State of California
AIR RESOURCES BOARD

Resolution 95-26

June 29, 1995

Agenda Item No.: 95-6-1

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 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 emissions from heavy-duty engines and vehicles are a significant source of ozone formation and other air contaminants;

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;

The proposed regulations will further reduce oxides of nitrogen emissions from heavy-duty vehicles;

It is necessary and appropriate that the proposed regulations require manufacturers to certify heavy-duty engines, used in California heavy-duty vehicles, to the proposed mandatory oxides of nitrogen emission standards to provide for reductions of oxides of nitrogen;

It is necessary and appropriate that the proposed regulations adopt an extended useful life of 10 years for the 1998 and later model year heavy-duty oxides of nitrogen standards;

It is necessary and appropriate that the proposed regulations establish the proposed optional oxides of nitrogen emission standards to allow the use of incentive programs for the early introduction of reduced-emission heavy-duty vehicles and to allow the potential generation and use of oxides of nitrogen emission reduction credits; and

It is necessary and appropriate that the proposed regulations require manufacturers to comply with the proposed labeling requirements which would help identify a heavy-duty 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 adopts amendments to sections 1956.8, 1965, and 2112, Title 13, California Code of Regulations, as set forth in Attachment A hereto.

BE IT FURTHER RESOLVED that the Board hereby determines that the regulations adopted 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 adopted 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 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 95-26, as adopted by the Air Resources Board.

Pat Hutchens

Pat Hutchens, Board Secretary

ATTACHMENT A

Amend the following sections of Title 13, California Code of Regulations, to read as set forth on the following pages:

Section 1956.8	- Exhaust Emission Standards and Test Procedures - 1985 and Subsequent Model Heavy-Duty Engines and Vehicles
Section 1965	- Emission Control Labels - 1979 and Subsequent Model-Year Motor Vehicles
Section 2112	- Definitions

Note: The regulatory amendments proposed in this rulemaking are shown in underline to indicate additions to the text and ~~strikeout~~ to indicate deletions.

SECTION 1956.8, TITLE 13, CCR

Amend Title 13, California Code of Regulations, section 1956.8 to read as follows:

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 liquefied-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~~ -1997	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
1995-1997[I]	1.3	1.2	15.5	3.5 to 0.5	0.10
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]
1998 and[K] subsequent	1.3	1.2	15.5	4.0	0.10
1998 and[J] subsequent	1.3	1.2	15.5	2.5 to 0.5	0.10

[A] The total or optional non-methane hydrocarbon standards apply to petroleum-fueled, natural-gas-fueled and liquefied-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 liquefied-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.

[F] 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.

J These are optional standards and apply to all heavy-duty engines excluding urban bus engines. A manufacturer may elect to certify to an optional NOx standard between the values, inclusive, by 0.5 grams per brake horsepower-hour increments.

K These mandatory standards apply to all heavy-duty engines except urban bus engines.

(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 [_____], which is incorporated herein by reference.

(c)(1) The exhaust emissions from (A) new 1987 and subsequent model heavy-duty otto-cycle engines, (except methanol-fueled engines; and except heavy-duty otto-cycle natural-gas-fueled and liquefied-petroleum-gas-fueled otto-cycle engines derived from diesel-cycle engines;) and (B) from new 1993 and subsequent model heavy-duty methanol-fueled otto-cycle 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[B]	Oxides of Nitrogen
1987[C]	1.1 [D] 1.9 [E]		14.4 [D] 37.1 [E]	10.6 10.6
1988-1989	1.1 [D] 1.9 [E]		14.4 [D] 37.1 [E]	6.0 6.0
1990	1.1 1.9 [E]	0.9 [D] 1.7 [E]	14.4 [D] 37.1 [E]	6.0 6.0
1991-1994	1.1 [D] 1.9 [E]	0.9 [D] 1.7 [E]	14.4 [D] 37.1 [E]	5.0 5.0
1995 ~~and subsequent~~ -1997	1.9 [E]	1.7 [E]	37.1 [E]	5.0
1995-1997	1.9 [E]	1.7 [E]	37.1	2.5 to 0.5 [F]
1998 and subsequent	1.9 [E]	1.7 [E]	37.1	4.0
1998 and subsequent	1.9 [E]	1.7 [E]	37.1	1.5 to 0.5 [F]

[A] The total or optional non-methane hydrocarbon standards apply to petroleum-fueled, natural-gas-fueled and liquefied-petroleum-gas-fueled engines. The Organic Material Hydrocarbon Equivalent, or OMHCE, standards apply to methanol-fueled engines.

[B] Carbon Monoxide emissions from engines utilizing exhaust aftertreatment technology shall also not exceed 0.5 percent of the exhaust gas flow at curb idle.

[C] Manufacturers with existing heavy-duty otto-cycle engines certified to the California 1986 steady-state emission standards and test procedures may as an option certify those engines, for the 1987 model year only, in accordance with the standards and test procedures for 1986 heavy-duty otto-cycle engines established in Section 1956.7.

[D] These standards are applicable to otto-cycle engines intended for use in all heavy-duty vehicles.

E Applicable to heavy-duty otto-cycle engines intended for use only in vehicles with a gross vehicle weight rating greater than 14,000 pounds. Also, as an option, a manufacturer may certify one or more 1988 through 1994 otto-cycle heavy-duty engine configurations intended for use in all heavy-duty vehicles to these emission standards, provided that the total model-year sales of such configuration(s) being certified to these emission standards represent no more than 5 percent of total model-year sales of all otto-cycle heavy-duty engines intended for use in vehicles with a Gross Vehicle Weight Rating of up to 14,000 pounds by the manufacturer.

E <u>These are optional standards and apply to all heavy-duty engines intended for use only in vehicles with a gross vehicle weight greater than 14,000 pounds. A manufacturer may elect to certify to an optional standard between the values, inclusive, by 0.5 grams per brake horsepower-hour increments.</u>

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

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

(d) The test procedures for determining compliance with standards applicable to 1987 and subsequent model heavy-duty otto-cycle engines and vehicles are set forth in the "California Exhaust Emission Standards and Test Procedures for 1987 and Subsequent Model Heavy-Duty Otto-Cycle Engines and Vehicles," adopted April 25, 1986, as last amended [_____], which is incorporated by reference herein.

(e) through (h) [No Change]

NOTE: Authority cited: Sections 39600, 39601, 43013, 43018, 43101, 43103, 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, 43204, and 43806, Health and Safety Code.

SECTION 1965, TITLE 13, CCR

Amend section 1965, Title 13, California Code of Regulations, as follows:

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 [_____], 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.

SECTION 2112, TITLE 13, CCR

Amend title 13, California Code of Regulations, section 2112 to read as follows:

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, except as noted in paragraph (12).

(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 paragraphs (11), (13), (14) and (15); 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.

(12) For 1998 and subsequent model-year gasoline heavy-duty engines, for the NOx standard, a period of use of ten years or 110,000 miles, whichever first occurs; or any alternative useful life period approved by the Executive Officer.

(13) For 1998 and subsequent model-year light heavy-duty diesel engines, for the NOx standard, a period of use of ten years or 110,000 miles, whichever first occurs; or any alternative useful life period approved by the Executive Officer.

(14) For 1998 and subsequent model-year medium heavy-duty diesel engines, for the NOx standard, a period of use of ten years or 185,000 miles, whichever first occurs; or any alternative useful life period approved by the Executive Officer.

(15) For 1998 and subsequent model-year heavy heavy-duty diesel engines, for the NOx 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.