

State of California
AIR RESOURCES BOARD

FINAL
Phase 1 Greenhouse Gas Regulation Amendments to

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

Adopted:	December 27, 2000
Amended:	December 12, 2002
Amended:	July 26, 2007
Amended:	October 17, 2007
Amended:	September 27, 2010
Amended:	March 22, 2012
Amended:	December 6, 2012
Amended:	April 18, 2013 (Corrected by Section 100)
<u>Amended:</u>	<u>October 21, 2014</u>

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

NOTE: This document is incorporated by reference in section 1956.8(d), title 13, California Code of Regulations (“CCR”) and also incorporates by reference various sections of Title 40, Part 86 of the Code of Federal Regulations, with some modifications. It contains the majority of the requirements necessary for certification of heavy-duty Otto-cycle engines for sale in California, in addition to containing the exhaust emissions standards and test procedures for these Otto-cycle engines.¹ The section numbering conventions for this document are set forth in subparagraph 4 on page 4. Reference is also made in this document to other California-specific requirements that are necessary to complete an application for certification. These other documents are designed to be used in conjunction with this document. They include:

1. “California Evaporative Emission Standards and Test Procedures for 2001 and Subsequent Model Motor Vehicles,” as last amended December 6, 2012 (incorporated by reference in section 1976, title 13, CCR);
2. Warranty requirements (sections 2035, et seq., title 13, CCR);
3. OBD II (section 1968, et seq., title 13, CCR, as applicable);
4. “California Test Procedures for Evaluating Substitute Fuels and New Clean Fuels through 2014,” as last amended March 22, 2012 (incorporated by reference in section 2317, title 13, CCR); and
5. “California Test Procedures for Evaluating Substitute Fuels and New Clean Fuels in 2015 and Subsequent Years,” as adopted March 22, 2012 (incorporated by reference in section 2317, title 13, CCR).

¹ The requirements for Otto-cycle engines used in complete vehicles up to 14,000 pounds GVW are contained in the “California 2001 through 2014 Model Criteria Pollutant Exhaust Emission Standards and Test Procedures and 2009 through 2016 Model Greenhouse Gas Exhaust Emission Standards and Test Procedures for Passenger Cars, Light-Duty Trucks and Medium-Duty Vehicles,” as last amended December 6, 2012 (incorporated by reference in §1961(d), title 13, CCR) and the “California 2015 and Subsequent Model Criteria Pollutant Exhaust Emission Standards and Test Procedures and 2017 and Subsequent Model Greenhouse Gas Exhaust Emission Standards and Test Procedures for Passenger Cars, Light-Duty Trucks and Medium-Duty Vehicles,” as last amended April 18, 2013 (incorporated by reference in section 1961.2, title 13, CCR).

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

The following provisions of Subparts A, N, and P, Part 86, of Subparts A through I, Part 1036, and of Subparts A through K, Part 1065, Title 40, Code of Federal Regulations (“CFR”), 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 Otto-cycle engines, are adopted and incorporated herein by this reference as the “California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Otto-Cycle Engines,” with the following exceptions and additions.

**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

1. General Applicability. [§86.xxx-1]

A. Federal provisions.

1. §86.001-1. October 6, 2000.

1.1 Subparagraph (a). [No change.]

1.2 Delete subparagraph (b) and replace with the following: A manufacturer must certify any complete heavy-duty vehicle of 14,000 pounds gross vehicle weight rating or less in accordance with the medium-duty vehicle provisions contained in the “California Exhaust Emission Standards and Test Procedures for 2001 and Subsequent Model Passenger Cars, Light-Duty Trucks and Medium-Duty Vehicles,” incorporated herein by reference. Heavy-duty engine or vehicle provisions of subpart A do not apply to such a vehicle.

1.3 Subparagraph (c). [n/a (ADP for LDVs)]

1.4 Subparagraph (d). [n/a (NLEVs)]

1.5 Amend subparagraph (e) as follows: *Small volume manufacturers.*

Special certification procedures are available for any manufacturer whose projected or actual combined California sales of passenger cars, light-duty trucks, medium-duty vehicles, heavy-duty vehicles and heavy-duty engines in its product line are fewer than 4,500 units based on the average number of vehicles sold for the three previous consecutive model years for which a manufacturer seeks certification. For a manufacturer certifying for the first time in California, model-year production shall be based on projected California sales. The small volume manufacturer’s heavy-duty engine certification procedures are described in 40 CFR §86.092-14.

- 1.6 Subparagraph (f). [n/a; exhaust opacity refers to diesel engines.]
- 2. §86.005-1 October 6, 2000.

- 2.1 Subparagraph (a). [No change.]

- 2.2 Delete subparagraph (b) and replace with the following: A manufacturer must certify any complete heavy-duty vehicle of 14,000 pounds gross vehicle weight rating or less and any 2020 and subsequent model incomplete heavy-duty vehicle of 10,000 pounds gross vehicle weight rating or less in accordance with the medium-duty vehicle provisions contained in the “California 2001 through 2014 Model Criteria Pollutant Exhaust Emission Standards and Test Procedures and 2009 through 2016 Model Greenhouse Gas Exhaust Emission Standards and Test Procedures for Passenger Cars, Light-Duty Trucks and Medium-Duty Vehicles,” incorporated by reference in §1961(d), title 13, CCR or the “California 2015 and Subsequent Model Criteria Pollutant Exhaust Emission Standards and Test Procedures and 2017 and Subsequent Model Greenhouse Gas Exhaust Emission Standards and Test Procedures for Passenger Cars, Light-Duty Trucks and Medium-Duty Vehicles,” incorporated by reference in section 1961.2, title 13, CCR, as applicable. Heavy-duty engine or vehicle provisions of subpart A do not apply to such a vehicle.

- 2.3 Subparagraph (c). [No change.]

- 2.4 Subparagraph (d). [Reserved.]

- 2.5 Amend subparagraph (e) as follows: *Small volume manufacturers.* Special certification procedures are available for any manufacturer whose projected or actual combined California sales of passenger cars, light-duty trucks, medium-duty vehicles, heavy-duty vehicles and heavy-duty engines in its product line are fewer than 4,500 units based on the average number of vehicles sold for the three previous consecutive model years for which a manufacturer seeks certification. For a manufacturer certifying for the first time in California, model-year production shall be based on projected California sales. The small volume manufacturer’s heavy-duty engine certification procedures are described in 40 CFR §86.092-14.

- 2.6 Subparagraph (f). [n/a; exhaust opacity refers to diesel engines.]

- 3. §86.016-1 September 15, 2011.

- 3.1 Subparagraph (a). *Applicability.* [No change.]

- 3.2 Delete subparagraph (b) and replace with the following: A manufacturer must certify any complete heavy-duty vehicle of 14,000 pounds gross vehicle weight rating or less and any 2020 and subsequent model incomplete heavy-duty vehicle of 10,000 pounds gross vehicle weight rating or less in accordance with the medium-duty vehicle provisions contained in the “California 2001 through 2014 Model Criteria Pollutant Exhaust Emission Standards and Test Procedures and 2009 through 2016 Model Greenhouse Gas Exhaust Emission Standards and Test Procedures for Passenger Cars, Light-Duty Trucks and Medium-Duty Vehicles,” as amended December 6, 2012, incorporated by reference in §1961(d), title 13, CCR or the “California 2015 and Subsequent Model Criteria Pollutant Exhaust Emission Standards and Test Procedures and 2017 and Subsequent Model Greenhouse Gas Exhaust Emission Standards and Test Procedures for Passenger Cars, Light-Duty Trucks

and Medium-Duty Vehicles,” as amended December 6, 2012, incorporated by reference in section 1961.2, title 13, CCR, as applicable. Heavy-duty engine or vehicle provisions of subpart A do not apply to such a vehicle.

3.3 Subparagraph (c) through (c)(1). [No change.]

3.4 Delete subparagraph (c)(2) and replace with the following: On-board diagnostic requirements according to the provisions of title 13, CCR, sections 1968.2 and 1968.5 or title 13, CCR, sections 1971.1 and 1971.5, as applicable.

3.5 Delete subparagraph (c)(3) and replace with the following: Evaporative emission standards according to the provisions of title 13, CCR, section 1976.

3.6 Delete subparagraph (c)(4) and replace with the following: Refueling emission standards according to the provisions of title 13, CCR, section 1978.

3.7 Subparagraph (d). *Non-petroleum fueled vehicles.* [No change.]

3.8 Amend subparagraph (e) as follows: *Small volume manufacturers.* Special certification procedures are available for any manufacturer whose projected or actual combined California sales of passenger cars, light-duty trucks, medium-duty vehicles, heavy-duty vehicles and heavy-duty engines in its product line are fewer than 4,500 units based on the average number of vehicles sold for the three previous consecutive model years for which a manufacturer seeks certification. For a manufacturer certifying for the first time in California, model-year production shall be based on projected California sales. To certify its product line under these optional procedures, the small volume manufacturer must first obtain the Executive Officer’s approval. The manufacturer must meet the eligibility criteria specified in 40 CFR §86.094-14(b) before the Executive Officer’s approval will be granted. The small volume manufacturer’s heavy-duty engine certification procedures are described in 40 CFR §86.098-14.

3.9 Subparagraph (f). [n/a; exhaust opacity refers to diesel engines.]

B. California provisions.

1. These regulations are applicable to all heavy-duty Otto-cycle methanol-fueled, ethanol-fueled, natural-gas-fueled and liquefied-petroleum-gas-fueled dedicated, dual-fuel and multi-fuel 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. Reference to dual-fuel vehicles or engines shall also mean bi-fuel vehicles or engines.

2. References in the federal regulations to light-duty vehicles and light-duty trucks do not apply.

3. Any reference to vehicle or engine sales throughout the United States shall mean vehicles and engines sales in California. Any reference to small

volume manufacturer shall mean a California small-volume manufacturer as defined in section I.1.A., above.

4. Regulations concerning U.S. EPA hearings, U.S. EPA inspections, specific language on the Certificate of Conformity, evaporative emissions, high-altitude vehicles and testing, particulate and oxides of nitrogen averaging and test group standards applicable in such averaging, alternative useful life, selective enforcement audit, and Certification Short Test shall not be applicable to these procedures, except where specifically noted. The regulations pertaining to evaporative emissions are contained in "California Evaporative Emission Standards and Test Procedures for 2001 and Subsequent Model Motor Vehicles," as incorporated in §1976, title 13, CCR.

2. **Definitions.** [§86.xxx-2]

A. Federal provisions.

All of the definitions in previous CFR sections continue to apply, except as otherwise noted below. Definitions specific to other requirements such as evaporative emissions are contained in those separate documents.

1. §86.004-2. January 18, 2001.
2. §86.010-2. February 24, 2009.
3. §86.012-2. September 15, 2011.

3.1 Amend paragraph as follows: The definitions of §86.010-2 continue to apply to model year 2010 and later model year engines and vehicles. The definitions listed in this section apply beginning with model year 2012. "GHG Urban Bus" means a passenger-carrying vehicle with a load capacity of fifteen or more passengers and intended primarily for intracity operation, i.e. , within the confines of a city or greater metropolitan area. GHG urban bus operation is characterized by short rides and frequent stops. To facilitate this type of operation, more than one set of quick-operating entrance and exit doors would normally be installed. Since fares are usually paid in cash or tokens, rather than purchased in advance in the form of tickets, GHG urban buses would normally have equipment installed for collection of fares. GHG urban buses are also typically characterized by the absence of equipment and facilities for long distance travel, e.g., rest rooms, large luggage compartments, and facilities for stowing carry-on luggage.

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.

"Designated Compliance Officer" means the Executive Officer of the Air Resources Board or his or her delegate.

“EPA” means “Air Resources Board” or the Executive Officer of the Air Resources Board.

“EPA Enforcement Officer” means the Executive Officer of the Air Resources Board or his or her delegate.

“Medium-Duty Engine” means a heavy-duty engine that is used in a medium-duty vehicle.

“Medium-Duty Vehicle” means any 1992 through 2006 model-year heavy-duty low-emission, ultra-low-emission, super-ultra-low-emission or zero-emission vehicle certified to the standards in section 1960.1(h)(2) having a manufacturer’s gross vehicle weight rating of 14,000 pounds or less and any 2000 and subsequent model heavy-duty low-emission, ultra-low-emission, super-ultra-low-emission or zero-emission vehicle certified to the standards in section 1961(a)(1), 1961.2, or 1962 having a manufacturer’s gross vehicle weight rating between 8,500 and 14,000 pounds.

“Warranty” means the warranty provisions set forth in title 13, California Code of Regulations §2036.

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23. **Required data.** [§86.xxx-23]

A. Federal provisions.

1. §86.001-23. October 21, 1997. [No change.]
2. §86.007-23. ~~January 18, 2001.~~ June 17, 2013. [No change.]

* * * *

35. **Labeling.** [§86.xxx-35]

A. Federal provisions.

1. §86.001-35. April 6, 1994.
 - 1.1 Add the following sentence to the introductory paragraph: The labeling requirements of this section shall apply to all new motor vehicle engines certified according to the provisions of California Health and Safety Code Section 43100.
 - 1.2 Subparagraphs (a)(1) through (a)(3)(iii)(G). [No change.]
 - 1.3 Amend subparagraph (a)(3)(iii)(H) as follows: An unconditional statement of compliance with the appropriate model year California regulations; for example, “This engine conforms to California regulations applicable to XXXX model year new heavy-duty Otto-cycle engines.” It may also state that the engine conforms to any applicable federal or Canadian emission standards for new heavy-duty Otto-cycle engines.
2. §86.007-35. August 30, 2006. [No change, except as noted above for §86.001-35.]

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PART 1036 – CONTROL OF EMISSIONS FROM NEW AND IN-USE HEAVY-DUTY HIGHWAY ENGINES

Subpart A – Overview and Applicability

1036.1 Does this part apply for my engines? September 15, 2011.

1036.2 Who is responsible for compliance? September 15, 2011.

1036.5 Which engines are excluded from this part's requirements?
June 17, 2013.

1036.10 How is this part organized? September 15, 2011.

1036.15 Do any other regulation parts apply to me? September 15, 2011.

1036.30 Submission of information. September 15, 2011.

1. Amend subparagraph as follows: Send all reports and requests for approval to the ARB Designated Compliance Officer, as follows: Chief, Emissions Compliance, Automotive Regulations and Science Division, California Air Resources Board, 9480 Telstar Avenue, Ste. #4, El Monte, CA 91731.

Subpart B – Emission Standards and Related Requirements

1036.100 Overview of exhaust emission standards. September 15, 2011.

1036.108 Greenhouse gas emission standards. September 15, 2011.

1. Add the following section to the introductory paragraph: Optional Compliance via the 2014 MY National Heavy-Duty Engine and Vehicle Greenhouse Gas Program. For the 2014 through 2022 model years, a manufacturer may elect to demonstrate compliance with this section, §1036.108, for all of its applicable heavy-duty engines by demonstrating compliance with the 2014 MY National Heavy-Duty Engine and Vehicle Greenhouse Gas Program, if it meets the criteria identified below.

(1) A manufacturer that selects compliance with this option must notify the Executive Officer of that selection, in writing, prior to the start of the applicable model year or December 1, 2014, whichever is later;

(2) The manufacturer must submit to ARB all data that it submitted to U.S. Environmental Protection Agency in accordance with the reporting requirements as required under 40 CFR §1036.205, §1036.250, and §1036.730, for demonstrating compliance with the 2014 MY National Heavy-Duty Engine and Vehicle Greenhouse Gas Program and the U.S. Environmental Protection Agency determination of compliance. With the exception of the 2014 model year, all such data must be submitted within 30 days of receipt of the U.S. Environmental Protection Agency Certificate of Conformity or of the date of submission to the U.S. Environmental Protection Agency, whichever is later, for each model year that a manufacturer selects compliance with this option;

(3) The manufacturer must provide to the Executive Officer separate numbers for each engine family of heavy-duty engines produced and delivered for sale in California each model year and all values used in calculating positive or negative emission credits in §1036.730.

1036.115 Other requirements. September 15, 2011.

1036.130 Installation instructions for vehicle manufacturers. September 15, 2011.

1. Subparagraph (a) through (b)(1). [No change.]

2. Delete and replace subparagraph (b)(2), as follows: State “Failing to follow these instructions when installing a certified engine in a heavy-duty motor vehicle violates federal and state law, subject to fines or other penalties as described in the Clean Air Act and California Health and Safety Code.”

3. Subparagraph (b)(3) through (d). [No change.]

1036.135 Labeling. September 15, 2011.

1. Amend the introductory paragraph as follows: Beginning January 1, 2015, label your engines as described in 40 CFR §86.007-35(a)(3), as modified by these test procedures, with the following additional information:

2. Subparagraph (a) through (d). [No change.]

1036.140 Primary intended service class. September 15, 2011.

1036.150 Interim provisions. June 17, 2013.

Subpart C – Certifying Engine Families

1036.205 What must I include in my application? June 17, 2013.

1036.210 Preliminary approval before certification. September 15, 2011.

1036.225 Amending my application for certification. June 17, 2013.

1036.230 Selecting engine families. September 15, 2011.

1036.235 Testing requirements for certification. September 15, 2011.

1036.241 Demonstrating compliance with greenhouse gas pollutant standards. September 15, 2011.

1036.250 Reporting and recordkeeping for certification. September 15, 2011.

1036.255 What decisions may EPA make regarding my certificate of conformity? September 15, 2011.

Subpart D – [Reserved]

Subpart E – In-use Testing

1036.401 In-use testing. September 15, 2011.

Subpart F – Test Procedures

1036.501 How do I run a valid emission test? September 15, 2011.

1036.525 Hybrid engines. June 17, 2013.

1036.530 Calculating greenhouse gas emission rates. September 15, 2011.

Subpart G – Special Compliance Provisions

1036.601 What compliance provisions apply to these engines?

- September 15, 2011.
- 1036.610 Innovative technology credits and adjustments for reducing greenhouse gas emissions. September 15, 2011.
1. Subparagraphs (a) through (c). [No change.]
 2. Amend subparagraph (d) as follows: We may seek public comment on your request. However, we will generally not seek public comment on credits/adjustments based on A to B engine dynamometer testing, chassis testing, or in-use testing.
- 1036.615 Engines with Rankine cycle waste heat recovery and hybrid powertrains. June 17, 2013.
- 1036.620 Alternate CO₂ standards based on model year 2011 compression-ignition engines. [n/a; diesel]
- 1036.625 In-use compliance with family emission limits (FELs). September 15, 2011.

Subpart H – Averaging, Banking, and Trading for Certification

- 1036.701 General provisions. September 15, 2011.
- 1036.705 Generating and calculating emission credits. September 15, 2011.
- 1036.710 Averaging. September 15, 2011.
- 1036.715 Banking. September 15, 2011.
- 1036.720 Trading. September 15, 2011.
- 1036.725 What must I include in my application for certification? September 15, 2011.
- 1036.730 ABT reports. September 15, 2011.
- 1036.735 Recordkeeping. September 15, 2011.
- 1036.740 Restrictions for using emission credits. September 15, 2011.
- 1036.745 End-of-year CO₂ credit deficits. September 15, 2011.
- 1036.750 What can happen if I do not comply with the provisions of this subpart? September 15, 2011.

Subpart I – Definitions and Other Reference Information

- 1036.801 Definitions. June 17, 2013.

A. Federal Provisions. [All federal definitions apply, except as otherwise noted below.]

B. California Provisions.

“2014 MY National Heavy-Duty Engine and Vehicle Greenhouse Gas Program” means the national program that applies to new 2014 and subsequent model medium- and heavy-duty engines and vehicles to control greenhouse gas emissions, as adopted by the U.S. Environmental Protection Agency (76 Fed. Reg. 57106 (September 15, 2011)) and as subsequently amended on June 17, 2013, as incorporated in and amended by these test procedures.

“Certificate of Conformity” means an Executive Order certifying vehicles for sale in

California.

“Certification” means relating to the process of obtaining an Executive Order for an engine family that complies with the emission standards and requirements in this part.

“Designated Compliance Officer” means the Executive Officer of the Air Resources Board or a designee of the Executive Officer.

“Designated Enforcement Officer” means the Executive Officer of the Air Resources Board or a designee of the Executive Officer.

“EPA” shall also mean Air Resources Board or Executive Officer of the Air Resources Board.

“Manufacturer” means any person who manufactures an engine, vehicle, or piece of equipment for sale in California or otherwise introduces a new engine into commerce in California. This includes importers who import engines or vehicles for resale.

“U.S. Environmental Protection Agency” means the United States Environmental Protection Agency.

“We (us, our)” means the Executive Officer and any authorized representatives.

1036.805 Symbols, acronyms, and abbreviations. September 15, 2011.

1036.810 Incorporation by reference. September 15, 2011.

1036.815 Confidential information. September 15, 2011.

A. Federal Provisions. [No change.]

B. California Provisions. The provisions of title 17, CCR section 91000 through 91022 apply for information you consider confidential. Note that according to section 91011, emissions data shall not be identified as confidential.

1036.820 Requesting a hearing. September 15, 2011.

1. Delete subparagraph (a) and replace as follows: You may request a hearing under certain circumstances, as described elsewhere in this part.

2. Subparagraph (b). [No change.]

3. Amend subparagraph (c) as follows: If we agree to hold a hearing, we will use the procedures specified in 17 CCR sections 60055.1 through 6055.43.

1036.825 Reporting and recordkeeping requirements. September 15, 2011.

1. Subparagraphs (a) through (d). [No change.]

2. Delete subparagraph (e).

PART 1065 – ENGINE-TESTING PROCEDURES.

Subpart A – Applicability and General Provisions.

- 1065.1 Applicability. September 15, 2011.
1. Amend subparagraph (a) as follows:
 - 1.1. Introductory paragraph. [No change.]
 - 1.2. Subparagraphs (a)(1). [n/a]
 - 1.3. Amend subparagraph (a)(2) as follows: Model year 2010 and later heavy-duty highway engines we regulate under title 13, CCR, §1956.8. For earlier model years, manufacturers may use the test procedures in this part or those specified in 40 CFR part 86, subpart N, according to §1065.10, as modified by these test procedures.
 - 1.4. Subparagraphs (a)(3) through (a)(8). [n/a]
 2. Subparagraph (b). [n/a]
 3. Subparagraph (c) through (g h). [No change.]
- 1065.2 Submitting information to EPA under this part. April 30, 2010.
1. Subparagraphs (a) through (d). [No change.]
 2. Amend subparagraph (e) as follows: See title 13~~7~~, CCR, section 91011 for provisions related to confidential information. Note that according to this section, emission data shall not be identified as confidential.
 3. Subparagraph (f). [No change.]
- 1065.5 Overview of this part 1065 and its relationship to the standard-setting part. October 30, 2009.
- 1065.10 Other procedures. April 30, 2010.
- 1065.12 Approval of alternate procedures. June 30, 2008.
- 1065.15 Overview of procedures for laboratory and field testing. September 15, 2011.
- 1065.20 Units of measure and overview of calculations. September 15, 2011.
- 1065.25 Recordkeeping. July 13, 2005.

Subpart B – Equipment Specifications.

- 1065.101 Overview. June 30, 2008.
- 1065.110 Work inputs and outputs, accessory work, and operator demand. June 30, 2008.
- 1065.120 Fuel properties and fuel temperature and pressure. June 30, 2008.
- 1065.122 Engine cooling and lubrication. June 30, 2008.
- 1065.125 Engine intake air. September 15, 2011.
- 1065.127 Exhaust gas recirculation. July 13, 2005.
- 1065.130 Engine exhaust. June 30, 2008.
- 1065.140 Dilution for gaseous and PM constituents. September 15, 2011.
- 1065.145 Gaseous and PM probes, transfer lines, and sampling system components. April 30, 2010.

- 1065.150 Continuous sampling. July 13, 2005.
- 1065.170 Batch sampling for gaseous and PM constituents. September 15, 2011.
- 1065.190 PM-stabilization and weighing environments for gravimetric analysis. September 15, 2011.
- 1065.195 PM-stabilization environment for in-situ analyzers. June 30, 2008.

Subpart C – Measurement Instruments.

- 1065.201 Overview and general provisions. April 30, 2010.
- 1065.202 Data updating, recording, and control. July 13, 2005.
- 1065.205 Performance specifications for measurement instruments. September 15, 2011.

Measurement of Engine Parameters and Ambient Conditions

- 1065.210 Work input and output sensors. June 30, 2008.
- 1065.215 Pressure transducers, temperature sensors, and dewpoint sensors. June 30, 2008.

Flow-Related Measurements

- 1065.220 Fuel flow meter. ~~June 30, 2008.~~ September 15, 2011.
- 1065.225 Intake-air flow meter. September 15, 2011.
- 1065.230 Raw exhaust flow meter. July 13, 2005.
- 1065.240 Dilution air and diluted exhaust flow meters. April 30, 2010.
- 1065.245 Sample flow meter for batch sampling. July 13, 2005.
- 1065.248 Gas divider. July 13, 2005.

CO and CO₂ Measurements

- 1065.250 Nondispersive infra-red analyzer. September 15, 2011.

Hydrocarbon Measurements

- 1065.260 Flame ionization detector. September 15, 2011.
- 1065.265 Nonmethane cutter. September 15, 2011.
- 1065.267 Gas chromatograph. September 15, 2011.

NO_x Measurements

- 1065.270 Chemiluminescent detector. September 15, 2011.
- 1065.272 Nondispersive ultraviolet analyzer. September 15, 2011.
- 1065.275 N₂O measurement devices. ~~September 15, 2011.~~ June 17, 2013.

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Subpart G – Calculations and Data Requirements.

1065.601 Overview. April 30, 2010.

1065.602 Statistics. September 15, 2011.

1065.610 Duty cycle generation. ~~September 15, 2011.~~ June 17, 2013.

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