidistrict holdback. Past Carl Moyer Program legislative changes have been developed through a collaborative process with a broad array of stakeholders. We anticipate using the same collaborative approach for any future proposed changes.

Recommendation: To maximize the use of Moyer Program funds, the state board should identify and give weight to those categories that help it achieve the lowest average cost per ton of emission reductions when determining methods for selecting projects to receive funds from the multidistrict component.

Response: We agree. In our next multidistrict solicitation, we will increase the weighing of cost-effectiveness in the project ranking criteria. However, we also believe other factors should continue to have a role in the ranking criteria. For example, the ability of an applicant to follow through and complete a project is critical to actually achieving emission reductions and meeting statutory expenditure deadlines, so we award points for complete applications and project implementation plans.

Recommendation: To help ensure that the South Coast air district spends Moyer Program allocations that are beyond the two-year limit, the state board should continue monitoring the district's efforts and take appropriate action should it falter. If the South Coast air district does not spend the funds by July 1, 2007, the state board should initiate appropriate administrative action, up to or including recovery of all remaining unspent funds.

Response: We agree. We are concerned about the unexpended funds and the resulting unrealized emission reductions in the South Coast Air Quality Management District (SCAQMD). The BSA audit report identifies $24.1 million in funds allocated to the district that were not expended within the two year period allowed in state law. The ARB evaluated the SCAQMD program in 2006 and also found expenditures not meeting the two year deadline.

We are closely monitoring the SCAQMD's progress in remedying the shortfall. We are requiring that the SCAQMD submit quarterly progress reports, and we are not releasing a requested disbursement of approximately $10 million pending an evaluation of the district's progress. We are also conducting a follow up evaluation, with a site visit scheduled for the first week of June 2007. If the funds have not been

fully expended by July 1, 2007, then the SCAQMD will be deemed an "at-risk" district, and the ARB will look to recapture funds as outlined in the October 2006 *Carl Moyer Air Quality Standards Attainment Program Audit Report: South Coast Air Quality Management District Fiscal Years 2002/2003 and 2003/2004*.

On a broader note, we plan to improve the Carl Moyer Program Guidelines to be clearer regarding the consequences for air districts failing to meet the statutory two year expenditure requirement as well as the conditions and mechanisms for returning unspent funds. We will propose these clarifications as part of the revisions to the Carl Moyer Program Guidelines currently under development

Recommendation: To help streamline the process for performing preinspections, the state board should revise its requirement that local air districts must perform preinspections before executing contracts.

Response: We agree. The ARB works closely with air districts to understand any unintended implementation challenges that result from guideline requirements. This particular issue has been brought to the ARB's attention, and, in the interim, we have provided air districts with flexibility regarding preinspection timing. We will follow up by proposing this additional flexibility as part of the revisions to the Carl Moyer Program Guidelines currently under development.

Recommendation: To ensure that it monitors local air districts' implementation of the Moyer Program effectively, the state board should continue to implement its planned changes to audit procedures and address the recommendations in Finance's 2006 audit report, including the development of a risk-based approach to selecting districts to audit. As part of this effort, the state board should consider how frequently it will audit districts.

Response: We agree. In the spring of 2006, the ARB contracted with the California Department of Finance, Office of Audits and Evaluations (DoF) to conduct an evaluation of the Carl Moyer Program administrative procedures. The DoF recommended the ARB develop a risk based approach to determine the frequency of its audits of air districts. The ARB has already executed a second contract with the DoF to develop the appropriate risk factors to determine how frequently a district should be evaluated and to assist the ARB by conducting fiscal audits of districts' programs.

We share BSA's concern that our current rate of up to four on-site district evaluations per year does not provide adequate oversight. Limited staffing has prevented the ARB from conducing more frequent on-site monitoring. The ARB request for six new positions to expand Carl Moyer Program oversight has been included in the May revision of Governor's fiscal year 2007/2008 budget. If approved, these additional resources will allow the ARB to increase program evaluation frequency.

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(Agency response provided as text only.)

Bay Area Air Quality Management District
939 Ellis Street
San Francisco, California 94109

June 1, 2007

Elaine M. Howle*
State Auditor
Bureau of State Audits
555 Capitol Mall, Suite 300
Sacramento, CA 95814

Dear Ms. Howle:

This letter constitutes the Bay Area Air Quality Management District's (District) response to the Bureau of State Audit's (Bureau) confidential draft of audit Report No. 2006-115 (Report) regarding the Carl Moyer Memorial Air Quality Standards Attainment Program (Moyer Program) (Response). The District appreciates this opportunity to provide a response to the Report.

As an initial matter, the District appreciates the recognition in the Report of those District practices that the Bureau recommends as best practices for the Moyer Program. In particular, the Bureau cited the District's identification of impacted communities through the use of measured affects of air pollution. This is a reference to the District's use of data currently developed through its Community Air Risk Evaluation program in defining those areas to which funds must be directed pursuant to California Health and Safety Code section 43023.5. The Bureau also identified as a best practice the District's contract provision for projects undertaken in impacted communities that ensures that those projects continue to provide benefits to those communities throughout implementation. In addition, the Bureau recognized as a best practice the District's use of contract provisions requiring applicants to complete projects and submit invoices before the June 30 deadline to ensure that funds are expended prior to the statutory cutoff for expenditures from the Moyer Program. Finally, the Bureau recognized the District's use of contract-specific milestones to measure project progress as a best practice.

As you know, in addition to the Bureau's audit, the California Air Resources Board (CARB) staff is presently conducting its first-ever audit of the District's implementation of the Moyer Program. In addition, the California Department of Finance (DOF) has worked with CARB to perform a portion of CARB's audit relative to financial processes and controls for the District's implementation of the Moyer Program. Although neither CARB nor DOF have yet released written reports on these audits, during the course of the audits, CARB and DOF staff shared with District staff some preliminary issues regarding the District's implementation of the Moyer Program. By letter dated May 2, 2007 to Tom Cackette, Chief Deputy Executive Officer for CARB, the District outlined its plans to conduct a comprehensive review of its Moyer Program and to work with CARB to implement changes necessary to improve that program (May 2 Letter). The May 2 Letter is included with this Response to be incorporated in, and made a part of, the District's response to the Bureau's audit of the Moyer Program.

* California State Auditor's comment appears on page 79.

Ms. Howle
June 1, 2007
Page 2 of 3

To follow are the District's responses to relevant recommendations in the Bureau's Report:

Chapter 1 Recommendations:

Include all funds under budgetary control as part of calculations for average cost per ton, and implement policies and procedures to meet the matching requirements found in the Moyer Program guidelines.

- *District Response: As outlined in the May 2 Letter the District has initiated a thorough review of all Moyer Program projects and funds for all years, as well as all District Moyer Program procedures, processes and controls for adherence to statutory requirements, to CARB Moyer Program guidance, and, where appropriate, to best practices for grant program administration. To the extent that the review identifies projects and funding that do not meet Moyer Program requirements, District staff will work with CARB staff to identify replacement projects and/or funding to meet the District's obligations under the Moyer Program.*

Implement techniques to measure the effectiveness of marketing methods.

- *District Response: The District recognizes the importance of ensuring that expenditure of Moyer Program funds results in the maximum amount of emissions reductions per dollar spent. The District will take steps to improve its marketing of the Moyer Program, including increasing outreach, and using additional methods to evaluate effectiveness.*

Recommendations for Best Practices:

As noted above, the District appreciates the Bureau's recognition of four best practices employed by the District. The District also appreciates the Bureau's recommendations of several other best practices identified during the course of its audit of the Moyer Program. The District anticipates that the CARB and DOF audit reports may contain recommendations for best practices as well. As set forth in the May 2 Letter, the District is undertaking a comprehensive review of the District's Moyer Program. This review will encompass all of the programmatic, administrative, and financial aspects of the District's implementation of the Moyer Program. This review is described in greater detail in the May 2 Letter. In the course of this comprehensive review, the District intends to examine and implement appropriate best practice recommendations from all sources, including the Bureau, CARB, DOF, and its own consultants.

Clarification:

In reviewing the information set forth in the Report, the District identified certain information in Table 1 (1) that requires clarification. The District Grants Program has one Program Manager, one recently upgraded Supervisor position that oversees Moyer Program projects (currently vacant), and three staff planner positions that are assigned at least part-time to Moyer Program projects. In addition, support staff assist with administrative functions for the Moyer Program. District staff selects proposed projects, which it recommends to the District Board of Directors' Mobile Source Committee; the Board's Mobile Source Committee then recommends projects for approval by the full Board of Directors. For Moyer Years 8 and 9, the Board's Mobile Source Committee selected the projects in March 2007 that it recommended to the full Board in April.

Ms. Howle
June 1, 2007
Page 3 of 3

Closing:

The District appreciates this opportunity to provide a response to the Bureau's draft Report on its audit of the Moyer Program. As set forth in this letter and its May 2 Letter to CARB, the District is committed to a comprehensive examination of all aspects of its Moyer Program and to implement changes to improve that program. The District's Moyer Program has been, and remains, an integral component of the District's efforts to continually improve air quality for the benefit of the residents of the Bay Area and beyond. The District appreciates and commends the Bureau's efforts to both recognize the strengths and identify areas for improvement in the District's Moyer Program. Please let me know if you have any questions regarding this letter, or if I can provide additional assistance.

Sincerely,

(Signed by: Jack P. Broadbent)

Jack P. Broadbent
Executive Officer/APCO

Enclosure

May 2, 2007

Tom Cackette
Chief Deputy Executive Officer
California Air Resources Board
1001 "I" Street
P.O. Box 2815
Sacramento, CA 95812

Dear Mr. Cackette:

As you know, the California Air Resources Board (CARB) staff is in the process of conducting its first-ever audit of the Bay Area Air Quality Management District's (District) implementation of the Carl Moyer Memorial Air Quality Standards Attainment Program (Moyer Program). As you also know, during the course of the audit, CARB staff shared with District staff some preliminary issues regarding the District's implementation of the Moyer Program. District staff appreciates this opportunity to outline a number of steps the District staff intends to take to address the issues identified by CARB staff. In taking these steps, District staff will continue to consult and cooperate with CARB staff to ensure that acceptable improvements are implemented in the District's Moyer Program.

Due to the nature of the issues identified by CARB staff, District staff believes that the best approach is to undertake a comprehensive review of the District's Moyer Program. This review will encompass every aspect of the programmatic, administrative, and financial aspects of the District's implementation of the Moyer Program. District staff has engaged and will engage consultants to assist with this review. This broad review will include:

(1) A review of all District Moyer Program projects currently under contract or committed for funding to confirm eligibility in accordance with CARB Moyer Program guidance;

(2) A review of all District Moyer Program "match" projects and funding to determine eligibility; and

(3) A review of all District Moyer Program procedures, processes and controls (including, but not limited to, outreach efforts, evaluation of applications and award of grants, file management, contracting, auditing, verification of project expenses, and timeliness of distributions) for adherence to CARB Moyer Program guidance, and, where appropriate, to best practices for grant program administration.

District staff expects that the comprehensive reviews in each of these areas will result in recommendations for improvements in the District's Moyer Program. To the extent that the reviews of projects under contract or committed for funding and of match projects and funding identify projects and funding that do not meet Moyer Program requirements, District staff will work with CARB staff to expeditiously identify replacement projects and/or funding to meet the District's obligations under the Moyer Program. District staff expects that these broad reviews of the District's Moyer Program and implementation of anticipated recommendations for improvements will address all of the issues identified by CARB staff.

The District has already retained consultants to assist with the comprehensive review of the District's Moyer Program outlined above. Cindy Sullivan has agreed to assist with a review of Moyer Program projects currently under contract or committed for funding. If necessary, the District will retain additional consultants to assist with this review. In addition, the District has retained Gilbert and Associates to assist with a comprehensive review of the District's Moyer Program processes, procedures and controls. Gilbert

and Associates previously assisted the District with a similarly comprehensive review of the District's financial processes, procedures and controls. Gilbert and Associates will review the District's compliance with CARB Moyer Program guidance, as well as provide recommendations for best practices for grant program administration. District staff anticipates seeking authorization from the District's Board of Directors to retain additional consultants to assist with implementing anticipated recommendations for improvements to the District's Moyer Program through computer hardware and software systems, as appropriate.

In addition to undertaking the comprehensive review of the District's Moyer Program and implementation of anticipated recommended improvements outlined above, District staff will take the following actions. First, the District will formally allocate interest earned to date to the Carl Moyer Program accounts maintained by the District. Second, the District will formally document its Board of Directors' approval of the receipt of all Moyer Program funds. Third, the District will develop and present to the District's Board of Directors a request for additional staff to assist in administering the District's Moyer Program. Fourth, based on the recommendations of its consultants, the District will develop and provide training in Moyer Program guidance and best practices for grants program administration for all existing and new staff involved with the District's Moyer Program.

District staff believes that the steps outlined above will significantly strengthen the District's Moyer Program. District staff hopes that CARB staff agrees and will consider these efforts and commitments as it finalizes its review of the District's Moyer Program.

Please let me know if you have any questions regarding this letter, or if I can provide additional assistance.

Sincerely,

(Signed by: Jack P. Broadbent)

Jack P. Broadbent
Executive Officer/APCO

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COMMENT

CALIFORNIA STATE AUDITOR'S COMMENT ON THE RESPONSE FROM THE BAY AREA AIR QUALITY MANAGEMENT DISTRICT

To provide clarity and perspective, we are commenting on the response to our audit from the Bay Area Air Quality Management District (Bay Area air district). The number corresponds with the number we have placed in the district's response.

(1) As we mention on page 11, the information on Table 1 is as of February 2007. We appreciate the Bay Area air district's clarification that appears to reflect more current information.

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(Agency response provided as text only.)

May 31, 2007

Sacramento Metropolitan Air Quality Management District
777 12th Street, 3rd Floor
Sacramento, CA 95814-1908

May 31, 2007

Elaine M. Howle*
State Auditor
Bureau of State Audits
555 Capitol Mall, Suite 300
Sacramento, California 95814

Dear Ms. Howle:

This is in response to your draft report entitled, "The Carl Moyer Memorial Air Quality Standards Attainment Program: Improved Practices in the Applicant Selection, Contracting, and Marketing Can Lead to More Cost-Effective Emission Reductions and Enhanced Operations." (1)

For your convenience, we have organized our comments on the report in the attached table by page number. There were three areas of the audit that raised concerns for the district including the reliability of our database, the evaluation of marketing strategies and the average length of time to execute contracts. (2)

We are constantly looking for ways to improve the efficiency and effectiveness of our programs to increase the benefits to the residents of the Sacramento region. Knowing that the various air districts around the State have differing goals and objectives that they need to meet, it is important to ensure that there is adequate flexibility in the requirements of programs like Moyer to allow for variations in implementation. We appreciate the comments you have provided and we hope that you will accept our comments with the understanding that our goal is also program improvement.

I want to express my appreciation for the high level of professionalism your staff maintained while they did their work in our offices. They were sensitive to our deadlines and worked around our schedules whenever possible. They were open to our explanations and comments regarding issues identified for improvement.

Please feel free to contact Larry Sherwood, the Manager of the Mobile Source Division, at (916) 874-4880, if you have questions.

Sincerely,

(Signed by: Larry Greene)

Larry Greene
Air Pollution Control Officer

Attachment

* California State Auditor's comments begin on page 99.

	Page	Summary of Audit Statement	District Comments
③	3	Recommendation to increase the percentage of Carl Moyer funds for interdistrict projects from 10% to 15%	The District has some concerns with this recommendation. While it may be true that statewide benefits for emission reductions may increase if the percentage of interdistrict funds increases, the District could lose funding towards projects within the Sacramento non-attainment region. This may lead to fewer emissions reduced in the non-attainment area. In addition, the Carl Moyer funds are included as a strategy in the local air districts State Implementation Plan (SIP) goals and a reduction in dollars spent within the non-attainment region could lead to a loss of federal highway dollars. Increasing the State interdistrict funds from 10% to 15% would not guarantee that the funds will come back to the District as more cost effective projects.
④	5	Districts rely on only one measure to evaluate outreach–whether they receive enough applications to distribute program funding	In 2002, the SMAQMD conducted a SECAT participant survey, which the District assumed would have similar results for the Moyer Program. In January of this year, the SMAQMD conducted another participant survey for both Moyer and SECAT project participants. The purpose of each survey was to identify how participants had heard about our various incentive programs. (The participant survey analysis is attached.) Both the 2002 and the 2007 surveys showed similar results. Over 80% of our participants heard about our incentive programs either through a dealership or by word of mouth. Less than 10% of participants heard about our programs through mail outs, the District website, or at district events. Given the results of these surveys, the District believes that the best way to reach participants is to continue to provide a high level of customer support to applicants. In addition, it is important to continue our ongoing efforts to keep the dealers apprised of the latest program developments and marketing strategies.
	8	Include all funds under our authority in the calculations to determine the average cost per ton of projects emissions reductions.	The District does not mix Moyer funding with other funding streams. Thus, the District already includes all funds under our authority when calculating the cost-effectiveness of projects. In addition, the District does have a Moyer Policies and Procedures manual that indicates that all matching projects for the Moyer Program must meet the Carl Moyer Program guidelines.
	8	Develop techniques to measure the effectiveness of marketing efforts	See comments above related to page 5.

Page	Summary of Audit Statement	District Comments
28	Reliability of the database	The database is an internal tool used by the District to check on the status of on-going and completed projects. The hard copy file is the final authority on the status of all projects and hence, the District maintains these records on-site. The purpose for creating the database was to streamline access to project information, but it was never intended to be the final authority. In addition, when projects are in-process, the database is continually updated. Therefore, providing a snapshot version that was sent to the Bureau of State Audits, which may not have reflected the most current project information since staff are constantly updating information. The ARB is in the process of developing a database that will be used by all districts for tracking and monitoring. As a result, some of the noted discrepancies between the database and the working documents will be more accurate once a project is completed.
30	Limiting the interdistrict projects to 10% of the Moyer funds reduces the program effectiveness	See comments above related to page 3.
31	Evaluation of marketing efforts is inadequate in all districts	See comments above related to page 5.
31-32	Projects could be funded at lower cost-effectiveness levels if outreach efforts were targeted towards more cost-effective projects.	Historically, off-road projects have been more than three times as cost-effective as on-road projects. As a result, we have specifically targeted some of our outreach efforts towards the off-road vehicle industry, including construction and agriculture.
32	Best practice is to measure the level or effects of pollution to evaluate the impact on communities in the district	The District's air monitoring sites are located based on State and Federal criteria and measure ambient pollution, not-point sources. Measurement for specific communities would be difficult, expensive, and would require keeping special monitors in place for long periods to measure trends. Moreover, disproportionately impacted communities in Sacramento are scattered throughout the County. The District endeavors to do as many projects as possible in disproportionately impacted population areas. In addition, mobile source projects travel throughout the region, not in one specific location.

(5)

Page	Summary of Audit Statement	District Comments
33-35	Limiting the interdistrict projects to 10% of the Moyer funds reduces the program effectiveness	See comments above related to page 3.
④ 45-46	Evaluation of marketing efforts is inadequate because it does not provide a mechanism for selecting projects with the lowest cost effectiveness.	See comments above related to page 5. In addition, the District has generally identified which business sectors provided the most cost-effective projects. We have specifically targeted marketing efforts towards construction and agriculture because of their better cost effectiveness. Within those business sectors, projects are awarded funding on a first-come, first-served basis, rather than on a cost-effectiveness basis. Nevertheless, our analysis indicates that in the end our overall cost effectiveness is similar to districts which use the RFP process.
47	SMAQMD currently targets off-road vehicles for Moyer funding, but will need to change once off-road rules are adopted. They should target outreach efforts to identify new sources of emissions.	Light-duty accelerated vehicle retirement has been identified as a measure in our 8-hour SIP. Agricultural equipment (other than ag water pumps) is not going to be regulated under the current ARB rule (but could be included in a future ARB rule). On-road vehicles can also be funded using Moyer funds until an ARB rule is adopted. Cost-effectiveness for projects will increase due to a lower number of available qualifying projects.
49	Local districts are just as likely to fund projects with emission reductions…at or near the cost ceiling ($14,300 / ton) as…as they are with projects valued at $1,000 a ton or less	See comments above for page 31-32. This would not be practical for first-come, first-served incentive programs. However, if the SMAQMD has more project applications coming in than available funding, then one option would be to implement this recommendation of approving projects based on cost-effectiveness.
49-50	Best practice is to include measures of emissions (average cost per ton), or a measure of the impact of emissions (e.g., cancer risk or exposure to PM) on EJ communities, to select the most cost effective projects. May be impractical for districts operating on first-come, first-served basis.	See comment above for page 32.

Page	Summary of Audit Statement	District Comments	
52	SMAQMD should add milestones during project implementation	The SMAQMD runs a very streamlined program and requires most applicants to complete their projects within six months from the contract execution date. The District believes the six month window is more than adequate to keep applicants on schedule and does not believe that adding project milestones would improve the progress of the projects. In addition, the additional time taken to monitor steps such as invoices and quarterly progress reports is burdensome to both District staff and to the participant. Furthermore, including implementation milestones may be problematic because there can be unexpected delays resulting from issues like manufacturing problems, parts availability, and design complexities, especially with off-road equipment. The District currently monitors project usage on an annual basis. We mail letters to participants notifying them if their usage is below their estimated contractually required usage	(6)
54	SMAQMD executed projects took 217 days on average.	Since the SMAQMD accepts applications throughout the year, the number of days calculated by the Bureau for executing a contract could be misleading. The District believes that many of the applications likely reviewed by the Bureau were received months prior to the availability of funding. Counting this period of time against project execution is misleading. The SMAQMD creates a pending file of applications prior to the award funding from ARB. The District typically executes contracts within 30-60 days once funding is available.	(7)
59	Develop techniques to measure marketing effectiveness	See comments above related to page 5.	
59	Use marketing methods to identify business sectors from which more cost-effective projects will result.	Also see comment for page 32	

	Page	Summary of Audit Statement	District Comments
	60	All districts should consider implementing: • Measures of pollution for identifying projects in EJ areas • Compare average cost effectiveness for project selection • Include in the contract provision that projects operating in disproportionately impacted areas continue to reduce emissions in those areas. • Add project implementation milestones • SMAQMD already does all the other items.	See comments for page 32 for the first, second and third bullets. See comments for page 52 for the fourth bullet.
⑧	77	On-going monitoring has not been fully implemented.	On-going monitoring was not a requirement under the Moyer guidelines until 2005 for year-8 funded projects. In addition, the monitoring requirements do not start until three years after a project has been funded using Moyer year-8 funds. For most year-8 projects, monitoring requirements will not be required until 2009. The SMAQMD is implementing an annual monitoring and audit program that will meet Moyer guideline requirements.
	79	Best practice would include grouping inspections so that several can be performed at a time.	The SMAQMD began implementing this practice the beginning of May, wherever practical.
⑦	81 and 83	Average length of time for funding to reach applicant for SMAQMD was 7.2 months or 217 days.	As noted on comments for page 54.

1

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT PARTICIPANT SURVEY ANALYSIS

Summary: The Sacramento Metropolitan Air Quality Management District's Mobile Source Division mails out an annual mileage and hour usage survey to participants of both on-road and off-road incentive funding projects in order to evaluate their fulfillment of their contractual requirements. The survey forms sent out during 2007 included a supplemental participant survey. The objectives of this voluntary participant survey were to assess the following program areas: (1) marketing & outreach venues and (2) participant satisfaction.

Out of 392 total participants surveyed, 55% percent returned the survey to the District. The results show that most participants originally heard about the Districts' incentive programs primarily from equipment dealers and secondarily by word of mouth. Less than 10% of participants stated they became aware of a program from all other marketing and outreach efforts, including brochures, flyers, county fairs, District-sponsored events, or the District website.

Results of the participant survey showed that three out of every four respondents reported a high level of satisfaction with the incentive programs and only a total of five participants reported low satisfaction in the incentive programs. However, this trend was not consistent across all funding source categories. For example, off-road, repower project participants showed less overall satisfaction -- making up almost three-quarters of those participants that said they experienced moderate or low satisfaction.

Approximately 40% of those surveyed provided written-in comments on their survey form. Of these comments, 37% of were considered negative. Similar to response levels for satisfaction, a larger number of negative comments were received from those participating in Moyer-funded off-road projects, with a particularly high number were associated with agricultural irrigation pump projects.

Participant comments and survey results emphasize the importance of program outreach sources outside of District staff efforts and District associated events. Future funding programs requiring an outreach component may take into consideration these often used information resources. The District will evaluate and address written comments and attempt to clarify negative reactions to program elements, where possible, by mailing clarification letters to all affected participants.

BACKGROUND

The Sacramento Metropolitan Air Quality Management District's (SMAQMD) Mobile Source Division is responsible for providing incentive funds to reduce emissions from on-road and off-road mobile sources. Funding for these various programs come from several different federal, state, and local programs. There are two main sources of funding: (1) the Carl Moyer Program (Moyer) and (2) the Sacramento Emergency Clean Air & Transportation (SECAT) Program.

The Moyer program primarily provides funding for off-road repower projects including construction and agricultural equipment, and irrigation pumps. The SECAT program exclusively provides funding for on-road fleet modernization and retrofit projects. The main goal of these grant programs is to reduce pollutants from these on-road and off-road emission sources by off-setting the overall cost of newer, cleaner-burning technologies. Received applications are evaluated and accepted based on various criteria and the stipulated contract requirements assessed for the life of the project.

One of the participant contract's performance requirements is the annual submission of a mileage or hourly usage survey to the District. The usage survey sent in January of 2007 included a supplementary *participant survey* for voluntary submittal. This brief survey had two main objectives: (1) assess where participants first learned about the District's incentive funding programs and (2) gauge participant satisfaction with the programs. Because participation in these programs is completely voluntary, applicant feedback is vital to evaluating program outreach opportunities and overall program reception. It is also an essential tool that can be used to monitor program strengths and weaknesses.

SURVEY METHODS

The survey form was developed to be simple and quick for participants to complete. It was restricted to two questions: one pertaining to initial program information source and the second to address the level of program satisfaction. Each question was followed by pre-typed responses that allowed participants to check the most appropriate box (figure 1). A comment section was also included on the survey form permitting participants to share their comments and suggestions. The participant survey form was included in the annual usage survey packet that included a self-addressed stamped envelope for the return of all survey materials.

Because roughly two-thirds of all participants fall into either on-road heavy duty diesel truck or agricultural irrigation pump projects, and the remaining constitute various smaller funding projects, returned surveys were categorized into three main program types: (1) SECAT, (2) agricultural pumps, and (3) other. The third category included any construction or on-road projects, i.e. school buses, not specific to the first two program categories. Participant comments were recorded and evaluated as either being positive, negative, or suggestive. Responses were tallied and comparisons made between program type and (a) program information source, (b) level of satisfaction, and (c) comment type.

RESULTS

More than half (n = 216) of the 392 participants in all programs completed and returned the participant survey. A higher percentage of agricultural irrigation pump participants submitted surveys compared to those in the SECAT program and double that in the 'other' category (table 1). However, out of those surveys returned, SECAT program participants submitted the largest overall number (figure 2).

Program participants heard about the various incentive programs from two main sources: equipment dealers and by word of mouth with 48% and 35% response levels respectively (figure 3). In contrast, less than 10% of program participants heard about an incentive funding program from a District-sponsored information source and none reported hearing about a program from a county fair.

Nearly 75% of respondents reported being very satisfied with the program and only five reported that they were less than satisfied with their respective program (figure 4). A larger percentage of participants experiencing moderate to low levels of program satisfaction came from the agricultural pump and 'other' categories compared to the SECAT program (table 2). In a similar trend, comments received from agricultural pump projects and 'other' projects were more negative compared to SECAT respondents who tended to be more positive and suggestive (table 3).

3

CONCLUSIONS and SUGGESTIONS

The participant survey had a fairly high rate of return with similar levels of representation from both SECAT and agricultural participant sectors. Factors including a postage-paid return address envelope in the survey packet, keeping survey questions to a minimum, and limiting the survey to one page may have promoted this level of participation. Less than 40% of participants in the 'other' program type returned the survey, a 20 to 30% reduction in comparison to SECAT and agricultural programs, respectively. There may be various reasons why they were less prone to return the survey including (a) time constraints (b) less desire to participate in extra-program requests, or (c) people responsible for filling out the mileage/usage forms may not be the owner/operator of the equipment. This last reason may contribute to a general feeling of apathy about the program and the equipment resulting in a lower rate of return. Participants that have either very positive or very negative feelings about the program are more likely to respond to a participant survey; those who are fairly neutral may be less likely to participate and comment. To support this idea, only 14% of participants in the 'other' program added a comment to their survey form compared to 20% and 28% from SECAT and agricultural irrigation pump participants, respectively.

The results on where participants first heard about the program mirrored those found in the *SECAT Program: Fourth-phase Participant Survey* conducted in 2002 that phone-interviewed 93 SECAT program participants. Given that most program participants acquire information about incentive funding possibilities from equipment dealers and by word of mouth, it is important for the District to assure accurate information is being disseminated to dealerships if possible. One option to maintain consistent information distribution could be to require on-going dealer training on program components and provide program updates when necessary.

The District website, District-sponsored events, and other types of informational pamphlets or flyers appear to play a minimal role in initial program outreach. However, the District website is probably an important online information source for participants during other phases of the application and contract periods. If a future participant survey is planned it may be beneficial to assess the level of use of on-line resources by participants.

Overall participant reception to the various incentive funding programs has been very good. As stated in the *SECAT Program: Fourth-phase Participant Survey*, satisfaction levels of 75% indicate a "favorable result". Nearly three out of every four participants in this survey reported being very satisfied indicating the District implementation of incentive funding programs has been largely successful. For those participants providing negative comments, 43% were concerned with GPS or high fuel costs, 37% were related to GPS unit installation and "unnecessary" reporting obligations, and 17% were related to time issues, e.g. slow project turn-around and time-consuming reporting requirements (see table 4 for complete list of comments). However, half of the participants expressing negative attitudes toward some program aspects still indicated high overall satisfactions levels.

Many participants who had GPS units installed on their equipment assumed that GPS units had been paid for out-of-pocket and not from pre-established program funding leading to a sense of discontent. They also believed that it would keep track of mileage/hour/location records and negate the necessity of them having to complete the annual usage survey. For those customers that participated in the GPS monitoring system, it may be beneficial to send out a brief educational letter explaining the District's inability to use this technology and reminding them of the original funding source.

In summary, after a review of the participant survey results, there are several compelling conclusions that emerged and corresponding suggestions that can be made:

- *Participant surveys are generally well-received and returned by a majority of program participants.* To reach those non-responsive participants, incentives may be introduced in future participant survey mailings such as entrance into a prize drawing for each survey submittal. District $50 gas cards could be offered as a prize for this purpose.

- *Participant surveys are an important way to gauge outreach venues and future outreach focus.* Regular program updates distributed to equipment dealers and/or periodic dealer training sessions may assure accurate program information is being disseminated to potential participants and those already in a program.

- *Participant surveys are an important way to gauge levels of customer satisfaction.* Participant surveys should be done on an annual basis to continue to monitor program customer service matters.

- *Comments are helpful to determine areas of program dissatisfaction and program aspects needing clarification.* Sending out educational flyers or letters may be a beneficial way to address negative concerns participants face.

- *Overall incentive funding program satisfaction is very high.* The District should continue to strive to implement successful programs and address issues as they arise.

As part of our continued efforts to ensure the District is implementing the most successful incentive programs, staff will continue to seek feedback from participants by making the incentive program participant survey a regular insert in our annual survey and monitoring program.

5

INCENTIVE PROGRAM PARTICIPANT SURVEY

- Where did you first hear about the program?

  - ☐ Dealership
  - ☐ Word of Mouth
  - ☐ Brochure/Flyer
  - ☐ District Website
  - ☐ District Outreach Event
  - ☐ County Fair
  - ☐ Other _____

- How satisfied have you been with the program?

  - ☐ Very satisfied
  - ☐ Moderately satisfied
  - ☐ Less than satisfied

- Please share your comments on the program and include any helpful suggestions you may have for us.

  _____
  _____
  _____
  _____
  _____

Please return this survey to the District along with your usage information.

THANK YOU FOR YOUR PARTICIPATION!

Figure 1. Participant Survey form sent with annual usage surveys in Jan 2007.

Table 1. The total number and percentage of participants that returned a participant survey by program type.

Program Type	No. Responses	% of responses	Total Program Participants	% of Total Participants
SECAT	94	43.5	164	57.3
AGPUMP	82	38.0	121	67.8
OTHER	40	18.5	107	37.4
Total	216	100.0	392	55.1

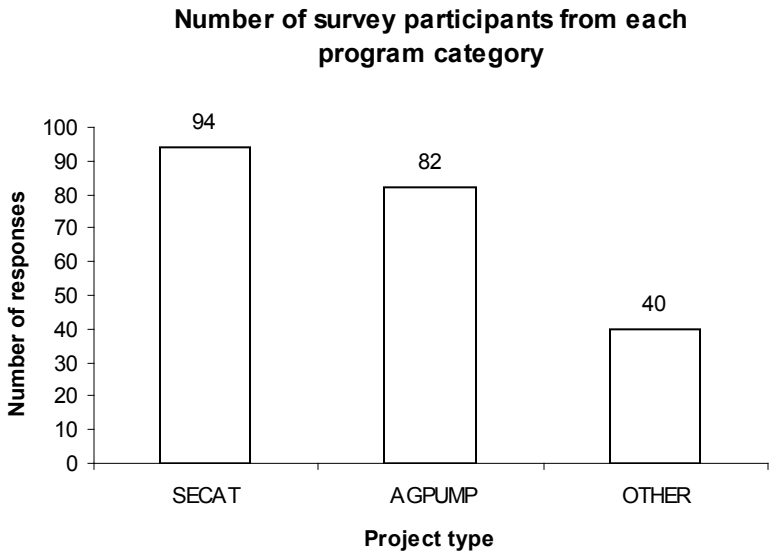

Figure 2. Number of participant responses received by program type. Numbers above bars represent respective sample sizes.

7

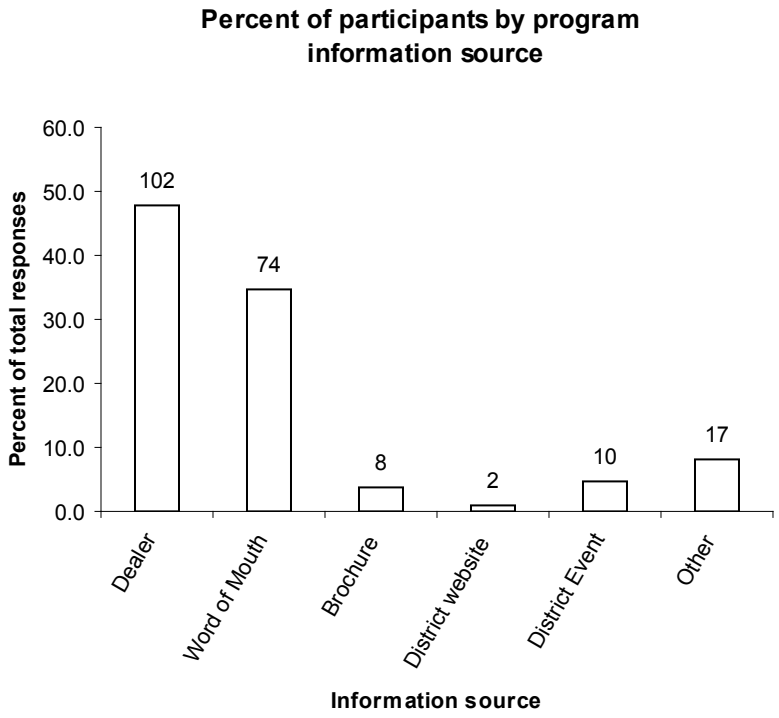

Figure 3. Percentage of participant responses by source where they first heard about incentive funding programs. Numbers above bars represent respective samples sizes.

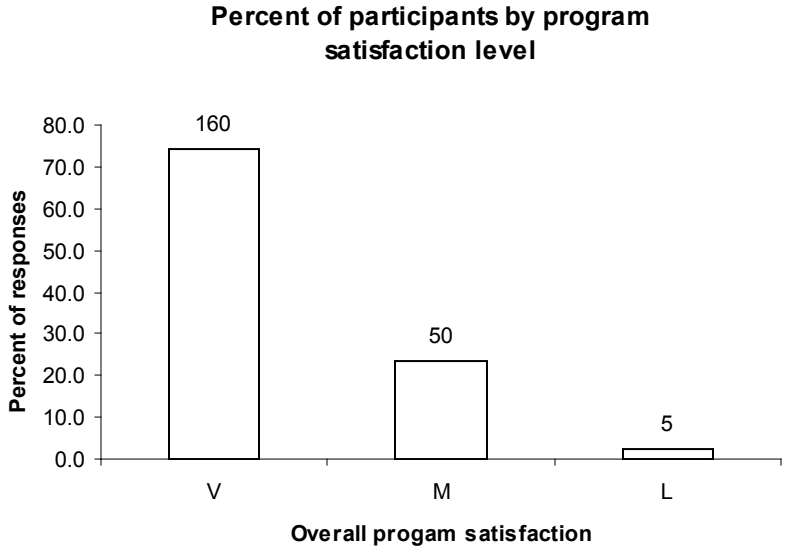

Figure 4. Percentage of participants reporting program satisfaction levels of high (V), moderate (M), or low (L). Numbers above bars represent respective sample sizes.

Table 2. The percentage of participants in each satisfaction category that came from either the SECAT, agricultural irrigation pump, or other program types.

	Satisfaction Level		
Program Type	Very	Moderate	Less than
SECAT	46.9	32.0	40.0
AG PUMP	36.3	46.0	20.0
OTHER	16.9	22.0	40.0
% Total	100	100	100

Table 3. The percentage of people in each program type that included positive, negative, or suggestive comments on their participant survey.

	Comment Type			
Program Type	Positive	Negative	Suggestive	% Total
SECAT	29.2	33.3	37.5	100
AGPUMP	31.3	50.0	18.8	100
OTHER	25.0	50.0	25.0	100

Table 4. List of participant comments (comment type 1=positive, 2=negative, 3=suggestive

Comment Type	Participant Comment
1	Everything has been great, great program! The last motor we purchased required us to have an expensive automated hour/tracking/transmitting system to be installed. This is the only engine that we have had recurring electrical problems with. I am completely unsatisfied with that system--especially since you are requesting that I manually track the hours anyway. What a total waste of money! When will you start offering incentives/credits for using biodiesel?
1	excellent program

9

Comment Type	Participant Comment
1	excellent program
1	Excellent program. Kay (?) was very helpful in walking us through the process.
1	Find more dough!
1	good
1	good
1	Great opportunity to keep fleet updated. Also helps keep the old trucks off the road, adding to the safety among the truckers.
1	I am happy with program. I use the motor for pumping water.
1	I believe this to be a good beneficial program that should be continued.
1	I feel that the program has helped me clean up air and burning less fuel than my old truck. Thanks again. K.S.
1	I think the program is a win win win situation. We get newer trucks. The state gets their federal funds. The people breathe cleaner air.
1	I think this is a very good program
1	I would use this program again. I have told other people and companies of SECAT. Very good program. Thank you Cliff
1	I'm satisfied.
1	It has helped me to update my equipment
1	it is a great program
1	it is a great program
1	Keep up the good work and I do love the news letter--very helpful. Thank you.
1	Keep up the great work and hopeful more programs for the future. I do like your new forms to fill out.
1	Only in America
1	Program works very well as we have participated in other programs SECAT recommend for emissions--new mufflers and crankcase filters.
1	Service and work done on the bus was done well. Dealer assistance has been good.
1	The new cleaner engine is great but the fuel savings are not sufficient to justify us to make the change. Your program does this for us.
1	The program has bee helpful to us and the cleaner burning motors have been good for environ. Now we are going to AG ICE program as well.
1	The program is excellent! In our situation our vehicle dropped 10 gallons a day (excellent) =which equals less pollution. Suggestion: is it possible to adjust the mileage use verses (lower) sum of money allotted?
1	This is a good program. It lowers emissions and improves fuel economy. Why now ask us to replace these new engines with electric. The conversion to electric is very expensive, new service, motor mod. To our pumps?
1	This program has been a great help to our operation. We can now get work on jobs which require cleaner burning equipment. Thank you!
1	This program has been imminently better than ag-ice which has been expensive for growers.
1	Very good program
1	very happy think it is running smoothly
1	We very much appreciate the opportunity to participate in this very fine program
1	Working with Kristian makes the process easy. He is a great asset to the program.
2	1st project was great. 2nd project was a complete waste of my time and money.

Comment Type	Participant Comment
2	A-Z and Holts did not follow through with manuals and with diagrams or part list that was used. All of the transmissions that were rebuilt for these jobs have failed. Need to pick a good not cheap rebuilder next time.
2	Crazy to fill out this form after spending $600-800 for a remote meter.
2	Didn't seem to make sense to install gps after contact requirements had already been fulfilled.
2	high diesel prices have made the program less attractive
2	I was told that GPS installed would keep track of everything to do with trucks. There is no paperwork to follow up with miles/ozone etc. It takes too much of my time?
2	It has been great until the price of fuel has risen so much.
2	it was good before diesel got so high
2	Last bus purchased was budgeted by district. Grant among stated by SMAQMD was changed to a lesser amount after receipt of bus and district. Had to find funding for the difference. Also, no plan in place to assist with CNG tank replacement. Very costly for a school district to fund.
2	limited use downfall
2	On July 20, 2005 is sent check #5577 in the amount of $646.50 to Satellite Security Systems Inc. for which they were to install a digital hour meter unit. As of this date 1/27/07 this unit has not been installed. Since this unit has not been installed are we not entitled to be reimbursed for the $646.50?
2	One of the toughest things is the repetitive request for all mileages in each county? Especially strange after the GPS odometer was installed. This would take entirely too much time and effort to get these exact mileages.
2	Our SECAT engine is not cost effective. Our older motors averaged 7.5 mpg. Our SECAT averages 4.9 mpg.
2	Please give us a little more time to complete the survey!
2	The $600/engine for GPS/Time clock reporting was a waste of time/money.
2	The cost of fuel being so high is too expensive. Might change to electric motor for water pump depending on cost.
2	The electronic tracking systems were expensive and difficult to get installed.
2	The mileage restrictions sometimes make it difficult when scheduling buses for field trips. Basically we have to use this bus on all field trips whenever possible just to reach the minimum mileage requirements
2	The price of diesel is too high. The cost of switching back and forth to electricity is also expensive
2	The problem with these types of vehicles is the range. We were using these vehicles in the north Natomas area but the customers were so unhappy with their performance we had to move them. We now use them in a parking lot shuttle.
2	The program with the state is great trying to get things fixed or checked with the dealer is hard. No one is responsible for warranty issues! After delivery of truck.
2	the satellite installers did a terrible job and messed up our electrical system
2	the satellite installers did a terrible job and messed up our electrical system
2	time frame between application to product delivery is too long
2	Turn around time is slow. Each project needs a lot of follow-up to get it completed. If questions call. Thank you
2	Why did we spend $600 an engine for gps transmitters if we have to send in the times?
2	Why do you ask for mileage usage odometer reading when we have a hub meter
2	With the gps system installed why am I still reading the meter?
2	Would have been nice to get latest tier engines that were available.

11

Comment Type	Participant Comment
2	You need to fund the cost offset to be less than going with the Donaldson unit. Even with the funding it is still over $1000 cheaper to put a Donaldson unit on which does not clean the air as good.
3	A summary form for reporting would be simpler with a lot less paper. Should be able to report online like other programs
3	Equipment should not be limited to a single air district. Should be statewide.
3	I have not been traveling as far to work so my mileage maybe off. But I have averaged 1400 hours a year and I feel that the hours should be looked at not mileage in my type of work
3	I have spoken to many of the trucking companies in the Sacramento area. I believe if you would have a map of the area that you could five to these companies. They would be very interested. They believe all driving must be in the Sacramento city limits.
3	I think area should include all of Yuba and Sutter counties. There would probably be more participation in the program. The dirty air from Yuba and Sutter counties gets to Sac.
3	I would like to see the district use hours for monitoring instead of miles, construction in the sac area. We idle a lot waiting to get loaded. A lot of jobs are very short hauls; we may put 12 hours running the truck and not rack up many hours.
3	I would like to see some expenses in propane HP to 130
3	Increase the size of the attainment area north and south and more of our trucks would fit into the profile.
3	investment tax credit format per dollar value of horsepower re-powered would be a much better method than Carl Moyer
3	It would be nice to have flexibility in hour usage since wet vs. dry years determines how much groundwater pumping (engine usage) you do.
3	need program for old tractors ag tractors, harvesters, etc.
3	Need to take picture of the truck being traded in. When the application is first being submitted to the program for approval.
3	please connect fleet number with future survey requests
3	Should go back to electric with a set rate. And no demand charge.
3	Sorry this took so long, at the pumps were all at the shop. The big engine had to be started because of the digital tachometer and hours.
3	We are running a biofuel blend in this equipment. B99- i.e. 99% biodiesel in summertime. You might consider added incentives for biofuel use since there are some NOx benefits
3	We use fleet number to identify our units crossing over vin numbers to our fleet number is time consuming. You have the fleet numbers for those units on file. Can they be included in the mileage usage survey requests?
3	What are you doing to promote use of bio-diesel which would have a much bigger effect than getting rid of a few old trucks?

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COMMENTS

CALIFORNIA STATE AUDITOR'S COMMENTS ON THE RESPONSE FROM THE SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

To provide clarity and perspective, we are commenting on the response to our audit from the Sacramento Metropolitan Air Quality Management District (Sacramento Metropolitan air district). The numbers correspond with the numbers we have placed in the district's response.

① While preparing our draft audit report for publication, our title changed slightly.

② While preparing our draft audit report for publication, page numbers shifted. Therefore, the page numbers that the Sacramento Metropolitan air district cites throughout its response do not correspond to the page numbers in our final report.

③ We believe the district's concerns are exaggerated. As we indicate on page 24, maximizing emission reductions—achieving the same emission reductions for a lower cost or more emission reductions for the same cost—is a key goal of the Moyer Program. We clearly point out that increasing the 10 percent cap for the multidistrict component will better maximize emission reductions achieved through the Moyer Program. We also point out on page 28 that, for the periods we reviewed, a minimum of 78 percent of the funds added to the multidistrict component by increasing the cap would have returned to the four districts we visited. Further, we mention on pages 28 and 29 that emission reductions derived from increasing the 10 percent cap can benefit individual local air districts as well. For example, had the cap been 15 percent for Moyer Program funds appropriated in fiscal year 2005–06, the South Coast Air Quality Management District (South Coast air district) would have lost 20 projects from six applicants. The annual emission reductions from all those projects totaled 7.6 tons for nitrogen oxide and reactive organic gases and 1.5 tons for particulate matter. For 10 of the 20 projects, total annual emission reductions were only 0.05 tons. On the other hand, two of the additional projects that would have been funded by the multidistrict component would have operated a portion of their time in the South Coast air district. One project would have annually achieved emission reductions totaling nearly 130 tons of nitrogen oxide and 4.5 tons of particulate matter.

Finally, the district overstates the threat that a decrease in the local air districts' Moyer Program funds could lead to the loss of federal highway funds. Although we acknowledge that under the

Clean Air Act the federal government can prevent the approval of highway projects or grants as one possible sanction if a state does not submit an adequate state implementation plan or implement part of its plan, but according to the U.S. Environmental Protection Agency, such sanctions are rare. Additionally, we believe the risk of federal sanctions solely because of changes in the Moyer Program's multidistrict component is negligible because, as indicated previously, the net change in funding to the local air districts will be small and districts could achieve even greater emission reductions than they could have achieved through locally funded projects.

④ We thank the Sacramento Metropolitan air district for sharing the results of its recent survey of participants in its incentive programs, including the Moyer Program. Such a survey, which demonstrates the importance of word-of-mouth advertising and provides feedback from participants about the quality of the district's incentive programs, is an important element of evaluating the district's marketing efforts. However, it still does not demonstrate that the district's marketing efforts are effective at attracting projects from sectors with lower cost per ton of intended emission reductions. The district states that its "analysis indicates that in the end [its] overall cost effectiveness is similar to districts which use the RFP [request for proposal] process." Evaluating the district's marketing efforts to determine whether they are attracting projects with lower cost per ton of intended emission reductions would give the district an indication of whether it could do better.

⑤ Our assessment that the Sacramento Metropolitan air district's data was not sufficiently reliable for the purposes of this audit is narrowly defined to include only those data elements pertinent to the audit. Some of the district's project files did not contain information—such as date-stamps—necessary to verify the accuracy of certain data in the district's database. Our assessment should not be construed as an overall evaluation of the district's database, as such an evaluation was beyond the scope of this audit.

⑥ As we state on page 36, given the differences that exist among the districts, the best practices we identify may not be applicable in all cases.

⑦ Its comments notwithstanding, the information we present in our report related to the number days from application receipt to receipt of signed contract, application withdrawal, or December 31, 2006, whichever occurred first, is based on the evidence the Sacramento Metropolitan air district provided. Although the district told us that in some cases it held over applications from one year to the next when it ran out of Moyer Program funds, it did not provide sufficient evidence that would

cause us to change our conclusions. Further, while the district was reviewing our draft report, we converted our results to months to be consistent with other text in this section.

⑧ It is not clear why the district simply restates information we mentioned in our report. We state on page 56 that postimplementation monitoring is a requirement for Moyer Program funds appropriated in fiscal year 2005–06, which the district calls "Year 8." We also state that these projects do not have to be completed until June 2008 and that, as of December 31, 2006, none of the projects funded with fiscal year 2005–06 allocations that we reviewed had been completed for at least one year (the point at which the first report would be due). Further, we state that the local air districts performed these inspections to varying degrees for earlier fiscal years, even though such monitoring was not required.

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(Agency response provided as text only.)

San Joaquin Valley Air Pollution Control District
Central Region (Main Office)
Seyed Sadredin, Executive Director
1990 E. Gettysburg Avenue
Fresno, CA 93726-0244

June 1, 2007

Elaine M. Howle, State Auditor*
Bureau of State Audits
555 Capital Mall, Suite 300
Sacramento, CA 95814

RE: San Joaquin Valley APCD Response to
Carl Moyer Memorial Air Quality Standards Attainment
Program Audit Recommendations

Dear Ms. Howle,

The San Joaquin Valley Air Pollution Control District (SJVAPCD) wishes to thank you and your staff for the thorough and comprehensive audit report of the SJVAPCD's implementation of the Carl Moyer Memorial Air Quality Standards Attainment Program (Carl Moyer program). Additionally, we want to thank you for recognizing and highlighting the "best practices" observed during your review of our program. The SJVAPCD strives to provide the highest quality customer service across all of our programs, while maintaining the utmost integrity and efficiency.

We appreciate this opportunity to gain important feedback on the operational efficiencies of our program and value the recommendations that have been put forth. Independent programmatic evaluations such as this often lead to substantial improvements in the administration of statewide programs like the Carl Moyer Program.

The attached document provides the SJVAPCD's responses to the referenced audit recommendations.

If you have any questions, please do not hesitate to call me at (559) 230-6000.

Sincerely,

(SIgned by: Seyed Sadredin)

Seyed Sadredin
Executive Director/APCO

* California State Auditor's comments appear on page 107.

San Joaquin Valley Air Pollution Control District
Responses to Bureau of State Audits Recommendations

① Chapter 1 Recommendations – Pages 59-61

To better maximize the use of Moyer Program funds, local air districts should do the following:

- ***Develop and implement techniques to measure the effectiveness of their marketing methods. Specifically, they should identify those business sectors from which they will obtain applications for more cost-effective projects, evaluate whether their current marketing efforts are reaching these sectors, implement marketing efforts to target the sectors, and assess whether these efforts enable them to select projects with more cost-effective emission reductions.***

SJVAPCD Response

The SJVAPCD has identified agricultural irrigation pump engines as the most cost-effective project-type in the San Joaquin Valley and has conducted targeted marketing of the industry. SJVAPCD-funded projects have historically been and continue to be extremely cost-effective. However, to enable the San Joaquin Valley to attain Federal and State air quality goals, it may be necessary to fund less cost-effective projects in certain areas or projects that provide additional air quality benefits that cannot be measured solely by gauging a project's relative cost-effectiveness. The SJVAPCD will continue to use cost-effectiveness as one of many tools to measure the effectiveness of our grant programs.

To improve their administration of the Moyer Program, local air districts should consider implementing the following best practices:

- ***Include measures of pollution or the effects of pollutants in their approaches for identifying disproportionately impacted communities.***

SJVAPCD Response

Thank you for the recommendation. The SJVAPCD will consider including measures of pollution or the effects of pollutants for identifying disproportionately impacted communities.

- ***Include a measure for comparing the average cost per ton of intended emission reductions when selecting projects from disproportionately impacted communities.***

SJVAPCD Response

Thank you for the recommendation. The SJVAPCD will consider including a measure for comparing the average cost per ton of intended emission reductions when selecting projects from disproportionately impacted communities.

- ***Include in their contracts provisions that projects selected from disproportionately impacted communities continue to provide benefits from reduced emissions to those communities after implementation.***

SJVAPCD Response

Thank you for the recommendation. For projects funded within communities disproportionately impacted by air pollution, the SJVAPCD will consider including provisions in our contracts that would require a certain percentage of usage within those disproportionately impacted communities for the life of the project.

- ***Use a single application for their Moyer Program application process.***

SJVAPCD Response

The SJVAPCD uses separate guidance documents and applications for each project type to better assist applicants with the complexities of the Moyer Program Guidelines. Each SJVAPCD guidance document and application only contains the necessary information that is needed by the applicant for their specific project. By only requiring the necessary information to process a particular project, the SJVAPCD has significantly reduced the amount of confusion experienced by the applicants during the application process. (2)

- ***Allocate Moyer Program funds to applicants as soon as possible.***

SJVAPCD Response

The SJVAPCD currently employs several of the audit recommendations, including: delegated authority to approve projects and execute contracts from the Governing Board, consolidated pre- and post-inspections, and several operational streamlining measures that allows the allocation of Moyer Program funds in a timely manner, as identified in the audit.

- ***Implement a one-contract-per-applicant system.***

SJVAPCD Response

The SJVAPCD currently uses a one-contract-per-applicant system unless there are contractual or technical reasons to use more than one contract. More than one contract has been issued to several agricultural irrigation pump electrification projects due to the time it takes utility companies to perform their extensive engineering analysis prior to project approval for larger, multiple engine projects. More than one contract was executed in these instances to allow the applicants the ability to install a portion of their electric motors as expeditiously as possible to meet critical irrigation schedules.

- ***Include in their contracts specific milestones against which the applicants and local air district staff can measure the progress of their projects.***

SJVAPCD Response

The SJVAPCD agrees with this recommendation, and is already in the process of adding measurable milestones in Moyer Program contracts.

- ***Include in their contract specific provisions that require applicants to complete projects and submit invoices a specific number of days or weeks before the June 30 deadline.***

SJVAPCD Response

Thank you for the recommendation. The SJVAPCD will consider adding contract provisions that require applicants to complete their projects and submit invoices a specific number of days or weeks before the June 30 deadline, as appropriate.

- ***Obtain delegated authority from governing boards to approve Moyer Program projects and execute contracts. If their governing boards are not comfortable in providing delegated authority to approve all Moyer Program projects, obtain delegated authority to approve the more routine projects or those projects below a specified dollar amount.***

SJVAPCD Response

The SJVAPCD agrees with this recommendation. SJVAPCD staff currently has Governing Board-delegated authority to approve projects and execute contracts.

① Chapter 2 Recommendations – Pages 89-90

To improve their administration of the Moyer Program, local districts should consider implementing the following best practices:

- ***Conduct consolidated pre-inspections to the extent practicable.***

SJVAPCD Response

The SJVAPCD agrees with this recommendation. Due to the geographic size of the SJVAPCD, consolidated inspections are already being conducted to maximize staff efficiency.

- ***Impose stricter standards (for example, caps on individual grant awards or lower average cost per ton of intended emission reductions) on project categories to the extent that such action does not reduce involvement in the Moyer Program.***

SJVAPCD Response

The SJVAPCD agrees with this recommendation and currently imposes stricter standards on project categories that do not reduce involvement in the Moyer Program.

COMMENTS

CALIFORNIA STATE AUDITOR'S COMMENTS ON THE RESPONSE FROM THE SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT

To provide clarity and perspective, we are commenting on the response to our audit from the San Joaquin Valley Unified Air Pollution Control District (San Joaquin Valley air district). The number corresponds with the number we have placed in the district's response.

① While preparing our draft audit report for publication, page numbers shifted. Therefore, the page numbers that the San Joaquin Valley air district cites in its response do not correspond to the page numbers in our final report.

② As we state on page 36, given the differences that exist between local air districts, the best practices we identify may not be applicable in all cases.

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(Agency response provided as text only.)

South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765-4178

Office of the Executive Officer
Barry R. Wallerstein, D.Env.
909.396.2100, fax 909.396.3340

May 31, 2007

Ms. Elaine M. Howle*
State Auditor
555 Capitol Mall, Suite 300
Sacramento, CA. 95814

Dear Ms. Howle,

Enclosed please find the South Coast Air Quality Management District's response to your audit report titled "The Carl Moyer Memorial Air Quality Standards Attainment Program: Improved Practices in Applicant Selection, Contracting, and Marketing Can Lead to More Cost-Effective Emission Reductions and Enhanced Operations." (1)

An electronic version of our response was already e-mailed to you and Mr. Dale Carlson today, May 31, 2007. As requested in your letter of May 24, 2007, we have enclosed both a hard copy and an electronic copy of our response uploaded on the diskette that you have provided with the draft report.

We appreciate the professional and diligent work conducted by your staff, and I thank you for having the opportunity to respond to your audit report.

Sincerely,

(Signed by: Barry R. Wallerstein)

Barry R. Wallerstein, D.Env.
Executive Officer

Enclosures

* California State Auditor's comments begin on page 115.

South Coast Air Quality Management District Staff's Response and Comments to the California State Auditor's Report

The following are the comments of the South Coast Air Quality Management District (SCAQMD) staff on the audit recently conducted by the California State Auditor (CSA) on the implementation of the Carl Moyer Memorial Air Quality Standards Attainment Program in California.

As an initial comment, we appreciate the professional and the diligent work conducted by the CSA staff, and we would like to thank the CSA for recognizing the SCAQMD for establishing many of the "best practices" identified in the report for the implementation of the Carl Moyer Program such as including a measure of pollution for projects in disproportionately impacted areas; having one contract per applicant for several pieces of equipment; and establishing project milestones in the contracts.

The SCAQMD in cooperation with CARB has been able to manage hundreds of projects and expend funds for implementation of thousands of low-emitting engines and heavy-duty vehicles in a successful manner. Moreover, it should be noted that the SCAQMD has been able to achieve an average cost-effectiveness of $4,000 per ton in projects funded by Carl Moyer, which is substantially lower than the program cap of $14,300. This means that the SCAQMD has achieved anticipated emission reductions to date that are far greater than expected by the legislature.

With respect to the audit findings and recommendations, SCAQMD would like to provide specific comments and clarifications with regard to four issues: (1) timely expenditure of Carl Moyer Program funds (2) the suggestion that the legislature increase funding to the California Air Resources Board for multi-district projects; (3) the concern over reliability of SCAQMD data used to evaluate cost-effectiveness of projects; and (4) the suggestion that the District's need to improve the measures used to evaluate the effectiveness of their Carl Moyer Program outreach to potential project applicants.

Expenditure of Funds

The audit concludes that for FY 2005-2006 and earlier the SCAQMD failed to meet the two year deadline in California Health & Safety Code section 44287(k) to expend program funds. In making this determination, CSA has correctly noted that "not all Moyer Program participants agree on the definition of the word
(2) expended" as used in the Code. CARB has interpreted the term to mean "spend," or otherwise to have paid out on an invoice related to a project. SCAQMD, along with other Districts, interpret the term to require that the funds be obligated within two years through issuance of a binding contract.

As an initial matter, given the specific clarification of this term by CARB in issuing its most recent Carl Moyer Program guidelines, SCAQMD has conformed its program to CARB's current definition of "expended." In light of these guidelines, SCAQMD has modified its Carl Moyer Program to adhere fully with CARB's interpretation. SCAQMD has developed specific project timelines, which were recently incorporated in the SCAQMD's Carl Moyer Program Guidelines, to ensure that all contracts are fully executed within one year and that invoices are received and paid within two years. To ensure that these timelines will be strictly adhered to, the SCAQMD has expanded its Carl Moyer staff significantly, and starting "Year 7" we require and are on schedule with project obligations and expenditures. Most importantly, we have made substantial improvements and have reduced the unspent funds from previous years significantly during the past year, and are on schedule to spend the funds as defined by CARB.

Although the SCAQMD program now conforms to CARB's expectations that all funds will be obligated and spent within two years, we continue to strongly disagree with all audit findings that our program was previously in non-compliance with section 44287(k). As stated in our response to the Department of Finance's finding regarding unspent Moyer funds, the District and other parties must follow the plain meaning of the statutory language establishing the program when determining a definition of "expended." That language makes it clear that Moyer funds are expended when an award is made. One of the provisions in the Moyer statute, Health and Safety Code section 44291(d), requires the state Air Resources Board to recapture Moyer funds *not yet awarded* when a District does not follow program criteria. One of those criteria, as the Department of Finance and State Auditor has pointed out, is that Districts must expend Moyer funds within two years. However, section 44291(d) states that the state board "shall not recapture funds already awarded to approved projects." We believe that this language does not support the Department of Finance's and State Auditor's position on the proper interpretation of the term "expended" as it relates to the recapturing of program funds. If the State Auditor and Department of Finance interpretation is correct, then the state board would be obliged to recapture any funds that have not been paid to a contract recipient within two years, even if a contract has been awarded. The quoted language of section 44291(d), however, expressly forbids recapturing funds when an award had been made. (3)

Moreover, as CSA has pointed out, South Coast's interpretation of the legislative intent is supported in CARB's 2003 Carl Moyer Guidelines which require only that the funds reserved to a district be "obligated," which the District has done, and which we interpreted to mean encumbered so as to be consistent with CARB guidelines. On pages 5-6 of the 2003 Guidelines, CARB states: "Districts must report project status including specific projects, state fund expenditures, additional funds obligated via contract or contracts in progress, and remaining funds that have not been obligated. Any funds not obligated by contract at the end of fiscal year are subject to reallocation as determined by the interpretation of Proposition 40 by the California Department of Finance." (4)

In auditing the South Coast and the other air districts, neither the State Auditor nor the Department of Finance has made any mention of this contradictory language contained in the Carl Moyer legislation. Without comment, nor a recommendation to review the legislation to correct what appears to be a contradiction, these agencies have missed the opportunity to provide meaningful direction to improve the Moyer program performance. (5)

Finally, we would also like to note that during this audit CSA staff did not provide SCAQMD staff an opportunity to discuss its view of section 44287(k) or provide information regarding the steps the SCAQMD has taken to comply with the time requirements in CARB's most recent program guidelines. We were informed that CSA's audit concentrated on the new Moyer Program starting "Year 7" funded with SB1107 and AB923 funds and implemented under CARB's new guidelines. We were not asked to provide information, clarification, and details about the first six years of the program, but the CSA report refers to the findings of the CARB and the Department of Finance audit reports regarding unspent funds during the first six years of the program, which was conducted almost a year ago. During that period, the Carl Moyer Program was implemented on a yearly basis with no guarantee of continuous funding and under a different set of guidelines and requirements. As stated above, the guidelines back then only required obligation of funds within a certain period of time with no time requirements for expenditure, which the SCAQMD fully complied with. The SCAQMD implemented its program through an annual solicitation process for a large variety of equipment, and although some of the projects are still in progress, we were able to choose projects with cost-effectiveness levels of two to three times lower than the program limit and with a good distribution in disproportionately impacted areas. Thus, we believe SCAQMD fully achieved the emission reduction goals of the program. (6) (7) (3) (4)

Increasing Multi-District Funding

The CSA report also recommends increasing funding to the CARB for multi-district projects, which CSA concludes could qualify projects at a lower cost-effectiveness compared to some projects funded by the Districts. The report also suggests that in some cases provisions in District contracts requiring the equipment
(8) to operate a majority of the time in their jurisdictions (the "75% clause") could result in greater benefit to a larger region or the state as a whole.

(9) We don't believe that the report presents a bona-fide case for a substantial legislative change to the Carl Moyer Program. Most importantly, the SCAQMD believes that the current Carl Moyer legislation recognizes that each District has its own unique needs with regards to reducing air pollution. In Districts, like the SCAQMD, that are designated as areas with severe air pollution problems, as many projects as possible need to be implemented within these jurisdictions. The current legislation specifically provides that the cost effectiveness of projects may vary from District to District. This recognizes that it may be justified to pay more per ton to reduce air pollution in those areas of the state that require more reductions to achieve the standards. While it might be more cost effective if the projects cover the state or larger regions, it would surely mean that much needed reductions could be lost in the most polluted areas of the state.

Finally, to date, the multi-district projects selected by CARB and granted to SCAQMD for implementation have been construction equipment projects. In our annual solicitation process, our maximum allowable limit for these types of projects is only $5,000 per ton, and in reality most of the selected projects are within the range of $2,000 to $3,000 per ton. Furthermore, as is the case with every other project, we have had multi-district projects for which funds have been returned, and in those cases we have been told by CARB to reallocate the funds to our local projects. In short, we believe that that the statute recognizes for good reason that the Districts should primarily be the source of selecting projects to implement in that each District's air pollution reductions needs are different, and in any event it does not appear that increasing the multi-district funding cap will actually reduce emissions more cost effectively throughout California.

Data Reliability

(10) The CSA report states that the auditing staff was unable to determine average cost per ton of emission reductions because there is no hardcopy evidence of these calculations and some data was of undetermined reliability and some was sufficiently reliable. The SCAQMD is puzzled with this statement, as all our calculations are available on spreadsheets with CARB-approved calculation formulas and emission factors, and all the usage data used in calculations are available and verified in the submitted applications. The SCAQMD was audited by both CARB and Department of Finance last year and our data and calculations were reviewed and found reliable. We invite CSA staff to sit down with us and review the cost effectiveness data for individual projects.

Outreach

(11) The CSA report states that notwithstanding the various marketing efforts used, the effectiveness of the efforts have not been adequately measured by SCAQMD staff. As we try to continuously improve this aspect of the program, we believe we have done a lot of targeted outreach efforts with measured effectiveness. As an example, through an annual competitive solicitation process we select consultants with proven track records who are able to help us throughout the year to increase potential applicants' knowledge and awareness about our program and funding availability for specific equipment categories.

The SCAQMD has invested time and funds into developing an effective outreach program. The effectiveness of our outreach is measured in more then the number of program applications received – it is clearly indicated by the success of the program in reducing emissions, the awareness in the community of the program, the relationships between SCAQMD staff and industry that have been developed over the past seven years, and most importantly the diversity of the various projects we have funded.

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COMMENTS

CALIFORNIA STATE AUDITOR'S COMMENTS ON THE RESPONSE FROM THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

To provide clarity and perspective, we are commenting on the South Coast Air Quality Management District's (South Coast air district) response to our audit report. The numbers below correspond to the numbers we have placed in the margins of the South Coast air district's response.

① While preparing our draft audit report for publication, our title changed slightly.

② As we mention on page 48 of our report, it is clear that the State Air Resources Board (state board) and the Department of Finance (Finance) both expected the South Coast air district to *spend* funds from the Carl Moyer Memorial Air Quality Standards Attainment Program (Moyer Program) within the two-year period of availability, not merely *obligate* them for projects. The state board, as the department responsible for implementing the Moyer Program, has considerable discretion in defining how this program will be administered. This broad authority includes setting standards and defining terms as long as they are consistent with state law.

③ The South Coast air district's mention of Section 44291(d) of the Health and Safety Code is off point. Generally, this section of law relates to the state board's monitoring of local air districts' implementation of the Moyer Program and describes actions the state board must take or cannot take. For instance, it directs the state board to include provisions in its monitoring procedures to "recapture" funds that a district has not yet awarded to projects if the district fails to show that it is operating its program within requirements. The last sentence of this section mentions that the state board cannot recapture funds that the district has already awarded to projects.

Although this section may not give the state board the authority to recapture funds from local districts in certain circumstances, other sections of the Health and Safety Code related to the Moyer Program impose requirements on districts and their use of unexpended funds. As we mention on page 46 of our report, funds not expended by June 30 of the second calendar year after the state board allocates them revert to the State. Further, districts must return unexpended funds to the state board within 60 days after that. We based our statements about these requirements on Section 44299.2(c) of the Health and Safety Code. This section states that all

funds must be expended within two years of the date of allocation, unexpended funds must be returned to the State within 60 days, and these returned funds will be subject to reallocation. This section clearly places responsibility on any entity with unexpended funds, including local air districts, to return those funds to the State.

④ We disagree with the South Coast air district's assertion that versions of the Moyer Program guidelines before January 2006 require only that funds be obligated. On page 162 of the guidelines dated September 2003, in the section titled "Application to Administer Program," the state board plainly states that by June of the second year, "all funds must have been **spent** [emphasis added] on projects."

⑤ Notwithstanding the assertions by the South Coast air district, the slow spending of Moyer Program funds is a strong indication that the South Coast air district is not achieving the prompt emission reductions intended by law. Further, as we indicated in comment 2 earlier, Section 44291(d) of the Health and Safety Code relates to the state board's monitoring of local air districts' implementation of the Moyer Program while Section 44299.2(c) of the Health and Safety Code relates to returning unexpended funds. We do not see a contradiction between these two sections.

Finally, according to our legal counsel, the rules governing the construction of statutes indicate that the statutes should be harmonized, if possible, with other laws related to the same subject. Also, there is a strong presumption that the law is valid. The ultimate resolution of the meaning of a statute, however, always rests with the courts. As noted previously we do not see a conflict between the two provisions of law.

⑥ We disagree with the comment that staff of the Bureau of State Audits (bureau) did not provide the South Coast air district an opportunity to discuss its view. Contrary to its assertion, the bureau provided the South Coast air district with ample opportunities. On April 3, 2007, audit staff discussed with representatives of the South Coast air district our tentative issues, including the district's slow spending. On May 9, 2007, audit staff held an exit conference with the district, again discussing our issues, including the district's slow spending. During these discussions, the South Coast air district raised no concerns with how we characterized its position on this issue. Further, we told the district during these meetings that if it had questions or concerns about any of the issues discussed to please contact the audit team. In subsequent conversations, the South Coast air district never mentioned that the bureau did not offer it a chance to explain its position nor did it refute the wording we used to describe its position. We based our

report's wording related to the South Coast air district's position on its nearly four-page written response to the state board's audit report on this issue and its one and one-half page written response to Finance's audit report.

⑦ The South Coast air district is incorrect when it states that it was informed that our audit would concentrate on Moyer Program funds starting in year 7 (fiscal year 2004–05). In an e-mail sent November 16, 2006, in advance of our visits to the four local air districts, the bureau's audit team leader informed the district, "Our audit scope is broad." When the bureau held an entrance conference with the district on November 28, 2006, the team leader informed the district that although our audit would focus primarily on Moyer Program funds appropriated in fiscal years 2004–05 and 2005–06, the audit team may obtain and review evidence related to Moyer Program funds from other years as necessary.

⑧ Because we redacted the statement's source in the draft version of the report we sent to the South Coast air district for comment, the district seems to incorrectly attribute this statement to the bureau. On page 41 we state, "The San Joaquin Valley air district supervisor believes that by funding projects based in the district but operating more broadly, the program benefits not only the district but also the region and the State as a whole."

⑨ We acknowledge the South Coast air district has its own point of view. Notwithstanding the district's position, our report, beginning on page 25, shows that increasing the 10 percent cap for the multidistrict component will better maximize emission reductions, a key goal of the Moyer Program. Further, we mention on page 28 that emission reductions derived from increasing the 10 percent cap can benefit individual local air districts as well. For example, had the cap been 15 percent for Moyer Program funds appropriated in fiscal year 2005–06, the South Coast air district would have lost 20 projects from six applicants. The annual emission reductions from all those projects totaled 7.6 tons for nitrogen oxide and reactive organic gases and 1.5 tons for particulate matter. For 10 of the 20 projects, total annual emission reductions were only 0.05 tons. On the other hand, two of the additional projects that would have been funded by the multidistrict component would have operated a portion of their time in the South Coast air district. One project would have annually achieved emission reductions totaling nearly 130 tons of nitrogen oxide and 4.5 tons of particulate matter.

⑩ The South Coast air district's concerns regarding data reliability are misplaced. As we state in footnote 4 on page 16, we did not determine the accuracy of the cost per ton of intended emission

reductions because of the lack of hard copy documentation of the calculations or because recalculating the cost-effectiveness of projects was beyond the scope of our audit.

(11) The South Coast air district appears to miss our point. On page 34 we acknowledge that the local air districts, including the South Coast air district, use a variety of methods to market their Moyer programs. Furthermore, we single out the South Coast air district for special mention because the district has identified a business sector—off-road construction—with the potential for projects with a low cost per ton of intended emission reductions. However, the district lacks defined goals and benchmarks with which to measure whether its marketing effectively reaches those business sectors with the potential for more cost-effective emission reductions.

cc: Members of the Legislature
Office of the Lieutenant Governor
Milton Marks Commission on California State Government Organization and Economy
Department of Finance
Attorney General
State Controller
State Treasurer
Legislative Analyst
Senate Office of Research
California Research Bureau
Capitol Press