

# DRAFT

California Environmental Protection Agency

AIR RESOURCES BOARD

**DRAFT POTENTIAL**

## **CALIFORNIA IN-USE COMPLIANCE TEST PROCEDURES FOR ALL TIER 4 OFF-ROAD COMPRESSION-IGNITION ENGINES AND MARINE ENGINES THAT ARE CERTIFIED TO TITLE 13, CCR, SECTION 2423**

Adopted: [INSERT DATE OF ADOPTION]

This text is draft, for purposes of discussion, and may be revised and/or reorganized in the future.

Date of Release: February 5, 2026; DRAFT

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## **CALIFORNIA IN-USE COMPLIANCE TEST PROCEDURES FOR ALL TIER 4 OFF-ROAD COMPRESSION-IGNITION ENGINES AND MARINE ENGINES THAT ARE CERTIFIED TO TITLE 13, CCR, SECTION 2423**

The provisions of Parts 86, 1036, 1039, and 1065, Title 40, Code of Federal Regulations (CFR), as adopted or as last amended on the date set forth next to the Title 40 CFR section number and title listed below, and to the extent they pertain to exhaust emission standards and test procedures, are hereby incorporated by reference and adopted as the "California In-Use Compliance Test Procedures for All Tier 4 Off-Road Compression-Ignition Engines and Marine Engines that are Certified to Title 13, CCR, Section 2423," with the following exceptions and additions. If a Part, Subpart, or section of Title 40 CFR is incorporated into these test procedures, any and all references to the incorporated Part, Subpart, or section of Title 40 CFR mean the applicable Part, Subpart, or section of Title 40 CFR as modified by these test procedures.

### **Part I: GENERAL PROVISIONS FOR CERTIFICATION AND IN-USE VERIFICATION OF EMISSIONS**

#### **Subpart A – General Requirements**

##### **1. General Applicability.**

1.1 The provisions contained in these test procedures apply to all off-road compression-ignition engines that are certified to the Tier 4 final emission standards in title 13, CCR, section 2423 and to marine compression-ignition engines with a power rating below 37 kW in title 13, CCR, section 2423.

1.2 An engine manufacturer that certifies off-road compression-ignition engines to the Tier 4 emission standards in title 13, CCR, section 2423 shall certify the engines in accordance with the "2011 and Later Test Procedures," as defined in and incorporated by reference in title 13, CCR, section 2421, subsection (a)(4)(B).

2. Any reference to "you" in the incorporated sections of the CFR shall mean the California Air Resources Board.

3. References to "off-road compression-ignition engines" or "nonroad compression-ignition engines" in Part II shall not include marine compression-ignition engines. References to "off-road compression-ignition engine families" or "nonroad compression-ignition engine families" in Part II shall not include marine compression-ignition engine families.

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4. Regulations concerning U.S. EPA hearings, U.S. EPA inspections, specific language on the Certificate of Conformity, evaporative emissions, particulate and oxides of nitrogen averaging and test group standards applicable in such averaging, alternative useful life, selective enforcement audit, Certification Short Test, and heavy-duty engines and vehicles shall not be applicable to these procedures, except where specifically noted.

5. Regulations both herein and in Title 40, CFR, Parts 1036, 1039, and 1065, shall be applicable to alternative fuel engines and equipment, including dual-fuel, bi-fuel, and fuel-flexible engines and equipment, except where specifically noted otherwise.

6. Wherever these test procedures require that “a manufacturer shall notify CARB in writing,” the specified information shall be sent to the Chief of the Emissions Certification and Compliance Division, or designee, at 4001 Iowa Avenue, Riverside, California, 92507.

## 7. **Electronic Submittal to CARB**

Unless otherwise specified in these test procedures, a manufacturer shall electronically submit all information that is required in Part II of these test procedures to CARB via email through [or-inuse@arb.ca.gov](mailto:or-inuse@arb.ca.gov) or online at: <https://ww2.arb.ca.gov/manufacturer-run-off-road-in-use-testing-program>.

## **Subpart B – Section Numbering; Construction.**

1. The section numbering convention employed in these test procedures, in order of priority, is as follows: Part, Subpart, section 1, section 1.1, section 1.1.1. References in these test procedures to specific sections of the Code of Federal Regulations maintain the same numbering system employed in the Code of Federal Regulations.

2. In cases where the entire CFR section is incorporated by reference with no modifications, the notation “[No change.]” is used. In cases where there are no changes to the CFR language but there are additional California requirements, the notation “[No change.]” is used and the additional California requirements are then noted in a separate subsection with the numbering convention set forth in Part I, Subpart B, section 1, above. For example, Part I, Subpart C, section 1 incorporates all of the definitions in CFR section 1065.1001 into these test procedures. Part I, Subpart C, section 2 establishes additional California definitions for terms that are not included in CFR section 1065.1001, but are applicable to these test procedures. In addition, Part I, Subpart C, section 2 redefines terms that are included in CFR section 1065.1001, if needed, to make the definitions applicable to California’s regulatory requirements.

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3. The notation “[n/a]” indicates that the subject matter of the federal regulation does not apply to California off-road compression-ignition engines. In some cases, the subject of the federal regulation is indicated in the bracket for clarity.

4. The notation “Delete” means that the section (including all subsections) does not apply. The notation “Delete; Replace with the following” means to delete the text of that section (and delete all subsections) and replace with language provided.

5. The notation “Amend as follows” means that the text set forth in these test procedures has been modified from the text that appears in the incorporated section of the CFR, as noted.

## **Subpart C – Definitions, Acronyms, and Abbreviations.**

### **1. Definitions.**

Unless otherwise noted in Part I, Subpart B, section 2, the definitions in 40 CFR section 1065.1001 (April 22, 2024), incorporated by reference herein, shall apply to these test procedures.

### **2. California Definitions.**

**“Administrator”** means the Executive Officer of the California Air Resources Board (CARB).

**“Allowed procedures”** means procedures specified in title 13, CCR, section 2423, 2423.1, or 2423.2, as applicable.

**“Alternate procedures”** means procedures allowed under title 13, CCR, section 2423 or 2423.1, as applicable.

**“Alternative fuel engine or equipment”** means an engine or off-road equipment that is engineered and designed to operate on a fuel other than gasoline and diesel fuels, such as methanol, ethanol, and gaseous fuels. Alternative fuels include, but are not limited to: methanol, ethanol, liquefied petroleum gas, compressed natural gas, hydrogen, and electricity.

**“Applicable standard”** means an emission standard to which an engine is subject; or a family emission limit to which an engine is certified in title 13, CCR, section 2423.

**“ASTM E29-22”** means the “Standard Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications,” as approved by ASTM International on April 1, 2022, incorporated by reference, herein.

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**“Attestation”** means a statement signed and dated by an individual, who is employed by a manufacturer and authorized to affirm the attested statement on behalf of the manufacturer, certifying under penalty of perjury under the laws of the State of California that the attested statement is true, accurate, and complete.

**“Auxiliary emission-control device”** means any element of design that senses temperature, motive speed, engine speed, transmission gear, or any other parameter for the purpose of activating, modulating, delaying, or deactivating the operation of any part of the emission-control system.

**“Bi-fuel engine or equipment”** is any engine or equipment that is engineered and designed to be capable of operating on two fuels wherein the two fuels are stored on board in separate fuel tanks and metered separately, but in operation the two fuels are combusted together.

**“Certification”** means certification as defined in section 39018 of the California Health and Safety Code.

**“Designated Compliance Officer”** means the Executive Officer of the California Air Resources Board or the Executive Officer’s designee.

**“Dual-fuel engine or equipment”** means any engine or equipment that is engineered and designed to be capable of operating on gasoline or diesel and on compressed natural gas or liquefied petroleum gas, with separate fuel tanks for each fuel on-board the equipment. In operation, only one fuel is used at a time.

**“EPA” or “U.S. EPA”** shall also mean the California Air Resources Board.

**“Executive Officer”** means the Executive Officer of the California Air Resources Board or the Executive Officer’s designee.

**“IACD-2025-09 (Marine CI)”** means U.S. EPA Guidance Letter “IACD-2025-09 (Marine CI),” SUBJECT: Reporting Exempt Replacement Engines Under 1042.615, dated July 21, 2025, incorporated by reference, herein.

**“In-use compliance testing”** means emission testing of engines conducted under the In-Use Vehicle Enforcement Test Procedures as described in title 13, CCR, division 3, chapter 2, article 2.3.

**“ISO 22241”** means INTERNATIONAL STANDARD: ISO 22241-1, Second edition 2019-02: Diesel engines — NO<sub>x</sub> reduction agent AUS 32 —Part 1: Quality requirements, incorporated by reference, herein.

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**"Nonroad engine"** and **"Nonroad equipment"** means "off-road engine" and "off-road equipment," respectively, in California.

**"Not-to-Exceed" (NTE)** refers to the Not-To-Exceed test procedures in Part II, Subpart A.

**"Power category"** means a specific range of maximum engine power that defines the applicability of standards. For example, references to the 56-130 kW power category and  $56 \leq \text{kW} < 130$  include all engines with maximum engine power at or above 56 kW but below 130 kW. Also references to 56-560 kW power categories or  $56 \leq \text{kW} \leq 560$  include all engines with maximum engine power at or above 56 kW but at or below 560 kW, even though these engines span multiple power categories. Note that in some cases, FEL caps are based on a subset of a power category. The power categories are defined as follows:

- (1) Engines with maximum power below 8 kW.
- (2) Engines with maximum power at or above 8 kW but below 19 kW.
- (3) Engines with maximum power at or above 19 kW but below 56 kW.
- (4) Engines with maximum power at or above 56 kW but below 130 kW.
- (5) Engines with maximum power at or above 130 kW but at or below 560 kW.
- (6) Engines with maximum power above 560 kW.

**"Recall"** means an inspection, repair, adjustment, or modification program initiated and conducted by a manufacturer or its agent or representative to remedy any nonconformity for which direct notification of equipment or engine owners shall be required. The California Procedures for In-Use Vehicle Voluntary and Influenced Recalls are in title 13, CCR, division 3, chapter 2, articles 2.1 and 2.2.

**"Recall testing"** means in-use compliance testing performed to assess whether or not a recall is needed.

**"SAE J2719"** means the "SAE International Technical Standard, Hydrogen Fuel Quality for Fuel Cell Vehicles, SAE Standard J2719\_202003," Revised March 2020, Reaffirmed November 2015, Issued November 2005, incorporated by reference herein.

**"Small volume manufacturer"** means an engine manufacturer that meets the "California small-volume engine manufacturer" definition as set forth in title 13, CCR, section 2421, subsection (a)(53).

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**“Standard-setting part”** means title 13, CCR, section 2423, 2423.1, or 2423.2, as applicable.

**“Steady-State Duty Cycles”** are defined as follows in 40 CFR, Part 1039, Appendix II (June 30, 2008), incorporated by reference herein:

(A) “Discrete-Mode Testing Duty Cycles” are contained in subparagraphs (a)(1), (b)(1), and (c)(1) of Appendix II to 40 CFR, Part 1039.

(B) “Ramped Modal Testing Duty Cycles” (RMC) are contained in subparagraphs (a)(2), (b)(2), and (c)(2) of Appendix II to 40 CFR, Part 1039.

**“Tier 4 engine”** means an engine that is certified to the Tier 4 interim or Tier 4 final emission standards in title 13, CCR, section 2423, subsection (b)(1)(B).

**“Useful life”** is defined in title 13, CCR, section 2421, subsection (a)(60).

**“Vehicle”** means “engine.”

**“We (us, our)”** means the Executive Officer of the California Air Resources Board and any authorized representatives.

### **3. Acronyms and Abbreviations.**

**“40 CFR”** means Title 40, Code of Federal Regulations.

**“AECD”** means auxiliary emission-control device.

**“CARB”** means California Air Resources Board.

**“CCR”** means California Code of Regulations.

**“CFR”** means Code of Federal Regulations.

**“CO”** means carbon monoxide.

**“CO<sub>2</sub>”** means carbon dioxide.

**“DEF”** means diesel exhaust fluid.

**“FEL”** means family emission limit.

**“g/hr”** means grams per hour.

**“g/kW-hr”** means grams per kilowatt-hour.

**“HC”** means hydrocarbons.

**“kW”** means kilowatt.

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“**n/a**” means not applicable.

“**NMHC**” means non-methane hydrocarbons.

“**NOx**” means oxides of nitrogen.

“**NRTC**” means Nonroad Compression-Ignition Composite Transient Cycle.

“**NTE**” means Not-to-Exceed.

“**ORIUC**” means CARB’s Off-Road In-Use Compliance program.

“**PEMS**” means a portable emissions measurement system.

“**PM**” means particulate matter.

“**THC**” means total hydrocarbons.

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

## **Part II: IN-USE EMISSIONS COMPLIANCE**

This Part II shall apply for all Tier 4 off-road compression-ignition engine families and marine compression-ignition engine families in power categories < 37 kW.

The effective dates of the applicable sections in 40 CFR, Part 1039, Subpart B that are incorporated at various parts in this Part II, Subpart A are as follows wherever referenced below:

§ 1039.115 (January 24, 2023)

§ 1039.125 (October 25, 2016)

The effective dates of the applicable sections in 40 CFR, Part 1065, Subparts G and J that are incorporated at various parts in Part II, Subpart A, are as follows wherever referenced below:

### Subpart G

§ 1065.660 (April 22, 2024)

### Subpart J

§ 1065.901 (January 24, 2023)

§ 1065.905 (June 29, 2021)

§ 1065.910 (January 24, 2023)

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§ 1065.915 (January 24, 2023)

§ 1065.920 (January 24, 2023)

§ 1065.925 (September 15, 2011)

§ 1065.930 (July 13, 2005)

§ 1065.935 (April 22, 2024)

§ 1065.940 (November 8, 2010)

### **Subpart A – CARB-Run Off-Road In-Use Compliance (ORIUC) Program.**

1. All Tier 4 engines in all power categories and all marine compression-ignition engines below 37 kW that are certified to the emission standards in title 13, CCR, section 2423, subsection (b)(1)(A) are subject to CARB's ORIUC program. Testing under CARB's ORIUC program may be conducted using either PEMS testing or engine dynamometer testing as follows:

2. CARB may perform in-use compliance testing of any engine subject to the Tier 4 emission standards in title 13, CCR, section 2423, subsection (b)(1)(B) and any marine compression-ignition engine subject to the emission standards in title 13, CCR, section 2423, subsection (b)(1)(A) using the applicable certification test cycle for the engine or using the "Not-To-Exceed" provisions in Part II, Subpart A, sections 4 through 9.

3. CARB will limit recall testing to the first 75 percent of each engine's useful life as specified in title 13, CCR, section 2421, subsection (a)(60).

#### **4. Selection and Screening Equipment and Engines for Testing.**

##### **4.1 § 1036.410 Selecting and screening vehicles and engines for testing.** January 24, 2023.

4.1.1 Subparagraph (a): [n/a]

4.1.2 Subparagraph (b): Amend as follows:

4.1.2.1 Introductory sentence: [No change.]

4.1.2.2 Subparagraph (1): [No change.]

4.1.2.3 Delete subparagraph (2). Replace with the following:

Powertrain, drivetrain, emission controls, and other key engine systems have been properly maintained and used. See 40 CFR Part 1039, Subpart B, Section 1039.125.

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4.1.2.4 Subparagraph (3): [No change.]

4.1.2.5 Subparagraph (4): The engines have not been misfueled. Do not consider engines misfueled if they have used fuel meeting the specifications of Part II, Subpart A, section 5.1.3.

4.1.2.6 Subparagraph (5): The engines are likely to operate for at least three hours of non-idle operation over a complete shift-day, as described in Part II, Subpart A, section 5.1.6.

4.1.2.7 Delete subparagraph (6). Replace with the following: The engines have not exceeded 75 percent of applicable useful life; CARB shall otherwise not exclude engines from testing based on their age or mileage.

4.1.2.8 Subparagraph (7): [No change.]

4.1.3 Subparagraph (c): [n/a]

## 5. **Preparing and Testing Engines.**

### 5.1 **§ 1036.415 Preparing and testing engines.** April 22, 2024.

5.1.1 Delete subparagraph (a). Replace with the following: CARB shall limit maintenance to what is in the owner's manual for engines with that amount of service and age. For anything CARB considers an adjustable parameter (see 40 CFR, Part 1039, Subpart B, § 1039.115, subparagraph (e)), CARB shall adjust that parameter only if it is outside its adjustable range. CARB shall then set the adjustable parameter to the manufacturer's recommended setting or the mid-point of its adjustable range. CARB shall conduct restorative maintenance in accordance with title 13, CCR, section 2138.

5.1.2 Subparagraph (b): [n/a]

5.1.3 Subparagraph (c): Amend as follows:

5.1.3.1 Introductory sentence: [No change.]

5.1.3.2 Subparagraph (1): [No change, except add the following: CARB may use any commercially available biodiesel fuel blend up to 20 percent biodiesel content (B20) that meets the specifications listed in title 4, CCR, section 4148.]

5.1.3.3 Subparagraphs (2) through (4): [No change.]

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5.1.3.4 Delete subparagraph (5). Replace with the following: CARB may take fuel samples from test engines to ensure that appropriate fuels were used during field testing. CARB may drain engines' fuel tanks and refill them with diesel fuel conforming to the specifications described in subparagraph (c)(1) of this section 1036.415.

5.1.4 Subparagraph (d): Amend as follows:

5.1.4.1 Delete introductory paragraph. Replace with the following: CARB shall test the selected engines using the test procedure described in Part II, Subpart A, section 6 while they remain installed in the engine. CARB shall measure emissions as follows:

5.1.4.2 Delete subparagraph (1). Replace with the following: CARB shall perform all testing with PEMS and field-testing procedures referenced in 40 CFR, Part 1065, Subpart J. CARB shall measure emissions of HC, NMHC, NOx, PM, CO, and CO<sub>2</sub>. CARB shall measure or determine O<sub>2</sub> emissions using good engineering judgement. CARB shall determine HC emissions by any method specified in 40 CFR, Part 1065, Subpart G, § 1065.660, subparagraph (b).

5.1.4.3 Delete subparagraph (2). Replace with the following: If the engine's crankcase discharges emissions into the ambient atmosphere, as allowed by 40 CFR, Part 1039, Subpart B, § 1039.115, subparagraph (a), CARB shall either route all crankcase emissions into the exhaust for a combined measurement or add the crankcase emission values specified in Part II, Subpart A, section 5.2.3 to represent emission levels at full useful life instead of measuring crankcase emissions in the field.

5.1.5 Subparagraph (e): [No change.]

5.1.6 Delete subparagraph (f). Replace with the following: Once an engine is set up for testing, CARB shall test the engine for at least one shift-day. To complete a shift-day's worth of testing, CARB shall start sampling at the beginning of a shift and continue sampling for the whole shift, subject to the calibration requirements of the portable emissions measurement systems. A shift-day is the period of a normal workday for an individual employee. If the first shift-day of testing does not involve at least 3 hours of accumulated non-idle operation, CARB shall repeat the testing for a second shift-day and report the results from both days of testing. If the second shift-day of testing also does not result in at least 3 hours of accumulated non-idle operation, CARB shall choose whether or not to continue testing with that engine. If after two shift-days, CARB

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may discontinue testing before accumulating 3 hours of non-idle operation on either day, evaluate the valid NTE samples from both days of testing as described in Part II, Subpart A, section 8. CARB shall count the engine toward meeting the testing requirements under this subpart and use the data for deciding whether additional engines must be tested under Part II, Subpart A, section 9.

5.1.7 Delete subparagraph (g): Replace with the following: For stop-start and automatic engine shutdown systems, CARB shall override idle-reduction features if they are adjustable. If those systems cannot be overridden, CARB shall set the 1-Hz emission rate to zero for all regulated pollutants when the idle-reduction feature is active.

## 5.2 California Provisions.

5.2.1. CARB has the option to test longer than the two shift-day period described in Part II, Subpart A, section 5.1.6.

5.2.2. CARB may count an engine as meeting the engine-pass criteria described in Part II, Subpart A, section 8 if a shift-day of testing or two shift-days of testing (with the requisite non-idle/idle operation time as in Part II, Subpart A, section 5.1.6), or if the extended testing CARB elects under Part II, Subpart A, section 5.2.1 does not generate a single valid NTE sampling event, as described in Part II, Subpart A, section 8.1.3. CARB shall count the engine towards meeting testing requirements under this subpart.

5.2.3. For engines designed to discharge crankcase emissions to the ambient atmosphere, CARB shall use deteriorated emission levels to represent crankcase emissions at the end of useful life for purposes of demonstrating compliance with NTE standards. CARB shall use a brake-specific crankcase emission result for each pollutant based on operation over the applicable certification cycle reported by the manufacturer. CARB shall apply crankcase deterioration factors to all these crankcase emission results as described in Part II, Subpart A, section 8. CARB shall round the adjusted figures to the same number of decimal places as the NTE standards in Part II, Subpart A, section 7.1.

## 6. **§ 86.1370 Not-To-Exceed test procedures.** October 25, 2016.

6.1 Subparagraph (a): [No change, except that the reference to the “the Not-To-Exceed Limits specified in § 86.007-11(a)(4), or to later Not-To-Exceed

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“Limits” means the “the Not-To-Exceed Limits specified in Part II, Subpart A, section 7.1.”

6.2 Subparagraphs (b): Amend as follows:

6.2.1 References to “heavy-duty engines” shall mean “off-road compression-ignition engines and marine compression-ignition engines.”

6.2.2 Subparagraphs (1) through (5): [No change.]

6.2.3 Subparagraph (6) and (7): [n/a]

6.3 Subparagraph (c): [n/a]

6.4 Subparagraphs (d): [No change, except that the reference to “§ 86.007-11(a)(4)” in subparagraph (d)(1) shall mean “Part II, Subpart A, section 7.1.” of these test procedures and reference to “§ 86.1912” in subparagraph (d)(2)(iv) shall mean “Part II, Subpart A, section 8” of these test procedures.]

6.5 Subparagraphs (e): [No change, except that the reference to “§ 86.007-11(a)(4)(ii)(A)” in subparagraph (e)(1) shall mean “Part II, Subpart A, section 7.2.1” and the reference to “§ 86.007-11(a)(4)(ii)(B)” in subparagraph (e)(2) shall mean “Part II, Subpart A, section 7.2.2.”]

6.6 Subparagraphs (f) through (g): [No change.]

6.7 Delete subparagraph (h). Replace with the following: Any emission measurements corresponding to engine operating conditions that do not qualify as a valid NTE sampling event may be excluded from the determination of the engine-pass ratio specified in Part II, Subpart A, section 8 for the specific pollutant.

6.8 Subparagraph (i): [No change.]

6.9 Delete subparagraph (j). Replace with the following: Emergency engine AECDs. If your engine family includes engines with one or more approved AECDs for emergency engine applications under 40 CFR, Part 1039, Subpart B, § 1039.115, subparagraph (g), the NTE emission limits do not apply when any of these AECDs are active.

## 7. “Not-to-Exceed” Emission limits, standards and supplemental requirements for Tier 4 engines certified to title 13, CCR, section 2423.

This section applies to all new off-road compression-ignition engines and equipment that are certified to the Tier 4 final exhaust emission standards and all marine compression-ignition engines below 37 kW in title 13, CCR, section 2423.

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## 7.1 Not-to-Exceed Standards

7.1.1 The brake-specific exhaust NMHC or NO<sub>x</sub> emissions in g/kW-hr, as determined under Part II, Subpart A, section 6 pertaining to the not-to-exceed test procedures, shall not exceed 1.5 times the applicable NMHC or NO<sub>x</sub> emission standards or FELs specified in title 13, CCR, section 2423, subsection (b)(1)(B), during engine and equipment operation specified in Part II, Subpart A, section 7.2.1, except as noted in Part II, Subpart A, section 7.2.2.

7.1.2 The brake-specific exhaust PM emissions in g/kW-hr, as determined under Part II, Subpart A, section 6 pertaining to the not-to-exceed test procedures, shall not exceed 1.5 times the applicable PM emission standards or FELs (for FELs above the standard only) specified in title 13, CCR, section 2423, subsection (b)(1)(B) for Tier 4 final engines or subsection (b)(1)(A) for marine engines, during engine and equipment operation specified in Part II, Subpart A, section 7.2.1, except as noted in Part II, Subpart A, section 7.2.2.

7.1.3 The brake-specific exhaust CO emissions in g/kW-hr, as determined under Part II, Subpart A, section 6 pertaining to the not-to-exceed test procedures, shall not exceed 1.25 times the applicable CO emission standards specified in title 13, CCR, section 2423, subsection (b)(1)(B) for Tier 4 final engines or subsection (b)(1)(A) for marine engines, during engine and equipment operation specified in Part II, Subpart A, section 7.2.1, except as noted in Part II, Subpart A, section 7.2.2.

7.2 For each engine family, the not-to-exceed emission limits shall apply during one of the following two ambient operating regions:

7.2.1 **Ambient Operating Region 1:** The not-to-exceed limits apply for all altitudes less than or equal to 5,500 feet above sea level, during all ambient conditions (temperature and humidity). Temperature and humidity ranges for which correction factors are allowed are specified in Part II, Subpart A, section 6.6; or

### 7.2.2 **Ambient Operating Region 2**

7.2.2.1 The not-to-exceed emission limits apply for all altitudes less than or equal to 5,500 feet above sea level, for temperatures less than or equal to the temperature determined by the following equation at the specified altitude:

$$T = -0.00254 \times A + 100$$

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Where:

T = ambient air temperature in degrees Fahrenheit.

A = altitude in feet above sea level (A is negative for altitudes below sea level).

7.2.2.2 Temperature and humidity ranges for which correction factors are allowed are specified in Part II, Subpart A, section 6.5.

7.3 For engines equipped with exhaust gas recirculation, the not-to-exceed emission limits specified in Part II, Subpart A, section 7.1 do not apply to engine or equipment operation during cold operating conditions as specified in Part II, Subpart A, section 6.6, subparagraph (f).

7.4 The emission limits specified in this section shall be rounded to the same number of significant figures as the applicable standards in title 13, CCR, section 2423, subsection (b)(1)(B) for Tier 4 final engines or subsection (b)(1)(A) for marine engines using ASTM E29-22.

## 8. Engine and Equipment Pass Criteria.

### 8.1 § 86.1912 How do I determine whether an engine meets the vehicle-pass criteria? October 25, 2016.

8.1.1 Delete introductory paragraph. Replace with the following: In general, the average emissions for each regulated pollutant must remain at or below the NTE threshold in subparagraph (a) of this section 86.1912 for at least 90 percent of the valid NTE sampling events, as defined in subparagraph (b) of this section 86.1912. Perform the following steps to determine whether an engine meets the engine-pass criteria:

8.1.2 Delete subparagraph (a). Replace with the following: Determine the NTE threshold for each pollutant subject to an NTE standard by adding the two following terms in Part II, Subpart A, sections 8.1.2.1 and 8.1.2.3 and rounding the result to the same number of decimal places as the applicable NTE standard:

8.1.2.1 Delete subparagraph (1). Replace with the following: The applicable NTE standard defined in Part II Subpart A, section 7.1.

8.1.2.2 Subparagraph (2): [n/a]

8.1.2.3 Delete subparagraph (3). Replace with the following: Accuracy margins for portable in-use equipment for 2031 or later model year engine families that are selected for testing in any calendar year as follows:

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8.1.2.3.1 Delete subparagraph (i). Replace with the following:  
NMHC: 0.013 g/kW-hr.

8.1.2.3.2 Delete subparagraph (ii). Replace with the following:  
CO: 0.034 g/kW-hr.

8.1.2.3.3 Delete subparagraph (iii). Replace with the following:  
NOx: 0.007 g/kW-hr.

8.1.2.3.4 Delete subparagraph (iv). Replace with the following:  
PM: 0.008 g/kW-hr.

8.1.2.3.5 Delete subparagraph (v): Replace with the following:  
NOx+NMHC: 0.020 g/kW-hr.

8.1.2.4 Subparagraphs (4) and (5): [n/a]

8.1.3 Subparagraph (b): [No change, except that references to  
"§ 86.1370-2007" shall mean "Part II, Subpart A, section 6" and any provisions  
that apply to an "allowed deficiency area" shall not apply.]

8.1.4 Subparagraph (c): [No change.]

8.1.5 Subparagraph (d): Amend as follows: If the engine has an open  
crankcase, CARB shall account for these emissions in accordance with Part II,  
Subpart A, section 5.2.3 for every NTE event.

8.1.6 Subparagraphs (e) through (f): [No change.]

8.1.7 Subparagraph (g): Amend as follows:

8.1.7.1 Introductory sentence: [No change.]

8.1.7.2 Subparagraph (1): [No change.]

8.1.7.3 Subparagraph (2): [n/a]

## 9. Engine Family Pass Criteria

### 9.1 § 1036.425 Pass criteria for engine families. January 24, 2023.

9.1.1 Delete introductory paragraph. Replace with the following: For in-use compliance testing under Part II, Subpart A, section 5, CARB shall determine the number of engines to test from each selected engine family and the family pass criteria as follows:

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9.1.2 Subparagraph (a): [No change, except that reference to “Subpart E and § 1036.530” shall mean Part II, Subpart A, section 6 and “off-cycle bin standards” shall mean “engine-pass criteria in Part II, Subpart A, section 8”]

9.1.3 Subparagraph (b): [No change, except that “off-cycle bin standards” shall mean “engine-pass criteria in Part II, Subpart A, section 8”]

9.1.4 Subparagraph (c): Amend as follows: If two or more engines tested under Part II, Subpart A, sections 9.1.2 and 9.1.3 do not comply fully with the engine-pass criteria in Part II, Subpart A, subsection 8, CARB shall test additional engines until CARB has tested a total of ten engines. If three or more of the ten engines tested do not comply fully with the engine-pass criteria in Part II, Subpart A, section 8, the engine family fails and is deemed to be noncompliant.

9.1.5 Subparagraph (d): [No change.]

9.2 If an engine family is noncompliant based on the criteria in Part II, Subpart A, section 9.1, CARB shall notify the manufacturer of the test results. Upon receipt of the notification, the manufacturer shall have 45 days to submit an influenced recall plan in accordance with title 13, CCR, sections 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, and 2121. If no such recall plan is submitted, CARB may order corrective action including recall of the affected engines or pieces of equipment, in accordance with title 13, CCR, sections 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, and 2135.

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