

**NOTICE PUBLICATION/REGULATIONS SUBMISSION**

(See instructions on reverse)

For use by Secretary of State only

STD. 400 (REV. 2-91)

AGENCY <b>AIR RESOURCES BOARD</b>		AGENCY FILE NUMBER (if any)	
OAL FILE NUMBERS	NOTICE FILE NUMBER <b>295-0502-11</b>	REGULATORY ACTION NUMBER <b>951108-025</b>	EMERGENCY NUMBER
		PREVIOUS REGULATORY ACTION NUMBER	

ENDORSED FILED  
IN THE OFFICE OF  
DEC 14 PM 3:25

For use by Office of Administrative Law (OAL) only

RECEIVED FOR FILING 1995 MAY -2 PM 4:40 PUBLICATION DATE MAY 2 - '95 OFFICE OF ADMINISTRATIVE LAW Office of Administrative Law	1995 NOV 9 PM 4:07 APPROVED OFFICE OF ADMINISTRATIVE LAW DEC 14 1995 Office of Administrative Law
NOTICE	REGULATIONS

Bill Jones  
SECRETARY OF STATE

**A. PUBLICATION OF NOTICE (Complete for publication in Notice Register)**

TOPIC OF NOTICE <b>California HDV Exhaust Emission Standards</b>	TITLE(S) <b>13</b>	FIRST SECTION AFFECTED <b>1956.8</b>	2. REQUESTED PUBLICATION DATE <b>May 12, 1995</b>
NOTICE TYPE <input checked="" type="checkbox"/> Notice re Proposed Regulatory Action <input type="checkbox"/> Other	4. AGENCY CONTACT PERSON <b>Diane Moritz Glazer</b>		TELEPHONE NUMBER <b>(916) 322-2884</b>
OAL USE ONLY <input checked="" type="checkbox"/> Approved as Submitted <input type="checkbox"/> Approved as Modified <input type="checkbox"/> Disapproved/Withdrawn	NOTICE REGISTER NUMBER <b>95, 192</b>		PUBLICATION DATE <b>5/12/95</b>

**B. SUBMISSION OF REGULATIONS (Complete when submitting regulations)**

1. SPECIFY CALIFORNIA CODE OF REGULATIONS TITLE(S) AND SECTION(S) (Including title 26, if toxics-related)

TITLE(S) <b>13</b>	ADOPT
SECTIONS AFFECTED	AMEND <b>1956.8, 1965, 2112 and the incorporated documents</b>
	REPEAL

2. TYPE OF FILING

Regular Rulemaking (Gov. Code, § 11346)  
 Resubmittal  
 Changes Without Regulatory Effect (Cal. Code Regs., title 1, § 100)  
 Emergency (Gov. Code, § 11346.1(b))

Certificate of Compliance: The agency officer named below certifies that this agency complied with the provisions of Government Code §§ 11346.4 - 11346.8 prior to, or within 120 days of, the effective date of the regulations listed above.

Print Only  
 Other (specify)

3. DATE(S) OF AVAILABILITY OF MODIFIED REGULATIONS AND/OR MATERIAL ADDED TO THE RULEMAKING FILE (Cal. Code Regs. title 1, §§ 44 and 45)

N/A

4. EFFECTIVE DATE OF REGULATORY CHANGES (Gov. Code § 11346.2)

Effective 30th day after filing with Secretary of State  
 Effective on filing with Secretary of State  
 Effective other (Specify)

5. CHECK IF THESE REGULATIONS REQUIRE NOTICE TO, OR REVIEW, CONSULTATION, APPROVAL OR CONCURRENCE BY, ANOTHER AGENCY OR ENTITY N/A

Department of Finance (Form STD. 399)  
 Fair Political Practices Commission  
 State Fire Marshal  
 Other (Specify)

6. CONTACT PERSON

**Diane Moritz Glazer, Staff Counsel**

TELEPHONE NUMBER  
**(916) 322-2884**

7. I certify that the attached copy of the regulation(s) is a true and correct copy of the regulation(s) identified on this form, that the information specified on this form is true and correct, and that I am the head of the agency taking this action, or a designee of the head of the agency, and am authorized to make this certification.

SIGNATURE OF AGENCY HEAD OR DESIGNEE

DATE  
**October 20, 1995**

TYPED NAME AND TITLE OF SIGNATORY  
**James D. Boyd, Executive Officer**

## FINAL REGULATION ORDER

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 Diesel Engines and Vehicles
- Exhaust Emission Standards and Test Procedures - 1987 and Subsequent Model Heavy-Duty Otto-Cycle Engines and Vehicles
- Section 1965 - Emission Control Labels - 1979 and Subsequent Model-Year Motor Vehicles
- Section 2112 - Definitions

Note: The regulatory amendments contained 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 <sup>A</sup>	Optional Non-methane Hydrocarbons <sup>A</sup>	Carbon Monoxide	Oxides of Nitrogen	Particulates
1985-1986	1.3		15.5	5.1	---
1987 <sup>B</sup>	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 <sup>C</sup>	1.3	1.2	15.5	5.0	0.10
1991-1993 <sup>D</sup>	1.3	1.2	15.5	5.0	0.25 <sup>E</sup>
1994 and subsequent <del>subsequent</del> -1997	1.3	1.2	15.5	5.0	0.10 <sup>E</sup>
1994-1995 <sup>F</sup>	1.3	1.2	15.5	5.0	0.07
1994-1995 <sup>G</sup>	1.3	1.2	15.5	3.5 to 0.5	0.07
<u>1995-1997<sup>I</sup></u>	<u>1.3</u>	<u>1.2</u>	<u>15.5</u>	<u>3.5 to 0.5</u>	<u>0.10</u>

1996 and <sup>F</sup> subsequent	1.3	1.2	15.5	4.0 <sup>I</sup>	0.05 <sup>H</sup>
1996 and <sup>G</sup> subsequent	1.3	1.2	15.5	2.5 to 0.5	0.05 <sup>H</sup>
<u>1998 and<sup>K</sup> subsequent</u>	<u>1.3</u>	<u>1.2</u>	<u>15.5</u>	<u>4.0</u>	<u>0.10</u>
<u>1998 and<sup>I</sup> subsequent</u>	<u>1.3</u>	<u>1.2</u>	<u>15.5</u>	<u>2.5 to 0.5</u>	<u>0.10</u>

- <sup>A</sup> 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.
- <sup>B</sup> As an option a manufacturer may elect to certify to the 1988 model-year emission standards one year early, for the 1987 model year.
- <sup>C</sup> These standards apply to urban bus engines only.
- <sup>D</sup> For engines other than urban bus engines. For methanol-fueled engines, these standards shall be applicable beginning with the 1993 model year.
- <sup>E</sup> 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.
- <sup>F</sup> These mandatory standards apply to urban bus engines only.
- <sup>G</sup> 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.

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

<sup>I</sup> 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.

<sup>J</sup> 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.

<sup>K</sup> 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 ~~September 22, 1994~~ June 29, 1995, 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 <sup>A</sup>	Optional Non-methane Hydrocarbons <sup>A</sup>	Carbon Monoxide <sup>B</sup>	Oxides of Nitrogen
1987 <sup>C</sup>	1.1 <sup>D</sup> 1.9 <sup>E</sup>		14.4 <sup>D</sup> 37.1 <sup>E</sup>	10.6 10.6
1988-1989	1.1 <sup>D</sup> 1.9 <sup>E</sup>		14.4 <sup>D</sup> 37.1 <sup>E</sup>	6.0 6.0
1990	1.1 1.9 <sup>E</sup>	0.9 <sup>D</sup> 1.7 <sup>E</sup>	14.4 <sup>D</sup> 37.1 <sup>E</sup>	6.0 6.0
1991-1994	1.1 <sup>D</sup> 1.9 <sup>E</sup>	0.9 <sup>D</sup> 1.7 <sup>E</sup>	14.4 <sup>D</sup> 37.1 <sup>E</sup>	5.0 5.0
1995 and subsequent -1997	1.9 <sup>E</sup>	1.7 <sup>E</sup>	37.1 <sup>E</sup>	5.0
<u>1995-1997</u>	<u>1.9<sup>E</sup></u>	<u>1.7<sup>E</sup></u>	<u>37.1</u>	<u>2.5 to 0.5<sup>E</sup></u>
<u>1998 and subsequent</u>	<u>1.9<sup>E</sup></u>	<u>1.7<sup>E</sup></u>	<u>37.1</u>	<u>4.0</u>
<u>1998 and subsequent</u>	<u>1.9<sup>E</sup></u>	<u>1.7<sup>E</sup></u>	<u>37.1</u>	<u>1.5 to 0.5<sup>E</sup></u>

<sup>A</sup> 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.

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

<sup>C</sup> 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.
- F 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.

(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 ~~September 22, 1994~~ June 29, 1995, 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 ~~March 24, 1995~~ June 29, 1995, 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 (13).

(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), (14), (15) and (16); 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 1997 and subsequent model year off-road motorcycles, all-terrain vehicles, and engines used in such vehicles, a period of use of five year or 10,000 kilometers (6,250 miles), whichever first occurs.

(13) 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.

(14) 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.

(15) 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.

(16) 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.

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

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: October 22, 1993  
Amended: March 24, 1994  
Amended: September 22, 1994  
Amended: June 29, 1995

**NOTE:** This document is printed in a style to indicate amendments to the existing California 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.

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 the federal provisions incorporated in this document with modifications, the modifications to the federal text are displayed in double underline and ~~strikeout~~. 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.

## 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.

The federal regulations contained in the Subparts identified above which pertain to oxides of nitrogen emission averaging shall not be applicable to these procedures. The federal regulations contained in the Subparts identified above which pertain to particulate emission averaging shall not be applicable to these procedures for 1996 and later model engines and vehicles. The smoke exhaust test procedures shall be applicable to California petroleum-fueled, liquefied-petroleum gas-fueled, and compressed-natural gas fueled heavy-duty Diesel engines and vehicles for 1988 and later model years.

Starting with the 1990 model year, these regulations shall be applicable to all heavy-duty Diesel natural-gas-fueled and liquefied-petroleum gas-fueled engines (and vehicles) including those engines derived from existing Diesel engines. For any engine which is not a distinctly Diesel engine nor derived from such, the Executive Officer shall determine whether the engine shall be subject to these regulations or alternatively to the heavy-duty Otto-cycle engine regulations, in consideration of the relative similarity of the engine's torque-speed characteristics and vehicle applications with those of Diesel and Otto-cycle engines.

The regulations concerning the certification of methanol-fueled diesel urban bus engines are not applicable in California until 1991 and subsequent model years. The regulations concerning the certification of all other methanol fueled diesel engines and vehicles are not applicable in California until 1993 and subsequent model years.

Regulations concerning the certification of incomplete medium-duty diesel low-emission vehicles and engines and ultra-low-emission vehicles and engines operating on any fuel are applicable for the 1992 and subsequent model years.

Subpart A, General Provisions for Emission Regulations for 1977 and Later model Year New Light-Duty Vehicles, Light-Duty Trucks, and Heavy-Duty Engines, and for 1985 and later Model Year New Gasoline-Fuel and Methanol Fueled Heavy-Duty Vehicles.

§ 86.098-2 Definitions. [April 6, 1994]

The definitions of § 86.096-2 continue to apply to 1996 and later model year vehicles. The definitions listed in this section apply beginning with the 1998 model year.

"Dispensed fuel temperature" DELETE

"Evaporative/refueling emission control system" DELETE

"Evaporative/refueling emission family" DELETE

"Integrated refueling emission control system" DELETE

"Non-integrated refueling emission control system" DELETE

"Refueling emissions" DELETE

"Refueling emission canister(s)" DELETE

"Resting losses" DELETE

Useful life means:

(1) DELETE

(2) DELETE

(3) DELETE

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

(i) DELETE

(ii) For light heavy-duty diesel engines, for the oxides of nitrogen standard, a period of use of 10 years or 110,000 miles, whichever first occurs.

(iii) DELETE

(iv) For medium heavy-duty diesel engines, for the oxides of nitrogen standard, a period of use of 10 years or 185,000 miles, whichever first occurs.

(v) DELETE

(vi) For heavy heavy-duty diesel engines, for the oxides of nitrogen standard, a period of use of 10 years or 290,000 miles, whichever first occurs.

(vii) DELETE

#####

§ 86.098-11 Emission standards for 1998 and later model year diesel heavy-duty engines and vehicles and optional standards for 1995 through 1997 model year diesel heavy-duty engines. [March 24, 1993]

(a) Exhaust emissions from new 1998 and later model year diesel heavy-duty engines shall not exceed the following:

(1) DELETE

(2) DELETE

(3) Oxides of Nitrogen. (i) 4.0 grams per brake horsepower-hour (1.49 grams per megajoule), as measured under transient operating conditions.

(ii) A manufacturer may elect to certify 1998 and later model year diesel engines, for use in vehicles with a Gross Vehicle Weight Rating of greater than 14,000 pounds, other than urban transit buses, to an optional oxides of nitrogen standard between 0.5 grams per brake horsepower-hour and 2.5 grams per brake horsepower-hour, inclusive, at 0.5 grams per brake horsepower-hour increments, as measured under transient operating conditions.

(4) DELETE

(b) DELETE

(c) DELETE

(d) DELETE

(e) (1) Exhaust emission standards for certain 1995 and later model year heavy-duty diesel engines may be optionally selected as follows:

(i) A manufacturer may elect to certify 1996 and later model year diesel engines for use in urban buses, to an optional oxides of nitrogen standard between 0.5 grams per brake horsepower-hour and 2.5 grams per brake horsepower-hour, inclusive, at 0.5 grams per brake horsepower-hour increments, as measured under transient operating conditions.

(ii) A manufacturer may elect to certify 1995 through 1997 model year diesel engines for use in vehicles with a Gross Vehicle Weight Rating of greater than 14,000 pounds except urban bus engines, and 1994 through 1995 model year urban bus engines, to an optional oxides of nitrogen standard between 0.5 grams per brake horsepower-hour and 3.5 grams per brake horsepower-hour, inclusive, at 0.5 grams per brake horsepower-hour increments, as measured under transient operating conditions.

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AMENDMENTS TO THE CALIFORNIA EXHAUST EMISSION STANDARDS AND TEST  
PROCEDURES FOR 1987 AND SUBSEQUENT MODEL HEAVY-DUTY OTTO-CYCLE  
ENGINES AND VEHICLES

State of California  
AIR RESOURCES BOARD

CALIFORNIA EXHAUST EMISSION STANDARDS  
AND TEST PROCEDURES FOR 1987 AND SUBSEQUENT MODEL HEAVY-DUTY  
OTTO-CYCLE ENGINES AND VEHICLES

Adopted: April 25, 1986  
Amended: June 2, 1988  
Amended: January 22, 1990  
Amended: May 15, 1990  
Amended: December 26, 1990  
Amended: July 12, 1991  
Amended: October 23, 1992  
Amended: May 28, 1993  
Amended: September 22, 1994  
Amended: June 29, 1995

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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 the federal provisions incorporated in this document with modifications, the modifications to the federal text are displayed in double underline and ~~strikeout~~. 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.

## CALIFORNIA EXHAUST EMISSION STANDARDS AND TEST PROCEDURES FOR 1987 AND SUBSEQUENT MODEL HEAVY-DUTY OTTO-CYCLE ENGINES AND VEHICLES

The following provisions of Subparts A, L, N, and P, 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 Otto-cycle gasoline engines and vehicles, are adopted and incorporated herein by this reference as the California Exhaust Emission Standards and Test Procedures for 1987 and Subsequent Model Heavy-Duty Otto-Cycle Engines and Vehicles, except as altered or replaced by the provisions set forth below.

The federal regulations contained in the subparts identified above which pertain to evaporative emissions and oxides of nitrogen emission averaging shall not be applicable to these procedures. Regulations pertaining to evaporative emissions are contained in "California Evaporative Emission Standards and Test Procedures for 1978 and Subsequent Model Liquefied Petroleum Gas- or Gasoline- or Methanol-Fueled Motor Vehicles," as incorporated in Title 13, California Code of Regulations, Section 1976.

The federal regulations contained in the subparts identified above which pertain to nonconformance penalty shall be applicable for the 1988 model year. The Executive Officer shall not implement a nonconformance fee schedule until it is established that payment of nonconformance fees in California may substitute, on the basis of each heavy-duty engine or vehicle certified for sale in California, for payment of nonconformance fees to the federal government.

Starting with the 1990 model year, these regulations shall be applicable to all heavy-duty Otto-cycle natural-gas-fueled and liquefied-petroleum-gas-fueled engines (and vehicles) except those engines derived from existing Diesel engines. For any engine which is not a distinctly Otto-cycle engine nor derived from such, the Executive Officer shall determine whether the engine shall be subject to these regulations or alternatively to the heavy duty Diesel engine regulations, in consideration of the relative similarity of the engine's torque-speed characteristics and vehicle applications with those of Otto-cycle and Diesel engines.

The regulations concerning the certification of methanol-fueled vehicles and engines including dedicated methanol and fuel-flexible vehicles and engines are not applicable in California until the 1993 and subsequent model years.

Regulations concerning the certification of incomplete medium-duty Otto-cycle low-emission vehicles and engines and ultra-low-emission vehicles and engines operating on any fuel are applicable for the 1992 subsequent model years.

Subpart A, General Provisions for Emission Regulations for 1977 and Later Model Year New Light-Duty Vehicles, Light-Duty Trucks, and Heavy-Duty Engines, and for 1985 and Later Model Year Gasoline-Fueled and Methanol-Fueled Heavy-Duty Vehicles.

# # # # #

§ 86.098-2 Definitions. [April 6, 1994]

The definitions of § 86.096-2 continue to apply to 1996 and later model year vehicles. The definitions listed in this section apply beginning with the 1998 model year.

"Dispensed fuel temperature" DELETE

"Evaporative/refueling emission control system" DELETE

"Evaporative/refueling emission family" DELETE

"Integrated refueling emission control system" DELETE

"Non-integrated refueling emission control system" DELETE

"Refueling emissions" DELETE

"Refueling emission canister(s)" DELETE

"Resting losses" DELETE

Useful life means:

(1) DELETE

(2) DELETE

(3) For an Otto-cycle heavy-duty engine family:

(i) DELETE

(ii) For the oxides of nitrogen standard, a period of use of 10 years or 110,000 miles, whichever first occurs.

(iii) DELETE

(4) DELETE

#####

§ 86.098-10 Emission Standards for 1998 and Later Model Year Otto-cycle Heavy-duty Engines and Vehicles and Optional Standards for 1995 Through 1997 Model Year Otto-cycle Heavy-duty Engines. [September 21, 1994].

---Section 86.098-10 includes text that specifies requirements that differ from §86.096-10. Where a paragraph in §86.096-10 is identical and applicable to §86.098-10, this may be indicated by specifying the corresponding paragraph and the statement "[Reserved]. For guidance see §86.096-10."

(a)(1) Exhaust emissions from new 1998 and later model year Otto-cycle heavy-duty engines shall not exceed.

(i) DELETE

(ii) For Otto-cycle heavy-duty engines fueled with either gasoline or liquefied petroleum gas and intended for use only in vehicles with a Gross Vehicle Weight Rating of greater than 14,000 pounds.

(A) DELETE

(B) DELETE

(C) Oxides of nitrogen (1) 4.0 grams per brake horsepower-hour (1.49 grams per megajoule), as measured under transient operating conditions.

(2) DELETE

(3) DELETE

(4) A manufacturer may elect to certify to an optional oxides of nitrogen standard between 0.5 grams per brake horsepower-hour and 1.5 grams per brake horsepower-hour, inclusive, at 0.5 grams per brake horsepower-hour increments, as measured under transient operating conditions.

(iii) DELETE

(iv) For methanol-fueled Otto-cycle heavy-duty engines intended for use only in vehicles with a Gross Vehicle Weight Rating of greater than 14,000 lbs.

(A) DELETE

(B) DELETE

(C) Oxides of nitrogen: (1) 4.0 grams per brake horsepower-hour (1.49 grams per megajoule), as measured under transient operating conditions.

(2) DELETE; REPLACE WITH:

(2) A manufacturer may elect to certify to an optional oxides of nitrogen standard between 0.5 grams per brake horsepower-hour and 1.5 grams per brake horsepower-hour, inclusive, at 0.5 grams per brake horsepower-hour increments, as measured under transient operating conditions.

(v) DELETE

(vi) For natural gas-fueled Otto-cycle engines intended for use only in vehicles with a Gross Vehicle Weight Rating of greater than 14,000 pounds.

(A) DELETE

(B) DELETE

(C) Oxides of nitrogen. (1) ~~5.0~~ 4.0 grams per brake horsepower-hour (~~1.9~~ 1.49 grams per megajoule), as measured under transient operating conditions.

(2) DELETE

(3) A manufacturer may elect to certify to an optional oxides of nitrogen standard between 0.5 grams per brake horsepower-hour and 1.5 grams per brake horsepower-hour, inclusive, at 0.5 grams per brake horsepower-hour increments, as measured under transient operating conditions.

(2) The standards set forth in paragraph (a)(1) of this section refer to the exhaust emitted over the operating schedule set forth in paragraph (f)(1) of appendix I to this part, and measured and calculated in accordance with the procedures set forth in subpart N or P of this part.

(3) DELETE

\* \* \* \* \*

(c) DELETE

(d) DELETE

(e) A manufacturer may elect to certify 1995 through 1997 model year Otto-cycle engines, for use in vehicles with a Gross Vehicle Weight Rating of greater than 14,000 pounds, to an optional oxides of nitrogen standard between 0.5 grams per brake horsepower-hour and 2.5 grams per brake horsepower-hour, inclusive, at 0.5 grams per brake horsepower-hour increments, as measured under transient operating conditions.

AMENDMENTS TO THE CALIFORNIA MOTOR VEHICLE  
EMISSION CONTROL LABEL SPECIFICATIONS

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: March 24, 1994  
Amended: June 29, 1995

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. and 2. [No Change]

3. Label Content and Location.

A plastic or metal tune-up label, and in accordance with Section 3b, a machine-readable vehicle emission configuration (VEC) bar-code label made of paper, plastic, metal, or other permanent material, shall be welded, riveted or otherwise permanently attached to an area within the engine compartment (if any) or to the engine in such a way that it will be readily visible to the average person after installation of the engine in a vehicle. In accordance with Section 3b, a machine-readable vehicle identification number (VIN) bar-code label made of paper, plastic, metal, or other permanent material shall be affixed in a readily visible location to either the door-latch post next to the driver's seating position, the door edge that meets this door-latch post, or above the instrument panel in a location clearly visible through the lower left corner of the windshield.

In selecting an acceptable location, the manufacturer shall consider the possibility of accidental damage (e.g., possibility of tools or sharp instruments coming in contact with the label) and accessibility for a bar-code scanner, as applicable. Each label shall be affixed in such a manner that it cannot be removed without destroying or defacing the label, and shall not be affixed to any part which is likely to be replaced during the vehicle's useful life. For motorcycles, passenger cars, light-duty trucks, and medium-duty vehicles, the label(s) shall not be affixed to any equipment which is easily detached from the vehicle.

(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)."

For 1995 and later model year heavy-duty engines, other than those for use 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 heavy-duty engines, other than those for use in urban buses, 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 1995 through 1997 model-year diesel engines, between 0.5 and 2.5 at 0.5 g/bhp-hr increments for 1998 and later model-year diesel engines, between 0.5 and 2.5 at 0.5 g/bhp-hr increments for 1995 through 1997 model-year Otto-cycle engines, and between 0.5 and 1.5 at 0.5 g/bhp-hr increments for 1998 and later model-year Otto-cycle engines)."

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."

x. through xiii. [No Change]

(b) through (d) [No Change]

4. through 10. [No Change]