MAIL OUT #-93-41

State of California
AIR RESOURCES BOARD

Notice of Public Availability of Modified Text

PUBLIC HEARING TO CONSIDER AMENDMENTS TO REGULATIONS REGARDING CALIFORNIA EXHAUST EMISSION STANDARDS AND TEST PROCEDURES FOR 1985 AND SUBSEQUENT MODEL HEAVY-DUTY DIESEL-ENGINES AND VEHICLES, TO SPECIFY STANDARDS FOR 1994 AND SUBSEQUENT URBAN BUS ENGINES.

Public Hearing Date: June 10, 1993
Public Availability Date: August 20, 1993
Deadline for Public Comment: September 7, 1993

At a public hearing held on June 10, 1993, the Air Resources Board (the "ARB" or "Board") considered amendments to the California Exhaust Emission Standards and Test Procedures for 1985 and Subsequent Model Heavy-Duty Diesel-Engines and Vehicles -- section 1956.8, and amendments to sections 1965 and 2112, Title 13, California Code of Regulations (CCR). These sections deal with new emission standards for 1994 and subsequent urban bus engines, amendments to the emission control label specifications, and amendment of the useful life definition for heavy-duty engines and vehicles, specifically for urban buses. The proposed regulatory action is described in detail in the Staff Report, "Public Hearing to Consider Amendments to Regulations Regarding California Exhaust Emission Standards and Test Procedures for 1985 and Subsequent Model Heavy-Duty Diesel-Engines and Vehicles, to Specify Standards for 1994 and Subsequent Urban Bus Engines," released April 23, 1993.

At the hearing, the Board adopted Resolution 93-46 approving amendments to sections 1956.8, 1965, and 2112, Title 13, CCR, and the incorporated documents, with modifications to the originally proposed regulatory language. These modifications affect:

Section 1956.8 -- Amendments to Regulations Regarding California Exhaust Emission Standards and Test Procedures for 1985 and Subsequent Model Heavy-Duty Diesel-Engines and Vehicles.

The original proposal required the urban bus engine manufacturers to continue using only low-sulfur (0.05%) diesel fuel for certifying to the proposed emission standards. The proposal has been modified to allow the use of California diesel fuel, with 0.05% sulfur and 10% aromatic hydrocarbon content specifications, for certifying urban bus engines. Low-aromatics diesel fuel will only be allowed for the 1996 and 1997 model years to help the manufacturers meet the 1996 4.0 g/bhp-hr NOx standard adopted by the Board. The Board recognized that low-aromatics diesel fuel may help manufacturers in meeting the 4.0 NOx standard, and is consistent with the diesel fuel that will be commercially available in California. However, in 1998, the federal 4.0 g/bhp-hr NOx standard for all heavy-duty vehicles will become effective and will necessitate that federal diesel fuel specifications be used.

Also, the original proposal required that all 1996 and later urban bus engines meet the mandatory 4.0 g/bhp-hr NOx standard. The proposal was modified to allow an exemption from the 1996 4.0 NOx standard of up to 10% of the model-year sales for 1996 and 1997 model-year urban bus engines based on each manufacturer's urban bus engine sales in the three years preceding the model year. The Board recognized the need to provide some flexibility to the manufacturers for 1996 and 1997. However, the exemptions will be based on the technical justification to be submitted to the ARB by the manufacturers.

Attached is a copy of Board Resolution 93-46, approving the above described regulatory action. Attachments A, B, and C to the resolution contain the approved regulatory language, with additions to the originally proposed text shown in ***bolded and underlined italics***.

In accordance with section 11346.8 of the Government Code, the Board directed the Executive Officer to adopt sections 1956.8, 1965, and 2112, as approved, after making the modified regulatory language available to the public for comment for a period of at least 15 days, provided that the Executive Officer shall consider such written comments as may be submitted during this period, shall make such modifications as may be appropriate in light of the comments received, and shall present the regulations to the Board for further consideration if he determines that this is warranted.

Written comments must be submitted to the Board Secretary, Air Resources Board, P.O. Box 2815, Sacramento, California 95812, no later than September 7, 1993, for consideration by the Executive Officer prior to final action. Only comments relating to the modifications described in this notice, will be considered by the Executive Officer.

Sincerely,

K. D. Drachand, Chief
Mobile Source Division

Attachments

State of California
AIR RESOURCES BOARD

Resolution 93-46

June 10, 1993

Agenda Item No.: 93-7-4

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 attacking the serious air pollution problem caused by motor vehicles;

WHEREAS, in Section 43000.5 of the Health and Safety Code, the Legislature has declared that the burden for achieving needed reductions in vehicle emissions should be distributed equitably among various classes of vehicles, including heavy-duty vehicles, to achieve improvements in both the emissions levels and in-use performance;

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

WHEREAS, Section 43018 of the Health and Safety Code directs the Board to endeavor to achieve the maximum degree of emission reduction from vehicular sources to accomplish the attainment of state ambient air quality standards by the earliest practicable date;

WHEREAS, the Legislature in 1991 enacted Section 43806 of the Health and Safety Code, mandating that the Board adopt emission standards and test procedures, applicable to new heavy-duty engines used in transit buses, to be effective on or before January 1, 1996;

WHEREAS, Section 43806 of the Health and Safety Code requires the Board, in adopting the standards, to consider the engine and fuel as a system, to reflect the use of the best emission control technology expected to be available at the time the standards and procedures become effective, and consider the projected costs and availability of cleaner burning alternative fuels and low-emission vehicles compared with other air pollution control measures;

WHEREAS, pursuant to Section 43806 of the Health and Safety Code, the staff has proposed the adoption of amendments to Sections 1956.8, 1965, and 2112, Title 13, California Code of Regulations, to establish new emission standards and test procedures for heavy-duty engines, specifically used in urban buses;

WHEREAS, the transit bus regulations proposed by the staff set forth the engines and vehicles to which the regulations would apply; standards and test procedures; and labeling requirements;

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

WHEREAS, the Board has considered the impact of the proposed regulatory action 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 Board finds that:

Emissions from heavy-duty engines and vehicles contribute significantly to the serious air pollution problem in this state;

Oxides of nitrogen and particulate emissions of heavy-duty engines and vehicles are a significant source of ozone formation and air contaminants, respectively;

Attainment of the state ambient air quality standards cannot be accomplished by the earliest practicable date without the reduction of emissions from heavy-duty engines and vehicles;

While the existing standards have been effective in controlling emissions from heavy-duty engines and vehicles, additional action is required to further reduce emissions from heavy-duty engines and vehicles, including transit buses;

The proposed transit bus regulations will further reduce oxides of nitrogen and particulate emissions from urban buses;

It is necessary and appropriate to adopt the proposed transit bus regulations in order to fulfill the mandate of Health and Safety Code Section 43806;

It is necessary and appropriate that the proposed transit bus regulations apply to urban buses, normally powered by heavy heavy-duty engines, which are owned or operated by California transit agencies;

It is necessary and appropriate that the proposed transit bus regulations require manufacturers to certify heavy-duty engines, used in California urban buses, to the proposed mandatory oxides of nitrogen and particulate emission standards in order to align with federal particulate standards and provide for reductions of oxides of nitrogen;

It is necessary and appropriate that the proposed transit bus regulations adopt an extended useful life of 10 years for the 1994 and later model year urban bus particulate standard in order to align with federal requirements.

It is necessary and appropriate that the proposed transit bus regulations establish the proposed optional oxides of nitrogen emission standards to allow the potential generation and use of oxides of nitrogen emission credits.

It is necessary and appropriate that the proposed transit bus regulations require manufacturers to comply with the proposed labeling requirements which would help identify an urban bus engine by the optional oxides of nitrogen standard to which it is certified.

WHEREAS, the Board further finds that adoption of the regulations approved herein will not have a significant adverse environmental impact and that the regulations are projected to have a positive air quality impact.

NOW, THEREFORE, BE IT RESOLVED that the Board hereby approves amendments to sections 1956.8, 1965, and 2112, Title 13, California Code of Regulations, as set forth in Attachments A, B, and C hereto.

BE IT FURTHER RESOLVED that the Board hereby determines that the regulations approved herein will not cause California motor vehicle emission standards, in the aggregate, to be less protective of public health and welfare than applicable federal standards.

BE IT FURTHER RESOLVED that the Board hereby finds that separate California emission standards and test procedures are necessary to meet compelling and extraordinary conditions.

BE IT FURTHER RESOLVED that the Board finds that the California emission standards and test procedures as approved herein will not cause the California requirements to be inconsistent with section 202(a) of the Clean Air Act and raise no new issues affecting previous waiver determinations of the Administrator of the Environmental Protection Agency pursuant to section 209(b) of the Clean Air Act.

BE IT FURTHER RESOLVED that the Board directs the Executive Officer to adopt the amendments set forth in Attachment A after making them available to the public for a period of 15 days, provided that the Executive Officer shall consider such written comments as may be submitted during this period, shall make modifications as may be appropriate in light of the comments received, and shall present the regulations to the Board for further consideration if he determines that this is warranted.

BE IT FURTHER RESOLVED that the Executive Officer shall, upon adoption, forward the regulations to the Environmental Protection Agency with a request for a waiver or confirmation that the regulations are within the scope of an existing waiver of federal preemption pursuant to section 209(b) of the Clean Air Act, as appropriate.

I hereby certify that the above is a true and correct copy of Resolution 93-46, as adopted by the Air Resources Board.

Pat Hutchens

Pat Hutchens, Board Secretary

ATTACHMENT A

SECTION 1956.8, TITLE 13, CCR

Amend Title 13, California Code of Regulations, sections 1956.8, 1965, and 2112, to read as follows:

Note: The regulatory amendments proposed in this rulemaking are shown in underline to indicate additions to the text and ~~strikeout~~ to indicate deletions. Additions to the originally proposed text are shown in ***bolded and underlined italics***.

1956.8. **Exhaust Emission Standards and Test Procedures - 1985 and Subsequent Model Heavy-Duty Engines and Vehicles.**

(a)(1) The exhaust emissions (A) from new 1985 and subsequent model heavy-duty diesel engines (except methanol-fueled engines) and heavy-duty natural-gas-fueled and liqu~~i~~efied-petroleum-gas-fueled engines derived from diesel-cycle engines, (B) from new 1991 and subsequent model heavy-duty methanol-fueled diesel transit bus engines, and (C) from all new 1993 and subsequent model heavy-duty methanol-fueled, diesel engines, except in all cases engines used in medium-duty vehicles, shall not exceed:

Exhaust Emission Standards
(grams per brake horsepower-hour)

Model Year	Total Hydrocarbons or OMHCE[A]	Optional Non-methane Hydrocarbons[A]	Carbon Monoxide	Oxides of Nitrogen	Particulates
1985-1986	1.3		15.5	5.1	---
1987[B]	1.3		15.5	5.1	---
1988-1989	1.3		15.5	6.0	0.60
1990	1.3	1.2	15.5	6.0	0.60
1991-1993[C]	1.3	1.2	15.5	5.0	0.10
1991-1993[D]	1.3	1.2	15.5	5.0	0.25 [E]
1994 and subsequent	1.3	1.2	15.5	5.0	0.10 [E]
1994-1995[F]	1.3	1.2	15.5	5.0	0.07
1994-1995[G]	1.3	1.2	15.5	3.5 to 0.5	0.07
1996 and[F] subsequent	1.3	1.2	15.5	4.0 [I]	0.05 [H]
1996 and[G] subsequent	1.3	1.2	15.5	2.5 to 0.5	0.05 [H]

A The total or optional non-methane hydrocarbon standards apply to petroleum-fueled, natural-gas-fueled and liqu~~i~~efied-petroleum-gas-fueled engines. The Organic Material Hydrocarbon Equivalent, or OMHCE, standards apply to methanol-fueled engines.

B As an option a manufacturer may elect to certify to the 1988 model-year emission standards one year early, for the 1987 model year.

C These standards apply to urban bus engines only.

D For engines other than urban bus engines. For methanol-fueled engines, these standards shall be applicable beginning with the 1993 model year.

E Emissions averaging may be used to meet this standard. Averaging is restricted to within each useful life subclass and is applicable only through the 1995 model year. Emissions from engines used in urban buses shall not be included in the averaging program. However, emissions from methanol-fueled, natural-gas-fueled and liqu~~i~~efied petroleum-gas-fueled urban bus engines certified to a 0.10 grams per brake horsepower-hour standard for particulates for the 1991-1993 model years, and certified to a 0.07 grams per brake horsepower-hour standard for particulates for the 1994-1995 model years, may be included in the averaging program for petroleum-fueled engines other than urban bus engines.

E These mandatory standards apply to urban bus engines only.

G These optional standards apply to urban bus engines only. A manufacturer may elect to certify to an optional NOx standard by 0.5 grams per brake horsepower-hour increments.

H For in-use testing, a 0.07 gram per brake horsepower-hour standard for particulates shall apply.

I *A manufacturer may apply to the Executive Officer for an exemption from the 4.0 gram per brake horsepower-hour standard for oxides of nitrogen for 1996 and 1997 model year urban bus engines for which the manufacturer can demonstrate a technological need for the exemption. The exemption or exemptions shall not exceed 10 percent of the average of the manufacturer's total urban bus engine sales in California for the three model years prior to the model year for which an exemption is requested. The manufacturer shall submit technical justification for each engine model and shall provide the number of urban bus engine sales in California for the engine model for which the exemption is requested (if any) and for all urban bus engine models for the three preceding model years, to the Executive Officer when the manufacturer applies for the exemption.*

(2) Formaldehyde exhaust emissions from new 1993 and subsequent model methanol-fueled diesel engines, shall not exceed:

Model Year	Formaldehyde (g/bhp-hr)
1993-1995	0.10
1996 and Subsequent	0.05

(b) The test procedures for determining compliance with standards applicable to 1985 and subsequent heavy-duty diesel engines and vehicles are set forth in the "California Exhaust Emission Standards and Test Procedures for 1985 and Subsequent Model Heavy-Duty Diesel Engines and Vehicles", adopted April 8, 1985, as last amended ~~July 12, 1991~~[insert date of amendment], which is incorporated herein by reference.

(c) through (h) [No Change]

NOTE: Authority cited: Sections 39600, 39601, 43013, 43018, 43101, 43103, ~~and~~43104, and 43806, Health and Safety Code, and Vehicle Code section 28114. Reference: Sections 39002, 39003, 43000, 43013, 43018, 43100, 43101, 43101.5, 43102, 43103, 43104, 43106, ~~and~~43204, and 43806, Health and Safety Code.

1965. **Emission Control Labels - 1979 and Subsequent Model-Year Motor Vehicles.**

In addition to all other requirements, emission control labels required by California certification procedures shall conform to the "California Motor Vehicle Emission Control Label Specifications", adopted March 1, 1978, as last amended ~~July 12, 1991~~[insert date of amendment], which is incorporated herein by reference.

NOTE: Authority cited: Sections 39600 and 39601, Health and Safety Code. Reference: Sections 39002, 39003, 43000, 43013, 43100, 43101, 43102, 43103, 43104, and 43107, Health and Safety Code.

2112. **Definitions.**

(a) through (k) [No Change]

(l) "Useful life" means, for the purposes of this Article:

(1) For Class I motorcycles and motorcycle engines (50 to 169 cc or 3.1 to 10.4 cu. in.), a period of use of five years or 12,000 kilometers (7,456 miles), ~~whichever first occurs.~~

(2) For Class II motorcycles and motorcycle engines (170 to 279 cc or 10.4 to 17.1 cu. in.), a period of use of five years or 18,000 kilometers (11,185 miles), whichever first occurs.

(3) For Class III motorcycles and motorcycle engines (280 cc and larger or 17.1 cu. in. and larger), a period of use of five years or 30,000 kilometers (18,641 miles), whichever first occurs.

(4) For 1982 through 1984 model-year diesel heavy-duty vehicles (except medium-duty vehicles), and 1982 through 1984 model-year motor vehicle engines used in such vehicles, a period of use of five years, 100,000 miles, or 3000 hours of operation, whichever first occurs.

(5) For 1982 through 1987 model-year gasoline heavy-duty vehicles (except medium-duty vehicles) certified using the steady-state emission standards and test procedures, and 1982 through 1987 model-year gasoline heavy-duty motor vehicle engines certified using the steady-state emission standards and test procedures, a period of use of five years or 50,000 miles, whichever first occurs.

(6) For 1987 and subsequent model-year gasoline heavy-duty vehicles (except medium-duty vehicles) certified to the transient emission standards and test procedures, and 1987 and subsequent model-year gasoline heavy-duty motor vehicle engines certified using the transient emission standards and test procedures, a period of use of eight years or 110,000 miles, whichever first occurs.

(7) For 1985 and subsequent model-year diesel heavy-duty vehicles (except medium-duty vehicles), and 1985 and subsequent model-year motor vehicle engines used in such vehicles, a period of use of eight years or 110,000 miles, whichever first occurs, for diesel light, heavy-duty vehicles; eight years or 185,000 miles, whichever first occurs, for diesel medium, heavy-duty vehicles; and eight years or 290,000 miles, whichever first occurs, for diesel heavy, heavy-duty vehicles, except as provided in paragraph (11); or any alternative useful life period approved by the Executive Officer. (The classes of diesel light, medium, and heavy, heavy-duty vehicles are defined in 40 CFR section 86.085-2, as amended November 16, 1983.)

(8) For light-duty and medium-duty vehicles certified under the Optional 100,000 Mile Certification Procedure, and motor vehicle engines used in such vehicles, a period of use of ten years or 100,000 miles, whichever first occurs.

(9) For 1995 and subsequent model-year medium-duty vehicles, and motor vehicle engines used in such vehicles and 1992 and subsequent model-year medium-duty low-emission and ultra-low-emission vehicles, and motor vehicle engines used in such vehicles, a period of use of eleven years or 120,000 miles, whichever occurs first.

(10) For all other light-duty and medium-duty vehicles, and motor vehicle engines used in such vehicles, a period of use of five years or 50,000 miles, whichever first occurs. For those passenger cars, light-duty trucks and medium-duty vehicles certified pursuant to section 1960.1.5, Title 13, California Code of Regulations, the useful life shall be seven years or 75,000 miles, whichever first occurs; however, the manufacturer's reporting and recall responsibility beyond 5 years or 50,000 miles shall be limited, as provided in section 1960.1.5. For those passenger cars and light-duty trucks certified pursuant to Title 13, California Code of Regulations, section 1960.1(f) and section 1960.1(g), the useful life shall be ten years or 100,000 miles, whichever first occurs; however, for those vehicles certified under section 1960.1(f), the manufacturer's warranty failure and defects reporting and recall responsibility shall be subject to the conditions and standards specified in section 1960.1(f).

(11) For 1994 and subsequent model-year heavy heavy-duty diesel urban buses, and 1994 and subsequent model-year heavy heavy-duty diesel engines to be used in urban buses, for the particulate standard, a period of use of ten years or 290,000 miles, whichever first occurs; or any alternative useful life period approved by the Executive Officer.

(m) [No Change]

(n) [No Change]

Appendix A to Article 2.1 [No Change]

NOTE: Authority cited: Sections 39600, 39601, 43013, 43018, 43101, 43104, and 43105, Health and Safety Code. Reference: Sections 39002, 39003, 43000, 43009.5, 43013, 43018, 43100, 43101, 43101.5, 43102, 43103, 43104, 43105, 43106, 43107, and 43204-43205.5 Health and Safety Code.

ATTACHMENT B

PROPOSED

State of California
AIR RESOURCES BOARD

CALIFORNIA EXHAUST EMISSION STANDARDS AND TEST PROCEDURES FOR 1985 AND SUBSEQUENT MODEL HEAVY-DUTY DIESEL-ENGINES AND VEHICLES

Adopted:	April 8, 1985
Amended:	July 29, 1986
Amended:	January 22, 1990
Amended:	May 15, 1990
Amended:	December 26, 1990
Amended:	July 12, 1991
Amended:	October 23, 1992
Amended:	[ ]
Amended:	_____

NOTE: This document is printed in a style to indicate amendments to the existing standards and test procedures. The amendments made in the present rulemaking are shown in underline to indicate additions to the text and ~~strikeout~~ to indicate deletions. Additions to the originally proposed text are shown in ***bolded and underlined italics***.

This document incorporates by reference various sections of the Code of Federal Regulations, some with modifications. Federal language for a specific section which is not to be included in these procedures is denoted by the word "DELETE". The symbols "*****" mean that the remainder of the federal text for a specific section, which is not shown in these procedures, has been included by reference, with only the printed text changed. For those portions of federal provisions incorporated in this document with modifications, the new federal provisions are underlined and the modifications to those provisions are displayed in double underline and ~~strikeout~~ to indicate additions to and deletions from the federal language. The symbols "#####" mean that the remainder of the text of these procedures for a specific section, which is not shown in this amendment document, has not been changed.

On December 10, 1992, the Board approved amendments to various provisions in the test procedures entitled "California Exhaust Emission Standards and Test Procedures for 1985 and Subsequent Model Heavy-Duty Diesel-Engines and Vehicles." These amendments have not yet been formally approved by the Office of Administrative Law. Therefore, the amended dates listed on the cover page to the test procedures include a bracketed entry to reserve space for this approval date. The amendments made in the December 1992 action are shown in *italics*.

CALIFORNIA EXHAUST EMISSION STANDARDS AND TEST PROCEDURES
FOR 1985 AND SUBSEQUENT MODEL
HEAVY-DUTY DIESEL-ENGINES AND VEHICLES

The following provisions of Subparts A, I, and N, Part 86, Title 40, Code of Federal Regulations, as adopted or amended by the U.S. Environmental Protection Agency on the date listed, and only to the extent they pertain to the testing and compliance of exhaust emissions from heavy-duty Diesel-engines and vehicles, are adopted and incorporated herein by this reference as the California Exhaust Emission Standards and Test Procedures for 1985 and Subsequent Model Heavy-Duty Diesel-Engines and Vehicles, except as altered or replaced by the provisions set forth below.

# # # # #

86.093-2 Definitions. March 24, 1993.

The definitions of 86.092-2 remain effective. The definitions listed in this section apply beginning with the 1993 model year.

* * * * *

Urban bus means a passenger-carrying vehicle powered by a heavy heavy-duty diesel engine, or of a type normally powered by a heavy heavy-duty diesel engine, with a load capacity of fifteen or more passengers and intended primarily for intra-city operation, i.e., within the confines of a city or greater metropolitan area. Urban bus operation is characterized by short rides and frequent stops. To facilitate this type of operation, more than one set of quick-operating entrance and exit doors would normally be installed. Since fares are usually paid in cash or tokens, rather than purchased in advance in the form of tickets, urban buses would normally have equipment installed for collection of fares. Urban buses are also typically characterized by the absence of equipment and facilities for long distance travel, e.g., rest rooms, large luggage compartments, and facilities for stowing carry-on luggage. The useful life for urban buses is the same as the useful life for other heavy heavy-duty diesel engines.

* * * * *

86.094-2 Definitions. March 24, 1993.

* * * * *

Useful life means:

* * * * *

(d) For a diesel heavy-duty engine family:

(1) For light heavy-duty diesel engines, a period of use of 8 years or 110,000 miles, whichever first occurs.

(2) For medium heavy-duty diesel engines, a period of use of 8 years or 185,000 miles, whichever first occurs.

(3) For heavy heavy-duty diesel engines, a period of use of 8 years or 290,000 miles, whichever first occurs, except as provided in paragraph (4).

(4) For heavy heavy-duty diesel engines used in urban buses, for the particulate standard, a period of use of 10 years or 290,000 miles, whichever first occurs.

* * * * *

# # # # #

86.094-11 Emission standards for 1994 and later model year diesel heavy-duty engines and vehicles. A~~pril 11, 1989~~March 24, 1993.

* * * * *

(a)(1)(iv) Particulate. (A) For diesel engines to be used in urban buses, 0.07 gram per brake horsepower-hour (0.026 gram per megajoule), as measured under transient operating conditions.

(B) For all other diesel engines only, 0.10 gram per brake horsepower-hour (0.037 gram per megajoule), as measured under transient operating conditions.

(a)(1)(iv)~~(B)~~(C) A manufacturer may elect to include all or some of its diesel heavy-duty engine families in the appropriate heavy-duty particulate averaging program (petroleum or methanol or gaseous fuel), provided that engines produced for sale in California or in 49-state areas may be averaged only within each of those areas. Dual-fuel and multi-fuel engines may not be included in the diesel particulate averaging program. With the exceptions regarding methanol-fueled or gaseous-fuel diesel urban bus engines as noted below, averaging is not permitted between fuel types. Non-methanol-fueled and non-gaseous-fuel engines for use in urban buses may not be included in either heavy-duty particulate averaging program. Emissions from methanol-fueled and dedicated gaseous-fuel urban bus engines certified to 0.10 grams per brake horsepower-hour particulates for 1991-1993 model years, and certified to 0.07 grams per brake horsepower-hour particulates for 1994-1995 model years, may be included in the averaging program for petroleum fueled engines other than urban bus engines. Averaging is limited to engines within a given primary service class as defined in 86.085-2. Averaging across primary service classes is not permitted. If the manufacturer elects to participate in either averaging program, individual family particulate limits may not exceed 0.60 gram per brake horsepower-hour (0.22 grams per megajoule). Heavy-duty diesel engines converted to methanol fuel or gaseous fuel may be used to comply with

the urban bus particulate standard and may be used in the diesel particulate averaging program. Such engines must comply with all applicable heavy-duty diesel engine emission standards and test procedures in this Part.

* * * * *

(a)(2) A manufacturer may elect to certify 1994 and 1995 model year heavy heavy-duty diesel engines to be used in urban buses to an optional oxides of nitrogen emission standard between 0.5 grams per brake horsepower-hour and 3.5 grams per brake horsepower-hour at 0.5 grams per brake horsepower-hour increments, as measured under transient operating conditions.

(b)(1) The opacity of smoke emission from new 1994 and later model year petroleum-fueled diesel heavy-duty engines shall not exceed:

* * * * *

86.096-11 Emission standards for 1996 and later model year diesel heavy-duty engines and vehicles. March 24, 1993.

(a) Exhaust emission from new 1996 and later model year diesel heavy-duty engines shall not exceed the following:

(1)(i) Hydrocarbons (for petroleum-fueled diesel engines). 1.3 grams per brake horsepower-hour (0.48 gram per megajoule), as measured under transient operating conditions.

(ii) Organic Material Hydrocarbon Equivalent (for methanol-fueled diesel engines). 1.3 grams per brake horsepower-hour (0.48 gram per megajoule), as measured under transient operating conditions.

(iii) Non-methane hydrocarbons (an option for diesel, natural gas, or liquefied petroleum gas engines). 1.2 grams per brake horsepower-hour, as measured under transient operating conditions.

(2) Carbon monoxide. (i) 15.5 grams per brake horsepower-hour (5.77 grams per megajoule), as measured under transient operating conditions.

(ii) 0.50 percent of exhaust gas flow at curb idle (methanol-fueled diesel only).

(3) Oxides of Nitrogen. (i) For diesel engines to be used in urban buses, 4.0 grams per brake horsepower-hour, as measured under transient operating conditions.

~~(i)~~ (ii) For all other diesel engines only, 5.0 grams per brake horsepower-hour (1.9 grams per megajoule), as measured under transient operating conditions.

~~(ii)~~ (iii) DELETE

(iv) A manufacturer may apply to the Executive Officer for an exemption from the 4.0 gram per brake horsepower-hour standard for oxides of nitrogen for 1996 and 1997 model year urban bus engines for which the manufacturer can demonstrate a technological need for the exemption. The exemption or exemptions shall not exceed 10 percent of the average of the manufacturer's total urban bus engine sales in California for the three model years prior to the model year for which an exemption is requested. The manufacturer shall submit technical justification for each engine model and shall provide the number of urban bus engine sales in California for the engine model for which the exemption is requested (if any) and for all urban bus engine models for the three preceding model years, to the Executive Officer when the manufacturer applies for the exemption.

(4) Particulate. (i) For diesel engines to be used in urban buses, 0.05 gram per brake horsepower-hour (0.019 gram per megajoule) for certification testing ~~and selective enforcement audit testing~~, and 0.07 gram per brake horsepower-hour (0.026 gram per megajoule) for in-use testing, as measured under transient operating conditions.

(ii) For all other diesel engines only, 0.10 gram per brake horsepower-hour (0.037 gram per megajoule), as measured under transient operating conditions.

(iii) DELETE

~~(5) A manufacturer may elect to certify 1996 and later model year heavy~~ heavy-duty diesel engines to be used in urban buses to an optional oxides of nitrogen emission standard between 0.5 grams per brake horsepower-hour and 2.5 grams per brake horsepower-hour at 0.5 grams per brake horsepower-hour increments, as measured under transient operating conditions.

(b)(1) The opacity of smoke emission from new 1996 and later model year petroleum-fueled diesel heavy-duty engines shall not exceed:

* * * * *

\# \# \# \# \#

86.085-35 Labeling. Labels shall comply with the requirements set forth in the "California Motor Vehicle Emission Control Label Specifications", as last amended ~~July 12, 1991~~[insert date of amendment].

\# \# \# \# \#

86.1313-90 Fuel specifications. April 11, 1989.

* * * * *

(b)(2) Except as noted below, petroleum fuel for diesel engines... shall be used. *For 1993 and subsequent model-year diesel-fueled engines, the petroleum fuel used in exhaust emissions testing may meet the specifications in Table N94-2 of 40 Code of Federal Regulations section 86.1313-94(b)(2), as adopted August 21, 1990, or substantially equivalent specifications approved by the Executive officer as an option to the specifications in Table N90-2.* For 1995 and subsequent model-year medium-duty diesel-fueled engines, ***and for 1996 and 1997 model-year urban bus engines only,*** the petroleum fuel used in exhaust emissions testing may meet the specifications of the general reference fuel in Section ~~2256~~ *2282* (g)(3), Title 13, California Code of Regulations, or substantially equivalent specifications approved by the Executive Officer as an option to the specifications in Table N90-2.

(b)(3) Except as noted below, petroleum fuel for diesel engines... shall be used. *For 1993 and subsequent model-year diesel-fueled engines, excluding the 1995 and subsequent model-year medium-duty diesel-fueled engines referenced below, the petroleum fuel used in service accumulation may meet the specifications in Table N94-3 of 40 Code of Federal Regulations section 86.1313-94(b)(3), as adopted August 21, 1990, or substantially equivalent specifications approved by the Executive Officer as an option to the specifications in Table N90-3.* For 1995 and subsequent model-year medium-duty diesel-fueled engines, ***and for 1996 and 1997 model-year urban bus engines only,*** diesel fuel representative of commercial diesel fuel which will be generally available through retail outlets shall be used in service accumulation.

\# \# \# \# \#

Additional Requirements

\# \# \# \# \#

7. Non-methane hydrocarbon emissions shall be measured in accordance with the "California Non-methane Hydrocarbon Test Procedures" as last amended ~~May 15, 1990~~July 12, 1991, which is incorporated herein by reference.

\# \# \# \# \#

ATTACHMENT C

PROPOSED

State of California
AIR RESOURCES BOARD

CALIFORNIA MOTOR VEHICLE EMISSION CONTROL LABEL SPECIFICATIONS

Adopted:	March 1, 1978
Amended:	June 16, 1982
Amended:	April 26, 1984
Amended:	April 8, 1985
Amended:	April 25, 1986
Amended:	June 2, 1988
Amended:	July 21, 1988
Amended:	January 22, 1990
Amended:	May 15, 1990
Amended:	July 12, 1991
Amended:	_____

NOTE: Amendments to the labeling specifications made in this rulemaking are shown in underline to indicate additions.

State of California

AIR RESOURCES BOARD

California Motor Vehicle Emission Control

Label Specifications

1. through 3. [No Change]

3. Label Content and Location.

(a) The tune-up label shall contain the following information lettered in the English language in block letters and numerals which shall be of a color that contrasts with the background of the label:

i. through viii. [No Change]

ix. An unconditional statement of compliance with the appropriate model-year California regulations; for example, "This vehicle (or engine, as applicable) conforms to California regulations applicable to _____ model-year new _____ (for 1992 and subsequent model-years, specify TLEV, LEV, ULEV, or ZEV, as applicable) _____ (specify motorcycles, passenger cars, light-duty trucks, medium-duty vehicles, heavy-duty otto-cycle engines, or heavy-duty diesel engines, as applicable)." For federally certified vehicles certified for sale in California the statement must include the phrase "conforms to U.S. EPA regulations and is

certified for sale in California." For Class III motorcycles for sale in California, the statement must include the phrase "is certified to _____ HC engine family exhaust emission standard in California." For incomplete light-duty truck and incomplete medium-duty vehicles the label shall contain the following statement in lieu of the above:

> "This vehicle conforms to California regulations applicable to _____ model-year new _____ (for 1992 and subsequent model-years specify LEV or ULEV as applicable) vehicles when completed at a maximum curb weight of ____ pounds and a maximum frontal area of _____square feet."

For 1994 and later model year heavy heavy-duty diesel engines to be used in urban buses that are certified to the optional emission standards, the label shall contain the following statement in lieu of the above:

> "This engine conforms to California regulations applicable to _____ model-year new urban bus engines and is certified to a NOx emission standard of _____ g/bhp-hr (for optional emission standards specify between 0.5 and 3.5 at 0.5 g/bhp-hr increments for 1994 and 1995 model years and between 0.5 and 2.5 at 0.5 g/bhp-hr increments for 1996 and later model years)."

Manufacturers may elect to use a supplemental label in addition to the original label if there is not sufficient space to include all the required information. The

supplemental label must conform to all specifications as the original label. In the case that a supplemental label is used, the original label shall be numbered "1 of 2" and the supplemental label shall be numbered "2 of 2."

(b) through (d) [No Change]

4. through 10. [No Change]