APPENDIX B

Proposed Amendments to Exhaust Emission Standards and Test Procedures

California Environmental Protection Agency
AIR RESOURCES BOARD

CALIFORNIA EXHAUST EMISSION STANDARDS AND TEST PROCEDURES FOR 2001 AND SUBSEQUENT MODEL PASSENGER CARS, LIGHT-DUTY TRUCKS, AND MEDIUM-DUTY VEHICLES

Adopted:	August 5, 1999
Amended:	December 27, 2000
Amended:	July 30, 2002
Amended:	*[Insert date of Amendments in LEV/HDOC rulemaking heard 12/12/03]*
Amended:	[INSERT DATE OF AMENDMENT]

NOTE: The proposed amendments to this document are shown in underline to indicate additions and ~~strikeout~~ to indicate deletions compared to the test procedures as amended July 30, 2002. Changes approved by the Air Resources Board at a December 12, 2002 hearing, but not yet adopted or in effect, are shown in dotted underline to indicate additions and ***~~bold italic strikeout~~*** to indicate deletions.

45-Day Notice Version
Release Date: June 6, 2003
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CALIFORNIA EXHAUST EMISSION STANDARDS AND TEST PROCEDURES FOR 2001 AND SUBSEQUENT MODEL PASSENGER CARS, LIGHT-DUTY TRUCKS AND MEDIUM-DUTY VEHICLES

The provisions of Subparts B, C, and S, Part 86, Title 40, Code of Federal Regulations, as adopted or amended on May 4, 1999 ~~***and***~~ or as last amended ~~***October 6, 2000 or***~~ on such other date set forth next to the 40 CFR Part 86 section title listed below, and to the extent they pertain to exhaust emission standards and test procedures, are hereby adopted as the "California Exhaust Emission Standards and Test Procedures for 2001 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles," with the following exceptions and additions.

PART I: GENERAL PROVISIONS FOR CERTIFICATION AND IN-USE VERIFICATION OF EMISSIONS

[No changes]

PART II: CALIFORNIA EXHAUST AND PARTICULATE EMISSION TEST PROCEDURES FOR PASSENGER CARS, LIGHT-DUTY TRUCKS AND MEDIUM-DUTY VEHICLES

This part describes the equipment required and the procedures necessary to perform gaseous and particulate exhaust emission tests (40 CFR Part 86, Subpart B); cold temperature test procedures (40 CFR Part 86, Subpart C); the California 50°F test procedure; the development of reactivity adjustment factors; and the supplemental federal test procedure (40 CFR Part 86, Subpart B) on passenger cars, light-duty trucks and medium-duty vehicles.

A. 40 CFR Part 86, Subpart B - Emission Regulations for 1977 and Later Model Year New Light-Duty Vehicles and New Light-Duty Trucks; Test Procedures.

100.1 General applicability.

86.101	General applicability. October 6, 2000.
86.102	Definitions. March 5, 1980.
86.103	Abbreviations. March 5, 1980.
86.104	Section numbering, construction. September 21, 1994.
86.105	Introduction; structure of subpart. September 21, 1994.

100.2 Equipment and Facility Requirements.

86.106-00	Equipment required; overview. October 22, 1996.
86.107-98	Sampling and analytical system, evaporative emissions. August 23, 1995.
86.108-00	Dynamometer. October 22, 1996.
86.109-94	Exhaust gas sampling system; Otto-cycle vehicles not requiring particulate emission measurements. June 30, 1995.
86.110-94	Exhaust gas sampling system; diesel-cycle vehicles, and Otto-cycle vehicles requiring particulate emissions measurements. June 30, 1995.

86.111-94 Exhaust gas analytical-system. September 30, 1994.
86.112-91 Weighing chamber (or room) and microgram balance specifications. June 5, 1991.

100.3 Certification Fuel Specifications.

86.113-94 Fuel Specifications. February 18, 2000. ~~***June 30, 1995.***~~
86.113-04 Fuel Specifications. February 10, 2000.
86.113-07 Fuel Specifications. January 18, 2001.

100.3.1 California Certification Gasoline Specification.

Add the following subparagraph which reads: Gasoline having the specifications listed below may be used in exhaust and evaporative emission testing as an option to the specifications referred to in §86.113-94(a)(1) and in §86.113-04(a)(1). If a manufacturer elects to utilize this option, both exhaust and evaporative emission testing shall be conducted by the manufacturer with gasoline having the specifications listed below, and the Executive Officer shall conduct exhaust and evaporative emission testing with gasoline having the specifications listed below.

California Certification Gasoline Specifications		
Fuel Property[a]	**Limit**	**Test Method** [b]
Octane (R+M)/2	91 (min)	D 2699-88, D 2700-88
Sensitivity	7.5 (min)	D 2699-88, D 2700-88
Lead	0-0.01g/gal (max); no lead added	§2253.4(c), title 13 CCR
Distillation Range:		§2263, title 13 CCR[c]
10% point	130-150 ^{o}F	
50% point [d]	200-210 ^{o}F	
90% point [e]	290-300 ^{o}F	
EP, maximum	390 ^{o}F	
Residue	2.0 vol. % (max)	
Sulfur	30-40 ppm by wt.	§2263, title 13 CCR
Phosphorous	0.005 g/gal (max)	§2253.4(c), title 13 CCR
RVP	6.7-7.0 psi	§2263, title 13 CCR
Olefins	4.0-6.0 vol. %	§2263, title 13 CCR
Total Aromatic Hydrocarbons	22-25 vol. %	§2263, title 13 CCR
Benzene	0.8-1.0 vol. %[f]	§2263, title 13 CCR
Multi-substituted Alkyl Aromatic Hydrocarbons	12-14 vol. %[g]	
MTBE	10.8-11.2 vol. %	§2263, title 13 CCR
Additives	Sufficient to meet requirements of §2257, title 13 CCR	
Copper Corrosion	No. 1	D 130-88
Gum, washed	3.0 mg/100 mL (max)	D 381-86
Oxidation Stability	1000 minutes (min)	D 525-88
Specific Gravity	Report [h]	
Heat of Combustion	Report [h]	
Carbon	Report wt. % [h]	
Hydrogen	Report wt. % [h]	

[a] The gasoline must be blended from typical refinery feedstocks.

[b] ASTM specification unless otherwise noted. A test method other than that specified may be used following a determination by the Executive Officer that the other method produces results equivalent to the results with the specified method.

[c] Although §2263, title 13, CCR refers to the temperatures of the 50 and 90 percent points, this procedure can be extended to the 10 percent and end point temperatures, and to the determination of the residue content.

[d] The range for interlaboratory testing is 195-215° F.

[e] The range for interlaboratory testing is 285-305° F.

[f] The range for interlaboratory testing is 0.7-1.1 percent by volume.

[g] "Detailed Hydrocarbon Analysis of Petroleum Hydrocarbon Distillates, Reformates, and Gasoline by Single Column High Efficiency (Capillary) Column Gas Chromatography," by Neil Johansen, 1992, Boulder, CO.

[h] The fuel producer should report this fuel property to the fuel purchaser. Any generally accepted test method may be used and shall be identified in the report.

100.3.2 Certification Diesel Fuel Specifications.

100.3.2.1 Certification Diesel Fuel Specifications for the 2001-2006 Model Years.

Amend subparagraphs §86.113-94(b)(2) and (b)(3) ~~and §86.113-07(b)(2) and (b)(3)~~ as follows:

(b)(2) Except as noted below, petroleum fuel for diesel vehicles meeting the specifications referenced in 40 CFR §86.113-94(b)(2) ~~and in §86.113-07(b)(2)~~, or substantially equivalent specifications approved by the Executive Officer, shall be used in exhaust emission testing. The grade of petroleum fuel recommended by the engine manufacturer, commercially designated as "Type 2-D" grade diesel, shall be used. The petroleum fuel used in exhaust emission testing may meet the specifications listed below, or substantially equivalent specifications approved by the Executive Officer, as an option to the specifications in 40 CFR §86.113-94(b)(2) ~~and in §86.113-07(b)(2)~~. Where a manufacturer elects pursuant to this subparagraph to conduct exhaust emission testing using the specifications of 86.113-94(b)(2) ~~and in §86.113-07(b)(2)~~, or the specifications listed below, the Executive Officer shall conduct exhaust emission testing with the diesel fuel meeting the specifications elected by the manufacturer.

California Certification Diesel Fuel Specifications for the 2001-2006 Model Years		
Fuel Property	**Limit**	**Test Method [(a)]**
Natural Cetane Number	47-55	D 613-86
Distillation Range		§2282(g)(3), title 13, CCR
IBP	340-420 ^{o}F	
10% point	400-490 ^{o}F	
50% point	470-560 ^{o}F	
90% point	550-610 ^{o}F	
EP	580-660 ^{o}F	
API Gravity	33-39^{o}	D 287-82
Total Sulfur	0.01-0.05 wt. %	§2282(g)(3), title 13, CCR
Nitrogen Content	100-500 ppmw	§2282(g)(3), title 13, CCR
Total Aromatic Hydrocarbons	8-12 vol. %	§2282(g)(3), title 13, CCR
Polycyclic Aromatic Hydrocarbons	1.4 wt. % (max)	§2282(g)(3), title 13, CCR
Flashpoint	130 ^{o}F (max)	D 93-80
Viscosity @ 40^{o}F	2.0-4.1 centistokes	D 445-83

[(a)] ASTM specifications unless otherwise noted. A reference to a subsection of §2282, title 13, CCR, means the test method identified in that subsection for the particular property. A test method other than that specified may be used following a determination by the Executive Officer that the other method produces results equivalent to the results of the specified method.

(b)(3) Diesel fuel representative of commercial diesel fuel which will be generally available through retail outlets shall be used in service accumulation.

100.3.2.2 Certification Diesel Fuel Specifications for the 2007 and Subsequent Model Years.

Amend subparagraphs §86.113-07(b)(2) and (b)(3) as follows:

(b)(2) Except as noted below, petroleum fuel for diesel vehicles meeting the specifications referenced in 40 CFR §86.113-07(b)(2), or substantially equivalent specifications approved by the Executive Officer, shall be used in exhaust emission testing. The grade of petroleum fuel recommended by the engine manufacturer, commercially designated as "Type 2-D" grade diesel, shall be used. The petroleum fuel used in exhaust emission testing may meet the specifications listed below, or substantially equivalent specifications approved by the Executive Officer, as an option to the specifications in 40 CFR §86.113-07(b)(2). Where a manufacturer elects pursuant to this subparagraph to conduct exhaust emission testing using the specifications of 86.113-94(b)(2) and in §86.113-07(b)(2), or the specifications listed below, the Executive Officer shall conduct exhaust emission testing with the diesel fuel meeting the specifications elected by the manufacturer.

California Certification Diesel Fuel Specifications For the 2007 and Subsequent Model Years		
Fuel Property	**Limit**	**Test Method [(a)]**
Natural Cetane Number	47-55	D 613-86
Distillation Range		§2282(g)(3), title 13, CCR
IBP	340-420 °F	
10% point	400-490 °F	
50% point	470-560 °F	
90% point	550-610 °F	
EP	580-660 °F	
API Gravity	33-39°	D 287-82
Total Sulfur	7-15 ppm	§2282(g)(3), title 13, CCR
Nitrogen Content	100-500 ppmw	§2282(g)(3), title 13, CCR
Total Aromatic Hydrocarbons	8-12 vol. %	§2282(g)(3), title 13, CCR
Polycyclic Aromatic Hydrocarbons	1.4 wt. % (max)	§2282(g)(3), title 13, CCR
Flashpoint	130 °F (max)	D 93-80
Viscosity @ 40°F	2.0-4.1 centistokes	D 445-83

(a) ASTM specifications unless otherwise noted. A reference to a subsection of §2282, title 13, CCR, means the test method identified in that subsection for the particular property. A test method other than that specified may be used following a determination by the Executive Officer that the other method produces results equivalent to the results of the specified method.

(b)(3) Diesel fuel representative of commercial diesel fuel which will be generally available through retail outlets shall be used in service accumulation.

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State of California
AIR RESOURCES BOARD

CALIFORNIA EXHAUST EMISSION STANDARDS AND TEST PROCEDURES FOR 2004 AND SUBSEQUENT MODEL HEAVY-DUTY DIESEL ENGINES

Adopted: December 12, 2002
Amended: [Insert date of adoption]

NOTE: This standards and test procedures document was adopted by the California Air Resources Board at a December 12, 2002 hearing. It has not yet been submitted to, or approved by, the State of California's Office of Administrative Law, which is necessary before the document becomes effective. The amendments proposed by staff in the ARB's 2003 diesel fuel rulemaking are indicated by underline for additions and ~~strikeout~~ for deletions to identify the changes. The symbol "* * * * *" indicates that text not being amended is not shown.

45-Day Notice version
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CALIFORNIA EXHAUST EMISSION STANDARDS AND TEST PROCEDURES FOR 2004 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 set forth next to the 40 CFR Part 86 section listed below, 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 2004 and Subsequent Model Heavy-Duty Diesel Engines and Vehicles," except as altered or replaced by the provisions set forth below.

Part I. GENERAL PROVISIONS FOR CERTIFICATION AND IN-USE VERIFICATION OF EMISSIONS.

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-Fueled, Natural Gas-Fueled, Liquefied Petroleum Gas-Fueled and Methanol-Fueled Heavy-Duty Vehicles.

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PART II TEST PROCEDURES

Subpart I - Emission Regulations for New Diesel-Fueled Heavy-Duty Engines; Smoke Exhaust Test Procedure

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Subpart N - Emission Regulations for New Otto-Cycle and Diesel Heavy-Duty Engines; Gaseous and Particulate Exhaust Test Procedures

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86.1313-94 Fuel specifications. September 5, 1997.

Amend as follows:

1. Subparagraph (a) Gasoline fuel [n/a]
2. Subparagraph (b) Petroleum diesel test fuel. [For guidance see §86.1313-98.]
3. Subparagraph (c) Methanol fuel. Amend 86.1313-94(c) as follows: Delete subparagraphs (c)(1) and (c)(2); replace with:

3.1 (1) **Exhaust emission test fuel**. For Otto-cycle or diesel alcohol vehicles and hybrid electric vehicles which use Otto-cycle or diesel alcohol engines, methanol or ethanol fuel used for exhaust and evaporative emission testing shall meet the specifications set forth in section 2292.1, title 13, CCR, (Specifications for M-100 Fuel Methanol) or section 2292.3 (Specification for E-100 Fuel Ethanol) as modified by the following:

Specification	Limit
M-100 Fuel Methanol	
Methanol	98.0 ± 0.5 vol. percent
Ethanol	1.0 vol. Percent (max.)
Petroleum fuel meeting the specifications of 40 CFR 86.1313-98	1.0 ± 0.1 vol. percent
E-100 Fuel Ethanol	
Ethanol	98.0 ± 0.5 vol. percent
Methanol	1.0 vol. Percent (max.)
Petroleum fuel meeting the specifications of 40 CFR 86.1313-98	1.0 ± 0.1 vol. percent

3.2 (2) **Mileage accumulation fuel.** For Otto-cycle or diesel alcohol vehicles and hybrid electric vehicles which use Otto-cycle or diesel alcohol engines, methanol or ethanol fuel used for service accumulation shall meet the applicable specifications set forth in section 2292.1, title 13, CCR, (Specifications for M-100 Fuel Methanol) or section 2292.3 (Specification for E-100 Fuel Ethanol).

3.3 (3) [No change.]

3.4 Fuel additives and ignition improvers intended for use in alcohol test fuels shall be subject to the approval of the Executive Officer. In order for such approval to be granted, a manufacturer must demonstrate that emissions will not be adversely affected by the use of the fuel additive or ignition improver.

4. Subparagraph (d) Mixtures of petroleum and methanol fuels for flexible fuel vehicles. Amend 86.1313-94(d) as follows: Delete subparagraphs (d)(1) and (d)(2); replace with:

4.1 (1) **Exhaust emission test fuel for emission-data and durability-data vehicles**. For Otto-cycle or diesel alcohol vehicles and hybrid electric vehicles which use Otto-cycle or diesel alcohol engines, methanol or ethanol fuel used for exhaust emission testing shall meet the applicable specifications set forth in section 2292.2, title 13, CCR, (Specifications for M-85 Fuel Methanol) or section 2292.4 (Specifications for E-85 Fuel Ethanol) as modified by the following:

Specification	Limit
M-85 Fuel Methanol	
Petroleum fuel meeting the specifications of 40 CFR §86.1313-98	13-16 vol. percent
Reid vapor pressure	8.0-8.5 psi, using common blending components from the gasoline stream.
E-85 Fuel Ethanol	
Petroleum fuel meeting the specifications of 40 CFR §86.1313-98	15-21 vol. percent
Reid vapor pressure	8.0-8.5 psi, using common blending components from the gasoline stream.

4.2 (2) **Mileage accumulation fuel.** For flexible fuel Otto-cycle or diesel alcohol vehicles and hybrid electric vehicles that use Otto-cycle or diesel alcohol engines, petroleum fuel shall meet the applicable specifications in 86.1313-98(a) or (b), as modified by these test procedures, and methanol or ethanol fuel shall meet the applicable specifications set forth in section 2292.2, title 13, CCR, (Specifications for M-85 Fuel Methanol) or section 2292.4 (Specification for E-85 Fuel Ethanol). Mileage accumulation procedures shall be subject to the requirements set forth in 40 CFR 86.001-26 and 86.1831-01(a) and (b) and are subject to the prior approval of the Executive Officer. A manufacturer shall consider expected customer fuel usage as well as emissions deterioration when developing its durability demonstration.

4.3 (3) [No change.]

4.4 **Evaporative emission test fuel for emission-data and durability-data vehicles.** For Otto-cycle or diesel alcohol vehicles and hybrid electric vehicles which use Otto-cycle or diesel alcohol

engines, a blend of methanol or ethanol fuel used for evaporative emission testing shall meet the applicable specifications set forth in section 2292.2, title 13, CCR, (Specifications for M-85 Fuel Methanol) or section 2292.4 (Specifications for E-85 Fuel Ethanol) and gasoline meeting the specifications of 86.1313-94 (a)(1), as modified by these test procedures, such that the final blend is composed of either 35 volume percent methanol (1.0 volume percent of total blend) for methanol-fueled vehicles or 10 volume percent ethanol (1.0 volume percent of total blend) for ethanol-fueled vehicles. Alternative alcohol-gasoline blends may be used in place of M35 or E10 if demonstrated to result in equivalent or higher evaporative emissions, subject to prior approval of the Executive Officer.

4.5 **Additive requirements.** Fuel additives and ignition improvers intended for use in alcohol test fuels shall be subject to the approval of the Executive Officer. In order for such approval to be granted, a manufacturer must demonstrate that emissions will not be adversely affected by the use of the fuel additive or ignition improver.

5. Subparagraph (e) Natural gas fuel. Amend 86.1313-94(e) as follows: Delete subparagraphs (e)(1), (e)(2) and (e)(3); Replace with:

5.1 (1) **Exhaust emission test fuel.** For dedicated, dual-fueled or hybrid electric vehicles which use natural gas, fuel used for exhaust and evaporative emission testing shall meet the specifications listed in section 2292.5, title 13, CCR, (Specifications for Compressed Natural Gas) as modified by the following:

Specification	Limit
Compressed Natural Gas Certification Test Fuel	
Methane	90.0 ± 1.0 mole percent
Ethane	4.0 ± 0.5 mole percent
C_3 and higher hydrocarbon content	2.0 ± 0.3 mole percent
Oxygen	0.5 mole percent maximum
Inert gases (CO_2 + N_2)	3.5 ± 0.5 vol. percent

5.2 (2) **Mileage accumulation fuel.** For dedicated, dual-fueled or hybrid electric vehicles which use natural gas, fuel used for service accumulation shall meet the specifications listed in section 2292.5, title 13, CCR, (Specifications for Compressed Natural Gas).

5.3 (3) Delete.
5.4 (4) [No change.]

6. Amend 86.1313-94(f) as follows: Delete subparagraphs (f)(1) and (f)(2); Replace with:

6.1 (1) **Evaporative and exhaust emission test fuel.** For dedicated, dual-fueled or hybrid electric vehicles which use liquefied petroleum gas, fuel used for exhaust and evaporative emission testing shall meet the specifications listed in section 2292.6, title 13, CCR, (Specifications for Liquefied Petroleum Gas) as modified by the following:

Specification	Limit
Liquefied Petroleum Gas Certification Test Fuel	
Propane	93.5 ± 1.0 volume percent
Propene	3.8 ± 0.5 volume percent
Butane and heavier components	1.9 ± 0.3 volume percent

6.2 (2) **Mileage accumulation fuel.** For dedicated, dual-fueled or hybrid electric vehicles which use liquefied petroleum gas, fuel used for service accumulation shall meet the specifications listed in section 2292.6, title 13, CCR, (Specifications for Liquefied Petroleum Gas).

6.3 (3) [No change.]

7. §86.1313-94(g) [No change.]

8. Add the following California only requirement: Identification of New Clean Fuels to be Used in Certification Testing

Any person may petition the state board to establish by regulation certification testing specifications for a new clean fuel for which specifications for the new clean fuel are not specifically set forth in paragraph 86.1313-98 as amended herein. Prior to adopting such specifications, the state board shall consider the relative cost-effectiveness of use of the fuel in reducing emissions compared to the use of other fuels. Whenever the state board adopts specifications for a new clean fuel for certification testing, it shall also establish by regulation specifications for the fuel as it is sold commercially to the public.

(a) If the proposed new clean fuel may be used to fuel existing motor vehicles, the state board shall not establish certification specifications for the fuel unless the petitioner has demonstrated that:

(1) Use of the new clean fuel in such existing motor vehicles would not increase emissions of NMHC, NOx, CO, and the potential risk associated with toxic air contaminants, as determined pursuant to the procedures set forth in the "California Test Procedures for Evaluating Substitute Fuels and New Clean Fuels," as adopted September 17, 1993. In the case of fuel-flexible vehicles or dual-fuel vehicles that were not certified on the new clean fuel but are capable of being operated on it, emissions during operation with the new clean fuel shall not increase compared to emissions during vehicle operation on gasoline.

(2) Use of the new clean fuel in such existing motor vehicles would not result in increased deterioration of the vehicle and would not void the warranties of any such vehicles.

(b) Whenever the state board designates a new clean fuel pursuant to this section, the state board shall also establish by regulation required specifications for the new clean fuel sold commercially in California.

86.1313-98 Fuel specifications. February 18, 2000.

1. Subparagraph (a) [n/a]
2. Amend subparagraph (b) Diesel test fuel as follows:
   - 2.1 Subparagraph (b)(1) [No change.]
   - 2.2 Add the following language to subparagraph (b)(2): Where a manufacturer elects pursuant to this subparagraph to conduct exhaust emission testing using the specifications in Table N98-2, or the specifications listed below, the Executive Officer shall conduct exhaust emission testing with the diesel fuel meeting the specifications elected by the manufacturer. The manufacturer shall submit evidence to the Executive Officer demonstrating to the Executive Officer's satisfaction that the test fuel will be the predominant in-use fuel. Such evidence could include such things as copies of signed contracts from customers indicating the intent to purchase and use the test fuel as the primary fuel for use in the engines or other evidence acceptable to the Executive Officer.

Fuel Property	Limit	Test Method [a]
Natural Cetane Number	47-55	D613-86
Distillation Range, °F		Title 13 CCR, §2282(g)(3)
IBP	340-420	
10% point	400-490	
50% point	470-560	
90% point	550-610	
EP	580-660	
API Gravity, degrees	33-39	D287-82
Total Sulfur, wt. %	0.01-0.05	Title 13 CCR, §2282(g)(3)
Nitrogen Content, ppmw	100-500	Title 13 CCR, §2282(g)(3)
Total Aromatic Hydrocarbons, vol.%	8-12	Title 13 CCR, §2282(g)(3)
Polycyclic Aromatic Hydrocarbons, wt. % (max.)	1.4	Title 13 CCR, §2282(g)(3)
Flashpoint, °F (max)	130	D 93-80
Viscosity @ 40°F, centistokes	2.0-4.1	D 445-83

[a] ASTM specifications unless otherwise noted. A reference to a subsection of Title 13, CCR, §2282 means the test method identified in that subsection for the particular property. A test method other than that specified may be used following a determination by the Executive Officer that the other method produces results equivalent to the results of the specified method.

2.3 (3) Add the following language to subparagraph (b)(3): For 2004 and 2005 model-year medium-duty diesel-fueled engines, diesel fuel representative of commercial diesel fuel which will be generally available through retail outlets shall be used in service accumulation.

3. Subparagraphs (c), (d) and (e). [For guidance see §86.1313-94, above.]

86.1313-04 Fuel specifications. January 18, 2001. [n/a]

86.1313-2007 Fuel specifications. January 18, 2001. ~~[No change.]~~

1. Subparagraph (a) [n/a]
2. Subparagraph (b) heading and (b)(1) [No change]
3. Reletter subparagraph §86.1313-2007(b)(2) as (b)(2)(A) and add the following:

(b)(2)(B) Diesel fuel having the specifications listed below may be used in exhaust emission testing as an option to the specifications in Table N07-2. If a manufacturer elects to use this option, the Executive Officer shall conduct exhaust emission testing with diesel fuel having the specifications listed below.

Fuel Property	*Limit*	*Test Method* [a]
Natural Cetane Number	47-55	D613-86
Distillation Range, °F		Title 13 CCR, §2282(g)(3)
IBP	340-420	
10% point	400-490	
50% point	470-560	
90% point	550-610	
EP	580-660	
API Gravity, degrees	33-39	D287-82
Total Sulfur, ppm	7-15	Title 13 CCR, §2282(g)(3)
Nitrogen Content, ppmw	100-500	Title 13 CCR, §2282(g)(3)
Total Aromatic Hydrocarbons, vol.%	8-12	Title 13 CCR, §2282(g)(3)
Polycyclic Aromatic Hydrocarbons, wt. % (max.)	1.4	Title 13 CCR, §2282(g)(3)
Flashpoint, °F (max)	130	D 93-80
Viscosity @ 40°F, centistokes	2.0-4.1	D 445-83

[a] ASTM specifications unless otherwise noted. A reference to a subsection of Title 13, CCR, §2282 means the test method identified in that subsection for the particular property. A test method other than that specified may be used following a determination by the Executive Officer that the other method produces results equivalent to the results of the specified method.

4. Subparagraph (b)(3) [No change]

* * * * *