

State of California  
AIR RESOURCES BOARD

Resolution 02-16

March 21, 2002

Agenda Item No.: 02-2-4

WHEREAS, sections 39600 and 39601 of the Health and Safety Code authorize the Air Resources Board (the "Board") to adopt standards, rules and regulations and to do such acts as may be necessary for the proper execution of the powers and duties granted to and imposed upon the Board by law;

WHEREAS, in section 43000 of the Health and Safety Code, the Legislature has declared that the emission of air pollutants from motor vehicles is the primary cause of air pollution in many parts of the state and, in sections 39002 and 39003 of the Health and Safety Code, has charged the Board with the responsibility of systematically addressing the serious air pollution problem caused by motor vehicles;

WHEREAS, sections 43013, 43101, and 43104 of the Health and Safety Code direct the Board to endeavor to achieve the maximum degree of emission reduction possible from motor vehicle sources to accomplish the attainment of state ambient air quality standards by the earliest practicable date;

WHEREAS, sections 43013, 43101, and 43104 of the Health and Safety Code authorize the Board to adopt motor vehicle emission standards, in-use performance standards, and test procedures, which it finds to be necessary, cost-effective, and technologically feasible;

WHEREAS, section 43806 of the Health and Safety Code directs the Board to adopt emission standards and procedures applicable to new engines used in publicly owned and privately owned public transit buses;

WHEREAS, the United States Environmental Protection Agency has promulgated emission standards and programs to reduce emissions from urban transit buses, and those standards and programs can be found in title 40 of the Code of Federal Regulations, part 86;

WHEREAS, section 43701(b) of the Health and Safety Code requires the Board to adopt regulations that require heavy-duty diesel vehicles to utilize emission control equipment and alternative fuels to reduce emissions to the greatest extent feasible;

WHEREAS, on August 27, 1998, following extensive scientific review and public hearings, and consistent with the conclusions of the Scientific Review Panel and the Office of Environmental Health Hazard Assessment, the Board formally identified particulate emissions from diesel-fueled engines as a toxic air contaminant and on September 28, 2000, approved a plan to reduce risk from diesel particulate pollution by reducing harmful particulate matter emissions from diesel engines;

WHEREAS, the Board, through the adoption of Resolution 98-49 on September 24, 1998, called on state, local, and federal agencies to join together to “clean the fleet,” supported immediate and continuing efforts to replace diesel-fueled school and public urban transit buses with low-emission alternative-fuel buses, including the provision of necessary infrastructure and technical training, and directed the staff to distribute this resolution to multiple affected parties;

WHEREAS, section 39667 of the Health and Safety Code directs the Board to achieve the maximum possible reduction in public exposure to toxic air contaminants by establishing emission standards for vehicular sources, including new and in-use motor vehicles and fuels;

WHEREAS, on February 24, 2000, the Board adopted Resolution 00-2 to achieve near-term and long-term emission reductions from urban transit buses through a fleet rule designed to reduce emissions of oxides of nitrogen (NO<sub>x</sub>) and diesel particulate matter (PM) by mandating a lower fleet average of NO<sub>x</sub> emissions; by requiring engines be retrofitted with devices to reduce diesel PM emissions by at least 85 percent; by requiring engine manufacturers to significantly reduce the allowable emissions from certified bus engines; by requiring that transit agencies switch to a specified percentage of low sulfur (less than 15 parts per million) diesel fuel; and by requiring transit agencies to purchase specified percentages of zero emission buses when adding to their fleets;

WHEREAS, the Board, through Resolution 00-2, directed the Executive Officer to work with transit agencies during implementation of the regulations, including provisions of the fleet rule, and to report to the Board regularly on transit agencies' progress in implementing the regulations;

WHEREAS, on September 20, 2001, the Board adopted Resolution 01-31 directing the Executive Officer to work with transit agencies that have reported they will not meet the required NO<sub>x</sub> fleet average of 4.8 g/bhp-hr by October 1, 2002, to assist them in achieving compliance and to proceed with enforcement actions against those transit agencies that do not comply by October 1, 2002;

WHEREAS, the Board, through Resolution 01-31, directed the Executive Officer to make the necessary changes to allow transit agencies that applied for an exemption by June 30, 2001, additional time to demonstrate advanced NO<sub>x</sub> aftertreatment technology, to require transit agencies to commit resources to a demonstration project as of December 31, 2001, and to require those transit agencies to have

initiated advanced NOx aftertreatment demonstrations by December 31, 2002; or the Executive Officer shall rescind any conditional approvals granted previously;

WHEREAS, the Board, through Resolution 01-31, directed the Executive Officer to allow each transit agency that applied for an exemption the option of performing a joint demonstration of advanced NOx aftertreatment as follows: a joint project may involve all or several transit agencies that applied for an exemption, include at least three buses operating in fare service, and demonstrate NOx aftertreatment technology that will offer commercial potential (i.e., reduce NOx emissions by 70 percent or more); and any transit agency that elects not to participate in a joint project shall demonstrate advanced NOx aftertreatment technology that offers commercial potential in at least one bus operating in fare service;

WHEREAS, the Board, through Resolution 01-31, directed the Executive Officer to convene a delegation to meet with representatives of the Engine Manufacturers Association to assess and encourage efforts to advance the status of NOx emission control technology and to report back to the Board by March 2002, the results of these efforts;

WHEREAS, the Board, through Resolution 01-31, directed the Executive Officer to assist rural and smaller transit agencies in identifying, assessing, and implementing economies of scale and other strategies in infrastructure development to support alternative-fuel bus fleets; and

WHEREAS, based on the information in the public record, the Board finds that:

1. The Executive Officer convened a delegation to meet with representatives of the Engine Manufacturers Association to assess and encourage efforts to advance the status of NOx emission control technology on November 7, 2001.
2. The staff have met with and assisted transit agencies that had reported they will not meet the required NOx fleet average of 4.8 g/bhp-hr by October 1, 2002, to achieve compliance but that there are still three transit agencies reporting that they will not comply with the required fleet average by October 1, 2002.
3. Seven of the 15 transit agencies that applied as required by June 30, 2001, for an exemption from the requirement that model years 2004 through 2006 transit bus engines be certified to emit no more than 0.5 g/bhp-hr NOx, have completed their applications and are approved for the exemption, conditional on their continued participation in a demonstration of advanced NOx aftertreatment technology.
4. In addition to the seven transit agencies required to participate in the demonstration of advanced NOx aftertreatment technology, two more transit

agencies have told staff that they plan to join in the demonstration of advanced NOx aftertreatment technology.

5. Several transit agencies have informed staff that they are moving to reduce emissions from their fleets more aggressively than required by the transit bus fleet rule, including aggressively repowering two-stroke engines to four-stroke engines, switching to low sulfur (less than 15 parts per million) fuel earlier than required, installing particulate filters earlier than required, and testing various technologies that have lower NOx and PM emissions than currently certified engines.
6. Transit agencies are required to retrofit all of their pre-1991 and varying percentages of their 1991-1995 model year bus engines to reduce diesel PM by 85 percent or more using ARB-verified technology, but thus far no retrofit devices have been certified for any bus engines older than model year 1994.
7. Staff continues to make progress in developing hybrid-electric bus test procedures, which will be proposed for the Board's consideration in September 2002.
8. Staff will be meeting with small and rural transit agencies in April 2002 to begin accomplishing the goals of identifying, assessing, and implementing economies of scale and other strategies in infrastructure development to support alternative-fuel fleets.
9. The Public Transit Bus Fleet Rule Status Report, dated March 2002, included as Attachment A to this resolution and incorporated by reference herein adequately sets forth the status of implementation of the Public Transit Bus Fleet Rule, as required in Resolution 01-31.

NOW, THEREFORE, BE IT RESOLVED, that the Board hereby approves the Public Transit Bus Fleet Rule Status Report.

BE IT FURTHER RESOLVED, that the Board directs the Executive Officer to pursue enforcement against those transit agencies that do not meet the required NOx fleet average of 4.8 g/bhp-hr by October 1, 2002, while being sensitive to the difficulties faced by smaller, rural transit agencies in meeting the requirements.

BE IT FURTHER RESOLVED, that the Board directs the Executive Officer to continue working with and monitoring progress by the seven transit agencies that have been approved for the alternative NOx strategy exemption, including assisting the transit agencies in the demonstration of advanced NOx aftertreatment technology.

BE IT FURTHER RESOLVED, that the Board directs the Executive Officer to make the necessary regulatory changes to the diesel PM retrofit implementation schedule

to achieve as close to the same reductions in diesel PM as feasible when compared to the implementation schedule in the current regulation, but which would otherwise not be achieved because of technological limitations unless changes were made to the regulation, and to bring a proposal for the Board's consideration by September 2002 to allow transit agencies sufficient time to make purchasing decisions.

I hereby certify that the above is a true and correct copy of Resolution 02-16, as adopted by the Air Resources Board.

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Marie Kavan, Clerk of the Board

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Identification of Attachment to the Resolution

Attachment A: The Public Transit Bus Fleet Rule Status Report