

CALIFORNIA AIR RESOURCES BOARD

NOTICE OF PUBLIC MEETING TO CONSIDER THE PROPOSED LOWER-EMISSION SCHOOL BUS PROGRAM GUIDELINES

The California Air Resources Board (Board or ARB) will conduct a public meeting at the time and place noted below to consider approving staff's proposed Lower-Emission School Bus Program Guidelines.

DATE: December 7, 2000
TIME: 9:00 a.m.
PLACE: Air Resources Board
Board Hearing Room, Lower Level
2020 L Street
Sacramento, CA

This item will be considered at a two-day meeting of the Board, which will commence at 9:00 a.m., December 7, 2000, and may continue at 8:30 a.m., December 8, 2000. This item may not be considered until December 8, 2000. Please consult the agenda for the meeting, which will be available at least 10 days before December 7, 2000, to determine when this item will be considered.

This facility is accessible to persons with disabilities. If accommodation is needed, please contact ARB's Clerk of the Board at (916) 322-5594 by November 30, 2000, to ensure accommodation. Persons with hearing or speech impairments can contact us by using our Telephone Device for the Deaf (TDD) at (916) 324-9531, or (800) 700-8326 for TDD calls from outside the Sacramento area.

BACKGROUND

The Lower-Emission School Bus Program is a grant program that will provide new buses for California school children, and equip older buses with filters to reduce their particulate (smoke) emissions. Governor Gray Davis has allocated \$50 million for the Lower-Emission School Bus Program. The funds are in the ARB's budget for the 2000-2001 fiscal year and are currently available for distribution. The program will fund 400 new buses and 1,500 particulate filters for older buses. School district participation in the program is entirely on a volunteer basis, and the program does not impose any regulatory requirements on school districts.

The proposed program has two parts. Part 1 is the school bus replacement and infrastructure program, which will replace older buses with new buses and provide alternative fuel infrastructure. Part 2 is the retrofit program, which will equip existing

school buses with particulate filters. Staff is proposing to allocate \$40 million to be spent on school bus replacement and infrastructure projects, and \$10 million on particulate filter retrofit projects. Part 1 will be implemented by the California Energy Commission (CEC). The CEC's experience administering the Safe School Bus Clean Fuel Efficiency Demonstration Program makes them eminently qualified to implement the bus replacement and infrastructure program. Part 2 will be implemented primarily by five air districts: the South Coast Air Quality Management District, the Bay Area Air Quality Management District, the San Joaquin Valley Air Pollution Control District, the San Diego Air Pollution Control District, and the Sacramento Metropolitan Air Quality Management District. The main goal of the Lower-Emission School Bus Program is to reduce the exposure of school children to both cancer-causing and smog-forming pollution.

ARB staff developed the proposed guidelines to implement the Lower-Emission School Bus Program in cooperation with the school districts, the CEC, the California Department of Education, the California Highway Patrol, air pollution control and air quality management districts, and other interested stakeholders.

The ARB staff also conducted workshops on September 18, 2000, and September 21, 2000, to discuss the proposed guidelines for the Lower-Emission School Bus Program. The environmental organizations, engine and retrofit device manufacturers, school bus vendors, school transportation officials, and other stakeholders provided valuable input at the workshops, and through comment letters, phone calls, and via email. A working group composed of school transportation officials was very helpful in providing direct input from the school districts, and in sharing their school transportation expertise. ARB is committed to continue working with school transportation officials, the CEC, air districts, and other stakeholders to ensure that the program is effectively implemented.

Need for the Program. Students, teachers and neighbors are exposed to emissions of toxic diesel particulates. Many schools provide services in heavily populated areas. Older diesel-powered school buses are sources of high levels of both particulate matter (PM) emissions and oxides of nitrogen (NOx) emissions. The school bus replacement program focuses on reducing emissions from pre-1987 buses by replacing them with new, lower-polluting buses. Retirement of pre-1977 buses is a priority both because these older buses are high polluting, and federal safety standards for school buses did not take effect until 1977. A school district that receives funding for new buses under the program would be required to replace their pre-1977 buses before replacing 1978 to 1986 buses.

NOx emissions are an ozone precursor, and react with volatile organic compounds in the atmosphere to form photochemical smog. The adverse health effects associated with exposure to elevated ozone levels include aggravation of asthma, breathing and

respiratory problems, loss of lung functions, and possible damage to lung tissue.

Particulate matter has been linked to a range of serious health problems. Particles are deposited deep in the lungs and can result in increased hospital admissions and emergency room visits; increased respiratory symptoms and disease; decreased lung function, particularly in children and individuals with asthma; alterations in lung tissue and respiratory tract defense mechanisms; cancer and premature death.

In August 1998, the ARB governing board identified PM emissions from diesel-fueled engines as a toxic air contaminant. Children, with their growing lungs and faster respiratory rates are even more susceptible. Diesel-powered vehicles operating in heavily congested urban areas cause direct exposure for the public to toxic diesel particulates. It is the ARB's goal to protect public health by reducing exposure to diesel PM emissions.

In September 2000, the ARB adopted a risk reduction plan for diesel-fueled engines and vehicles. The comprehensive plan calls for the retrofit of all diesel engines by 2010 to reduce particulate emissions. This is a necessary step to reduce the cancer risk to the residents of California. Regulations to retrofit transit buses are already in place and other requirements will be coming soon. The school bus retrofit program is a critical use of these funds since the particulate reduction benefits of the program are so significant.

PROPOSED GUIDELINES

The School Bus Replacement Program

Staff is proposing to allocate \$40 million to this program. These funds would be distributed through a grant program for the purchase of lower-emission school buses and infrastructure for school districts. The program would be implemented throughout the state by the CEC. Specific amounts of funding, based on population, would be allocated to ten geographic areas; the remaining funds would be aggregated into a "pool" and distributed via a non-competitive (lottery) system.

Older buses eligible to be replaced. The program would provide funding for the replacement of pre-1987 in-use diesel-powered buses. Public school districts would have to replace their pre-1977 buses before replacing their pre-1987 buses. Replacement of older, pre-catalyst, large gasoline school buses would also be allowed on a case-by-case basis. Where a joint powers authority (JPA) has been formed by several public school districts, and the JPA holds ownership to the school buses, the JPA is eligible to participate in the program.

New alternative fuel and diesel-fueled buses that can be purchased. There are two general categories of new buses that can be purchased under the program:

- 1) alternative fuel buses certified to the ARB's optional, reduced-emission NOx standards (2.5 g/bhp-hr or lower) and a PM emission level of 0.03 g/bhp-hr, and
- 2) diesel buses meeting a 3.0 g/bhp-hr NOx level and a 0.01 g/bhp-hr PM level.

Although the 3.0 g/bhp-hr NOx diesel buses do not meet ARB's optional, reduced-emission NOx standards, they are an intermediate step in the introduction of lower-emission diesel engine technology. They would need to be certified to a federal engine family emissions limit (FEL) of 3.0 g/bhp-hr NOx. They would also be required to use low-sulfur diesel fuel. Of the \$40 million allocated for the bus replacement program, staff proposes to allocate \$25 million for alternative fuel buses and associated infrastructure, and \$15 million for intermediate emissions-level diesel-buses.

Matching funds. School districts would be required to provide 25 percent of the cost of the bus, up to a maximum of \$25,000, as match funding. The state would pay a minimum of 75 percent of the cost of the bus. The base price of the school buses would be based on the Department of General Services (DGS) state bid list. Some air districts have expressed interest in administering the bus replacement program in their local area. The proposed guidelines are structured for statewide implementation by CEC. However, the CEC at its discretion may allow an air district to implement the bus replacement program within the air district's jurisdiction. This would require a CEC/air district agreement. The agreement would stipulate any value added to the program by the air district (such as match funding), and would be consistent with CEC's process to maintain the alternative fuel/diesel funding split on a statewide program basis.

The School Bus PM Retrofit Program

Staff is proposing to allocate \$10 million for this program. Staff is proposing that local air districts implement the school bus PM retrofit program. The goal of the PM retrofit program is to retrofit 1,500 in-use school buses with particulate filters that provide 85 percent or higher emission reductions. By implementing a retrofit program, significantly greater reductions in harmful particulates can be achieved than if the funds were used to purchase new buses.

Air districts would apply to ARB for funds to implement a school bus retrofit program. Five air districts would have a specific allocation based on the population in their area. The remaining funds would be aggregated into a "pool" and the remaining air districts would apply for funding from the pooled funds.

The PM retrofit program would pay the full cost of purchase and installation of the particulate filters, which are expected to cost about \$6,000 each. Manufacturers are demonstrating retrofit devices that provide at least a 15 percent NOx emission reduction in addition to the 85 percent PM reduction. We expect this cost to be around

\$7,500 each, and the ARB Executive Officer would evaluate those devices for inclusion in the program. Additionally, the program would provide \$500 to cover the increased cost of fuel. Staff believes this level of funding should cover most, if not all, of the incremental fuel cost of the low sulfur diesel required in the buses that are retrofitted with a PM filter.

The program would provide funding for public school districts for the retrofit of 1977 and newer model year in-use diesel-powered buses. Where a JPA has been formed by several public school districts, and the JPA holds ownership of the school buses, the JPA is eligible to participate in the program. The retrofit program would also fund the retrofit of school buses owned by private transportation companies that provide transportation services, under contract, to public school districts.

AVAILABILITY OF DOCUMENTS AND AGENCY CONTACT PERSON

ARB staff will present the proposed Lower-Emission School Bus Program Guidelines to the Board for consideration at the December 7, 2000, Board meeting. Copies of the proposed guidelines may be obtained from the Board's Public Information Office, 2020 L Street, Sacramento, CA 95814, (916) 322-2990, prior to the scheduled meeting. This report will also be available electronically on ARB's website at <http://www.arb.ca.gov/msprog/schoolbus/schoolbus.htm>. Further inquiries regarding this matter should be directed to Ms. Roberta Hughan, Air Pollution Specialist, at (916) 324-7583.

SUBMITTAL OF PUBLIC COMMENTS

The public may present comments to the Board orally or in writing on the day of the meeting, and in writing or by e-mail before the meeting. To be considered by the Board, written submissions must be addressed to and received by the Clerk of the Board, P.O. Box 2815, Sacramento, California 95812, no later than 12:00 noon December 6, 2000, or received by the Clerk of the Board at the meeting. To be considered by the Board, e-mail submissions must be addressed to schoolbus@listserv.arb.ca.gov, and received at the ARB no later than 12:00 noon, December 6, 2000.

The Board encourages members of the public to bring to the attention of staff in advance of the meeting any suggestions or comments. The Board requests, but does not require, that 30 copies of any written statement be filed at least ten days prior to the meeting date, so that ARB staff and Board Members have time to fully consider each comment.

CALIFORNIA AIR RESOURCES BOARD

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Michael P. Kenny
Executive Officer

Date: November 27, 2000