

State of California
AIR RESOURCES BOARD

FINAL
OPTIONAL LOW NOX EMISSION STANDARD AMENDMENTS TO

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

Adopted: December 12, 2002
Amended: July 24, 2003
Amended: September 1, 2006
Amended: July 26, 2007
Amended: October 17, 2007
Amended: October 14, 2008
Amended: September 27, 2010
Amended: October 12, 2011
Amended: March 22, 2012
Amended: December 6, 2012
Amended: April 18, 2013 (Corrected by Section 100)
Amended: October 21, 2014

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 last amended on April 18, 2013. [No change] indicates proposed federal provisions that are also proposed for incorporation herein without change. Existing intervening text that is not amended in this rulemaking is indicated by “* * *”.

**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, N, S, and T, Part 86, and of Subparts A through K, Part 1065, 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 applicable 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 86 – CONTROL OF EMISSIONS FROM NEW AND IN-USE HIGHWAY
VEHICLES AND ENGINES**

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

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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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2. Definitions. [§86.xxx-2]

A. Federal Provisions.

1. **§86.004-2** January 18, 2001. [All federal definitions apply, except as otherwise noted below. Definitions specific to other requirements are contained in separate documents.]

2. **§86.010-2** April 30, 2010. [All federal definitions apply, except as otherwise noted below. Definitions specific to other requirements are contained in separate documents.]

B. California Provisions.

"**Administrator**" means the Executive Officer of the Air Resources Board.

"**Certificate of Conformity**" means "Executive Order" certifying vehicles for sale in California.

"**Certification**" means certification as defined in Section 39018 of the Health and Safety Code.

"**EPA**" shall also mean Air Resources Board or Executive Officer of the Air

Resources Board

“EPA Enforcement Officer” means the Executive Officer or his delegate.

“Measurement allowance” means accuracy margin.

“Medium-duty engine” means a heavy-duty engine that is used to propel a medium-duty vehicle.

“Medium-duty vehicle” means 2004 through 2006 model year heavy-duty low-emission vehicle, ultra-low-emission vehicle, super-ultra-low-emission vehicle or zero-emission vehicle certified to the standards in title 13, CCR, section 1960.1(h)(2) having a manufacturer's gross vehicle weight rating of 14,000 pounds or less; and any 2004 and subsequent model heavy-duty low-emission, ultra-low-emission, super-ultra-low-emission or zero-emission vehicle certified to the standards in title 13, CCR section 1956.8(h), having a manufacturer's gross vehicle weight rating between 8,501 and 14,000 pounds.

“NTE standard” means NTE emission limit.

“Optional Low NOx Engine” means a 2015 or subsequent model heavy-duty diesel engine certified to the optional low NOx emission standards, which are below the 0.20 g/bhp-hr emission standard for 2007 and subsequent model engines. The optional low NOx emission standards are 0.10, 0.05, or 0.02 g/bhp-hr.

“Warranty period” [For guidance see title 13, CCR, §2036].

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11. Emission standards for diesel heavy-duty engines and vehicles. [§86.xxx-11]

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B. California provisions.

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7. Optional Low NOx Emission Standards for Heavy Duty Engines for 2015 and Subsequent Model Year. Manufacturers may elect to certify heavy duty engines to the following optional low NOx emission standards in lieu of the primary NOx emissions standard of 0.20 g/bhp-hr.

<u>Optional Low NOx Exhaust Emission Standards for 2015 and Subsequent Model Year (grams per brake-horsepower-hour or g/bhp-hr)</u>				
	<u>NOx</u>	<u>NMHC or NMHCE</u>	<u>CO</u>	<u>PM</u>
<u>Optional Low NOx 0.10</u>	<u>0.10</u>	<u>0.14</u>	<u>15.5</u>	<u>0.01</u>
<u>Optional Low NOx 0.05</u>	<u>0.05</u>	<u>0.14</u>	<u>15.5</u>	<u>0.01</u>
<u>Optional Low NOx 0.02</u>	<u>0.02</u>	<u>0.14</u>	<u>15.5</u>	<u>0.01</u>

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15. NOx plus NMHC and particulate averaging, trading, and banking for heavy-duty engines [§86.xxx-15].

A. Federal provisions.

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B. California provisions

1. For medium-duty diesel-cycle engines certified under title 13, CCR §1956.8(h):

(a) Credits may be generated by an alternative mechanism proposed by the engine manufacturer and approved by the Executive Officer of the ARB. The alternative credit-generating mechanism shall not include any attribute expressly prohibited under the federal ABT program, such as cross-class or cross-fuel trading.

(b) Manufacturers must annually submit a proposed plan for generating credits to the Executive Officer of the ARB and have it approved prior to sale of engines of that model year in California.

2. A manufacturer may not include an engine family certified to the optional NOx emissions standards in the ABT programs for NOx but may include it for particulates.

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35. Labeling. [§86.xxx-35].

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B. California provisions.

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5. For 2015 and subsequent model year heavy-duty and medium-duty diesel cycle engines certified to the Optional Low NOx Engine emission standards in subparagraph A.11.B.7., the label shall contain the following statement: "This engine conforms to California regulations applicable to XXXX model year heavy-duty diesel engines and is certified to the Optional Low NOx Engine emission standard of XXX g/bhp-hr."

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