State of California
AIR RESOURCES BOARD

Resolution 06-9

March 23, 2006

Agenda Item No.: 06-3-2

WHEREAS, sections 39600 and 39601 of the Health and Safety Code authorize the Air Resources Board (ARB or 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, 43018, 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, California identified diesel particulate matter (PM) as a toxic air contaminant by regulation (title 17, California Code of Regulations, section 93000) in August 1998;

WHEREAS, ARB adopted the Diesel Risk Reduction Plan in 2000, establishing the goal of reducing emissions from virtually all in-use diesel engines within the State of California by 2010;

WHEREAS, diesel emission control systems have been developed that may be applied to in-use diesel-fueled vehicles and equipment;

WHEREAS, ARB has adopted the Verification Procedure, Warranty and In-Use Compliance Requirements for In-Use Strategies to Control Emissions from Diesel Engines (the Procedure) now contained in sections 2700-2710, title 13, California Code of Regulations;

WHEREAS, the Procedure is used to verify that emission control systems for in-use vehicles provide real and durable reductions in diesel PM emissions; ARB regulations designed to limit PM emissions from in-use diesel engines and vehicles typically require the use of verified systems that meet a specified diesel PM emissions reduction level;

WHEREAS, the staff has proposed the adoption of amendments to the Procedure which are set forth in Attachment A hereto;

WHEREAS, the Board has considered the effects of the proposed amendments on the economy of the State;

WHEREAS, a public hearing and other administrative proceedings have been held in accordance with the provisions of Chapter 3.5 (commencing with section 11340), Part 1, Division 3, Title 2 of the Government Code;

WHEREAS, the Executive Officer has determined that the proposed amendments will not have a significant, if any, impact on the creation or elimination of jobs within the State of California, the creation of new businesses or elimination of existing businesses within California, or the expansion of businesses currently doing business within California;

WHEREAS, the Board finds that:

1. In California, diesel PM accounted for approximately 70 percent of all air toxics in 2000 and the average potential cancer risk associated with diesel PM is over 500 excess cases per million people;

2. Diesel emission control systems have been proven successful in a variety of applications and field demonstration programs;

3. The economic and fiscal impacts of the proposed amendments to the Procedure have been analyzed as required by California law, and the conclusions and supporting documentation for this analysis are set forth in the Initial Statement of Reasons;

WHEREAS, the Board further finds that:

1. The purpose of the Procedure is to ensure effective control systems are available to reduce Californians' exposure to diesel PM; it also limits secondary emissions of nitrogen dioxide (NO_2) because some diesel emission control systems, while highly effective at reducing emissions of diesel PM, also increase emissions of NO_2;

2. The Procedure's limit for NO_2 emissions of 20 percent of the baseline oxides of nitrogen (NOx) emission level was originally scheduled to become effective in 2004, but in February 2004 the Board amended the Procedure to delay the effective date of the NO_2 limit to January 1, 2007, because manufacturers were not able to meet the original 20 percent limit without sacrificing the robustness and breadth of applicability of their products; this delay enabled staff to reevaluate what level of NO_2 control was most appropriate and the potential impacts on air quality;

3. Based on staff's evaluation, most verified PM control devices remain unable to meet the NO_2 limit that begins next year; catalyzed PM filters – the most common high

efficiency retrofit device – need sufficient NO_2 to assure collected PM can be burned off in a wide variety of engine applications and duty cycles, and low NO_2 works against both of these desired features of catalyzed filters;

4. Accordingly, the NO_2 limit set to go into effect January 1, 2007 needs to be relaxed in order to avoid de-verifying many retrofit devices that play an important role in implementing the Board's Diesel Risk Reduction Plan and related programs such as the Public Transit Bus Fleet Rule, the Solid Waste Collection Vehicle Rule, the Carl Moyer Memorial Air Quality Standards Attainment Program, and the Lower-Emissions School Bus Program;

5. Instead of defining the NO_2 limit as a cap on total NO_2 emissions equivalent to 20 percent of the baseline NOx emissions, the proposed amendments limit the incremental increase over the model-specific engine-out level – in other words, the proposed new limit does not include the NO_2 emitted by the engine itself and limits only the NO_2 contributed by the device;

6. The proposed amendments permit a maximum increase of NO_2 equivalent to 30 percent of the total baseline NOx starting January 1, 2007, and most currently verified filters would be able to meet this limit; effective January 1, 2009, the maximum permitted increase would be reduced to 20 percent, a level that would require device manufacturers to redesign their devices to reduce emissions of NO_2;

7. The proposed amendments would also enable more accurate and representative NO_2 measurements by creating more specific pre-conditioning requirements for diesel emission control systems whose NO_2 emissions are influenced by the presence of soot or ash, and restricting test engines to those with representative engine-out NO_2 levels;

8. The proposed amendments would encourage manufacturers to offer diesel emission control systems for sale in California;

9. Because no direct emissions benefits are associated with the staff's proposal, no traditional cost effectiveness can be calculated;

10. There is no alternative considered by the Board that would be more effective in carrying out the purpose for which the regulations are proposed or would be as effective and less burdensome to affected private persons;

WHEREAS, the California Environmental Quality Act and Board regulations require that no project that may have significant adverse environmental impacts be adopted as originally proposed if feasible alternatives or mitigation measures are available to reduce or eliminate such impacts;

WHEREAS, pursuant to the requirements of the California Environmental Quality Act and the Board's regulations, the Board further finds that:

1. The proposed amendments will increase NO_2 emissions, which will result in increases in ozone that constitute a significant adverse environmental impact. Peak ozone in the South Coast Air Basin may be increased by one or two parts per billion (ppb), or about 1 percent, on worst days. Ambient NO_2 concentrations will also increase, but modeling has shown there will be no exceedance of the health protective ambient air quality standard for NO_2;

2. The revised NO_2 limit will assure that highly effective devices that reduce PM emissions will continue to be available for use by diesel vehicle operators facing ARB regulations or other pressures to reduce diesel emissions. Health assessments show that the lower PM emissions result in substantially reduced exposure to diesel PM, and at least several hundred premature deaths in southern California will be avoided annually by continued use of PM filters. This benefit clearly outweighs the increase in ozone and associated adverse health impacts from this increase. Recently, ozone has been associated with premature deaths; the increase in ozone due to the revised NO_2 limit is estimated to reduce the premature deaths from lower PM emissions by less than 1 percent;

3. Except for the cumulative emissions impacts described above, there are no significant cumulative adverse environmental impacts that will occur from the proposed amendments identified above;

4. The adverse environmental impacts from the increase in NO_2 emissions that will result from the proposed amendments are justified by the overriding consideration of the need to achieve the public health benefits that will result from enabling the continued installation of devices that substantially reduce diesel PM emissions from the in-use fleet; and

5. There are no feasible mitigation measures or alternatives that would reduce the potential adverse environmental impacts while at the same time ensuring that the positive environmental impacts are realized (i.e., the reductions in emissions of diesel PM).

NOW, THEREFORE, BE IT RESOLVED that the Board hereby adopts the amendments to sections 2702, 2703, 2704, 2706, 2707 and 2709, title 13, California Code of Regulations, set forth in Attachment A hereto.

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RESOURCES AGENCY OF CALIFORNIA

I hereby certify that the above is a true and correct copy of Resolution 06-9, as adopted by the Air Resources Board.

Lori Andreoni

Lori Andreoni, Clerk of the Board

State of California
Environmental Protection Agency
AIR RESOURCES BOARD

Notice of Decision and Response to Significant Environmental Issues

Item:	Public Hearing to Consider Regulatory Amendments to the Verification Procedure, Warranty and In-Use Compliance Requirements for In-Use Strategies to Control Emissions from Diesel Engines
Adopted By:	Resolution 06-9
Agenda Item:	06-3-2
Public Hearing Date:	March 23, 2006
Issuing Authority:	Air Resources Board
Comment:	No comments were received identifying any significant environmental issues pertaining to this item. The Staff Report identified no adverse environmental effects.
Response:	N/A
Certified:	Alexa Malik Regulations Coordinator
Date:	December 21, 2006

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