

2008

GUIDELINES



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EXECUTIVE SUMMARY

Since 2001, the Air Resources Board's (ARB or Board) Lower-Emission School Bus Program has been a mainstay of the Board's incentive programs to protect vulnerable populations, particularly California's school children, from the harmful effects of air pollution. With its first funding appropriation of \$50 million, the Board set forth a program to reduce school children's exposure to smog-forming and cancer-causing pollution by providing grants to upgrade our State's aging school bus fleet. Over the past seven years, State funds totaling just over \$100 million have replaced 600 of the oldest, most polluting public school buses, and equipped about 3,800 other diesel buses with ARB-verified pollution control equipment that significantly reduces toxic particulate matter emissions.

A further measure of the program's success lies in our partnerships formed with local air districts and school districts, and the working relationships developed with school bus distributors. At the program's inception, staff estimated about 6,600 pre-1987 model year buses remained operating in California's public schools. Of those, nearly 1,900 predated minimum federal motor vehicle safety standards effective in early 1977. Today, staff estimates less than 2,800 pre-1987 model year buses remain in use and fewer than 100 are of the oldest vintages – the pre-1977 model years. Such significant progress is only achieved through the cooperative and dedicated funding efforts at both the State and local levels, and through combined outreach support.

This progress also serves to highlight that our work is not yet finished and demonstrates the need for continued funding to build on the program's past successes. Additional program funding is now available through Proposition 1B, the Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act of 2006. Approved by California voters in November 2006, this bond act designates \$200 million to replace old, high-polluting public school buses and to retrofit middle-aged diesel buses--those that still have a substantial service life--with ARB-verified pollution control equipment.

Enabling legislation, Senate Bill 88 (Stats 2007 Ch 181), prescribes the funding criteria and other requirements for the expenditure of the Proposition 1B funds, while Governor Schwarzenegger's Executive Order S-02-07 (EO S-02-07) contains further directives to ensure robust fund accountability and program oversight. Incorporating these requirements, this report presents the staff's funding allocations from Proposition 1B and revisions to the existing Lower-Emission School Bus Program Guidelines (Guidelines) for the use of these funds. These Guidelines provide the protocols for use by the ARB staff and local air districts in implementing the program. With the Proposition 1B funds, we estimate the program will replace over 1,100 high-polluting buses, including the last of the pre-1977 buses, with new, clean models, and retrofit up to 3,500 existing diesel buses with ARB-verified pollution control equipment. Some of these low-emitting new buses may be on the road by the end of the year, while every one of the new and retrofitted buses will be in service transporting California's school children no later than June 30, 2011.

Significant program changes for this funding cycle include:

- Air district funding allocations as prescribed by Senate Bill 88. This legislation directs the ARB to allocate funds to account for air districts' populations of pre-1977 model year buses and their percentage shares of the statewide 1977-1986 model year bus population.
- Air district discretion to determine how to apportion funds between new bus purchases and retrofits. While Senate Bill 88 provides air districts with funding flexibility (after dedicating sufficient funds to replace all pre-1977 buses), these Guidelines require air districts to propose and commit to a retrofit funding target. The ARB recommends a goal of designating 25% of program funds for the retrofit of in-use diesel school buses.
- A choice of either direct local air district implementation, regional implementation by a neighboring air district, or State level implementation. Proposition 1B funds spent within each air district will be the same regardless of the implementation option chosen by the air district.
- Increased program oversight and accountability, including expansive performance milestones and more comprehensive reporting and documentation retention requirements, designed to improve program efficiency and maximize the use of State grant funds, as directed by Executive Order S-02-07 and Senate Bill 88.
- Utilization of a new Lower-Emission School Bus Program database to provide transparency and accountability to the public on the use of the Proposition 1B funds. We expect this user-friendly database to be operational in spring 2008.
- Modified requirements for both the new bus purchase and retrofit program components that incorporate the latest technology developments.

These changes are necessary to effectively and efficiently manage the large infusion of program funding available from Proposition 1B. Through the revised program structure, the ARB will strengthen existing partnerships with local air districts and school districts, and forge new ones, to provide California's school children with safe, low-polluting school transportation.

I. PROGRAM OVERVIEW

The Lower-Emission School Bus Program is a grant program that provides funds to purchase new buses to replace old, high-emitting public school buses, and to equip in-use diesel school buses with retrofit devices that significantly reduce toxic particulate matter (PM) emissions. It is administered by the ARB and implemented by local air quality management and air pollution control districts (air districts). The primary goal of the Lower-Emission School Bus Program is to reduce school children's exposure to both cancer-causing and smog-forming pollution. The program does not impose any regulatory requirements on school districts and their participation in the program is voluntary.

This document describes revisions to the Lower-Emission School Bus Program Guidelines (Guidelines) to comply with requirements of Proposition 1B, the Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act of 2006, and its enabling legislation, Senate Bill 88 (SB 88; Stats 2007 Ch 181) and the accountability requirements of Governor Schwarzenegger's EO S-02-07, as well as to make necessary administrative and technical updates.

A. Background

Since 2000, the Lower-Emission School Bus Program has provided over \$100 million in State funding for new alternative fuel and diesel school buses for California's public school districts, and retrofit devices for existing in-use diesel buses.

In its first seven years, the Lower-Emission School Bus Program replaced about 600 pre-1987 model year public school buses with new, lower-emitting models and equipped about 3,800 in-use buses with ARB-verified diesel retrofit devices. Historically, the program has funded about 75 percent to 95 percent of the cost of the new bus. The exception was during the 2005-2006 fiscal year funding cycle when program funds were used to pay the full purchase cost for pre-1977 model year bus replacements. These Guidelines will continue the policy to provide full funding for pre-1977 model year replacements, but will require match funding for 1977-1986 model year bus replacements.

B. Need for the Program

The Lower-Emission School Bus Program has made significant strides in reducing school children's exposure to diesel-related pollution through a combination of State and local funding. The primary focus has been on replacing buses manufactured prior to 1977. These buses do not meet federal motor vehicle safety standards and were not subject to oxides of nitrogen (NO_x) and PM emission control. ARB staff estimates that fewer than 100 pre-1977 school buses remain in service in California's public schools. It is a priority to replace these old buses because they lack minimum federal motor vehicle safety equipment and are high-polluting. An average 2007 model year bus emits about 95 percent less toxic PM and over 85 percent less NO_x than a pre-1977 model year bus.

The Lower-Emission School Bus Program has sought to reduce emissions from the remaining public school bus fleet by replacing 1977-1986 model year school buses (which had minimal NOx control and no PM controls), and by retrofitting middle-aged diesel school buses that are not eligible for replacement with program funds. Funding from Proposition 1B can replace approximately 1,000 of the 1977-1986 buses and retrofit up to 3,500 in-use diesel buses.

The Lower-Emission School Bus Program provides a needed source of funds to accelerate the replacement and retrofit of California school buses, thus reducing school children's exposure to toxic PM emissions. Even after expending the Proposition 1B funds however, ARB staff estimates about 1,700 1977-1986 model year public school buses will remain in service, as well as over 15,000 1987 model year and newer diesel buses that are eligible for retrofits.

C. Program Funding

In November 2006, California voters approved Proposition 1B, the Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act of 2006. Proposition 1B provides \$200 million for school bus retrofit and replacement to reduce air pollution and to reduce children's exposure to diesel exhaust. From these funds, about \$7 million were set aside for bond financing costs. The State Legislature appropriated \$193 million in the 2007-2008 fiscal year budget to the ARB for the Lower-Emission School Bus Program. SB 88 allows up to five percent of the funds to be used for program administration; however, the ARB will use less than one percent for program administration. This leaves approximately \$191 million available for expenditure in local air districts, including allowable administrative expenses (see Table I-1 of this chapter).

D. Bond Accountability

EO S-02-07 requires significant and robust accounting procedures for Proposition 1B bond funds following a three-part accountability structure that addresses Front-End, In-Progress, and Follow-Up Accountability. The ARB's plan, as approved by the Department of Finance (DoF), includes Front-End Accountability, following the open public process in developing and proposing these Guidelines. The Guidelines set the requirements by which each local air district shall implement its local school bus program, as well as the criteria for selecting and paying for eligible school bus projects. ARB's In-Progress Accountability, for ease of tracking and transparency, will require air districts to report semi-annually using the ARB's web-based Bond Accountability Database. Finally, ARB's Follow-Up Accountability will be accomplished by conducting audits of district programs, including grant recipients. Follow-up audits will be used as an enforcement mechanism to ensure Proposition 1B funds are spent appropriately and emission reductions are achieved as intended through this program.

E. Emission Reductions

After expenditure of all the Proposition 1B funds to replace old, high-emitting buses and to retrofit in-use diesel buses, ARB staff estimates that the program will provide

emission reductions of approximately 3,000 tons of NO_x, 200 tons of PM, and 22,000 tons of CO₂ through 2020.

F. Impact of Upcoming Regulations

The Board is scheduled to consider the Proposed Regulation to Reduce Emissions from Diesel Particulate Matter, and Other Pollutants from In-Use Heavy-Duty Diesel-Fueled Vehicles (In-Use On-Road Heavy-Duty Diesel Vehicles Regulation) in the fall of 2008. This proposed regulation would require that school buses be retrofitted with ARB-verified diesel emission control strategies (retrofits) that reduce the emissions of diesel PM. ARB strongly encourages air districts to implement local robust school bus retrofit programs to assist school districts prior to implementation of the proposed regulation.

G. Summary of Guideline Revisions

The new guidelines are the result of a significant allocation of funding from Proposition 1B. Since this funding is from bond proceeds, it is subject to EO S-02-07, which requires significant and robust accountability procedures to be in place to ensure that State funds are spent properly and that California's citizens can measure the progress of school bus replacements and retrofits in their local areas.

1. Implementing Agency

The ARB is responsible for overall administration of the Lower-Emission School Bus Program. Historically, the ARB has worked closely with the California Energy Commission (CEC) and local air districts to implement the program statewide in previous years. Due to resource priority issues within the CEC, the ARB has developed several implementation options for districts, including those in which CEC previously implemented the program, to have the opportunity to self-implement the program via grants from the ARB. However, air districts will also have the option of allowing a larger air district, or the ARB to implement the program on their behalf. The ARB is working with the California Air Pollution Control Officers Association (CAPCOA) to assist those districts that request the ARB to implement the program in their area. Funding will be the same within an air district regardless of the implementation option it selects.

2. Funding Allocations

Funding will be allocated following the criteria set forth in SB 88. SB 88 directs the ARB to allocate Proposition 1B funds by first setting aside funds to replace the remaining 1976 and older model year school buses in California. Remaining funds are to be allocated to air districts based on each district's share of the 1977 through 1986 model year school bus population. After ensuring funding for replacing all pre-1977 model year buses, SB 88 provides flexibility by allowing air districts the discretion to determine how to split their remaining allocation between replacing and retrofitting buses. A complete list of pre-1977 model public school buses that are eligible for replacement is provided in Appendix F. Table I-1 includes bus populations and allocations broken down by seven of the larger air districts and the remaining group of 28 air districts. Appendix B provides a complete breakdown of each air district's funding allocation.

Table I-1 Lower-Emission School Bus Program Funding Allocations			
	Pre-1977 MY Bus Population	1977 – 1986 MY Bus Population	Total Allocation (including admin)
Larger Air Districts			
Bay Area	4	118	\$8,400,000
Monterey	8	90	\$7,100,000
Sacramento	1	134	\$9,100,000
San Diego	2	80	\$5,600,000
San Joaquin Valley	10	567	\$39,150,000
South Coast	9	1,034	\$70,100,000
Ventura	4	66	\$5,000,000
Subtotal	38	2,089	\$144,450,000
Remaining 28 Air Districts			
Subtotal	36	630	\$46,930,000
TOTAL STATEWIDE	74	2,719	\$191,380,000

3. Eligible Applicants and Project Types

Eligible applicants for school bus replacements include public school districts and Joint Powers Authorities (JPA). For school bus retrofit projects, applicant eligibility has been extended to include private transportation contractors that provide transportation for public schools.

Eligible project types will continue to include replacements of pre-1987 school buses and retrofits for the middle-aged in-use diesel school bus fleet (1987 model year and newer buses). Funding caps have been established for both replacement and retrofit projects. For school bus replacements, not more than \$140,000 will be provided by State Program funds, with additional funding not to exceed 10 percent of the new bus purchase grant award for alternative fuel infrastructure, if required. Diesel-fueled school bus replacement costs should be significantly less than the cost cap. Depending on the technology chosen for the replacement bus, the cost cap may not cover the entire cost for an alternative-fueled or electric-hybrid school bus. For school bus retrofits, the funding cap is \$20,000 per retrofit; this cap includes allowable funding for lifetime cleaning costs of the device and the purchase of back-up filters, to allow retrofitted school buses to stay in operation when the buses primary filter is undergoing routine cleaning and maintenance. Because State funds are limited, funding caps are necessary to maximize funding to pay for a greater number of projects statewide.

4. Applying for Funds

School districts will be contacted by their local air districts or ARB/CAPCOA about funding opportunities. However, it would be in the best interest of the school district to ensure their contact information is up-to-date and understand the timelines of their local

implementing agency¹. In general, those school districts with pre-1977 model year buses identified in Appendix F will be contacted shortly after Board approval of the guidelines. School districts that wish to replace pre-1987 model year buses or wish to retrofit buses should look for proposal requests from their implementing agency later this year.

Applications must be obtained from, and submitted to, the implementing agency. Successful applicants must enter into a contract with the implementing agency and adhere to all contract requirements, which include meeting project milestones and incorporating minimum contract requirements, as set forth by the implementing agency, in purchase order agreements with vendors. Successful applicants must also ensure that school buses and retrofit devices are operated and maintained according to the manufacturer's warranty specifications and to the applicable ARB retrofit device verification Executive Orders. Chapters III and IV provide specific project requirements for both school bus replacements and retrofits.

Successful applicants will be subject to audit by the DoF, ARB, or the local air district. Hence, successful applicants must retain the records and documents listed in Appendix E.

5. School Bus Replacements

All school buses eligible for replacement must be replaced with 2007 model year or newer buses equipped with engines certified to 1.4 grams per brake horsepower-hour (g/bhp-hr) NO_x or cleaner and 0.01 g/bhp-hr PM. Because pre-1977 model year public school buses predate federal safety standards, they are a priority to replace. Consistent with previous guidelines, public school districts will not be required to provide match funds when replacing these buses. Applicants must enter into contracts with the implementing agency and have new buses ordered for pre-1977 model year replacements by February 1, 2009.

To maximize the use of State funds, school districts will be required to provide \$25,000 in match funding when replacing eligible 1977-1986 model year school buses. However, air districts may use their local funds (e.g., AB 923 funds, AB 2766 funds) to assist school districts with the match funding requirement. While Proposition 1B funds provide the opportunity for a large-scale State program, these funds alone are not sufficient to upgrade every bus eligible for replacement. At the local level, air districts have a greater ability to analyze the specific needs of the school districts in their regions and to determine how to best assist eligible school districts with the match funding requirements. Every air district that generates funds through AB 923 (the \$2.00 portion of motor vehicle registration surcharge fees) can reasonably provide the match funding for buses eligible for replacement in their respective regions. Historically, the new bus purchase funds have been oversubscribed throughout the State, and we expect this to continue as we move forward in the program.

¹ School districts can identify who their implementing agency is after June 30, 2008, by checking the ARB website: <http://www.arb.ca.gov/bonds/schoolbus/schoolbus.htm>

All school buses replaced under the program must be dismantled within 60 days of receipt of the new, replacement bus. For new buses, proof of new vehicle delivery and dismantling of the replaced vehicle must be provided before payment is made by the implementing agency.

6. Retrofits

Retrofits continue to be a vital component in the ARB's regulatory and incentive programs. Because retrofits are the most cost effective method of reducing emissions from school buses, providing the greatest health benefit per dollar spent by reducing toxic PM emissions, the Board designated 25 percent of the total program funds to school bus retrofits in previous funding cycles. However, SB 88 precludes the ARB from designating a specific retrofit allocation and instead provides air districts the discretion to apportion funds between new bus purchases and retrofits. As such, these Guideline revisions require air districts to propose and commit to a retrofit funding target; the ARB recommends that air districts dedicate 25 percent of their allowable allocations to school bus retrofits. For air districts where ARB implements the local program, ARB will set a goal of 25 percent of the funds to pay for retrofits. Public school districts and private transportation providers that contract with public school districts are eligible to receive program funds to retrofit their 1987 and newer model year buses with ARB-verified Level 3 devices.

7. Air District Program Administration

To address the requirements of EO S-02-07, greater specificity has been added to the new administrative requirements that are included in these Guidelines. These are detailed in Chapter V, Program Administration. In summary, these new requirements include:

- Air districts must submit policies and procedures for local implementation of the Lower-Emission School Bus Program.
- Specific contractual terms between air districts and successful applicants.
- Provisions for ARB program oversight and audit responsibility.
- Program accountability: Air districts must report to the ARB semiannually.

In recognition of the fact that increased accountability will require additional air district resources, air districts may use up to two percent of their total allocations of State program funds for implementation and outreach costs. Additionally, an air district may use up to five percent of the funding that it designates to retrofits (in addition to the aforementioned two percent of its total allocation) for implementation and outreach costs for the retrofit component of its program.

Air districts must account for administrative and project funds separately. Expenditures of Lower-Emission School Bus Program State program funding, including funds used to cover administrative costs, are subject to audit.

8. Timetable

ARB will mail grant agreements to individual air districts in late spring 2008. Hence, Proposition 1B funds would be available at that time. Districts will have until June 30, 2008, to sign the grant agreements and accept funds. Air districts will receive their initial funding disbursements for the replacement of pre-1977 model year public school buses upon ARB's approval of the local air districts' Policies and Procedures for program implementation. To receive subsequent fund disbursements, air districts must meet specific milestones to ensure program and fund accountability. These milestones are discussed in detail in Chapter V, Section G. The ARB has designed a timeline that allows an air district to receive up to 65 percent of its total allocation through June 30, 2009. The ARB anticipates some school bus projects will begin as early as fall 2008; however, all State program funding must be paid out by June 30, 2011.

II. ISSUES

This chapter addresses several significant issues affecting the development of the revised Lower-Emission School Bus Program Guidelines. Specifically, it contains brief overviews on oldest bus replacement, alternative fuel engine availability, funding for CNG fuel tank replacement, and matching fund requirements for 1977 – 1986 model year bus replacements.

A. Oldest Bus Replacements

Senate Bill 88 requires air districts to use their funds dedicated to new school bus purchases (after replacing eligible pre-1977 model year buses) to “replace the oldest school buses of model years 1977 to 1986, inclusive, within the district.” In previous years when the program was not bound by Legislative requirements for 1977-1986 bus replacements, the Guidelines provided school districts and air districts the flexibility to choose which buses to replace within this model year group. Because these buses have the same basic emission characteristics, there is no significant emission benefit associated with retiring an older bus versus a newer bus in this model year range.

School transportation fleet managers have advised ARB (and continue to do so) that they prefer the discretion to determine which of these buses to retire in order to keep their best performing buses in service. They report that, in some cases, their older buses in the 1977-1986 model year range have been repowered with newer engines or rebuilt and restored; these are the buses they would like to keep on the road in the absence of sufficient funds to replace all the 1977-1986 model year buses.

Nonetheless, SB 88 prescribes the directive that the oldest buses shall be replaced. To implement this directive in a practical manner for a large-scale State program, the ARB staff is proposing that air districts shall award funds to replace the eligible oldest buses within their respective regions based on the applications received from school districts and that meet the requirements of these Guidelines. Additional information regarding this replacement mechanism is contained in Chapter III.

B. Alternative Fuel Engine Availability

The purchase of alternative fuel school buses, primarily CNG buses, has been an integral strategy in advancing the program’s goal to reduce school children’s exposure to cancer-causing and smog-forming pollution. School buses powered by CNG engines are inherently low in NO_x and PM. However, as heavy-duty diesel engines have achieved significantly lower emission levels once only attained by alternative fuel engines, the number of available alternative fuel engines certified each year has decreased.

John Deere, the leading manufacturer of CNG school bus engines discontinued new production of their CNG engines in 2007. John Deere’s departure from the CNG engine market leaves a significant void in the alternative fuel school bus sector and creates uncertainty regarding the availability of future CNG engines for use in school buses. Under these Guidelines, an alternative fuel (propane) engine is eligible for program

funding (as identified in Table G-1). An additional alternative fuel engine (CNG) suitable for school bus applications is anticipated to be available later this year

C. Alternative Fuel/Diesel Funding Split for New Buses

With the adoption of the first Lower-Emission School Bus Program Guidelines in December 2000, the Board designated two-thirds of the new bus purchase funds to lower-emitting alternative fuel school buses (primarily CNG) and one-third of the new bus purchase funds to lower-emitting diesel school buses. While the Board's original intent was for this policy to be implemented on a regional basis, reduced funding levels during subsequent years of the program required ARB to implement this policy as a statewide goal, not a regional mandate.

For the 2005-2006 FY funds, the Board suspended the fuel funding split in order to facilitate the legislatively-directed replacement of California's oldest pre-1977 public school buses, in order of oldest bus first, but directed staff to reinstitute the funding split as a goal in subsequent funding years. When the Board issued this directive in February 2006, the primary school bus CNG engine manufacturer, John Deere had not announced its exit from the CNG engine market and, therefore, staff could not anticipate the disruption in CNG school bus engine availability that began in late 2007. Though a small number of John Deere engines are currently available and it is anticipated that Cummins will be moving into the school bus CNG engine market, staff does not recommend a specific funding goal for alternative-fueled engines, but acknowledges that certain air districts may want to encourage these engines.

D. CNG Fuel Tank Replacement

The Department of Transportation requires on-board CNG fuel tanks to be visually inspected every three years or 36,000 miles and replaced at the end of the manufacturer's recommended service life, which is typically 15 years. At the end of their service life, the fuel tanks on a CNG school bus must be replaced in order for the bus to remain in service. Since a typical school bus in California operates for 25 years or more, CNG school buses purchased in the early to mid- 1990s will require fuel tank replacements to remain on the road serving California's school children.

While developing the current Guidelines, ARB staff evaluated the feasibility of using a portion of the Proposition 1B funds available for bus replacements and retrofits to pay for fuel tank replacements on in-use CNG buses with expiring or expired tanks. Based on the legislative intent of Proposition 1B and constraints in the text of SB 88, ARB's legal staff has concluded that the funds cannot be used to pay for fuel tank replacements on older CNG buses.

The ARB staff encourages school districts to consult their local air districts regarding the availability of eligible funding sources, such as AB 2766 motor vehicle surcharge fees, to pay for or offset a portion of the cost to replace expiring or expired CNG fuel tanks. Some local air districts, notably the San Joaquin Valley Air Pollution Control District,

have already assisted school districts with the purchase of replacement fuel tanks for older CNG buses.

E. Matching Funds for 1977 – 1986 Model Year School Bus Replacements

These Guidelines continue the policy in previous guidelines of requiring a match contribution for new bus replacements. The policy ensures a cooperative relationship between the State, local air districts, and the school district further extending funds to maximize the number of eligible school buses that can be replaced. Therefore, school districts are required to contribute \$25,000 in matching funds when replacing an eligible 1977 – 1986 model year bus through the Lower-Emission School Bus Program. The ARB's Executive Officer has the authority to adjust the district match requirement as necessary. Consistent with the match funding policy in previous Guidelines, air districts may also choose to provide the matching funds from an eligible funding source (e.g., motor vehicle surcharge fees) to assist school districts in need.

During the development of this Guideline revision, staff evaluated mechanisms to foster participation in the program's retrofit component that would have limited air districts' abilities to provide matching funds for new bus purchases. Specifically, air districts would have had the ability to provide a school district's matching fund contribution only if a school district obtained a matching fund waiver by agreeing to install ARB-verified retrofits on eligible buses, or by demonstrating that its fleet was already retrofitted or ineligible for retrofits. This mechanism was intended to encourage and incentivize retrofits in school bus fleets and to provide the means by which air districts could financially assist school districts.

Staff, however, is not including this mechanism in the revised Guidelines due to recent modifications to the ARB's proposed regulation for in-use on-road heavy-duty diesel-fueled vehicles. If approved by our Board, this proposed regulation could require school bus fleets to equip eligible buses with verified diesel emission control systems (i.e., ARB-verified retrofit devices) as soon as December 31, 2010. The ARB requires that air districts include a retrofit funding goal in their required Policies and Procedures Manuals to provide funds for school bus retrofits prior to implementation of the proposed regulation. Furthermore, it will behoove both school districts and air districts to familiarize themselves with this regulatory proposal, and we encourage school bus fleets to participate in the public rulemaking process for this proposed regulation, which is planned for presentation to the Board in mid-2008. More information regarding this regulatory effort, including appropriate ARB staff contacts and draft regulatory language, can be accessed from the ARB's web site at: <http://www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm> .

III. LOWER-EMISSION SCHOOL BUS REPLACEMENT PROGRAM REQUIREMENTS

The school bus replacement program funds the purchase of new lower-emission school buses and infrastructure. With about \$191 million available for grants, ARB staff estimates that all the remaining eligible pre-1977 model year school buses and about 1,000 additional 1977 to 1986 model year public school buses will be replaced with new clean school buses that also comply with the most recent motor vehicle federal safety standards

The following sections describe the protocols and criteria for the expenditure of program funds, as well as for new bus purchase funds from other sources of State funding which have specifically required that the Lower-Emission School Bus Program Guidelines be followed. It is important to understand that State program funds may only be used on school bus replacement projects that meet the criteria outlined in this chapter.

A. Eligible Buses and Infrastructure

This section provides a description of eligible program applicants and equipment.

1. Eligible Applicants

Public school districts in California that own their own buses are eligible to receive funding for the replacement of older school buses. Where a Joint Power Authorities (JPA) has been formed by several public school districts, and the JPA holds ownership of the school buses, then the JPA is also eligible to participate. School transportation contractors are not eligible to apply for school bus replacement funds. Also, school bus purchases by non-profit agencies, private schools, and other private companies are not eligible for State program funding.

2. Buses Eligible for Replacement

Older in-use diesel or gasoline school buses with a manufacturer's gross vehicle weight rating (GVWR) greater than 14,000 pounds may be eligible for replacement. Buses of this weight rating must be equipped with heavy-duty engines. To be eligible for replacement, buses must have a current CHP safety certification (CHP form 292) as of December 31, 2005, and have continuous safety certification from that point forward. This requirement will ensure unused buses are not revived in order to get funding. The period of certification must include the time a school district is awarded funding to replace the bus. The bus must also be currently registered with the Department of Motor Vehicles. While diesel-fueled buses are primarily targeted for replacement, gasoline-fueled buses that do not include an original-equipment catalytic converter are also eligible per the replacement priority given below.

SB 88 which provides legislative direction for the expenditure of Lower-Emission School Bus Program funds requires that all pre-1977 model year buses be replaced first. Hence the replacement of buses manufactured prior to April 1, 1977, when federal motor vehicle safety standards applicable to school buses went into effect, is a priority

for the school bus replacement program. Local air districts must commit by fully executed contract, all of their State program funds designated for pre-1977 model year school bus replacements by February 1, 2009. In addition, all replacement buses for pre-1977 model year buses must be paid for and in operation no later than February 1, 2010.

After ensuring funding for replacing pre-1977 buses, air districts will have the discretion to determine how to split their funding allocations between new school bus purchases (to replace 1977-1986 model year buses) and in-use bus retrofits (i.e., retrofitting in-use diesel buses with ARB-verified Level 3 devices). ARB staff estimates about 75 percent of the remaining funds will be used to pay for the replacement of up to 40 percent of all remaining eligible 1977-1986 buses (~2700 remaining). SB 88 states that an air district will replace the oldest school buses of model year 1977 to 1986. Therefore, air districts must preferentially choose for replacement the oldest school buses within their district that have applied for replacement and that meet the terms and conditions of these guidelines.

Eligibility for replacement will be based on the model year of the bus chassis for pre-1977 model year school buses. Replacing pre-1977 model year school buses is a priority since these model year buses predate any federal safety standards. Replacement eligibility of model year 1977 to 1986 school buses will be based on the model year of the school bus engine. Since, it is common practice to repower middle-aged buses with newer engines, determining emission benefits greatly depends on the model year of the engine.

All school buses replaced under the program must be dismantled in accordance with the definition of “dismantle” set forth in these Guidelines in Appendix A: Glossary of Administrative Terminology. School districts must ensure that the old school bus is dismantled within 60 days of the receipt of the new, replacement bus. For new buses, proof of new vehicle delivery and dismantling of the replaced vehicle must be provided before payment is made by the implementing agency.

3. Replacement Bus Requirements

Only replacement buses may be funded by this program, fleet expansion buses are not eligible for funding. New heavy-duty buses with engines that run on either diesel or an alternative fuel are eligible for funding, if the engine’s emissions are less than or meet the criteria shown in Table III-1. Program funds can only be used to purchase a new school bus that is equipped with essential or standard equipment. The recipient school district must make an enforceable commitment to own and operate the new bus for at least five years.

Alternative-fueled buses may be powered by natural gas, liquefied petroleum gas (LPG or propane), electricity, methanol, or ethanol fuels, provided that the other program requirements are met. Commercially available hybrid school buses may be partially eligible for funding. If a public school district elects to purchase a hybrid-electric school bus as their replacement bus, the program will cover the cost of the hybrid school bus

up to the cost cap for replacement buses described in Section D of this chapter, provided that the other program requirements are met.

B. Emission Standards and Certification Levels for School Buses

The ARB adopted more stringent emission standards for 2007 and subsequent model year new heavy-duty diesel engines, and the regulation became effective in November 2002 (see Title 13, California Code of Regulations, section 1956.8). More stringent emission standards were adopted for NO_x, non-methane hydrocarbons (NMHC), and PM.

Table III-1 below, shows the emission criteria that replacement school buses need to meet in order to qualify for program funding. Starting in 2007, the average heavy-duty NO_x emission standard is 1.2 g/bhp-hr. For this program, ARB will allow new buses that meet up to 1.44 g/bhp-hr NO_x emission standards, as there are a couple of common school bus engines that come in at this level. The 2007 model year Cummins ISB 6.8 liter diesel-fueled engine is currently certified to a significantly higher level, 2.2 g/bhp-hr NO_x+NMHC FEL. As such, its NO_x + NMHC emission level does not qualify it for funding under the Lower-Emission School Bus Program.

Table III-1 Emission Criteria for Use of Lower-Emission School Bus Program Funding			
2007-2009 Model Year		2010 Model Year	
NO _x (g/bhp-hr)*	PM (g/bhp-hr)	NO _x (g/bhp-hr)	PM (g/bhp-hr)
1.44 NO _x FEL	0.01	0.2	0.01
FEL: family emission limit g/bhp-hr: grams per brake horsepower-hour * Both the NO _x FEL and the NO _x +NMHC FEL must be at or below 1.44 g/bhp-hr.			

Table G-1, lists some ARB-certified heavy-duty school bus engines that are available in California and are eligible for funds under this program.

C. CNG Fueled School Buses

CNG fueled buses have proven to be very popular with school districts. The South Coast Air Quality Management District (SCAQMD) has had a fleet rule in effect that has required the purchase of new alternative-fuel school buses when replacing or adding

school buses within a fleet. Other air districts have been very proactive in advocating CNG-fueled school bus purchases. CNG engine availability issues have become a concern for school districts wishing to purchase additional alternative fueled school buses.

1. CNG Infrastructure and Fuel Tank Replacement

Ten percent of new bus funding for alternative-fueled buses may be used for refueling infrastructure when no local CNG refueling site is available or the existing local CNG refueling site is inadequate. This equates to about \$14,000 per bus based on a \$140,000 new CNG bus cost, excluding applicable sales tax. Infrastructure monies must be fully expended by the same deadline(s) by which the monies to purchase new buses must be fully expended. Infrastructure funds cannot be automatically set aside. Infrastructure funds may be utilized only if they can be tied to infrastructure funds spent for the specific bus purchased.

A typical school buses life of 25 years results in the need to replace the natural gas fuel tanks at least once during the life of the bus. Based on the legislative intent of Proposition 1B and the constraints in the text of SB 88, Proposition 1B funds are not allowed to be used for the replacement of CNG fuel tanks on school buses. School districts should consult with their local air districts regarding the application process to receive AB 2766 funds for fuel tank replacement on in-use CNG-fueled school buses.

2. SCAQMD School Bus Fleet Rule

The SCAQMD adopted fleet rules in April 2001 requiring the purchase of alternative-fueled vehicles for certain fleets of 15 or more vehicles, when government funding for the incremental cost is available. SCAQMD Rule 1195, which applies specifically to school bus fleets, includes exemptions which allow diesel-fueled bus purchases in certain cases. However, the exemptions dealing with lack of available infrastructure and the lack of funding for infrastructure have sunset. For the past several years, the SCAQMD has only funded alternative-fueled school buses. However, some school districts in the SCAQMD still have an all diesel-fueled school bus fleet. Nothing within these guidelines is intended to supersede the SCAQMD rule. Therefore, school districts within SCAQMD may only be able to purchase alternative-fueled replacement school buses.

D. Cost Cap

Staff is proposing a cost cap per new school bus of \$140,000. Combined with the match contribution (discussed below), diesel-fueled buses are expected to come well under the cost cap, CNG-fueled buses would be at the cost cap level, and hybrid buses would still be significantly over the cost cap. The cost cap is applicable to the cost of the replacement bus only including tax; funding for infrastructure to support alternative-fueled and hybrid-electric school buses is available in addition to the cost cap.

A typical transit style model year 2008 diesel-fueled school bus is estimated to cost approximately \$140,000, including sales tax. When factoring in the match funding

requirement of \$25,000 for each replacement bus, State program funds would pay approximately \$115,000 of the replacement cost. A 2007 model year CNG-fueled school bus costs approximately \$160,000. Therefore, State program funds would pay \$135,000 towards the replacement cost of this bus. Finally, hybrid-electric school buses are currently estimated to cost above \$200,000, in this case, State program funds would only provide \$140,000 towards the replacement cost of this school bus.

Regardless of the type of fuel, no more than \$140,000 may be spent to replace a school bus with State program funds. The ARB's Executive Officer has the authority to raise the cost cap, if needed, to accommodate future price increases.

E. Match Funds

School districts are not required to provide match funds for pre-1977 model year school buses, replaced with State program funding. This includes those buses manufactured before April 1, 1977. For the replacement of 1977-1986 model year buses, school districts must pay a \$25,000 match per bus (about 18 percent of \$140,000). The ARB's Executive Officer has the authority to adjust the district match requirement as necessary. This match requirement may be paid by the air district from eligible funding sources such as AB 2766 or AB 923 funds. The match requirement not only fosters a cooperative relationship between the State, the local air district and the participating school district, but also extends the program funds, replacing as many public school buses as possible.

Historically, the Lower-Emission School Bus Program has allowed air districts to provide match funding for new buses purchased through the program. Other grant funds, such as air district funds (e.g. motor vehicle registration fee monies) can be used to satisfy the school districts match fund obligation to the extent the other grant or funding language allows this. Proposition 1B funds alone are not sufficient to replace every 1977-1986 model year bus eligible for replacement. As partners in the Lower-Emission School Bus Program, air districts must share in the responsibility to provide low-polluting school transportation. At the local level, they have a greater ability to analyze the specific needs of the school districts in their regions and to determine how to best assist eligible school districts with the match funding requirements (e.g., air district provides full or partial match funds, based on school districts' needs). Every air district that generates funds through AB 923 (the \$2.00 portion of motor vehicle registration surcharge fees) can reasonably provide the match funding for buses eligible for replacement in their respective regions.

Eligible air district funds can be also used to offset the higher cost of advanced technologies, such as hybrid-electric and alternative-fueled buses, if the cost for those buses exceeds the total of the cost cap and matching funds. Carl Moyer Program funds cannot be used as a source of the school district match funds.

F. Impact of the Seat Belt Law

Assembly Bill 15 (AB 15: Stats 1999 Ch 648) initiated a requirement for lap/shoulder belts for all new school buses manufactured on or after January 1, 2002, that are purchased or leased for use in California, unless specifically prohibited by the National Highway Transportation Safety Administration. Implementation was delayed by Senate Bill 568 (SB 568: Stats 2001 Ch 581) until July 1, 2004, for new Type 2 small school buses and until July 1, 2005, for new Type 1 large school buses. The use of lap/shoulder belts will limit seating capacity on new buses to a maximum of two per seat.

Currently, school districts within California typically transport two older students per seat and three younger students per seat to comply with federal motor vehicle safety standards. Buses that only transport older children, those in seventh through twelfth grade, are not expected to lose seating capacity. However, school buses that currently transport primary school-aged children at a capacity of three children per seat will lose maximum seating capacity. This lower seating capacity of newer buses is further pressure on school districts to retain their older buses. However, ARB believes that given the opportunity to replace older in-use buses, school districts will elect to replace their older buses with new, cleaner and more efficient school buses that better protect their student's health.

IV. LOWER-EMISSION SCHOOL BUS RETROFIT PROGRAM REQUIREMENTS

The main goal of the Lower-Emission School Bus Program is to reduce children's exposure to diesel emissions from school buses. Retrofits are a vital component of the statewide program as school buses typically remain in service for extended periods of time. Retrofitting in-use diesel school buses will result in significant diesel emission reductions that are immediate, will benefit children's health and are the most cost effective use of these funds. Because of the importance of this component of the program, the ARB has designated a total of \$29 million in funds to pay for nearly 4,000 retrofits since the program began in 2000, excluding the current bond funding.

SB 88 which establishes how the Proposition 1B funds for school buses will be allocated, gives air districts the discretion to determine how to split their funding allocations between new school bus purchases and in-use bus retrofits.

This chapter not only presents the criteria for selecting eligible school bus retrofit projects, but it also describes upcoming retrofit regulations as they pertain to school buses and potential impacts to future State funds.

A. Upcoming Retrofit Regulation

Since 1998, when diesel PM was identified as a toxic air contaminant, ARB has been developing and implementing a regulatory program focused on achieving 85 percent reduction in diesel PM emissions by 2020. To date, ARB has adopted 17 regulations that reduce both NO_x and PM from heavy-duty on- and off-road fleets, as well as, stationary engines. Following ARB's plan, the Board is tentatively scheduled to consider the Proposed Regulation to Reduce Emissions from Diesel Particulate Matter, and Other Pollutants from In-Use Heavy-Duty Diesel-Fueled Vehicles in the fall of 2008. This proposed regulation is designed to reduce both NO_x and PM emission from heavy-duty on-road private fleets, including, school buses in public and private fleets. Staff expects to propose that, the in-use fleet of school buses be required to be retrofitted with an applicable Level 2 or Level 3 verified diesel emission control strategy beginning December 31, 2010, and 100 percent of the fleet be retrofitted by the end of 2013. Below is a link to the ARB website with information on the proposed in-use on-road heavy-duty regulation <http://www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm> .

It is important for the local air districts to have a robust retrofit program in place for local school districts to retrofit applicable school buses before required by the proposed in-use heavy-duty diesel vehicle regulation. This will help assure that state funds are available to help school districts comply with the proposed rule. If these state funds are not used for retrofits, the cost of compliance with regulatory requirements will fall on school districts. The School Bus Program funding timeline, Table D-1, should be reviewed to ensure that retrofit funds are available in a timely manner.

B. Eligibility Requirements

1. Eligible Applicants

Public school districts that own their own buses are eligible to receive funding for retrofits; this also includes Joint Power Authorities (JPAs) formed by several public school districts where the JPA holds ownership of the school buses. Private school transportation providers that contract with public school districts to provide transportation services are also eligible to receive retrofit grant funding. Successful applicants must make an enforceable commitment to own and operate the retrofitted bus for at least five years.

2. Buses Eligible for Retrofit

All 1987 and eligible newer model year in-use diesel-fueled buses with current CHP safety certifications qualify for retrofits, provided there is an ARB-verified retrofit device available for the engine. However, retrofit devices may be more readily obtainable for model year buses 1994 and newer. The cost for available devices and the longer remaining project life of the 1994 and newer model year buses are important considerations when selecting which buses to retrofit. Device installers and vendors can provide assistance in this regard. Both Type I and Type II school buses may be eligible. There is not a GVWR requirement of over 14,000 pounds, however some of the ARB-verified device Executive Orders may require this in their terms and conditions. The focus is on retrofitting the highest polluting buses that can be reliably retrofitted with diesel particulate filters (DPFs)

3. Eligible Diesel Emission Control Devices – Availability, Funding Requirements & Maintenance

All retrofit devices that are purchased with State program funding must be ARB-verified Level 3 retrofit technologies. The ARB verifies diesel emission control strategies as prescribed in Title 13, California Code of Regulations (CCR) sections 2700 through 2710, Verification Procedure, Warranty and In-Use Compliance Requirements for In-Use Strategies to Control Emissions from Diesel Engines.

Level 3 verification is for those technologies achieving at least an 85 percent or greater reduction in PM or less than 0.01 g/bhp-hr emission level. A current list of all ARB-verified devices can be accessed through the ARB web site at: <http://www.arb.ca.gov/diesel/verdev/vt/cvt.htm> . The use of fuel additives is not allowed by most device Executive Orders and may only be used if expressly stated in the device's Executive Order. Retrofit technologies currently verified for school bus engines are listed in the Appendix H which is current as of January 2008. However, school districts or other implementing agencies should check this web site prior to ordering any devices for their program, as there may be changes or additions.

Amendments to the Verification, Warranty, and In-Use Compliance Procedures were adopted on March 23, 2006. This regulation raised the NO₂ limit for verified diesel emission control devices to allow continued use of most currently verified devices

through 2007, and created the “Plus” designation for verified technology that achieves more stringent NO₂ requirements. For a device to meet new compliance standards in 2009, a verified device may not increase baseline NO₂ emissions of the engine it is installed on by more than 20 percent beginning January 1, 2009. After the aforementioned date, strategies that do not meet this new compliance standard will not be for sale in California, and will not be fundable.

Some of the retrofit devices are verified for use with biodiesel blends subject to certain conditions. Those conditions are posted on the ARB web site at <http://www.arb.ca.gov/diesel/verdev/reg/biodieselcompliance.pdf> and are as listed below:

- The biodiesel portion of the blend shall be 20 percent or less of the fuel;
- The use of biodiesel applies to devices verified to reduce only diesel PM; and
- Other alternative diesel fuels such as, but not limited to, ethanol diesel blends and water emulsified diesel fuel are excluded.

Use of biodiesel blends that meet these specifications do not void the warranty for the retrofit devices verified for use with biodiesel blends. Appendix I, provides a more in depth discussion on biodiesel use with retrofits and new school bus engines.

Table IV-1 lists the engines commonly applicable to school buses and the model years that can be retrofit with a diesel particulate filter. Retrofit manufacturers include Cleaire, Donaldson, International, Johnson Matthey, and Lubrizol. More complete information on verified Level 3 retrofit devices and the engines and operating requirements for their application can be found at the ARB web site: <http://www.arb.ca.gov/diesel/verdev/level3/level3.htm> .

Table IV-1 Common School Bus Engines Eligible for Retrofit		
Engine Manufacturer	Applicable Common School Bus Engine Models(a)	Engine Model years(b)
International	DT 466, DT 466E, T444E, 7.3 L, 6.0 L	Broad applicability for 1994 – 2003. Partial availability for 1993 and 2004-2006 Limited availability for pre-1993
Caterpillar	3116, 3126, 3176, C-7	
Cummins	B3.9L, B5.9L, C8.3L, ISB, ISC	
(a) DPFs are applicable to other engine models (b) Verification as of January 28, 2008. Further verification is currently in progress to potentially include older model year engines.		

C. Cost Estimate for Retrofits

ARB will pay up to \$20,000 to cover the cost of the retrofit, necessary data logging and installation, and maintenance for the device. In most cases ARB staff expects the cost to be significantly less. These funds will cover the full cost of the retrofit since several passive diesel particulate filter systems are available for about \$9,000 and active systems are available for about \$16,000. Staff expects the passive type of system to be the most common system funded due to its broad applicability for 1994 and newer model year school buses and its relative low cost. However, active systems (requiring a plug-in for regeneration) are also available that have even greater applicability, especially for older buses. After a cost analysis, if the \$20,000 cost cap is prohibitive, districts may contact ARB staff regarding a waiver option. Waivers will be considered only on a case-by-case basis and only if a cost analysis has been performed.

1. Maintenance Costs

Within the \$20,000 retrofit funding cap, as discussed above, ARB will allow implementing agencies to allocate up to \$2,500 to pay for DPF maintenance (baking and de-ashing). This amount adequately covers anticipated maintenance costs, however; ARB expects it to be less. Hence, documentation in the form of an invoice or purchase order that states the date of maintenance, description of service performed, and cost of service must be submitted to the implementing agency to justify reimbursement of these costs.

DPF devices require periodic maintenance to remove ash caused by motor oil combustion residues. As previously mentioned, depending on the condition of the engine and number of miles driven, periodic maintenance is done every 6 to 24 months. This can be handled by a maintenance contract at the time of device purchase, periodic cleaning by an outside contractor, or cleaning by the bus maintenance personnel. If the bus maintenance personnel perform this function, either a DPF de-asher must be purchased or the DPF must be taken offsite for cleaning. The cleaning option chosen may be based on the number of DPFs to be cleaned, whether buses can be out of service while the DPF is taken off site, and the workload of the maintenance personnel. For fleets that have at least six retrofits, it is more economical for the State to pay for a de-ashing system, rather than periodic maintenance and districts are encouraged to consider this option.

A de-asher to clean retrofit filters on-site may be a cost saving option if several retrofits are in service in a district. This option should be evaluated in terms of the number of DPFs on existing buses, including all new replacement buses which come with a filter, the expected lifetime cleaning costs of the DPFs, and the cost of the de-ashing system versus the cost per cleaning. The ARB estimates a cost of \$2,500 over an expected 11-year remaining bus life based on the assumption that the DPF requires cleaning once every two years at a cost of up to \$400 per cleaning.

Implementing agencies may also use State funds to pay for spare back-up filter(s). During normal filter maintenance, retrofit devices are removed from the school bus for

several hours for cleaning and de-ashing. A back-up filter will allow the bus to continue operating during this time. This is an advantage to school districts as there will be no disruption in their ability to provide transportation to students. ARB will only allow funds to pay for one spare filter for up to twenty in-service retrofits. The average cost of a spare filter is approximately \$3,000.

With the implementation of the upcoming proposed In-Use On-Road Heavy-Duty Diesel Vehicles regulation which will essentially require DPFs be installed on all buses by the end of 2013, ARB will leave it up to the discretion of the implementing agency whether or not to pay for the cost of filter maintenance for school districts. If maintenance costs are not covered, additional DPFs will be able to be purchased and installed on more buses with available Proposition 1B funds, which will further reduce PM emissions.

2. Data Logging

Not every retrofit technology is appropriate for every school bus and every school bus route. Matching the appropriate technology to each bus and route can be accomplished by data logging the bus to determine that the exhaust gas temperatures generated during normal operation meet the regeneration requirements for the device.

To ensure that an appropriate emission control technology is installed on each bus, funding of \$300 per bus shall be included in the funded amount to cover the cost of data logging for the candidate bus operating conditions.

D. CHP Inspection Prior to Return to Service

Any school bus that has had an emission control retrofit device installed must receive a CHP safety inspection [(per Title 13, California Code of Regulations (CCR) section 1272(c)] prior to its return to service. This inspection is to determine if the retrofit device installation or other modification was performed according to the manufacturer's procedures and it is required in order to protect the school district and the children in the case of improper installation or modification.

To meet the terms of the retrofit contract, a copy of written documentation from CHP personnel that the retrofitted bus is still structurally acceptable to safely transport students is required. This should be obtained by the applicant after the CHP has conducted an inspection. The school district is required to provide documentation to the air district that consists of:

A copy of a completed CHP form 343 – Safety Compliance Report/Terminal Record Update, OR a copy of a completed CHP form 343A – Vehicle/Equipment Inspection Report Motor Carrier Safety Operations.

V. ADMINISTRATIVE RESPONSIBILITIES OF AIR DISTRICTS AND THE ARB IN IMPLEMENTING THE LOWER-EMISSION SCHOOL BUS PROGRAM

This chapter formalizes the minimum administrative requirements that the ARB and local air districts must follow to implement the Lower-Emission School Bus Program. The chapter outlines the ARB's responsibility for overall program administration and oversight, and describes the minimum administrative requirements that air districts must follow to ensure that program goals are achieved.

Because the funding for the continuation of the Lower-Emission School Bus Program comes from a voter-approved initiative (i.e., Proposition 1B), expenditures from this source are subject to both State requirements and recent mandates outlined in SB 88 and the three-part accountability structure set forth in EO S-02-07. Together, both mandates require an increase in transparency for the bond proceeds expenditure process. Hence, the chapter includes strengthened expenditure, auditing, reporting, records retention, and contract language requirements that are necessary for compliance with State requirements. The unprecedented level of State funding for this round of the Lower-Emission School Bus Program necessitates a more robust oversight process, and program improvements are a result of lessons learned through auditing conducted by the DoF and the ARB.

A. EO S-02-07

Proposition 1B funding must be spent pursuant to the requirements of EO S-02-07, which sets forth a three-part accountability structure for the expenditure of bond proceeds. The ARB's three-part accountability structure for the Lower-Emission School Bus Program consists of: 1) Front-End Accountability: Following an open public process, the Air Resources Board approved the Guidelines that address the criteria that will govern the expenditure of Proposition 1B funds, and the outcomes that such expenditures are intended to achieve. The Guidelines include funding allocations for local air districts (see Appendix B). 2) In-Progress Accountability: The ARB is required to submit semiannual reports to the DoF to ensure that the projects funded with Proposition 1B proceeds are being executed in a timely fashion and achieving their intended purposes. To facilitate data collection for these reports, implementing agencies are required to input program information into an on-line transportation bond accountability database that is being developed by the ARB. The database is expected to be operational in spring 2008. 3) Follow-up Accountability: The administrative and implementing agencies must adhere to the record keeping and documentation requirements set forth in the Guidelines, and these agencies are subject to audit.

B. SB 88

SB 88 directs the ARB to allocate Proposition 1B funds by first setting aside funds to replace the remaining 1976 and older model year school buses in California. Remaining funds are to be allocated to air districts based on each district's share of the 1977-1986 model year school bus population. After ensuring funding for replacing all pre-1977 model year buses, SB 88 provides flexibility by allowing air districts the discretion to determine how to split their remaining allocation between replacing

1977-1986 model year buses and retrofitting buses. SB 88 states that an air district will replace the oldest school buses of model year 1977 to 1986. Therefore, air districts must preferentially choose for replacement the oldest school buses within their district that have applied for replacement and that meet the terms and conditions of these guidelines. Air district funding allocations are provided in Appendix B.

In addition to setting the key allocation provisions for Proposition 1B funding for the Lower-Emission School Bus Program, SB 88 also:

- Requires recipient (also known as implementing) agencies to submit semiannual and final reports to the ARB, and requires the ARB to submit those reports to the DoF. To reduce the reporting burden on implementing agencies, the bond accountability database is designed to collect data for both bond accountability and SB 88 reporting requirements.
- Requires these Guidelines to:
 - Provide for the audit of project expenditures and outcomes;
 - Require that the useful life of the project be identified as part of the project nomination process; and
 - Require that project nominations have project delivery milestones.

C. Matching Funds

There is no match funding requirement for new buses purchased to replace pre-1977 model year school buses. This includes buses manufactured before April 1, 1977. For the replacement of 1977-1986 model year buses, a match funding requirement of \$25,000 per new bus. The ARB's Executive Officer has the authority to adjust the match requirement as necessary. Matching funds may be provided by the school district, or any other eligible source, including motor vehicle registration fee monies (e.g., Assembly Bill 923 and Assembly Bill 2766 funds) provided by the local air district.

D. Administrative Funds

An air district may use up to two percent of its total allocation of State program funding for implementation and outreach costs. In addition, air districts may use up to five percent of State program funding designated for retrofits (see Section K of this Chapter) to implement the program's retrofit component (in addition to the aforementioned two percent).

Air districts must account for administrative and project funds separately. Expenditures of Lower-Emission School Bus Program State program funding, including funds used to cover administrative costs, are subject to audit.

1. Allowable Costs

Administrative funds shall only be used for costs associated with the program implementation-related tasks outlined in these Guidelines and must be documented by

the air district. Administrative funds shall be used for Lower-Emission School Bus Program implementation and outreach, including: district staff time; consultant fees; printing, mailing, and travel costs; project monitoring and compliance expenses; and indirect costs, such as general administrative services, office space, and telephone services.

2. Required Documentation

Air districts must maintain documentation of Lower-Emission School Bus Program funds used for implementation and outreach. Districts must keep the following documentation:

- Personnel documentation must make use of timesheets or other labor tracking software. Duty statements or other documentation must be used to verify actual hours or percent of staff time devoted to Lower-Emission School Bus Program implementation and outreach.
- Consultant fees must be documented with copies of the consultant contract and itemized invoices.
- Printing, mailing, and travel expenses must be documented with receipts and/or itemized invoices.
- If travel and per diem expenses are used to document program implementation costs, allowable travel costs and per diem rates must be described in the district's Policies and Procedures Manual. District travel cost criteria must be consistent with the district's written travel policies for other district programs. Alternatively, if these definitions are included in local administrative code or other document, the district may cite the document that governs its practices in the Policies and Procedures Manual.
- Indirect cost calculation methodologies, if used to determine indirect costs of program implementation, must be fully described or referenced in the district's Policies and Procedures Manual. Districts must maintain documentation for all costs referenced in the indirect cost calculation formula.

The aforementioned documentation, records, and referenced materials must be made available for review during ARB or other State agency monitoring visits and audits. These records must be retained for the contract term plus two years.

Districts shall reconcile program and fiscal records at least twice per year.

Districts that charge unallowable costs for program implementation or outreach shall be required to substitute eligible implementation and outreach funds equal to the dollar amount found ineligible, or return the funds for the unallowable cost to the ARB.

E. Assembly Bill 923 Funds

Funds provided through Assembly Bill 923 (AB 923, Stats 2004 Ch 707) are another possible source of new school bus purchase funding. This legislation has provided a mechanism for air districts to increase the motor vehicle registration fee surcharge from four dollars to six dollars. The additional two dollar surcharge may be used by air districts for four different clean air categories, including the “new purchase of school buses pursuant to the Lower-Emission School Bus Program adopted by the state board.”²

AB 923 funds may be used to meet the match funding requirement for replacing 1977-1986 model year buses. If an air district uses AB 923 funds as the primary source of funding to replace a 1977-1986 model year bus, the air district may also cover the match funding requirement with AB 923 funds.

AB 923 requires that the purchase of school buses with AB 923 funds be pursuant to the Lower-Emission School Bus Program Guidelines; however, AB 923 funds are not subject to all of the restrictions, such as the expenditure deadlines, that apply to Lower-Emission School Bus Program State program funding. These Guidelines include provisions to cover requirements specific to 2007 Budget Act funds, as well as provisions generally applicable to all funds to be spent pursuant to the Guidelines.

AB 923 funds allocated to the purchase of new school buses are subject to these Guidelines, with the following exceptions:

- The dates in the Lower-Emission School Bus Program Timetable do not apply to AB 923 funds.
- Air districts should report expenditures of AB 923 funds, including AB 923 funds spent pursuant to the Lower-Emission School Bus Program Guidelines, through a process established within the 2008 Carl Moyer Program Guidelines.
- On a case-by-case basis, an air district may use AB 923 funding as the primary source of funding to replace a school bus that has a CHP safety certification (CHP form 292) that has lapsed in the past. In this instance, the bus must have a current CHP safety certification (CHP form 292), and the air district must make the determination that the school bus is being used regularly by the school district.

F. Assembly Bill 2766 Funds

Revenues collected from the first four dollars of the motor vehicle registration fee surcharge, authorized by the passage of Assembly Bill 2766 (AB 2766, Stats 1990 Ch 1705), are to be used for the reduction of air pollution from vehicles. These

² Assembly Bill 923, Firebaugh, Chapter 707, Statutes of 2004. Available at http://www.leginfo.ca.gov/pub/03-04/bill/asm/ab_0901-0950/ab_923_bill_20040923_chaptered.html.

revenues have been used to replace school buses, but also have greater flexibility. These funds may be used by air districts to fund the replacement of on-board fuel tanks on school buses operating on compressed natural gas (CNG), to fund retrofits, or to fund the match requirement.

G. Milestones and Timetable for State Program Funding

This section covers key program milestones, an abridged timetable (Table V-1), and describes remediation plans and reconciliation requirements, for the Lower-Emission School Bus Program. The dates listed in Table V-1 are the final dates for execution of the designated activities conducted with State program funding. The expanded timetable is provided in Appendix D.

1. Milestones

This section further describes some of the major performance milestones set forth in the expanded program timetable (Appendix D). Air districts must meet these milestones in order to demonstrate progress in meeting the goals of the Lower-Emission School Bus Program.

- Beginning on **April 30, 2008**, the ARB will make State program funds available to air districts by mailing Grant Award and Authorization Forms to air districts. An air district may begin requesting funds after its Policies and Procedures Manual (see Section K) is approved by the ARB. An air district must provide the documents listed in Section J.1 to receive its initial disbursement.
- Beginning **February 1, 2009**, when the air districts' first semiannual reports are due, ARB will perform a needs assessment to check each air district's progress and ability to implement a local program.
- By **March 1, 2009**, based upon air districts' February 1, 2009 demonstration of performance, the ARB will determine if direct implementation – that is implementation of a local program by the ARB, with CAPCOA's assistance – of additional local programs is necessary. The funds spent within each air district will be the same regardless of what organization implements the program.
- **August 1, 2009**. If an air district does not meet the milestone(s) for this date, then the air district must submit a remediation plan to the ARB.
- **February 1, 2010**. If an air district does not meet the milestone(s) for this date, then the air district must submit a remediation plan to the ARB.
- **August 1, 2010**. If an air district does not meet the milestone(s) for this date, then the air district must submit a remediation plan to the ARB.

**Table V-1
Abridged^(a) Lower-Emission School Bus Program Timetable**

Dates	Milestones
March 27-28, 2008	Board approves air district allocations and Guidelines
April 30, 2008	Funds made available to air districts
Beginning May 2008 and ongoing	<p>Initial disbursements to air districts based on readiness</p> <ul style="list-style-type: none"> • Policies and Procedures approved by ARB; previous years' funds expended by appropriate deadlines <p>Additional disbursements to air districts based on demonstrated need (i.e., 50% of funds from all previous disbursements under contract)</p> <ul style="list-style-type: none"> • Up to 65% of its total allocation through June 30, 2009 <p>ARB/CAPCOA begin direct implementation of funds, where applicable</p>
June 30, 2008	100% of funds encumbered by ARB through Grant Award and Authorization Forms
February 1, 2009	<p>First semiannual report due/performance milestone(s) (i.e., information entered into database by air district; fiscal/program reconciled; air district prints and signs report and mails it to ARB – these steps must be taken for all semiannual reports and the final report)</p> <ul style="list-style-type: none"> • Districts with pre-1977 buses: 100% of pre-1977 replacements under fully executed contracts and ordered • Districts without pre-1977 buses: 10% of retrofit funds and 10% of 1977-1986 bus replacement funds under fully executed contracts
March 1, 2009	Based upon February 1, 2009 demonstration of performance, ARB determines if direct implementation (by ARB/CAPCOA) of additional local programs is necessary
June 30, 2009	Deadline for ARB to encumber all funds
August 1, 2009	<p>Second semiannual report due/performance milestone(s)</p> <ul style="list-style-type: none"> • 50% of an air district's total allocation under fully executed contracts
February 1, 2010	<p>Third semiannual report due/performance milestone(s)</p> <ul style="list-style-type: none"> • 100% of pre-1977 bus replacements paid for and in operation • 100% of 1977-1986 bus replacement funds under fully executed contracts and buses ordered • 50% of an air district's retrofit commitment under fully executed contracts • 10% of an air district's retrofit funds spent and retrofitted buses in operation
June 30, 2010	Retrofit funding may no longer be available for school buses due to proposed In-Use On-Road Heavy-Duty Diesel Vehicles Regulation
August 1, 2010	<p>Fourth semiannual report due/performance milestone(s)</p> <ul style="list-style-type: none"> • 100% of an air district's total allocation under fully executed contracts
February 1, 2011	<p>Fifth semiannual report due/performance milestone(s)</p> <ul style="list-style-type: none"> • 25% of 1977-1986 bus replacement funds paid out • 50% of retrofit funds spent and projects in operation
April 1, 2011	All new buses delivered and infrastructure completed
June 30, 2011	<p>Deadline for full expenditure of Proposition 1B funds</p> <ul style="list-style-type: none"> • 100% of funds paid out; all projects/equipment in operation • Funds outstanding as of this date must be returned to ARB within 60 days
August 1, 2011	Final report due

(a) This table contains a brief overview of milestones. Details regarding the criteria air districts must follow to meet these milestones are provided in the expanded timetable in Appendix D and throughout this chapter of the Guidelines.

2. Remediation Plans

ARB staff will meet with non-performing districts and develop remediation plans with the objective of meeting program goals, recognizing that the situation will be different in each district.

3. Reconciliation

District Lower-Emission School Bus Program staff shall meet with the appropriate district fiscal staff at least twice per year – particularly in preparation of semiannual and final reports – to reconcile program funds.

H. Implementation Options

There are three options for implementation of the Lower-Emission School Bus Program:

- Self-implementation by an air district
- Regional implementation by a neighboring air district
- Implementation by the ARB with assistance from CAPCOA

The funds spent within each air district will be the same regardless of what organization implements the program. In air districts for which the ARB implements the Lower-Emission School Bus Program, CAPCOA will assist with outreach to school districts and will assist school districts with the application process.

I. Funding Agreements/Awards to Implementing Agencies

The ARB staff will initiate grant award agreements for State program funds:

- With air districts that will implement the Lower-Emission School Bus Programs in their respective regions.
- With school districts directly in air districts that do not implement the Lower-Emission School Bus Program.

Eligible school districts shall be contacted by the air district, ARB, or the CAPCOA and asked to apply for State program funds.

J. Fund Disbursement to Air Districts

An air district will not receive any disbursements if it has unexpended (i.e., not paid out) State program funds from any fiscal years (FY) prior to the 2005-2006 FY. The air district must either demonstrate that those funds have been paid out, or must return the previously unused funds to the ARB.

Beginning July 1, 2008, air districts that have unexpended funds from the 2005-2006 FY will not be able to receive any disbursements until those funds have been paid out or returned to the ARB.

1. Initial Disbursements

The air districts shall provide the following documents in order to receive their initial disbursements:

- The grant agreement, provided by the ARB, signed by an air district official with fiscal authority.
- A resolution from the air district governing board (or other documentation signed by a duly authorized official) that authorizes the air district to accept the funds.
- A Policies and Procedures Manual (a complete Policies and Procedures Manual must be submitted to and approved by the ARB, in writing, before a district is eligible to receive its initial funding disbursement; required contents are described in Section K of this chapter)
- A Grant Disbursement Request. The Grant Disbursement Request form must be signed by an air district board-authorized party. If there are stipulations on the Grant Award and Authorization form, all stipulations must be met prior to submitting the initial disbursement request.
- Documentation described in Section Q.1 (Documentation of Expenditure of Previous Grant Awards) of this chapter, if this documentation has not already been submitted.

Initial disbursements will be made to air districts based on their readiness. For its initial disbursement, an air district should request:

- 100 percent of the allocation designated for replacing pre-1977 model year buses, if applicable; and
- 10 percent of the remainder of the allocation; and
- 50 percent of its administrative funds. Air districts will receive one check for both administrative and project funds. However, air districts must account for the administrative and project funds separately.

An air district may receive up to 65 percent of its total allocation through June 30, 2009.

2. Additional Disbursements

Additional disbursements will be made to air districts based on demonstrated need, i.e., at least 50 percent of funds from all previous disbursements must be under contract. For additional disbursements of Lower-Emission School Bus Program State program funds, air districts must submit a Grant Disbursement Request and provide documentation (i.e., copies of fully executed contracts) that 50 percent of the funds from all previous disbursements are under contract.

An air district may request the other half of its administrative funds when 50 percent of the funds in its full Lower-Emission School Bus Program allocation have been committed. The air districts will again receive one check for both administrative and project funds and must account for the administrative and project funds separately.

K. Policies and Procedures Manual

As a prerequisite for receiving the initial funding disbursement, an air district must submit a Lower-Emission School Bus Program Policies and Procedures Manual to the ARB. The manual must describe the district's policies, procedures, and organizational structure for the Lower-Emission School Bus Program. The submitted manual shall apply to the current funding cycle. A complete Policies and Procedures Manual must be submitted to and approved by the ARB, in writing, before a district is eligible to receive its initial funding disbursement. The Policies and Procedures Manual must include, at a minimum:

1. Retrofit Implementation Plan

As an air quality agency, the ARB recognizes that retrofits are an efficient and cost effective means of reducing PM emissions. State program funding for new buses has been well-received and oversubscribed in the past, while greater effort is needed to spend retrofit funds. However, the positive public health impact of State program funding is greater for funds spent on retrofitting in-use diesel buses. Each in-use diesel bus that is retrofitted with a Level 3 diesel particulate filter emits 85 percent less toxic PM. This strategy provides the most cost-effective air quality benefit, since a retrofit costs about 10 percent of the purchase price of a new bus.

The retrofit implementation plan must include the air district's commitment of funds – as a percentage of the amount left over after funds are allocated for replacing pre-1977 model year buses – for equipping in-use buses with ARB-verified Level 3 diesel emission control retrofit devices. The ARB strongly recommends 25 percent. In addition, the air district must describe the steps that it will take to remedy the situation if it falls short of any retrofit-related performance milestones.

2. Air District's Commitment to 1977-1986 Model Year School Bus Replacements

The air district must describe its commitment of funds for replacing 1977-1986 model year school buses. In addition, the air district must describe its process for selecting and awarding funds to replace 1977-1986 model year buses (see Section N of this chapter), and under what conditions air district funds will be used to provide match funding, if applicable. SB 88 states that an air district will replace the oldest school buses of model year 1977 to 1986. Therefore, air districts must preferentially select for replacement the oldest school buses within their district that have applied for replacement and that meet the terms and conditions of these guidelines.

3. Description of Local Program Components

The Policies and Procedures Manual must contain a description of the air district's day-to-day process for implementing the Lower-Emission School Bus Program, as well as the following components:

- Program structure and organization, including coordination with the ARB

- Process for applying for funds from and accepting funds from the ARB
- Project solicitation, evaluation, and selection (including schedule for program implementation)
- Environmental justice (if applicable)
- Fund commitment and expenditure
- Fiscal practices and procedures for payments, interest, and reconciliation
- Project reports
- Contract components and contracting process with applicants
- Invoice review, approval, and payment protocols
- District audits of projects
- Details regarding program components identified in the Administrative Funds section of this chapter

L. Implementing Agencies' Lower-Emission School Bus Program Notification of School Districts

Implementing agencies (air districts or ARB/CAPCOA) shall notify school districts of opportunities to participate in the Lower-Emission School Bus Program. The ARB will monitor the ongoing implementation of both program components and assist the implementing agencies where needed. ARB district liaisons will review semiannual reports, provide technical assistance, and attend outreach events.

1. Outreach

Outreach prior to and during the time frame of program notification is critical for the success of a local program. The implementing agencies should focus their outreach in a way that encourages applications from all school districts, including environmental justice communities and rural districts. Below are brief descriptions of the types of practices that might be included as part of an implementing agency's outreach activities. If possible, implementing agencies should employ all of the following practices.

(a) List of School Districts

Implementing agencies should maintain a list of school districts within their respective regions and the contact information for the school bus fleet maintenance personnel. A notification should be mailed to the contacts on the list when funds are available.

(b) Local Newspaper Announcement

Implementing agencies are encouraged to put an announcement in local newspapers and in appropriate local newsletters.

(c) Web Site Notification

If an implementing agency has a web site, the Lower-Emission School Bus Program opportunity notice should be advertised on the implementing agency's web site. If the implementing agency has a newsletter, the Lower-Emission School Bus Program opportunity notice should be advertised in the implementing agency's newsletter.

(d) Site Visits and Workshops

Implementing agencies are encouraged to conduct site visits or telephone conference calls with school districts, particularly to advise them of the opportunity to participate in the retrofit component of the program. Implementing agencies are also encouraged to hold pre- and post-award funding workshops.

M. Higher-Risk Communities, Including Environmental Justice Communities

It is important that school bus projects funded through the Lower-Emission School Bus Program benefit all communities of California, particularly those disproportionately affected by air pollution. Health and Safety Code (HSC) section 43023.5 requires air districts with a population of one million residents or greater to ensure that not less than 50 percent of the funds appropriated by the State Legislature for programs for the purchase of reduced-emissions school buses “are expended in a manner that directly reduces air contaminants or reduces the public health risks associated with air contaminants in those districts, including, but not limited to, airborne toxics and PM, in communities with the most significant exposure to air contaminants or localized air contaminants, or both, including, but not limited to, communities of minority populations or low-income populations, or both.” The ARB, CEC and local air districts have worked cooperatively to implement this requirement affecting State funding appropriations within the Lower-Emission School Bus Program beginning in 2001, when the statute first went into effect.

For the State program funds now available for the Lower-Emission School Bus Program, the Legislature has directed that the funds be allocated following the criteria set forth in SB 88. That legislative directive takes precedence over environmental justice criteria for Lower-Emission School Bus Program State program funding. For AB 923 funding, and for other air district funding, the ARB encourages air districts to consider environmental justice; therefore, a discussion of environmental justice criteria follows.

While HSC 43023.5 affects only State funding appropriations, the ARB encourages air districts to expend their local AB 923 funds dedicated to new school bus purchases, and other local funds used for new school bus purchases, in a manner consistent with the HSC provision.

To assist air districts in their efforts to focus funds for new school bus purchases in communities pursuant to HSC 43023.5, the ARB has developed recommended criteria for use in the Lower-Emission School Bus Program. While the ARB recognizes that communities disproportionately affected by air pollution are not limited to low-income communities and/or communities of color, the ARB-recommended criteria use the percentage of students within a public school district participating in the free and reduced-lunch meal program as a consistent statewide method to identify schools in which to target funds for new school bus purchases. Alternatively, air districts may

develop different criteria, in consultation with ARB staff, to identify communities in which to focus funds for new school bus purchases.

N. Process of Making Awards to Successful Applicants

The implementing agency (air district or ARB/CAPCOA) shall contact all school districts in its respective region. The implementing agency shall determine the application due dates necessary to complete the program according to the expanded program timetable in Appendix D. School districts desiring to replace or retrofit buses must submit an application to the implementing agency by the date(s) determined by the implementing agency.

Buses shall be replaced following the allocation criteria set forth in SB 88. SB 88 states that an air district will replace the oldest school buses of model year 1977 to 1986. Therefore, air districts must preferentially choose for replacement the oldest school buses within their district that have applied for replacement and that meet the terms and conditions of these guidelines. The implementing agency will review the application for completeness and eligibility and award grants through a process that must be described in an air district's Policies and Procedures Manual. The implementing agency must retain documentation of its implementation of that process. School districts shall be notified by mail after awards are approved by the implementing agency.

Applicants for retrofit funding must complete an application for Lower-Emission School Bus Retrofit Program grant money and submit it to their local implementing agency. The implementing agency shall review the application for completeness and eligibility and make grant awards. Applicants shall be notified by mail after awards are approved by the implementing agency.

Staff at the implementing agency shall prepare funding agreements that set forth the terms, conditions, and reporting requirements for each grant. No funds will be released until the school district and the implementing agency have signed the funding agreement.

Implementing agency staff shall notify the ARB when retrofit funding availability is announced and when retrofit funds are released so that ARB may notify CHP of the bus modifications. In practice, this means that when an implementing agency sends out a Lower-Emission School Bus Program opportunity notice to school districts and private transportation contractors to inform them that retrofit funds are available, the air district must send a copy of the opportunity notice to ARB staff. Opportunity notices are often in the form of a program announcement and application package, request for proposal, request for application, etc. In addition, when an implementing agency makes an award of Lower-Emission School Bus Program retrofit funds, the implementing agency must inform ARB of the amount and recipient of the award.

1. Applications

Applicants must sign and date applications.

(a) New School Bus Purchase

Air districts must ensure that project applications include the specific information needed to populate the bond accountability database (See Appendix J) and collect the following information:

For each bus that will be replaced:

- Copy of bus registration
- Total mileage
- Mileage for last school year
- Copy of the Inspection Approval Certificate (CHP form 292) that shows that it has been continuously certified as of December 31, 2005.
- Method of bus disposal

For each new bus that will be purchased:

- Assumed date of delivery
- Engine horsepower
- Availability of refueling capability and delivery of fuel by bus delivery date
- Source of any match funding
- If requesting alternative fuel and electric infrastructure funding: demonstrated need based on accessibility of off-site station; cost of CNG slow-fill equipment; cost of recharging station.

Air districts must also ensure that project applications inform applicants that for the purchase of new school buses to replace buses of any eligible model year, the liquidated damages clause set forth in Appendix C: Minimum Contract Requirements of these Guidelines must be included in the terms and conditions of the purchase order agreement between school districts and school bus distributors.

Grant applications must include a resolution from the school district governing board (or a duly authorized official with authority to make financial decisions) authorizing the submittal of the application and identifying the individual authorized to implement the bus replacement project.

(b) School Bus Retrofit

Air districts must ensure that project applications include the specific information needed to populate the bond accountability database (see Appendix J) and collect the following information:

For each bus that is to receive a diesel emission control retrofit device:

- Engine horsepower

Grant applications must include a resolution from the school district governing board (or a duly authorized official with authority to make financial decisions) authorizing the submittal of the application and identifying the individual authorized to implement the retrofit project.

(c) Application Tracking

Implementing agencies must have a system for tracking applications. At a minimum, the tracking system shall include the name and address of the bus owner, whether the application is in regard to a bus replacement or retrofit, and the model year of the bus to be replaced or retrofitted. The implementing agency shall also maintain a copy of each application and a file for each selected project. The tracking system must be retained and made available at the time of an audit.

2. How Awards are Made

Applicants will be notified by mail after awards are approved by the implementing agency. Staff at these agencies shall prepare funding agreements that set forth the terms, conditions, and reporting requirements for each grant.

The payment schedule shall be established in the funding agreement. No funds shall be released until the applicant and the implementing agency have signed the funding agreement. In general, payment will be made as purchase costs are incurred and documentation is provided to the implementing agency. For new buses, proof of new vehicle delivery and dismantling of the replacement vehicle must be provided before payment is made by the implementing agency. For retrofitted buses, a copy of a completed CHP form 343 – Safety Compliance Report/Terminal Report Update, OR a copy of a completed CHP form 343A – Vehicle/Equipment Inspection Report Motor Carrier Safety Operations must be provided before payment is made by the implementing agency.

Applicants can only be reimbursed for project costs incurred on or after the date of approval by the implementing agency. The implementing agency will not fund, nor be liable for any portion of, an applicant's cost of preparing and submitting an application.

If the implementing agency issues payment for equipment to vendors, then the implementing agency shall issue payment for equipment to vendors pursuant to the requirements of section 41200, et seq. of the California Education Code (California Proposition 98), to minimize the financial impacts to schools.

3. Reporting Requirements and Records Retention

Implementing agencies will be required to input program information into an on-line transportation bond accountability database that is being developed by the ARB to facilitate compliance with EO S-02-07. The database is expected to be operational in spring 2008.

(a) Reports Submitted to Implementing Agencies

All school districts must report to the appropriate implementing agency upon ordering and delivery of bus(es), and contracts let for, and completion of, any funded alternative fuel or electric infrastructure funded by State monies. In addition, upon ordering a new bus, a school district must obtain from the school bus distributor a purchase order and a copy of the ARB certification Executive Order for the engine of the bus in the purchase order. Then the school district must submit copies of the purchase order and Executive Order to the implementing agency. The implementing agency must review the purchase order and Executive Order to ensure that the new bus will meet the minimum replacement bus requirements (see chapter titled “Lower-Emission School Bus Replacement Program Requirements”) and that the purchase order includes the liquidated damages language set forth in Appendix C: Minimum Contract Requirements. Any other requirements implemented by the implementing agency must be specified in the funding agreements with school districts.

All participating school districts and private transportation contractors must report to the implementing agency upon ordering, delivery, installation, and CHP inspection of diesel emission control retrofit devices. Any other requirements by the implementing agency will be specified in the funding agreements with successful applicants.

(b) Reports Submitted to the ARB

SB 88 requires the ARB to require recipient (also known as “implementing”) agencies to submit semiannual progress reports and a final report to the ARB. The ARB must forward those reports to the DoF. Reports must be submitted (i.e., entered into the bond accountability database, printed, signed, and mailed) by the dates listed in Table V-1 and Appendix D. Reports must be signed and dated by the air district’s Air Pollution Control Officer and Chief Financial Officer.

Reports must be mailed to:

**Attn: Lower-Emission School Bus Program, Mail Stop 7B
Air Resources Board
P.O. Box 2815
Sacramento, CA 95812**

To reduce the reporting burden on implementing agencies, the bond accountability database is designed to collect data for both bond accountability and SB 88 reporting requirements. Information that must be reported to the ARB is set forth in Appendix J.

(c) Records Retention

Records must be retained by implementing agencies and applicants for the contract term plus two years. Lists of records that must be retained by implementing agencies and applicants are provided in Appendix E.

O. Liquidated Damages for Late Delivery of School Buses

The ARB will hold liable for liquidated damages the business entity responsible for a delay that results in the failure to deliver program-funded school buses to school districts by February 1, 2010 (for pre-1977 model year bus replacements) or April 1, 2011 (for 1977-1986 model year bus replacements). Specifically, the liquidated damages will be in the amount of \$100 per day per bus for each day a bus is delivered after February 1, 2010 (for pre-1977 model year bus replacements) or April 1, 2011 (for 1977-1986 model year bus replacements). The purpose of charging liquidated damages is to ensure a level playing field for all business entities that stand to profit from the sale of program-funded school buses, to minimize any potential risks to school districts, and to forestall delays in achieving emission benefits. Implementing agencies must review school districts' purchase orders for new buses to ensure that the purchase orders include the liquidated damages clause set forth in Appendix C: Minimum Contract Requirements of these Guidelines.

For the air districts that self-implement the program, the liquidated damages will be administered through a withhold by the ARB of five percent of the total grant fund award to each air district until after April 1, 2011. Upon confirmation by each air district that all program-funded buses have been delivered to school districts by April 1, 2011, the ARB will immediately release the remaining five percent of their respective grant awards to each air district. For each bus delivered late, the air districts shall reduce the grant payment to either the school bus distributor or the school district (depending on the contract arrangements for the payment of bus purchase orders) by \$100 per day per bus for each day a bus is delivered after the applicable deadline. The ARB will retain an amount equal to the calculated liquidated damages from the applicable air district's grant withhold. Upon confirmation of final bus delivery to the school districts, the ARB will then release the remaining grant award balance, if any, to the air district.

Any funds generated through the collection of liquidated damages will be used to augment program funding on a statewide basis.

P. Minimum Contract Requirements

All implementing agencies must enter into contracts with applicants that include minimum contract requirements. The summary provided below in Table V-2 is an overview of, not a substitute for, the complete description of minimum contract requirements provided in Appendix C. Each implementing agency shall draft contracts in consultation with the implementing agency's legal staff. Applicants must incorporate the minimum contract requirements, that are applicable to the specific project, in purchase order agreements with vendors.

Table V-2 Overview of Minimum Contract Requirements^(a)	
Project Milestones Party Names and Dates Enforcement On-Site Inspections, Audits, and Records Retention Notices Contract Term Project Specifications Funding Caps Invoices Payment	Disposal of Replaced Buses Assumed Date(s) of Delivery New Bus Purchase Delivery Deadlines and Liquidated Damages Infrastructure Deadline Requirement for CHP Safety Inspection After Retrofit Ownership and Operation Maintenance Fuel Additives Non-Compliance Terms
(a) This table is a summary of, not a substitute for, the complete description of minimum contract requirements provided in Appendix C.	

The contract must be fully executed and the project milestones (e.g., delivery, installation, final inspection, and acceptance) shown in the contract must be met before Lower-Emission School Bus Program funds are provided to the vendor.

Q. Accountability and Reporting

As discussed at the beginning of this chapter, a number of elements, including State mandates, record-high funding, and lessons learned, necessitate more robust oversight of the Lower-Emission School Bus Program. This section covers commitment and expenditure of previous grant awards; commitment and expenditure of current State program funding; the project completion deadline; unexpended State program funding; and calculating, tracking, reporting, and expending earned interest.

1. Documentation of Expenditure of Previous Grant Awards

(a) Retrofits

Air districts that have previously been awarded Lower-Emission School Bus Program retrofit funds must have submitted, or submit with the initial disbursement request document package, documentation of the status of all previous years' retrofit funds. This documentation must, at a minimum, include the following:

- Names and addresses of the applicants that received the funds
- Number of buses retrofitted
- Manufacturer and make of the retrofit device
- Expenditure for each retrofit
- Total expenditure
- Documentation that funds have been committed through fully executed contracts, i.e., copies of executed contracts

- Documentation that funds have been expended, e.g., copies of checks, remittance letters, receipts, etc. Invoices must be sent, and they must be accompanied by some form of proof of payment.

(b) Bus Replacement

Air districts that have previously been awarded Lower-Emission School Bus Program bus replacement funds must have submitted, or submit with the initial disbursement request document package, documentation of the status of all previous years' bus replacement funds. This documentation must, at a minimum, include the following:

- Names and addresses of the school districts that received the funds
- Number of buses replaced
- Model year, manufacturer, and fuel type of each new bus funded
- Expenditure for each new bus
- Location and type of infrastructure funded
- Expenditure for each infrastructure project/installation funded
- Total expenditure
- Documentation that funds have been committed through fully executed contracts, i.e., copies of executed contracts
- Documentation that funds have been expended, e.g., copies of checks, remittance letters, receipts, etc. Invoices must be sent, and they must be accompanied by some form of proof of payment.

2. Expenditures

A Lower-Emission School Bus Program grant award is not considered to be fully expended until all of the funds in the grant award have been paid out by the implementing agency by paying invoices associated with approved projects. The final deadline for full expenditure of Lower-Emission School Bus Program State program funds, including funds that are designated for the purchase of re-fueling infrastructure, is June 30, 2011. Any funds in the grant award that are not expended (paid out) by this date must be returned to the ARB. Any State program funding outstanding (i.e., has not been paid out) as of June 30, 2011 must be returned to the ARB within 60 days.

(a) Invoices

An itemized invoice for a project must be received by the implementing agency before payment may be made. A project invoice must include enough detail to ensure only eligible project costs are being paid for, yet clear and concise enough to be understandable. The air district or ARB shall review the itemized invoice and only pay for eligible expenses.

3. Earned Interest

The air district shall track and report to the ARB the amount of interest earned on State program funds held in air district accounts beginning immediately after receipt of State program funds from the ARB.

The interest income shall be used to fund projects or administrative expenses that comply with these Lower-Emission School Bus Program Guidelines.

(a) Calculation of Earned Interest

Air districts must maintain accounting records (e.g., general ledger) that track interest earned on and expenditures of Lower-Emission School Bus Program State program funds.

- The ARB strongly encourages implementing agencies to maintain their Lower-Emission School Bus Program State program funds in a segregated account.
- If an air district maintains its Lower-Emission School Bus Program State program funds in a non-segregated account, then the air district shall maintain accounting records that first separate Lower-Emission School Bus Program State program funds from other funds administered by the air district, and then further separate interest earned on Lower-Emission School Bus Program State program funds and the related expenditures of that earned interest.
 - The calculation of interest shall be based on an average daily balance or some other reasonable and demonstrable method of allocating the proceeds from the fund back into the program.
 - Each district's methodology for calculating Lower-Emission School Bus Program State program fund interest shall be consistent with how it calculates earned interest for its other fiscal programs.
- Earned interest must be tracked such that it is separately identifiable from other State program funds.

(b) Expenditures for Program Implementation

A district may use up to two percent of earned interest for program administrative costs. This applies whether or not a district segregates its Lower-Emission School Bus Program funds into project and program administration accounts.

(c) Documentation Retention

Documentation of earned interest generation and expenditure shall be retained for a minimum of the contract term plus two years.

(d) Expenditure Deadline

Because all Lower-Emission School Bus Program State program funds must be fully expended by June 30, 2011, interest earned on those funds must also be fully expended by this deadline. Earned interest that is not fully expended by June 30, 2011, must be returned to the ARB within 60 days from the deadline.

(e) Reporting Earned Interest Projects to ARB

Implementing agencies must report to the ARB on the amount of earned interest accumulated on Lower-Emission School Bus Program State program funds. Implementing agencies must also report to the ARB on projects and administrative costs funded with earned interest.

R. ARB Audit of Air Districts

The California Air Resources Board is responsible for overseeing State-funded emission reduction incentive programs such as the Lower-Emission School Bus Program and the Carl Moyer Program. As part of such oversight, ARB has the responsibility and authority to conduct audits (Health and Safety Code §44291 and §39500). ARB's audits of air districts' Lower-Emission School Bus Programs are typically performed in conjunction with audits of districts' Carl Moyer Programs. This maximizes audit efficiency and minimizes the burden on the districts. Such audits are designed to ensure that district incentive programs achieve expected emission reductions and are implemented in a manner consistent with program guidelines and State law. Besides identifying program deficiencies, audits are also designed to provide ARB with a mechanism for identifying the strengths of district programs. ARB's specific audit procedures are described in more detail in the Carl Moyer and School Bus Program Auditing Policies and Procedures Manual.

Oversight and auditing of expenditures of AB 923 funds, including AB 923 funds spent pursuant to the Lower-Emission School Bus Program Guidelines, will be conducted through the process described in the 2008 Carl Moyer Program Guidelines.

1. ARB's Audit Schedule

ARB's audit schedule for the Lower-Emission School Bus Program is largely driven by the audit schedule for the larger Carl Moyer Program, although risk factors for the Lower-Emission School Bus Program are considered when prioritizing districts to audit. It is appropriate to audit both programs under the same schedule for several reasons. First, there is significant overlap in the districts that implement the Carl Moyer and Lower-Emission School Bus Programs; the districts that have historically implemented the Lower-Emission School Bus Program are a subset of the districts that have implemented the Carl Moyer Program. Also, the allocation of State funds for both programs tends to be greatest for the large districts. Accordingly, ARB shall audit a sufficient number of districts each year – commensurate with approximately 10 percent of Carl Moyer Program funds – to ensure proper program implementation. The frequency of district audits is as follows:

- Large districts will be audited at least once every four years.
- Medium districts will be audited at least once every six years.
- Small districts will be audited at least once every eight years.

To ensure objectivity and the efficient use of resources, ARB shall use a risk-based approach to select specific districts for audit during a given year and to select specific

district projects to audit. Consistent with this approach, districts that demonstrate good performance when audited will likely be audited less frequently in the future than similarly-funded districts with poorer audit results.

2. ARB's Responsibilities During an Audit

Audits shall be conducted in a manner that reflects the public responsibility and accountability entrusted to ARB. ARB shall maintain open channels of communication with the district under audit. ARB's audit procedures contain a number of provisions to enable open communications. Such provisions include fully explaining the audit's scope and procedure at the beginning of the process, discussing preferred channels of communication with the district, informing the district of potential issues as they unfold, affording numerous opportunities for district input throughout the audit, thoroughly discussing any findings and recommendations with the district during the exit interview, and allowing the district an opportunity to formally respond to the audit report.

To ensure objectivity and predictability, ARB shall base its findings and recommendations on materials such as State law, ARB's Program Guidelines and Advisories, Program Grant Award and Authorizations, e-mail communications between ARB and the district, a district's Policies and Procedures Manual, and a district's local requirements.

All audit reports, district responses, and related documents shall be readily available to the public.

ARB shall conduct sufficient follow-up activities, including assisting districts and conducting follow-up reviews, to ensure that any identified deficiencies are promptly and effectively rectified.

3. Air Districts' Responsibilities During an Audit

Districts shall ensure that program files and other requested information are readily available to audit staff. In addition, district management shall, at a minimum, participate in the entrance and exit interviews and shall ensure that district staff is cooperative with audit staff. District staff shall communicate fully with audit staff and with district management throughout the course of an audit. Districts shall make every effort, including requesting assistance from ARB if necessary, to ensure that identified deficiencies are promptly and effectively rectified. Districts shall report on their progress at specified intervals.

S. Audits Conducted by the DoF

The Lower-Emission School Bus Program is also subject to audit by the DoF as part of the three-part accountability structure set forth in EO S-02-07, which increases transparency in the bond proceeds expenditure process. For more information, visit the Strategic Growth Plan Bond Accountability Web site at <http://www.bondaccountability.ca.gov/>.

DoF may audit at both the State and local air district levels.

Appendix A

Glossary of Administrative Terminology

Appendix A Glossary of Administrative Terminology

This appendix provides definitions of terms that are used throughout these Guidelines.

Administrative agency/Administering agency. The California Air Resources Board.

CAPCOA: The California Air Pollution Control Officers Association.

Commitment of Funds. Funds are considered to be committed to a project when the air district officially selects an eligible project for funding through any of the following actions:

- The air district's governing board approves a project for funding through a resolution, minute order, letter, or other written instrument, or
- The district's Air Pollution Control Officer or other governing board-authorized representative sends the successful applicant a project offer letter, or
- The contract between the implementing agency and the school bus owner is fully executed.

Contract. A contract, grant, or other legally binding and enforceable agreement used by an air district, the ARB, or an applicant to commit and expend funds for a project funded through the Lower-Emission School Bus Program.

Dismantle. To punch, crush, stamp, hammer, shred, or otherwise render permanently and irreversibly incapable of functioning as originally intended, any vehicle or vehicle part.

Equipment. Equipment includes, but may not be limited to, buses, associated refueling infrastructure for alternative-fueled buses, and diesel emission control retrofit devices.

Expend. An implementing agency expends funds from a grant award by paying invoices associated with approved projects.

Fully executed contract. A fully executed contract is one that has been signed and dated by all parties to the contract.

Fully executed Grant Award and Authorization Form. A fully executed Grant Award and Authorization Form is one that has been signed and dated by all parties to the Grant Award and Authorization Form.

Fully expend. A Lower-Emission School Bus Program grant award is considered to be fully expended when all of the funds in the grant award have been paid out by the implementing agency by paying invoices associated with approved projects.

Grant Award and Authorization Form. A Grant Award and Authorization Form is a legally binding and enforceable agreement initiated by the ARB to consign funds for a project funded through the Lower-Emission School Bus Program. This document is sometimes referred to as a grant award agreement, grant agreement, or grant award.

Implementing agencies. Local air districts, and in some instances, the California Air Resources Board.

Order. To obtain a purchase order.

Project. “Project” includes equipment purchase, equipment installation, data logging of buses that are candidates to receive diesel emission control retrofit devices, and associated maintenance of diesel emission control retrofit devices.

Proposition 1B. Proposition 1B, approved by California voters on November 7, 2006, enacts the Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act of 2006, which authorizes \$200 million for replacing and retrofitting school buses throughout California.

Spend. Expend.

State program funds/State program funding. Funds that were appropriated to the ARB, through the 2007 Budget Act, for the administration of the Lower-Emission School Bus Program. Source of funding: Proposition 1B.

Appendix B

Air District Funding Allocations

Appendix B Air District Funding Allocations

This appendix describes the amount of funding that is available, explains how bus populations were estimated, and provides the funding allocations.

A. Amount of Funds

Proposition 1B provides \$200 million for school bus retrofit and replacement to reduce air pollution and to reduce children's exposure to diesel exhaust. From these funds, about \$7 million were set aside for bond financing costs, and the State Legislature has appropriated \$193 million in the 2007-2008 fiscal year (FY) budget to the California Air Resources Board (ARB or Board) for the Lower-Emission School Bus Program. SB 88 allows the ARB to use up to five percent for program administration; however, the ARB will use less than one percent – about \$1,620,000 – for program administration. This leaves \$191,380,000 available to be spent in local air districts (see Table B 1).

B. Funding Allocation

Funding allocations are provided below in Table B-1. These allocations reflect the allocation provisions set forth in SB 88, and are also based on estimates of school bus populations that are described in Section 1 below. When determining the allocations, staff assumed a cost of \$140,000 to replace a pre-1977 MY bus.

1. Estimates of Bus Populations

The populations of buses eligible for replacement under the Lower-Emission School Bus Program were estimated based on information in the 2005 California Highway Patrol (CHP) school bus safety certification database supplemented by information from surveys collected from public school districts operating some 1986 and older MY school buses. When trying to determine replacement eligibility, staff chose school buses owned by public schools and joint powers authorities (JPA), with greater than 14,000 pounds gross vehicle weight rating (GVWR), that were still in the fleet, and having recent CHP safety certifications, if these data were available. Because not all buses had GVWR information in the database, staff also selected for seating capacity, assuming that a bus seating greater than 19 had a greater than 14,000 pounds GVWR. In the 1977-1986 MY bus population, staff included buses not surveyed, thereby potentially including ineligible buses.

With current funding, the ARB projects that over 1,100 new buses will be purchased to replace pre-1987 MY public school buses – all eligible remaining pre-1977 MY buses and about 40 percent of eligible 1977-1986 MY buses. ARB staff estimates that fewer than 100 pre-1977 public school buses are still in operation. Appendix F contains a list of pre-1977 MY public school buses that are eligible for replacement. ARB staff estimates that about 2,700 1977 through 1986 MY buses are still operating in California by public school districts. The funding allocation in Table B-1 was developed using the aforementioned bus population estimates and conform to the allocation requirements set forth in SB 88.

**Table B-1
Lower-Emission School Bus Program Funding Allocations**

Larger Air Districts	Population as of January 2008	Estimated Populations as of October 2007		Total Allocation (Incl. Admin)
	Pre-1977 Population	1977-1986 Population	Percent of 1977- 1986 Population	
Bay Area	4	118	4.34%	\$8,400,000
Monterey	8	90	3.31%	\$7,100,000
Sacramento	1	134	4.93%	\$9,100,000
San Diego	2	80	2.94%	\$5,600,000
San Joaquin Valley	10	567	20.85%	\$39,150,000
South Coast	9	1034	38.03%	\$70,100,000
Ventura	4	66	2.43%	\$5,000,000
Subtotal	38	2089	77%	\$144,450,000
Small and Medium Air Districts (includes remaining 28 air districts)				
	Pre-1977 Population	1977-1986 Population	Percent of 1977- 1986 population	Total Allocation (Incl. Admin)
Amador	0	1	0.04%	\$140,000
Antelope	0	18	0.66%	\$1,200,000
Butte	4	31	1.14%	\$2,600,000
Calaveras	0	16	0.59%	\$1,100,000
Colusa	0	8	0.29%	\$500,000
El Dorado	0	32	1.18%	\$2,100,000
Feather River	3	26	0.96%	\$2,200,000
Glenn	0	7	0.26%	\$470,000
Great Basin	0	11	0.40%	\$700,000
Imperial	3	33	1.21%	\$2,600,000
Kern	4	13	0.48%	\$1,400,000
Lake	0	29	1.07%	\$1,900,000
Lassen	0	9	0.33%	\$600,000
Mariposa	0	18	0.66%	\$1,200,000
Mendocino	3	23	0.85%	\$1,950,000
Modoc	0	7	0.26%	\$470,000
Mojave	3	44	1.62%	\$3,300,000
North Coast	1	44	1.62%	\$3,100,000
Northern Sierra	5	23	0.85%	\$2,200,000
Northern Sonoma	0	9	0.33%	\$600,000
Placer	2	36	1.32%	\$2,700,000
San Luis Obispo	0	29	1.07%	\$1,900,000
Santa Barbara	1	22	0.81%	\$1,600,000
Shasta	3	54	1.99%	\$4,000,000
Siskiyou	1	21	0.77%	\$1,500,000
Tehama	0	19	0.70%	\$1,300,000
Tuolumne	3	19	0.70%	\$1,700,000
Yolo-Solano	0	28	1.03%	\$1,900,000
Subtotal	36	630	23%	\$46,930,000
TOTAL STATEWIDE	74	2719	100%	\$191,380,000

Appendix C

Minimum Contract Requirements

Appendix C Minimum Contract Requirements

All implementing agencies participating in the Lower-Emission School Bus Program must incorporate minimum contract requirements in contracts entered into with applicants that have been selected to receive funds under the Lower-Emission School Bus Program. Each implementing agency shall draft contracts in consultation with the implementing agency's legal staff. Applicants must incorporate the minimum contract requirements, that are applicable to the specific project, in purchase order agreements with vendors.

This appendix contains the complete description of the minimum contract requirements that are summarized in Table V-2: Overview of Minimum Contract Requirements.

A. Project Milestones

All contracts shall include project milestones.

B. Party Names and Dates

All contracts shall state the name of the implementing agency and the applicant as parties to the contract. Contracts shall include signature blocks with an area for the dates that the contract is signed.

C. Enforcement

All contracts shall also state that, in addition to enforcement by the air district, the ARB, as an intended third party beneficiary, reserves the right to audit and enforce the terms of the contract at any time during the contract term plus two years.

D. On-Site Inspections, Audits, and Records Retention

All contracts shall include language that allows the air district, the ARB, the California DoF, or their designated representative the right to review and to copy any records and supporting documentation pertaining to the performance of the contract – this includes programmatic and fiscal records and documentation. The applicant shall agree to maintain such records for possible audit for a minimum of the contract term plus two years. The applicant shall agree to allow the auditor(s) access to such records during normal business hours and to allow interviews of any employees who might reasonably have information related to such records. Further, the applicant agrees to include a similar right of the State to audit records and interview staff in any subcontract related to performance of the contract.

All contracts shall include language that allows the air district, ARB, or their designated representative to inspect the project equipment during the entire contract term plus two years and as long as it is still in use after the contract term.

Contracts must require applicants to maintain and retain the project records that are listed in these Guidelines in Appendix E: Records Retention. Records must be retained for the contract term plus two years.

E. Notices

All contracts shall include contact information for both parties to the contract, and how to send and receive notices.

F. Contract Term

All contracts shall specify the term of the contract. The contract term shall include two time frames – “project completion” and “project implementation” – to ensure that the air district and the ARB can fully enforce the contract during the life of the Lower-Emission School Bus Program-funded project.

1. Project Completion

Project completion is the time frame starting with the date of execution of the contract to when the implementing agency confirms that the project has become operational. This includes the time period when equipment is ordered, delivered, and installed. The contract shall include a specified time frame in which project completion shall occur, so that the funds are fully expended by June 30, 2011.

The contract shall also require that no work may begin on the project until the contract is fully executed.

2. Project Implementation

The project implementation time frame begins on the date that an applicant makes the final invoice payment on equipment funded with Lower-Emission School Bus Program State program funds. The project implementation time frame is the second part of the contract term, and must equal no less than five years – the minimum amount of time an applicant must own and operate a bus that is purchased or retrofitted with Lower-Emission School Bus Program funds. The contract shall specify that the owner is required to operate and maintain their Lower-Emission School Bus Program-funded project according to the terms of the contract for the full project implementation period.

G. Project Specifications

Contracts must also contain a statement that the project complies with the Lower-Emission School Bus Program Guidelines and criteria and shall meet all program requirements for the full contract term.

H. Funding Caps

The contract must comply with funding caps for the specific project category as identified in these Guidelines.

I. Invoices

Applicants must submit itemized invoices to the implementing agency.

J. Payment

Before a Lower-Emission School Bus Program payment may be made to a vendor or an applicant, the project contract must be executed, and an eligible itemized invoice must be received by the applicant or implementing agency.

K. Disposal of Replaced Buses

All new bus contract agreements between implementing agencies and school districts must state that the older bus that is replaced shall be dismantled in accordance with the definition of “dismantle” set forth in these Guidelines in Appendix A: Glossary of Administrative Terminology. School districts must ensure that the old school bus is dismantled within 60 days of the receipt of the new, replacement bus. The school district shall obtain and retain the following documentation for the contract term plus two years:

- A copy of the Department of Motor Vehicles Dismantlers Notice of Acquisition/Report of Vehicle to be Dismantled (REG 42); and
- A letter signed and dated by a representative of the entity that dismantled the bus. The letter must state that the vehicle and engine were dismantled in accordance with the definition of “dismantle” set forth in these Guidelines in Appendix A: Glossary of Administrative Terminology. In addition, the letter must include the following information for each dismantled bus:
 - The Vehicle Identification Number, the method used to dismantle the non-engine portion of the bus, and the date the non-engine portion of the bus was dismantled; and
 - The engine serial number, the method used to dismantle the engine, and the date the engine was dismantled.

All new bus contract agreements between implementing agencies and school districts must state that the school districts must send copies of the aforementioned documentation to the implementing agency.

L. Assumed Date(s) of Delivery

All new bus contract agreements between implementing agencies and applicants must state the assumed date(s) of delivery for the new bus(es).

M New Bus Purchase Delivery Deadlines and Liquidated Damages

For the purchase of new school buses to replace buses of any eligible model year, the following clauses must be included in the contract language in which the implementing agency awards funds to school districts, and in the terms and conditions of the purchase order agreement between school districts and school bus distributors:

Liquidated Damages

Time is of the essence in these contracts for the purchase of new school buses to replace older, higher-polluting buses. Failure to timely deliver the new school buses will result in harm to the implementing agency, school districts, schoolchildren, and air quality in the affected school and air districts. Further, every day in which delivery of a new school bus has been delayed may result in additional costs to the implementing agency and school district to rent or lease an equivalent bus or otherwise mitigate the damages from the delay; such costs are definite but unquantifiable at the time of execution of the contract. Therefore, the parties acknowledge and agree to pay liquidated damages for failure to timely deliver the new school buses, as specified below:

Contracts/grant agreements between implementing agency and school districts

For every day after [insert applicable deadline: April 1, 2011 or February 1, 2010] in which a bus has not been delivered as specified in the contract, the school district shall be liable to the implementing agency for liquidated damages in the amount of \$100 per day per bus purchased with funds from the Lower-Emission School Bus Program.

Contracts/purchase agreements between school districts and school bus distributors/vendors

For every day after [insert applicable deadline: April 1, 2011 or February 1, 2010] in which a bus has not been delivered as specified in the contract, the school bus distributor/vendor shall be liable to the school district for liquidated damages in the amount of \$100 per day per bus purchased with funds from the Lower-Emission School Bus Program.

N. Infrastructure Deadline

Lower-Emission School Bus Program State program funds that are designated for the purchase of re-fueling infrastructure must be fully expended by the same deadline by which the funds to purchase the accompanying new bus(es) must be fully expended.

O. Requirement for CHP Safety Inspection After Retrofit

All retrofit contract agreements between implementing agencies and applicants must include the requirement that each retrofitted bus undergoes a CHP safety certification inspection [per Title 13, CCR section 1272(c)] after the installation of an emission control device and prior to the bus's return to service.

All retrofit contract agreements between implementing agencies and applicants must include the requirement that, after the aforementioned CHP safety certification inspection is done, the applicant must obtain a copy of written documentation from CHP personnel that the retrofitted bus is still structurally acceptable to safely transport students. This documentation shall consist of a copy of a Safety Compliance Report/Terminal Record Update (CHP 343), or a copy of a Vehicle/Equipment Inspection Report Motor Carrier Safety Operations form (CHP 343A).

P. Ownership and Operation

All new bus contract agreements between implementing agencies and applicants must include the requirement that the applicant own and operate the new bus for five years or more.

All retrofit contract agreements between implementing agencies and applicants must include the requirement that the applicant own and operate the retrofitted bus for five years or more.

Q. Maintenance

All retrofit contract agreements between implementing agencies and applicants must include the requirement that the applicant operates and maintains the installed retrofit devices according to the manufacturer's warranty specifications.

All retrofit contract agreements between implementing agencies and applicants must include the requirement that the applicant has diesel particulate filters cleaned periodically (also known as "periodic maintenance" and "baking and de-ashing") 1) throughout their estimated 11-year life, or 2) if a bus is kept for less than 11 years, as long as an applicant owns and operates a retrofitted bus.

All bus replacement contract agreements between implementing agencies and applicants must include the requirement that the applicant operates and maintains the new school bus according to the manufacturer's specifications.

R. Fuel Additives

All retrofit contract agreements between implementing agencies and applicants must include the requirement that fuel additives are not allowed to be used unless specifically identified as allowable in the retrofit device verification Executive Order.

All bus replacement contract agreements between implementing agencies and applicants must include the requirement that fuel additives are not allowed to be used unless specifically identified as allowable in the engine certification executive order.

S. Non-Compliance Terms

Implementing agencies shall include terms to cancel contracts or withhold payment for non-compliance with or not meeting the obligations of the contract, and may include a term that cancels the contract if it is not executed by the owner in a timely manner.

Appendix D

Lower-Emission School Bus Program Expanded Timetable

Appendix D Lower-Emission School Bus Program Expanded Timetable

This appendix is the complete Lower-Emission School Bus Program Timetable. It is an expanded version of the abridged timetable that is presented in Table V-1 of these Guidelines. The dates shown are the final dates for execution of the designated activities conducted with State program funding.

Table D-1 Expanded Lower-Emission School Bus Program Timetable	
Dates	Milestones(a)
March 27-28, 2008	Board approves air district allocations and Guidelines
April 30, 2008	<p>Funds made available to air districts by ARB</p> <ul style="list-style-type: none"> • Grant Award and Authorization Forms mailed by ARB
Beginning May 2008 and ongoing	<p>Initial disbursements to air districts based on readiness</p> <ul style="list-style-type: none"> • Air Districts' Policy and Procedures Manuals must be approved by the ARB • Air Districts must submit fully executed Grant Award and Authorization Forms to ARB • Initial disbursements from ARB will include: <ul style="list-style-type: none"> ○ 100 percent of the allocation designated for replacing pre-1977 MY buses, if applicable; and ○ 10 percent of the remainder of the allocation; and ○ 50 percent of administrative funds <p>Additional disbursements from ARB to air districts based on demonstrated need (i.e., 50% of funds from all previous disbursements under contract)</p> <ul style="list-style-type: none"> • Up to 65% of its total allocation through June 30, 2009 <p>ARB/CAPCOA begins direct implementation of Program, where applicable</p>
June 30, 2008	100% of funds encumbered by ARB through Grant Award and Authorization Forms

**Table D-1
Expanded Lower-Emission School Bus Program Timetable**

February 1, 2009	<p>First semiannual report, demonstrating conformance with performance milestone(s) due (i.e., information entered into database by air district; fiscal/program reconciled; air district prints and signs report and mails it to ARB)</p> <ul style="list-style-type: none"> • Districts with pre-1977 buses: 100% of funding for replacing pre-1977 buses must be under fully executed contracts, and buses must be ordered • Districts without pre-1977 buses: <ul style="list-style-type: none"> ○ Based on commitment in Policies and Procedures, 10% of funds committed to retrofits must be under fully executed contracts ○ Based on commitment in Policies and Procedures, 10% of funds committed to replacing 1977-1986 buses must be under fully executed contracts
March 1, 2009	<p>Based upon February 1, 2009 demonstration of performance, ARB determines if direct implementation (by ARB/CAPCOA) of additional local programs is necessary</p>
June 30, 2009 (deadline for ARB to encumber all funds)	<p>Local funds re-encumbered by ARB, if necessary</p>
August 1, 2009	<p>Second semiannual report, demonstrating conformance with performance milestone(s) due (i.e., information entered into database by air district; fiscal/program reconciled; air district prints and signs report and mails it to ARB)</p> <ul style="list-style-type: none"> • 50% of an air district's total allocation must be under fully executed contracts

**Table D-1
Expanded Lower-Emission School Bus Program Timetable**

February 1, 2010	<p>Third semiannual report, demonstrating conformance with performance milestone(s) due (i.e., information entered into database by air district; fiscal/program reconciled; air district prints and signs report and mails it to ARB)</p> <ul style="list-style-type: none"> • 100% of pre-1977 bus replacements paid for, delivered and in operation • 100% of 1977-1986 bus replacement funds under fully executed contracts and buses ordered • 50% of retrofit commitment under fully executed contracts • 10% of retrofit funds spent and retrofitted buses in operation
June 30, 2010	<p>Retrofit funding may no longer be available for school buses due to proposed In-Use On-Road Heavy-Duty Diesel Vehicles Regulation</p>
August 1, 2010	<p>Fourth semiannual report, demonstrating conformance with performance milestone(s) due (i.e., information entered into database by air district; fiscal/program reconciled; air district prints and signs report and mails it to ARB)</p> <ul style="list-style-type: none"> • 100% of total allocation under fully executed contracts
February 1, 2011	<p>Fifth semiannual report, demonstrating conformance with performance milestone(s) due (i.e., information entered into database by air district; fiscal/program reconciled; air district prints and signs report and mails it to ARB)</p> <ul style="list-style-type: none"> • 25% of funds committed to replacing 1977-1986 buses paid out • 50% of funds committed to retrofits paid out and projects in operation
April 1, 2011	<p>All new buses delivered and infrastructure completed</p>
June 30, 2011	<ul style="list-style-type: none"> • Deadline for full expenditure of Proposition 1B funds • 100% of funds paid out; all projects/equipment in operation • Funds outstanding as of this date must be returned to ARB within 60 days

**Table D-1
Expanded Lower-Emission School Bus Program Timetable**

August 1, 2011	Final report due (i.e., information entered into database by air district; fiscal/program reconciled; air district prints and signs report and mails it to ARB)
<p>(a) This table contains a brief overview of milestones. Details regarding the criteria air districts must follow to meet these milestones are provided throughout the chapter titled “Administrative Responsibilities of Air Districts and the Air Resources Board in Implementing the Lower-Emission School Bus Program.”</p>	

Appendix E
Records Retention

Appendix E Records Retention

This appendix lists the documents and records that implementing agencies and applicants must retain in their files.

A. IMPLEMENTING AGENCIES

Implementing agencies shall retain files containing:

- The resolution from the local air district governing board (or other documentation signed by a duly authorized official) that authorizes the air district to accept State program funds
- Policies and Procedures Manual
- Grant Disbursement Request forms
- Remediation plans
- Documentation of earned interest generation and expenditure
- Documentation of implementation of the process that is used to select projects and award grants
- Program opportunity notices
- System used to track applications

1. School Bus Replacements

Implementing agencies shall retain files for each funded bus replacement project containing:

- Application
- Resolution from the school district governing board (or a duly authorized official with authority to make financial decisions) authorizing the submittal of the application and identifying the individual authorized to implement the bus replacement project.
- Executed contracts, including those entered into with the ARB and with applicants
- Copy of the purchase order for the new replacement bus
- Copy of the ARB certification executive order for the engine of the new replacement bus in the purchase order
- Invoices
- Proof of payment
- Copy of the Inspection Approval Certificate (CHP form 292) for the replaced bus
- Copy of the registration for the replaced bus
- To document the gross vehicle weight rating (GVWR) for any bus that is to be replaced, a photograph of the bus's data tag must be taken and retained in the files. The photograph must be legible and preferably in electronic format.
- Copy of the registration for the new replacement bus
- Documentation of the disposal of the replaced bus. This documentation must include:

- A copy of the Department of Motor Vehicles Dismantlers Notice of Acquisition/Report of Vehicle to be Dismantled (REG 42); and
- A letter signed and dated by a representative of the entity that dismantled the bus. The letter must state that the vehicle and engine were dismantled in accordance with the definition of “dismantle” set forth in these Guidelines in Appendix A: Glossary of Administrative Terminology. In addition, the letter must include the following information for each dismantled bus:
 - The Vehicle Identification Number, the method used to dismantle the non-engine portion of the bus, and the date the non-engine portion of the bus was dismantled; and
 - The engine serial number, the method used to dismantle the engine, and the date the engine was dismantled.

These files shall be retained for the contract term plus two years.

2. School Bus Retrofits

Implementing agencies shall retain files for each bus that is retrofit with State program funds. The files shall contain:

- Application
- Resolution from the school district governing board (or other documentation signed by a duly authorized official) authorizing the submittal of the application and identifying the individual authorized to implement the retrofit project.
- Executed contracts, including those entered into with the ARB and with applicants
- Invoice(s)
- Proof of payment
- A copy of the Safety Compliance Report/Terminal Record Update (CHP 343) or a copy of the Vehicle/Equipment Inspection Report Motor Carrier Safety Operations form (CHP 343A).
- Copy of the ARB retrofit device verification executive order for the device that was funded.
- Documentation in the form of an invoice or purchase order that states date of maintenance, description of service performed, and cost of service.

These files shall be retained for the contract term plus two years.

B. APPLICANTS

Applicants shall retain files containing correspondence with the implementing agency.

1. School Bus Replacements

Applicants shall retain files for each funded bus replacement project containing:

- Application
- Resolution from the school district governing board (or a duly authorized official with authority to make financial decisions) authorizing the submittal of the application and identifying the individual authorized to implement the bus replacement project.
- Vendor quotes
- Executed contracts
- Copy of the purchase order for the new replacement bus
- Copy of the ARB certification executive order for the engine of the new replacement bus in the purchase order
- Invoices
- Proof of payment
- Copy of the Inspection Approval Certificate (CHP form 292) for the replaced bus
- Copy of the registration for the replaced bus
- To document the GVWR for any bus that is to be replaced, a photograph of the bus's data tag must be taken and retained in the files. The photograph must be legible and preferably in electronic format.
- Copy of the registration for the new replacement bus
- Documentation of the disposal of the replaced bus. This documentation must include:
 - A copy of the Department of Motor Vehicles Dismantlers Notice of Acquisition/Report of Vehicle to be Dismantled (REG 42); and
 - A letter signed and dated by a representative of the entity that dismantled the bus. The letter must state that the vehicle and engine were dismantled in accordance with the definition of "dismantle" set forth in these Guidelines in Appendix A: Glossary of Administrative Terminology." In addition, the letter must include the following information for each dismantled bus:
 - The Vehicle Identification Number, the method used to dismantle the non-engine portion of the bus, and the date the non-engine portion of the bus was dismantled; and
 - The engine serial number, the method used to dismantle the engine, and the date the engine was dismantled.

These files shall be retained for the contract term plus two years.

2. School Bus Retrofits

Applicants shall retain files for each school bus that is retrofit with State program funds. The files shall contain:

- Application
- Resolution from the school district governing board (or other documentation signed by a duly authorized official) authorizing the submittal of the application and identifying the individual authorized to implement the retrofit project.
- Vendor quotes
- Executed contracts
- Invoice(s)
- Proof of payment
- A copy of the Safety Compliance Report/Terminal Record Update (CHP 343) or a copy of the Vehicle/Equipment Inspection Report Motor Carrier Safety Operations form (CHP 343A).
- Copy of the ARB retrofit device verification executive order for the device that was funded.
- Maintenance records
- Documentation in the form of an invoice or purchase order that states date of maintenance, description of service performed, and cost of service

These files shall be retained for the contract term plus two years.

Appendix F

List of Pre-1977 Model Year Public School Buses Still in Operation in California

Appendix F List of Pre-1977 Model Year Public School Buses Still in Operation in California

Table F-1		
List of Pre-1977 Model Year Public School Buses Still in Operation in California as of January 2008		
Air District	School District	Mfg date
BAY AREA AQMD	CAMPBELL UNION HIGH SCHOOL DISTRICT	1/1/1976
BAY AREA AQMD	CAMPBELL UNION HIGH SCHOOL DISTRICT	1/1/1976
BAY AREA AQMD	JEFFERSON UNION HIGH SCHOOL DISTRICT	1/1/1976
BAY AREA AQMD	JEFFERSON UNION HIGH SCHOOL DISTRICT	1/1/1976
BUTTE COUNTY AQMD	OROVILLE UNION HIGH SCHOOL DISTRICT	7/1/1976
BUTTE COUNTY AQMD	PARADISE UNIFIED SCHOOL DISTRICT	7/1/1973
BUTTE COUNTY AQMD	PARADISE UNIFIED SCHOOL DISTRICT	7/1/1974
BUTTE COUNTY AQMD	PARADISE UNIFIED SCHOOL DISTRICT	4/1/1975
FEATHER RIVER AQMD	MARYSVILLE JOINT UNIFIED SCHOOL DISTRICT	4/1/1976
FEATHER RIVER AQMD	MARYSVILLE JOINT UNIFIED SCHOOL DISTRICT	7/1/1976
FEATHER RIVER AQMD	SUTTER UNION HIGH SCHOOL DISTRICT	1/1/1976
IMPERIAL COUNTY APCD	BRAWLEY ELEMENTARY SCHOOL DISTRICT	9/1/1973
IMPERIAL COUNTY APCD	BRAWLEY ELEMENTARY SCHOOL DISTRICT	10/1/1973
IMPERIAL COUNTY APCD	BRAWLEY UNION HIGH SCHOOL	11/11/1974
KERN COUNTY APCD	SIERRA SANDS UNIFIED SCHOOL DISTRICT	1/1/1974
KERN COUNTY APCD	SIERRA SANDS UNIFIED SCHOOL DISTRICT	1/1/1974
KERN COUNTY APCD	SOUTHERN KERN UNIFIED SCHOOL DISTRICT	1/1/1974
KERN COUNTY APCD	SOUTHERN KERN UNIFIED SCHOOL DISTRICT	7/1/1975
MENDOCINO COUNTY AQMD	LAYTONVILLE UNIFIED SCHOOL DISTRICT	1/1/1976
MENDOCINO COUNTY AQMD	UKIAH UNIFIED SCHOOL DISTRICT	1/1/1974
MENDOCINO COUNTY AQMD	WILLITS UNIFIED SCHOOL DISTRICT	1/1/1975
MOJAVE DESERT AQMD	NEEDLES UNIFIED SCHOOL DISTRICT	1/1/1974
MOJAVE DESERT AQMD	NEEDLES UNIFIED SCHOOL DISTRICT	9/1/1975
MOJAVE DESERT AQMD	NEEDLES UNIFIED SCHOOL DISTRICT	11/1/1975
MONTEREY BAY UNIFIED APCD	MONTEREY PENINSULA UNIFIED SCHOOL DISTRICT	1/1/1973
MONTEREY BAY UNIFIED APCD	MONTEREY PENINSULA UNIFIED SCHOOL DISTRICT	1/1/1975

Table F-1
List of Pre-1977 Model Year Public School Buses Still in Operation in California as of January 2008

Air District	School District	Mfg date
MONTEREY BAY UNIFIED APCD	NO MONTEREY COUNTY UNIFIED SCHOOL DISTRICT	1/1/1976
MONTEREY BAY UNIFIED APCD	NO MONTEREY COUNTY UNIFIED SCHOOL DISTRICT	1/1/1976
MONTEREY BAY UNIFIED APCD	NO MONTEREY COUNTY UNIFIED SCHOOL DISTRICT	1/1/1976
MONTEREY BAY UNIFIED APCD	SALINAS UNION HIGH SCHOOL	1/1/1973
MONTEREY BAY UNIFIED APCD	SALINAS UNION HIGH SCHOOL	1/1/1973
MONTEREY BAY UNIFIED APCD	SOLEDAD UNIFIED SCHOOL DISTRICT	1/1/1974
NORTH COAST UNIFIED AQMD	FERNDALE UNION HIGH SCHOOL DISTRICT	1/1/1975
NORTHERN SIERRA AQMD	PLUMAS UNIFIED SCHOOL DISTRICT	1/1/1976
NORTHERN SIERRA AQMD	PLUMAS UNIFIED SCHOOL DISTRICT	1/1/1976
NORTHERN SIERRA AQMD	PLUMAS UNIFIED SCHOOL DISTRICT	1/1/1976
NORTHERN SIERRA AQMD	PLUMAS UNIFIED SCHOOL DISTRICT	1/1/1976
NORTHERN SIERRA AQMD	PLUMAS UNIFIED SCHOOL DISTRICT	1/1/1976
PLACER COUNTY APCD	EUREKA UNION SCHOOL DISTRICT	2/22/1975
PLACER COUNTY APCD	WESTERN PLACER UNIFIED SCHOOL DISTRICT	3/15/1974
SACRAMENTO METROPOLITAN AQMD	GALT JOINT UNION SCHOOL DISTRICT	8/19/1976
SAN DIEGO COUNTY APCD	DEHESA SCHOOL DISTRICT	1/1/1975
SAN DIEGO COUNTY APCD	SANTEE SCHOOL DISTRICT	12/1/1974
SAN JOAQUIN VALLEY UNIFIED APCD	CENTRAL UNIFIED SCHOOL DISTRICT	1/1/1973
SAN JOAQUIN VALLEY UNIFIED APCD	CENTRAL UNIFIED SCHOOL DISTRICT	1/1/1975
SAN JOAQUIN VALLEY UNIFIED APCD	EXETER UNION HIGH SCHOOL DISTRICT	5/1/1975
SAN JOAQUIN VALLEY UNIFIED APCD	FRESNO UNIFIED SCHOOL DISTRICT	1/1/1976
SAN JOAQUIN VALLEY UNIFIED APCD	FRESNO UNIFIED SCHOOL DISTRICT	1/1/1976

Table F-1
List of Pre-1977 Model Year Public School Buses Still in Operation in California as of January 2008

Air District	School District	Mfg date
SAN JOAQUIN VALLEY UNIFIED APCD	HICKMAN COMMUNITY CHARTER DISTRICT	1/1/1976
SAN JOAQUIN VALLEY UNIFIED APCD	KINGS CANYON UNIFIED SCHOOL DISTRICT	1/1/1976
SAN JOAQUIN VALLEY UNIFIED APCD	KINGS CANYON UNIFIED SCHOOL DISTRICT	1/1/1976
SAN JOAQUIN VALLEY UNIFIED APCD	KINGS CANYON UNIFIED SCHOOL DISTRICT	12/31/1976
SAN JOAQUIN VALLEY UNIFIED APCD	LAMONT SCHOOL DISTRICT	1/1/1976
SANTA BARBARA COUNTY APCD	CUYAMA JOINT UNIFIED SCHOOL DISTRICT	1/1/1976
SHASTA COUNTY AQMD	GATEWAY UNIFIED SCHOOL DISTRICT	1/1/1974
SHASTA COUNTY AQMD	GATEWAY UNIFIED SCHOOL DISTRICT	8/1/1974
SHASTA COUNTY AQMD	SHASTA UNION HIGH SCHOOL DISTRICT	1/1/1974
SISKIYOU COUNTY APCD	BIG SPRINGS UNION ELEM SCHOOL DISTRICT	5/1/1973
SOUTH COAST AQMD	A B C UNIFIED SCHOOL DISTRICT	12/30/1976
SOUTH COAST AQMD	AZUSA UNIFIED SCHOOL DISTRICT	12/1/1975
SOUTH COAST AQMD	RIM OF THE WORLD UNIFIED SCHOOL DISTRICT	5/1/1973
SOUTH COAST AQMD	RIM OF THE WORLD UNIFIED SCHOOL DISTRICT	5/1/1974
SOUTH COAST AQMD	RIM OF THE WORLD UNIFIED SCHOOL DISTRICT	5/1/1974
SOUTH COAST AQMD	RIM OF THE WORLD UNIFIED SCHOOL DISTRICT	5/1/1976
SOUTH COAST AQMD	RIM OF THE WORLD UNIFIED SCHOOL DISTRICT	5/1/1976
SOUTH COAST AQMD	TEMECULA VALLEY UNIFIED SCHOOL DISTRICT	1/1/1970
SOUTH COAST AQMD	TEMECULA VALLEY UNIFIED SCHOOL DISTRICT	1/1/1976
TUOLUMNE COUNTY APCD	SONORA UNION HIGH SCHOOL	1/1/1974
TUOLUMNE COUNTY APCD	SONORA UNION HIGH SCHOOL	1/1/1976
TUOLUMNE COUNTY APCD	SUMMERVILLE UNION HIGH SCHOOL	1/1/1974
VENTURA COUNTY APCD	FILLMORE UNIFIED SCHOOL DISTRICT	1/1/1972

Table F-1
List of Pre-1977 Model Year Public School Buses Still in Operation in California as of January 2008

Air District	School District	Mfg date
VENTURA COUNTY APCD	FILLMORE UNIFIED SCHOOL DISTRICT	1/1/1972
VENTURA COUNTY APCD	FILLMORE UNIFIED SCHOOL DISTRICT	1/1/1975
VENTURA COUNTY APCD	VENTURA UNIFIED SCHOOL DISTRICT	8/18/1975

APCD = Air Pollution Control District
AQMD = Air Quality Management District
NO = North

Appendix G

School Bus Engines Available in California

Appendix G School Bus Engines Available in California

Table G-1 below describes the heavy-duty school bus engines that have been determined to meet the emission criteria to be eligible for funding under the Lower-Emission School Bus Program. There may be other engine models, not shown, that may meet the emission criteria to be eligible for funding. For engine model year 2008 and 2009, applicants should refer to the engines Executive Order to determine eligibility in the program.

Table G-1 Heavy-Duty School Bus Engines Available in California Engines Meeting 1.4 g NOx + NMHC/bhp-hr								
Engine Manufacturer	Model Year	Engine Model	Engine hp Range	Certified Emissions g/bhp-hr			Fuel	School Bus Manufacturer
				NOx FEL	NOx + NMHC FEL	PM std		
Caterpillar	2007	C-7	190 (207)	1.16	1.3	0.01	Diesel	Blue Bird
International	2007	MaxxForce 7	200	-- --	1.2	0.01	Diesel	IC Corp
International	2007	DT 466	210-230	1.10	1.1	0.01	Diesel	IC Corp
International	2007	DT 466	245-300	1.40	1.4	0.01	Diesel	IC Corp
Cummins	2007	ISC	260	1.44	1.4	0.01	Diesel	Blue Bird & Thomas Built
DDC/MB	2007	MBE926	190-330	1.16	1.3	0.01	Diesel	Thomas Built
Clean Fuels	2007	GM 8.1 L	325	-- --	0.5	-- --	Propane	Bluebird
2007 model year John Deere CNG engines certified to 1.24 g/bhp-hr NOx FEL may still be available 2008 model year Cummins ISL G CNG engines are anticipated to be available in school bus configurations in 2008								

The 2007 model year Cummins ISB 6.8 liter 200 horsepower (hp) range diesel engine is currently certified to a 2.2 g/bhp-hr NOx+NMHC FEL, and does not qualify for funding under the Lower-Emission School Bus Program.

Appendix H

Types of Retrofit Devices

Appendix H Types of Retrofit Devices

Currently, all verified Level 3 diesel emission control strategies include a diesel particulate filter (DPF). DPFs remove particulate matter in diesel exhaust by filtering exhaust from the engine and are the most commonly available aftertreatment device. Installation involves integrating the DPF into the vehicle's exhaust system. In many cases the DPF replaces the existing engine muffler.

Two basic types of DPFs are typically used: active regeneration and passive regeneration. Successful application of DPFs on new or existing diesel engines requires a robust filter regeneration scheme that periodically oxidizes the collected soot present on the filter to maintain engine backpressure within specified limits. These regeneration methods include both active systems that require supplemental energy to burn off or initiate soot combustion, such as the Cleaire Horizon or passive systems, that are designed to burn off this soot without energy input beyond that provided by the engine exhaust gas, such as the Donaldson DPF. Most Level-3 DPF devices utilize passive technology.

In general, passive DPFs remove particulate matter by collecting particles and oxidizing them during vehicle use. The oxidation process is referred to as regeneration. Passive DPFs typically rely on a precious metal catalyst contained in the filter to allow regeneration at common engine exhaust temperatures. The exhaust temperatures required for regeneration may vary from one control strategy to another. However, there is usually an exhaust temperature requirement of 260 degrees C (500°F) for at least 25 percent of the driving cycle.

For active filters, the regeneration temperature is achieved by means of an external heat source. There is no exhaust temperature requirement for this type of system. This typically involves installation of an electric or other heat source to increase oxidation in the filter. The currently verified active filter is uncatalyzed and relies on the operator "plugging-in" the vehicle whenever the filter requires regeneration. Infrastructure requirements for these devices typically require a 208 volt, 100 amp dedicated circuit be installed. Regeneration for this type of system is done approximately every 500 miles and usually takes 5 hours.

In addition to collecting soot, filters also collect inorganic based exhaust constituents such as ash, that periodically need to be removed. Engine oil consumption, total ash content of engine lubricant formulations, vehicle duty cycles, filter designs, and fuel-borne catalyst dosing rates will all impact ash accumulation rates and the required filter maintenance cleaning intervals. As various types of ash slowly accumulate within the filter, the pressure drop through the filter gradually increases and the backpressure on the engine increases. Since excessively high backpressure on the engine will result in the degradation of engine performance, this ash material needs to be removed periodically. This ash removal or cleaning operation is a necessary filter maintenance procedure.

Generally, filter manufacturers recommend this maintenance to occur every 6 to 24 months depending on the condition of the engine, engine lubricant consumption rates, and the number of miles driven.

Ash cleaning practices include combinations of pressurized dry air streams directed at the exit side of the filter with industrial vacuum devices used on the inlet side to safely collect ash removed from the filter and/or very high temperature treatments of filters that are used before or after air cleaning procedures to remove organic materials and soot that may be contained in the filter.

Because California laws may vary depending on location, ash collected from used filters must be disposed of according to local, state, and/or federal solid waste disposal regulations. If zinc is present in the ash collected from a filter in high concentrations, this material may be characterized as a hazardous waste. The generator of the waste has the responsibility to determine whether their waste is hazardous or not. This generally requires a chemical analysis of the ash sample to determine the zinc content. There are facilities in California that accept hazardous waste from conditionally exempt small quantity generators. Additional guidance concerning acceptable disposal methods is available from the California Department of Toxic Substances Control.

Table H-1 below shows the currently verified Level 3 verified diesel emission control systems that may be applicable to engines found in school buses. There may be diesel retrofit devices that are currently in the verification process that may be suitable for school bus applications. A current and update list of all ARB-verified diesel emission control devices can be found at <http://www.arb.ca.gov/diesel/verdev/vt/cvt.htm> .

Table H-1 Currently Verified Level 3 Technologies for On-Road School Buses(a) (as of January 2008)					
Plus (+) designates these systems as compliant with 2009 N02 requirements.					
Product Name	P L U S	Technology Type	PM Reduction	NOx Reduction	Applicability
Cleaire Horizon	+	DPF	85%	N/A	Most on-road diesel engines through 2006 model year; Certain MY 2006 and 1993 or older engines with OEM diesel oxidation catalysts; CARB diesel; biodiesel.
Donaldson DPM		DPF	85%	N/A	1993-2004 on-road; CARB diesel; biodiesel.
Engine Control System Purifilter (Low Load)	+	DPF	85%	N/A	1994-2004 on-road; CARB diesel; biodiesel.
Engine Control System Purifilter (High Load)		DPF	85%	N/A	1993-2006 on-road; CARB diesel; biodiesel.
International Truck and Engine Corporation DPX		DPF	85%	N/A	1994-2003 on-road Navistar (International); CARB diesel.
Johnson Matthey Reformulated CRT		DPF	85%	N/A	1994 - 2006 on-road; CARB diesel; biodiesel.
Johnson Matthey EGRT	+	EGR/DPF	85%	40%	2000 International DT-466, 2000 Cummins ISM, 2001 Cummins ISB, 1998-2002 Cummins ISC, 2001 Cummins ISL, 2001 MY DDC - 50, and 2001 DDC - 60 on-road; CARB diesel.

(a) The HUSS Umwelttechnik FS-MK device, although verified for engines that are used in school buses, is not at present available for use on school buses in California. Because the HUSS system taps into the fuel system, the CHP requires crash safety testing before they will safety certify a school bus with a HUSS installed.

Appendix I

Biodiesel Use in New and Retrofitted School Buses

Appendix I Biodiesel Use in New and Retrofitted School Buses

Biodiesel is a clean burning alternative fuel, which can be produced from domestic, renewable resources such as soybeans or corn feedstock. Biodiesel refers to the pure form of the fuel or B100. When blended with diesel fuel, the blends are denoted as "BXX" with "XX" representing the percentage of biodiesel contained in the blend. For example, B20 is 20 percent biodiesel and 80 percent petroleum diesel. Use of biodiesel blends is generally expected to reduce diesel particulate matter and organic compounds; however, NOx emissions may increase. These effects tend to increase as the percent of biodiesel in the blended fuel increases. According to the US Environmental Protection Agency B20 can have the effect of increasing NOx emissions between 2-5 percent depending on the feedstock used to make the biodiesel and the petroleum diesel fuel biodiesel is blended with. The use of biodiesel can provide reductions in greenhouse gas emissions when the entire lifecycle of production is compared to that of petroleum diesel fuel. B20 has been estimated to reduce lifecycle greenhouse gas emissions by about 15 percent, and B5 is estimated to provide a lifecycle greenhouse gas emission reduction of about 4 percent.

The ARB is currently involved in the Biodiesel and Renewable Diesel Research Study. This research is evaluating in part the emission characterization of biodiesel, the potential health effects of biodiesel emissions, the mechanism of the excess NOx formation and possible NOx mitigation options. This research is anticipated to be completed in 2009.

The ARB has a draft advisory on biodiesel use that was last revised on November 14, 2006. The ARB staff recommends that if biodiesel blends are used in on-road diesel vehicles, the biodiesel portion of the blend complies with 1) the American Society for Testing and Materials (ASTM) specification D6751 applicable for 15 ppm sulfur content and 2) Title 13, California Code of Regulations (CCR), sections 2281 and 2282 (diesel regulations). ARB staff recommends that biodiesel blends contain no more than 20 percent biodiesel by volume and these fuels should be purchased from a reputable supplier, preferably from a certified BQ-9000 marketer and accredited distributor.

New School Buses

Users of biodiesel blends should determine if the use of biodiesel blends up to 20 percent will affect their engine warranties and are advised to avoid use of fuel that would negate a warranty. Biodiesel blends above 20 percent should not be used in new school buses while the engine warranty is still in effect. Based on current understanding of biodiesel fuels and blending with petroleum based diesel fuel, Engine Manufacturers Association (EMA) members expect that blends up to a maximum of 5 percent (B5) should not cause engine or fuel system problems, provided the B100 used in the blend meets the requirements of ASTM D 6751 and the final blend meets ASTM D 975. The EMA statement on biodiesel can be found at: <http://www.enginemanufacturers.org/admin/library/upload/924.pdf>. If blends exceeding

5 percent are desired, vehicle owners and operators should consult their engine manufacturer regarding the implications of using such fuel. Biodiesel statements issued by school bus engine manufacturers can be found at http://www.biodiesel.org/resources/fuelfactsheets/standards_and_warranties.shtm .

Diesel Retrofit Devices

Vehicles retrofitted with verified devices under Title 13, CCR, sections 2700 through 2710 can use biodiesel blends up to 20 percent, so long as the retrofit method employed on the engine was verified based on the use of commercial diesel fuel meeting CCR, sections 2281 and 2282 and for the purpose of reducing diesel particulates only. Vehicles retrofitted with verified devices for both diesel particulate and oxides of nitrogen must not use biodiesel since biodiesel use may increase nitrogen oxide emissions.

Older school buses that have historically been using petroleum diesel fuel may need to follow certain maintenance procedures to enable a seamless transition to biodiesel blends. Biodiesel can act as a solvent in the fuel tank and fuel system, cleaning fuel system components and causing fouling of fuel lines, injectors and other fuel system components. Therefore, school bus fleets that are considering switching to biodiesel blends must consult with their engines' manufacturer to discuss the proper procedure to follow to ensure that damage is not done to the fuel system. Biodiesel can potentially have a corrosive effect on the fuel systems hoses and o-rings, therefore a school bus fleet operator must consult their engines' manufacturer before converting to biodiesel blends.

The draft ARB advisory on biodiesel use discusses other applicable state requirements that biodiesel blends must meet. Use of biodiesel blends greater than 20 percent are not recommended at this time. The draft advisory is posted on our web site at http://www.arb.ca.gov/fuels/diesel/altdiesel/111606biodsl_advisory.pdf .

Appendix J

List of School Bus Data Fields

Appendix J List of School Bus Data Fields

A. School Bus Program Database Fields Overview

The School Bus Program database has been developed in response to the in-progress accountability requirements associated with the Proposition IB funding for the continuation of the Lower-Emission School Bus Program. The school bus database is designed to collect data submitted by applicants that have entered into fully executed contracts (i.e. contracts signed by both parties.)

The items in the School Bus Program Database Fields List must be completed to the extent possible in order for the required semi-annual reports to be generated accurately. All data fields must be completed once the contract is completed (i.e. when the applicant/vendor has been reimbursed for a completed project.)

B. School Bus Program Database Fields

The tables below list the information that each implementing agency is required to collect and enter for the School Bus Program database. Table J-1 lists the information common to all contracts. Table J-2 lists the information needed for each old bus being replaced. Table J-3 lists the information needed for each new bus being purchased. Table J-4 lists the information needed for each fueling station funded. Table J-5 lists the information needed for each bus being retrofit. Table J-6 lists the information needed about the retrofit device being purchased for the bus listed in Table J-5. Table J-7 identifies the information needed to track interest earned and interest spent to date. These fields must be updated every six months, prior to printing the semi-annual report.

Table J-1
School Bus Database Contract Information
Air District Name (whose LESBP funding allocation is funding the projects on contract)
Air District Contract Number
Applicant Type (school district, JPA, or private transportation agency)
Applicant Name
Applicant Address
Applicant City
Applicant Zip Code
Date Contract Signed
Date of Contract Completion (when applicant/vendor is reimbursed for a completed project)
Applicant Contact Person Name
Applicant Contact Person Title
Applicant Contact Person Phone Number
Applicant Contact Person Fax Number
Applicant Contact Person E-mail Address
Number of buses to be replaced (estimate)
Number of buses to be retrofitted (estimate)
Amount funded by 07/08 LESBP bond funding (estimate)
Amount funded by LESBP interest earned on bond funding (estimate)
The following fields repeat to accommodate a non-school district (i.e. JPA or private transportation company) projects with multiple buses or retrofits that may be associated with several school districts.
Select School District associated with project (if not a school district applicant)
Percent of time this (or these) replacement bus (or buses) is (or are) associated with the selected school district (up to 100 percent)
Percent of time this (or these) retrofitted bus (or buses) is (or are) associated with the selected school district (up to 100 percent)

Table J-2 School Bus Database Old Buses being Replaced	
Bus Identification Number	
Vehicle Identification Number (should be a unique number in database)	
Bus Manufacturer	
Bus Model	
Bus Model Year (1986 or older)	
Engine Serial Number (ESN) (should be a unique number in database)	
Engine Manufacturer	
Engine Model	
Engine Model Year (1986 or older)	
Engine Displacement	
Bus Type: C/D/Special Needs	
Gross Vehicle Weight Rating (GVWR) (should be greater than 14,000 pounds)	
Fuel Type: CNG, Diesel, Electric, Gasoline, Propane	
License Plate Number	
Current California Highway Patrol Bus Safety Certificate: Yes/No (the LESBP requirement is for the old bus being replaced to be currently certified AND continuously certified since December 31, 2005 AND a that the Air District must have a copy of the current CHP Form 292 in the Air District files)	
Documentation of Bus Disposal Method: Yes/No (the Air District must have the Bus Disposal Documentation in the Air District files)	
Bus Storage Address	
Bus Storage City	
Bus Storage Zip Code	

Table J-3	
School Bus Database New Buses being Purchased	
Bus Identification Number	
Vehicle Identification Number (should be a unique number in database)	
Bus Manufacturer	
Bus Model	
Bus Model Year (2007 or newer)	
Engine Serial Number (ESN) (should be a unique number in database)	
Engine Manufacturer	
Engine Model	
Engine Model Year (2007 or newer)	
Engine Displacement	
Bus Type: C/D/Special Needs	
Gross Vehicle Weight Rating (GVWR) (should be greater than 14,000 pounds)	
Fuel Type: Hybrid-Electric, CNG, Diesel, Electric , Propane	
Purchase Order Date	
Date of Bus Delivery	
Bus Price	
Date Air District/Implementing Agency Reimbursed the School District/Vendor	
Amount funded by 07/08 LESBP bond funding	
Amount funded by LESBP interest earned on bond funding	
Match Funding Amount	
Match Funding Source	

Table J-4	
School Bus Database Fueling Station Information	
New Fueling Station Funded: Yes/No	
Cost of Fueling Station	
Date Air District/Implementing Agency Reimbursed the School District/Vendor	
Amount funded by 07/08 LESBP bond funding	
Amount funded by LESBP interest earned on bond funding	
Number of Buses that Fueling Station would serve	
Operational Date	
Fueling Station Address	
Fueling Station City	
Fueling Station Zip Code	

Table J-5 School Bus Database Buses being Retrofit	
Bus Identification Number	
Vehicle Identification Number (should be a unique number in database)	
Bus Manufacturer	
Bus Model	
Bus Model Year	
Engine Serial Number (ESN) (should be a unique number in database)	
Engine Manufacturer	
Engine Model (Air District staff must check if the Level 3 Retrofit Device chosen by the applicant is verified for this bus engine – Check Executive Order on ARB web site)	
Engine Model Year (1987 or newer)	
Engine Displacement	
Bus Type: C/D/Special Needs	
Gross Vehicle Weight Rating (GVWR)	
License Plate Number	
Fuel Type: CNG, Diesel, Electric, Propane	
Did CHP inspect the retrofitted bus after the retrofit was installed: Yes/No (the retrofitted bus must be inspected post-retrofit installation and before returning to service AND the Air District must have a copy of the inspection documentation [either Form 343 or 343A] in the Air District files)	
Cumulative Mileage	
Bus Storage Address	
Bus Storage City	
Bus Storage Zip Code	

Table J-6 School Bus Database Level 3 Retrofit Devices being Purchased	
Level 3 Retrofit Device Manufacturer and Name of Device	
Cost of Level 3 Retrofit Device (including tax and installation)	
Cost of Additional Expenses (infrastructure, cleaning, data-logging)	
Infrastructure Cost	
Cleaning Cost	
Data-logging Cost	
Purchase Order Date	
Retrofit Device Dealer/Installer	
Retrofit Installation Date	
Amount funded by 07/08 LESBP bond funding	
Amount funded by LESBP interest earned on bond funding	
Date Air District/Implementing Agency Reimbursed the School District/Vendor	

Table J-7	
School Bus Database Other Inputs Needed	
Total Grant Allocation for the Air District	
Spending Target for New Buses	
Number of pre-1977 buses in Air District eligible for replacement	
Spending Target for Retrofits	
Interest Earned to Date	
Interest Spent to Date	