

**State of California
California Environmental Protection Agency
AIR RESOURCES BOARD**

**PUBLIC HEARING TO ADOPT GASEOUS POLLUTANT MEASUREMENT
ALLOWANCES FOR CALIFORNIA'S HEAVY-DUTY DIESEL IN-USE
COMPLIANCE REGULATION**

FINAL STATEMENT OF REASONS

September 2008

State of California
AIR RESOURCES BOARD

**Final Statement of Reasons for Rulemaking,
Including Summary of Comments and Agency Response**

**PUBLIC HEARING TO ADOPT GASEOUS POLLUTANT MEASUREMENT
ALLOWANCES FOR CALIFORNIA'S HEAVY-DUTY DIESEL IN-USE
COMPLIANCE REGULATION**

Public Hearing Date: December 6, 2007
Agenda Item No.: 07-12-5

I. General

The Staff Report: Initial Statement of Reasons for Rulemaking ("Staff Report"), entitled "Public Hearing to Adopt Gaseous Pollutant Measurement Allowances for California's Heavy-Duty Diesel In-Use Compliance Regulation," released October 19, 2007, is incorporated by reference herein.

At its December 6, 2007, public hearing, the Air Resources Board (ARB or the Board) approved regulatory amendments to California's existing heavy-duty diesel engine in-use compliance testing (HDIUT) regulation and test procedures, originally adopted in September 2006. These amendments would modify the measurement allowances for the regulated gaseous pollutants in the HDIUT program, while using portable emission measurement systems (PEMS). The amendments included modifications to the "California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Diesel Engines and Vehicles." These amendments were intended to be identical to proposed modifications planned by the United States Environmental Protection Agency (U.S. EPA), which would result in identical California and federal test protocols for testing 2007 and newer heavy-duty diesel engines (HDDE) with PEMS.

The main component of this rulemaking is as follows:

The following measurement allowances are to be used for gaseous pollutants when conducting heavy-duty diesel in-use compliance testing using PEMS.

HDIUT Measurement Allowance Values by Model Year (in g/bhp-hr)¹

Pollutant	2007-2009 Model Year	2010 and Subsequent Model Year
NOx	0.45	0.15

NMHC	0.02	0.01
CO	0.50	0.25

1 Grams per brake-horsepower-hour

These measurement allowance values would be added to the emissions measured by the PEMS to compensate for testing uncertainties when performing compliance testing on heavy-duty trucks during normal on-the-road operation.

No written or verbal comments were received for the regulatory amendments during the public hearing on December 6, 2007.

At the conclusion of the hearing, the Board adopted Resolution 07-56, approving the originally proposed amendments with one minor modification. The modification, suggested by staff, reflected additional technical amendments that were soon to be adopted by U.S. EPA, ensuring identical California and federal in-use testing protocols for 2007 and newer HDDEs. The text of the suggested modification was contained in a 5-page document entitled "ARB Staff's Suggested Modifications to the Original Proposal," which was distributed at the hearing and was Attachment C to the Resolution.

In accordance with section 11346.8 of the Government Code, the Resolution directed ARB's Executive Officer to incorporate the modification into the proposed regulatory text, with such other conforming modifications as may be appropriate, and to make the modified text available for a supplemental comment period of at least 15 days. The Executive Officer was then directed either to adopt the amendments with such additional modifications as may be appropriate in light of the comments received, or to present the regulations to the Board for further consideration if warranted in light of the comments. Resolution 07-56 and its Attachments are available at ARB's Internet web page for this rulemaking: <http://www.arb.ca.gov/regact/2007/hdiuc07/reso756.pdf>

The text of all the modifications to the originally proposed amendments to the regulations and incorporated documents was made available for a supplemental 15-day comment period by issuance of a "Notice of Public Availability of Modified Text." This notice, and the attachment document entitled "Staff's Proposed 15-Day Notice Modifications to Original Proposal," were mailed on July 7, 2008 to all parties identified in section 44(a), title 1, California Code of Regulations (CCR), and to other persons generally interested in the ARB's rulemaking concerning requirements applicable to heavy-duty diesel engines/vehicles. The "Notice of Public Availability of Modified Text" listed the ARB internet site from which interested parties could obtain the complete text of the incorporated documents that would be affected by the modifications to the original proposal, with all of the modifications clearly indicated. These documents were also published on ARB's Internet web page (<http://www.arb.ca.gov/regact/2007/hdiuc07/15daynotice.pdf>) for this rulemaking on July 7, 2008. No written comments were received during the 15-day comment period that ended on July 22, 2008.

Since no comments were received during the 15-day comment period, the Executive Officer issued Executive Order R-08-009, adopting the amendments to title 13, CCR and to the incorporated documents.

This Final Statement of Reasons (FSOR) updates the Staff Report by identifying and providing the rationale for the modifications made to the originally proposed regulatory text, including nonsubstantial modifications and clarifications made after the close of the 15-day comment period

Incorporation of Test Procedures and Federal Regulations. The amended test procedures are incorporated by reference in title 13, CCR section 1956.8. The test procedures in turn incorporate heavy-duty highway engine test procedures adopted by U.S. EPA and are contained in title 40, Code of Federal Regulations (CFR), Part 86, and Part 1065.

Title 13, CCR section 1956.8 identifies the incorporated ARB document by title and date. The ARB document is readily available from the ARB upon request and was made available in the context of this rulemaking in the manner specified in Government Code section 11346.5(b). The CFR is published by the Office of the Federal Register, National Archives and Records Administration, and is therefore reasonably available to the affected public from a commonly known source.

The test procedures are incorporated by reference because it would be impractical to print them in the CCR. Existing ARB administrative practice has been to have the test procedures incorporated by reference rather than printed in the CCR because these procedures are highly technical and complex. They include the “nuts and bolts” engineering protocols and laboratory practices required for certification of regulated engines and equipment, and have a very limited audience. Because ARB has never printed complete test procedures in the CCR, the affected public is accustomed to the incorporation format utilized therein. The ARB’s test procedures as a whole are extensive and it would be both cumbersome and expensive to print these lengthy, technically complex procedures with a limited audience in the CCR. Printing portions of the ARB’s test procedures that are incorporated by reference would be unnecessarily confusing to the affected public.

The test procedures incorporate portions of the CFR because the ARB requirements are substantially based on the federal regulations. Manufacturers typically certify vehicles and engines to a version of the federal emission standards and test procedures that have been modified by state requirements. Incorporation of the federal regulations by reference makes it easier for manufacturers to know when the two sets of requirements are identical and when they differ. Each of the incorporated CFR provisions is identified by date in ARB’s test procedure documents.

Fiscal Impacts. The Board has determined that this regulatory action will not create costs or savings, as defined in Government Code section 11346.5(a)(6), to any state agency or in federal funding to the state, costs or mandate to any local agency or school district whether or not reimbursable by the state pursuant to part 7 (commencing with section 17500), Division 4, title 2 of the Government Code, or other nondiscretionary costs or savings to state or local agencies.

The Executive Officer has determined that this regulatory action will not have a significant statewide adverse economic impact directly affecting businesses, including the ability of California businesses to compete with businesses in other states, or on representative private persons. Since the proposed allowances are smaller than the temporary allowances previously adopted, it is possible that the engine manufacturers could be subject to additional remedial action. However, the impact on manufacturers is expected to be slight. No impact on private businesses or persons is expected. Also, there is no impact expected on PEMS manufacturers.

In accordance with Government Code section 11346.3, the Executive Officer has determined that this amendment will not affect the creation or elimination of jobs within the State of California, the creation of new businesses and the elimination of existing businesses within the State of California, or the expansion of businesses currently doing business within the State of California. Any impact on business in California is expected to be slight and positive and is already covered by the adoption of the HDIUT regulation in September 2006.

The Executive Officer has determined, pursuant to title 1, CCR, section 4, that the proposed regulatory action will not affect small businesses as there will be no incremental costs associated with this regulation in addition to those already needed to comply with federal regulation.

Consideration of Alternatives. No other alternatives to these amendments were evaluated since these improved measurement allowances were needed for the implementation of the manufacturer-run HDIUT program starting with 2007 model year engines.

II. MODIFICATIONS TO THE ORIGINAL PROPOSAL

A. MODIFICATIONS APPROVED BY THE BOARD AT THE PUBLIC HEARING AND IDENTIFIED IN THE 15-DAY PUBLIC COMMENT PERIOD

As previously discussed, during the December 6, 2007, public hearing, the Board approved the adoption of the originally proposed amendments with one minor modification. The modification approved by the Board, as well as other suggested clarifying modifications identified subsequent to the Board hearing, was explained in detail in the Notice of Public Availability of Modified Text that was issued for a 15-day public comment period that began on July 7, 2008, and ended on July 22, 2008. In order to provide a complete FSOR for this rulemaking, these modifications and clarifications are also described below by section number.

Staff's original proposal included amendments to the "California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Diesel Engines and Vehicles" for the HDIUT program.

Subsequent to the Board hearing, staff discovered that on March 13, 2008, U.S. EPA issued a Direct Final Rule that focused on new measurement allowances for the HDIUT program. Accordingly, staff drafted conforming modifications that would ensure identical California and federal in-use test protocols.

Shown below are the proposed modifications to the originally proposed amendments to the above test procedure. Only provisions being modified to California's exhaust emission standards and test procedures for 2004 and subsequent model HDDE and vehicles are shown. The text of the amendments originally proposed in the Staff Report is shown in single underline to indicate additions and single ~~strikeout~~ to indicate deletions. Modifications to the test procedures language proposed with the 15-Day Notice are shown in **bold** with double underline for additions and in **bold** with ~~double strikeout~~ for deletions. The symbol "*****" or [No change] means that the remainder of the proposed text for a specific section was not modified and is not shown.

**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 United States 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 HDDEs 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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1. 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.]

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.

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

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II. TEST PROCEDURES

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Subpart T - Manufacturer-Run In-Use Testing Program for Heavy-Duty Diesel Engines

86.1901 What testing requirements apply to my engines that have gone into service? June 14, 2005. ~~[No change.]~~

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86.1905 How does this program work? ~~June 14, 2005~~
March 13, 2008.

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86.1912 How do I determine whether an engine meets the vehicle-pass criteria? ~~June 14, 2005. [No change, except as follows.]~~ March 13, 2008.

~~(a)(3) Delete and replace with:~~

Measurement allowances for portable in-use equipment when testing is performed under the special provisions of §86.1930, depending on the pollutant, are as follows:

<u>Pollutant</u>	<u>Measurement Allowances in grams/brake horsepower-hour for MY 2007-2009</u>	<u>Measurement Allowances in grams/brake horsepower-hour for MY 2010 and beyond</u>
<u>NMHC</u>	<u>0.02</u>	<u>0.01</u>
<u>CO</u>	<u>0.50</u>	<u>0.25</u>
<u>NO_x</u>	<u>0.45</u>	<u>0.15</u>
<u>PM</u>	<u>0.10</u>	<u>0.10</u>

* * * * *

86.1930 What special provisions apply from 2005 through ~~2007~~ 2009? ~~June 14, 2005~~ March 13, 2008.

86.1935 What special provisions may apply as a consequence of a delay in the accuracy margin report for portable emission measurement systems? ~~June 14, 2005~~ March 13, 2008.

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III. SUMMARY OF COMMENTS AND AGENCY RESPONSE

The ARB did not receive any written or verbal comments during the board hearing on December 6, 2007. The ARB also did not receive any written comments on its 15-day Notice, issued on July 8, 2008.