

Appendix C-B-3

Purpose and Rationale for Proposed New Heavy-Duty Engine Test Procedures

CALIFORNIA EXHAUST EMISSION STANDARDS AND TEST PROCEDURES FOR 2027 AND SUBSEQUENT MODEL HEAVY-DUTY ENGINES, VEHICLES AND HYBRID POWERTRAINS

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The new document titled, “California Exhaust Emission Standards and Test Procedures for 2027 and Subsequent Model Heavy-Duty Engines, Vehicles and Hybrid Powertrains,” (2027-TPS) specifies the proposed emission standards and accompanying test procedures for new California-certified 2027 and subsequent model year (MY) heavy-duty (HD) compression-ignition (CI) and spark-ignition (SI) engines, vehicles and hybrid powertrains.

Cover Page

Purpose

The purpose of this 2027-TPS is to describe the proposed emission standards for oxides of nitrogen (NOx), particulate matter (PM), and other criteria pollutants, and provide accompanying test procedures for HD CI and SI engine and vehicle certification beginning in the 2027 MY. These emission standards will reduce NOx, PM, and other criteria pollutant emissions, resulting in more efficient, lower NOx emitting engines and vehicles.

Rationale

The proposal is necessary to set forth the NOx, PM and other criteria pollutant emission standards for 2027 and subsequent MYs and to continue the practice of incorporating federal testing provisions to minimize manufacturers’ costs and compliance burdens.

Purpose

The purpose of the “adopted” date on the cover page is to create a placeholder for the date of adoption for the 2027-TPS.

Rationale

This proposal is necessary to ensure that California Air Resources Board’s (CARB) adoption of these test procedures is properly referenced in the regulations. These test procedures are a necessary complement to the proposed regulations for this rulemaking because the test procedures contain testing requirements applicable to 2027 and subsequent MY heavy-duty engines (HDE) that help to ensure the emission benefits of this rulemaking are fully realized.

Reference Documents

Purpose

The purpose of the documents referenced in the 2027-TPS is to indicate that the documents are referred to and are used in conjunction with the certification of HDEs and heavy-duty vehicles (HDV).

Rationale

The references are necessary to establish California emission standards and test procedures for HDEs and HDVs and for harmonization with the federal regulations. By referring to these documents, this section helps ensure that the regulated entities can find additional important information to meet California requirements and enable CARB to enforce these regulations. Instead of copying and pasting the various sections of the Code of Federal Regulations (CFR) here, these test procedures only refer to the various sections of the CFR. This would also

make it easier for the reader to see any differences between the requirements in the CFR and the California test procedures.

Document Title

Purpose

The purpose of this document titled, “California Exhaust Emission Standards and Test Procedures for 2027 and Subsequent Model Heavy-Duty Engines, Vehicles and Hybrid Powertrains,” is to describe the proposed exhaust emission standards and associated test procedures for HDE and HDV certification beginning in the 2027 MY.

Rationale

The proposal is necessary to set forth the exhaust emission standards for 2027 and subsequent MYs and to continue the practice of incorporating federal testing provisions to minimize manufacturer’s costs and compliance burdens. It is necessary to create new test procedures since the structure of the proposed requirements that mostly align with the 2027 MY federal criteria pollutant standards is different than the structure currently used in the existing test procedures, which is now proposed to end its applicability in MY 2026.

Introductory Paragraph

Purpose

The purpose of this introduction is to provide context and background regarding the 2027-TPS. The first paragraph establishes the provisions of the CFR that are incorporated by reference in the 2027-TPS. The succeeding paragraphs show the notations used in the document to indicate whether a change is made or not to the cited CFR section as well as other notations.

The next two paragraphs indicate that, in general, the provisions and requirements for light HDEs also apply to medium-duty (MD) CI engines used in vehicles with gross vehicle weight ratings (GVWR) from 10,001 to 14,000 pounds (lb). Similarly, the provisions and requirements for HD SI engines also apply to MD SI engines installed in vehicles with GVWR from 10,001 to 14,000 lb. Exceptions to these requirements are identified either in these test procedures or in title 13, California Code of Regulations, section 1956.8.2 (title 13, CCR, section 1956.8.2).

The last paragraph indicates that in California, certain state laws, regulations, statutes, and terminologies supersede some of the federal regulations and terminologies.

Rationale

The explanatory paragraphs are necessary to be added in order to clarify how to accurately read and understand the 2027-TPS.

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

Subpart A – Overview and Applicability

1036.1. Applicability.

A. Federal Provisions.

Paragraph 1

Purpose

The purpose of this paragraph is to specify the applicability of these test procedures to engines that are installed in HDVs and medium-duty vehicles (MDV).

Rationale

This paragraph clarifies the applicability of the 2027-TPS to HDEs used in HDVs with GVWR above 14,000 lb. This paragraph also clarifies that engines used in incomplete MDVs, and CI MDVs with GVWR from 10,001 to 14,000 lb have the option of pursuing certification either through the 2027-TPS, or pursue another certification pathway as described in title 13, CCR, sections 1961.2 and 1961.4.

Paragraph 2

Purpose

The purpose of this paragraph is to specify that certain provisions of sections 1036.115, 1036.501(d), and 1036.601 of these test procedures and some provisions of Parts 85 and 86 may apply to engines that are installed in HDVs and MDVs.

Rationale

CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

Paragraph 3

Purpose

The purpose of this paragraph is to inform regulated entities and other interested stakeholders that this paragraph is marked as not applicable.

Rationale

The referenced federal provisions refer to pre 2027 MY engines and alternative fuel retrofit systems. These federal requirements are not applicable, as California had already established different emission standards and requirements for 2024-2026 MY HDEs under the Heavy-Duty

Engine and Vehicle Omnibus (Omnibus) regulation (CARB, 2025a). Also, California has different regulations for alternative fuel retrofit systems.

Paragraph 4

Purpose

The purpose of this paragraph is to specify that gas turbines and other HDEs not meeting the definition of CI or SI are deemed to be CI engines for purposes of this part. Additionally, manufacturers are required to include all engine emission-related components and any components or systems in the application for certification.

Rationale

CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions, with no changes or modifications. This will ensure that products such as gas turbines, which are certified as CI engines by the United States Environmental Protection Agency (U.S. EPA), will be subject to the same standards, requirements, and certification process in California.

B. California Provisions.

Paragraph 1

Purpose

The purpose of this paragraph is to specify that any reference to the national engine or vehicle sales or production volume are redefined as California sales or production volume.

Rationale

The paragraph is necessary to define California sales or production volumes, to inform regulated entities of the threshold California sales or production volumes that trigger requirements applicable to the production and sale of California-certified engines and vehicles set forth in these procedures.

Paragraph 2

Purpose

The purpose of this paragraph is to specify the applicable test procedures for compliance with the evaporative emission standards for 2026 and subsequent MY passenger cars, light-duty (LD) trucks, MDVs, and HDVs.

Rationale

The paragraph is necessary to specify the evaporative emissions provisions that manufacturers must comply with and to align with existing California programs.

1036.2. Compliance responsibility.

Purpose

The purpose of this section is to specify the parties that are responsible for compliance with the emission standards of Part 1036.

Rationale

The section is necessary to identify that engine manufacturers are responsible for issues related to certification. The section is necessary to harmonize the referenced elements of the California test procedures with the corresponding elements in the federal test procedures (FTP). CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision with no changes or modifications.

1036.5. Excluded engines.

A. Federal Provisions.

Paragraph 1

Purpose

The purpose of this paragraph is to specify the excluded engines installed in MD passenger vehicles and other MDVs, which are subject to CARB's low emission vehicle regulations.

Rationale

The paragraph is necessary to accurately define the excluded engines and avoid any confusion with respect to the appropriate requirements for certain engines used in MDVs.

Paragraph 2

Purpose

The purpose of this paragraph is to specify that an engine installed in an HDV that is not used to propel the vehicle is not an HDE. Therefore, this engine is excluded from these requirements.

Rationale

CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision with no changes or modifications.

Paragraph 3

Purpose

The purpose of this paragraph is to inform regulated entities and other interested stakeholders that this paragraph is marked as not applicable.

Rationale

This paragraph in these federal regulations refers to regulations for aircraft engines, which are not regulated under these provisions in California and are therefore marked as not applicable.

Paragraph 4

Purpose

The purpose of this paragraph is to specify that engines that are not internal combustion engines are excluded from these requirements. Additionally, MY 2013 and earlier HDEs are also excluded unless voluntarily certified to these requirements.

Rationale

CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions, with no changes or modifications.

Paragraph 5

Purpose

The purpose of this paragraph is to specify the applicability of the 2027-TPS to engines installed in glider vehicles.

Rationale

The paragraph is necessary to indicate the appropriate California regulations for engines installed on glider vehicles which are provided in the referenced test procedures. It is necessary to specify the appropriate California regulations that apply to glider vehicles since the California glider vehicle requirements are different than those in the federal regulations. That is, for California, an engine installed on a glider vehicle must be compliant with the 2010 and later MY emission requirements, unlike the federal requirements which also allow pre-2010 MY engines. The difference between California and federal regulations has to do with the Truck and Bus regulation (CARB, 2025b) which prohibits the registration of pre-2010 MY HDEs in California.

1036.10. Organization of this part.

Purpose

The purpose of this section is to describe how the sections of Part 1036 are organized.

Rationale

The section is necessary to describe the organization of various subparts that make up Part 1036. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision with no changes or modifications.

1036.15. Other applicable regulations.

A. Federal Provisions.

Paragraph 1

Purpose

The purpose of this paragraph is to indicate the additional referenced provisions in the California regulations.

Rationale

The paragraph is necessary to harmonize the referenced elements of the California test procedures with the corresponding elements in the FTP.

Paragraph 2

Purpose

The purpose of this paragraph is to specify the evaporative and refueling emission standards and requirements.

Rationale

The paragraph is necessary to maintain the existing California regulations for evaporative and refueling emissions from HDVs which became effective in 2001 MY. CARB has maintained its own standards and requirements to control evaporative and refueling emissions and would continue to do so for 2027 and subsequent MYs. It should also be noted that the Clean Truck Partnership (CTP) did not specify any requirements for CARB to align its HD evaporative and refueling requirements with the federal regulations.

Paragraph 3

Purpose

The purpose of this paragraph is to indicate the additional referenced provisions in the California regulations.

Rationale

The paragraph is necessary to know the other regulation parts, e.g., Part 1065, that may affect the engines that are subject to Part 1036.

Paragraph 4

Purpose

The purpose of this paragraph is to indicate the additional referenced provisions in the California regulations.

Rationale

The paragraph is necessary to know the other regulation parts, e.g., Part 1068, that may affect the engines that are subject to Part 1036.

Paragraph 5

Purpose

The purpose of this paragraph is to indicate the additional referenced provisions in the California regulations.

Rationale

The paragraph is necessary to know the other regulation parts that may affect the engines that are subject to these test procedures.

1036.30. Submission of information.

A. Federal Provisions.

Paragraph 1

Purpose

The purpose of this paragraph is to specify CARB's designated person and address to whom the reports and requests for approval including certification application has to be submitted.

Rationale

The paragraph is necessary to provide CARB's point of contact and correct address.

Subpart B – Emission Standards and Related Requirements

1036.101. Overview of exhaust emission standards.

Purpose

The purpose of this section is to provide an overview of the exhaust emission standards applicable to medium-duty engines (MDE) and HDEs. The section also provides an option to demonstrate compliance by testing hybrid engines and hybrid powertrains rather than testing the engine alone.

Rationale

The section is necessary to specify the exhaust emission standards that engines need to meet for each MY. This section is necessary to harmonize the referenced elements of the California test procedures with the corresponding elements of the FTP. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1036.104. Criteria pollutant emission standards – NO_x, HC, PM, and CO.

A. Federal Provisions.

Paragraph 1

Purpose

The purpose of this paragraph is to specify the criteria pollutant exhaust emission standards for 2027 and subsequent MY HD CI and SI engines used in HDVs over 14,000 lb GVWR and MDVs with GVWR between 10,001 to 14,000 lb.

Rationale

The paragraph is necessary to set forth the criteria pollutant exhaust emission standards that engines need to meet for each MY and to align with existing California programs. CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

Paragraph 2

Purpose

The purpose of this paragraph is to specify the CI engine off-cycle standards for bins 1 and 2 for NO_x, carbon monoxide (CO), Hydrocarbon (HC) and PM as well as the ambient temperature adjustment factor for the off-cycle NO_x standard.

Rationale

The paragraph is necessary to establish CARB's CI engine off-cycle standards for bins 1 and 2 for NO_x, CO, HC and PM. It is also necessary to specify the ambient temperature adjustment factors for the off-cycle NO_x standard.

CARB's off-cycle standards fully align with the federal off-cycle standards. However, the ambient temperature adjustment factors for off-cycle NO_x standard are different than the corresponding ambient temperature adjustment factors in the federal rule. For CARB, the ambient temperature adjustment factor applies to ambient temperatures below 20 °C for MYs 2027 to 2030 and below 5 °C for MYs 2031 and subsequent. Whereas for the federal rule, the ambient temperature adjustment factor applies to ambient temperatures below 25 °C for all MYs. This would result in CARB's ambient temperature adjusted off-cycle NO_x standard that is more stringent than the federal ambient temperature adjusted off-cycle NO_x standard. This difference is a result of the CTP agreement signed between CARB and the Truck and Engine Manufacturers Association (EMA) and the HDE industry (CARB, 2023).

Paragraph 3

Purpose

The purpose of this paragraph is to specify the HDE idling requirements in California.

Rationale

The paragraph is necessary to maintain the existing mandatory clean idle requirements in California (see Paragraph B.1 of § 1036.104 California Provisions below). For California, the proposed clean idle requirements are mandatory, as opposed to the federal requirements, where clean idle requirements are optional. This difference between CARB and federal clean idle requirements is a component of the agreement reached between CARB, EMA and the HDE industry in the CTP agreement.

Paragraph 4

Purpose

The purpose of this paragraph is to specify that manufacturers may generate or use emission credits under the averaging, banking and trading (ABT) program to demonstrate compliance with NOx emission standards. Additionally, this paragraph specifies the applicable type of HC emission standard depending on the fuel type.

Rationale

CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

Paragraph 5. Useful life.

Purpose

The purpose of this paragraph is to specify the useful life (UL) requirements, by primary intended service class, for meeting criteria pollutant emission standards. Table 4 to paragraph (e) of § 1036.104 shows the 2027 and later MY requirements.

Rationale

The paragraph is necessary to ensure that the proposed test procedures only apply to 2027 and subsequent MY engines in California.

Paragraph 6

Purpose

The purpose of this paragraph is to describe the applicability for testing, including certification, selective enforcement audits (SEA), and in-use testing.

Rationale

CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

B. California Provisions.

Paragraph 1. Medium-Duty and Heavy-Duty Compression-Ignition Engine Idling Requirements.

Purpose

The purpose of this paragraph is to specify the mandatory idling emissions reduction requirements for new MY 2027 and later diesel-fueled CI engines installed in MDVs from 10,001 to 14,000 lb GVWR, and HDVs with GVWR greater than 14,000 lb in California. Manufacturers may meet the requirements by either demonstrating compliance with the non-programmable 5-minute Automatic Engine Shutdown System requirements or the Clean Idle NOx Emission Standard. Military tactical vehicles and authorized emergency vehicles are exempted from these requirements.

Rationale

The paragraph is necessary to maintain CARB's mandatory idle emission reduction requirements for California-certified engines. For California, the proposed clean idle requirements are mandatory as opposed to the federal requirements which are optional. This difference between CARB's and federal clean idle requirements is a result of the agreement reached between CARB, EMA and the HDE industry in the CTP.

Paragraph 2. Optional Low NOx Emission Standards for Model Year 2027 and Later Heavy-Duty Engines.

Purpose

The purpose of this paragraph is to specify the optional low NOx exhaust emission standards for new 2027 and subsequent model years HD CI and SI engines used in HDVs over 14,000 lb GVWR.

Rationale

This paragraph is necessary to provide manufacturers with a mechanism that would allow them to certify their 2027 and subsequent MY HDEs to optional low NOx emission standards that are significantly lower than the primary standards.

For both HD CI and SI engines, Options 1 and 2 would allow manufacturers to certify products at an FTP/Supplemental Emission Test (SET) NOx standard of 10 or 20 mg/hp·hr which are below the primary NOx standard of 35 mg/hp·hr. HDEs certified to the optional low NOx standards would further reduce NOx emissions from the HD sector thereby helping California achieve its air quality goals. The Omnibus regulation previously included the 10 mg/hp·hr optional standard (Option 1), and staff is now adding the 20 mg/hp·hr optional standard (Option 2) because the mandatory standard will now be slightly higher than before.

Paragraph 3. Formaldehyde Exhaust Emission Standards.

Purpose

The purpose of this paragraph is to specify the formaldehyde exhaust emission standards for 2027 and subsequent MY MDEs and HDEs.

Rationale

The paragraph is necessary to set forth the formaldehyde exhaust emission standards that engines need to meet for each engine type. In 1992, CARB identified formaldehyde as a toxic air contaminant for its potential to contribute to increased mortality and pose a hazard to human health (CARB, 1992). As a result, since 1992, California requires manufacturers to meet specific formaldehyde emission standards for certain MDEs and HDEs.¹ The formaldehyde emission standards in the proposed 2027-TPS are effective in 2026 and previous MYs, and will continue to be in effect for 2027 and subsequent MYs.

1036.108. Greenhouse gas emission standards – CO₂, CH₄, and N₂O.

A. Federal Provisions.

Paragraph 1

Purpose

The purpose of this paragraph is to specify the greenhouse gas (GHG) emission standards for carbon dioxide (CO₂), nitrous oxide (N₂O), and methane (CH₄) emissions for new 2027 and subsequent MY CI and SI engines.

Rationale

The paragraph is necessary to specify the GHG emission standards for HDEs for 2027 and subsequent MYs. These GHG standards are not new emission standards. Given that these new test procedures apply to 2027 and subsequent MY HDEs, the existing GHG emission standards for 2027 and subsequent MYs are shown in these new test procedures. CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

Paragraph 2. Spark-ignition standards.

Purpose

The purpose of this paragraph is to specify the CO₂ emission standards for SI engines that are not Heavy HDE for 2027 and subsequent MYs.

Rationale

The paragraph is necessary to ensure that the proposed test procedures only apply to 2027 and subsequent MY engines in California.

¹ 13 CCR 1956.8 (a)(3), (c)(2), and (h)(2)

Paragraph 3. Compression-ignition standards.

Purpose

The purpose of this paragraph is to specify the CO₂ emission standards for CI engines and SI engines that qualify as Heavy HDEs for 2027 and subsequent MYs.

Rationale

The paragraph is necessary to ensure that the proposed test procedures only apply to 2027 and subsequent MY engines in California.

Paragraph 4

Purpose

The purpose of this paragraph is to specify the CH₄ emission standards for CI engines and SI engines when measured over the applicable FTP transient duty cycle for 2027 and subsequent MYs.

Rationale

The paragraph is necessary to ensure that the proposed test procedures only apply to 2027 and subsequent MY engines in California.

Paragraph 5

Purpose

The purpose of this paragraph is to specify the N₂O emission standards for CI engines and SI engines when measured over the applicable FTP transient duty cycle for 2027 and subsequent MYs.

Rationale

The paragraph is necessary to ensure that the proposed test procedures only apply to 2027 and subsequent MY engines in California.

Paragraph 6

Purpose

The purpose of this paragraph is to describe what “family certification level” means in CARB regulations. This paragraph also specifies that manufacturers may generate or use emission credits under the ABT program to demonstrate compliance with CO₂ emission standards.

Rationale

CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

Paragraph 7. Useful life.

Purpose

The purpose of this paragraph is to specify the UL requirements, by primary intended service class, for meeting the GHG emission standards for 2027 and subsequent MYs.

Rationale

The paragraph is necessary to ensure that the proposed test procedures only apply to 2027 and subsequent MY engines in California.

Paragraph 8

Purpose

The purpose of this paragraph is to describe the applicability for duty-cycle testing, including certification, SEA, and in-use testing.

Rationale

CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

B. California Provisions.

Paragraph 1. 2027 Model Year Compression-Ignition Engines.

Purpose

The purpose of this paragraph is to provide manufacturers with the option to certify 2027 MY HD CI engines to the proposed optional low CO₂ standards in lieu of the proposed primary standards for the corresponding MY.

Rationale

The paragraph is necessary for manufacturers to continue to certify with optional low CO₂ emission standards that are much lower than the mandatory standards. There is a need for lower CO₂ emission standards to achieve climate goals in California.

Paragraph 2. 2027 Model Year Spark-Ignition Engines.

Purpose

The purpose of this paragraph is to provide manufacturers with the option to certify 2027 MY HD SI engines to the proposed optional low CO₂ standards in lieu of the proposed primary standards for the corresponding MY.

Rationale

The paragraph is necessary in order for manufacturers to continue to certify with optional low CO₂ emission standards that are much lower than the mandatory standards. There is a need for lower CO₂ emission standards to achieve climate goals in California.

1036.110. Diagnostic controls.

A. Federal Provisions.

Paragraph 1

Purpose

The purpose of this paragraph is to require manufacturers of new engines to install on-board diagnostic (OBD) systems beginning in the 2027 MY, as specified in CARB's OBD regulations.

Rationale

The paragraph is necessary to set forth the California OBD system requirements, describe the enhanced emission control system monitoring, ensure regulatory compliance across diverse engine families, support effective maintenance and enforcement, and align with existing California programs.

Paragraph 2

Purpose

The purpose of this paragraph is to inform stakeholders that the federal OBD-related requirements are not applicable in California.

Rationale

The paragraph is necessary to note that these OBD provisions do not apply to California's requirements applicable for 2027 and subsequent MY engines, but instead manufacturers must comply with the existing California OBD systems requirements.

Paragraph 3

Purpose

The purpose of this paragraph is to inform regulated entities and other interested stakeholders that the federal OBD requirements in this section are not applicable.

Rationale

The paragraph is necessary to reference the location of in-cab display requirements for inducements in the California regulations (see Paragraph 1.B of § 1036.111 California Provisions below).

Paragraph 4

Purpose

The purpose of this paragraph is to inform regulated entities and other interested stakeholders that the federal OBD requirements in this paragraph are not applicable in California.

Rationale

The paragraph is necessary to note that the federal OBD provisions do not apply to California's requirements applicable for 2027 and subsequent MY engines, but instead manufacturers must comply with the existing California OBD systems requirements.

1036.111. Inducements related to SCR.

A. Federal Provisions.

Purpose

The purpose of this section is to describe how manufacturers must design their engines to derate power output to induce operators to take appropriate actions to ensure the selective catalytic reduction (SCR) system is working properly. The inducements related to SCR requirements begin with the 2027 MY.

Rationale

The section is necessary to set forth the SCR inducements requirements. CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions with no changes or modifications.

B. California Provisions.

Paragraph 1. In-Cab Display Requirements for Inducements.

Purpose

The purpose of this paragraph is to outline the in-cab display requirements for inducements for engines that are certified in California.

Rationale

The paragraph is necessary to set forth the in-cab display inducement requirements and to align the California requirements with the federal program.

1036.115. Other requirements.

A. Federal Provisions.

Paragraph 1

Purpose

The purpose of this paragraph is to require manufacturers to control crankcase emissions from new 2027 and subsequent MY HDEs. This paragraph also describes performing engine fuel mapping.

Rationale

CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

Paragraph 2. Evaporative and refueling emissions.

Purpose

The purpose of this paragraph is to specify the evaporative and refueling emissions requirements for MDEs, MDVs and HDEs and HDVs.

Rationale

The paragraph is necessary to align with the existing California requirements for evaporative and refueling emissions. California's requirements are different than the federal requirements.

Paragraph 3

Purpose

The purpose of this paragraph is to specify the requirements for torque broadcasting, access to broadcast information, adjustable parameters, diesel exhaust fluid (DEF) tanks, and special provisions for SI engines for 2027 and subsequent MYs. This paragraph also specifies prohibited controls on engine designs and engines with defeat devices.

Rationale

CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1036.120. Emission-related warranty requirements.

A. Federal Provisions.

Paragraph 1

Purpose

The purpose of this paragraph is to describe the emission-related HDE warranty requirements that the manufacturer must provide to the ultimate purchaser and each subsequent purchaser.

Rationale

The paragraph is necessary to specify the warranty requirements. CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions, with no changes or modifications.

Paragraph 2

Purpose

The purpose of this paragraph is to specify warranty period in miles, years, or hours for 2027 and subsequent MY HDEs.

Rationale

The paragraph is necessary to specify the applicable warranty period for 2027 and subsequent MY HDEs.

Paragraph 3

Purpose

The purpose of this paragraph is to outline the components covered under the emission-related warranty for HDEs, HDVs and HD powertrains.

Rationale

The paragraph is necessary to identify which parts are covered under the warranty requirements in California regulations. The paragraph is also necessary to ensure the engines, including emission-related parts that can cause the vehicle's OBD malfunction indicator light (MIL) to illuminate, are built free of defects and to hold the manufacturers responsible for specific warranty responsibilities. Furthermore, providing a warranty for these parts would provide confidence in the purchaser that they are purchasing a durable product and that they can report any problems or defects to the manufacturer and have corrective action taken.

Paragraph 4

Purpose

The purpose of this paragraph is to allow manufacturers to deny warranty claims associated with improper maintenance or use of the operator. This paragraph also requires the manufacturer to provide the information related to warranty requirements in the owner's manual.

Rationale

CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions with no changes or modifications.

B. California Provisions.

Paragraph 1

Purpose

The purpose of this paragraph is to specify the applicable sections in the CCR for warranty-related prohibitions that apply to manufacturers of new engines and vehicles.

Rationale

The paragraph is necessary to provide California regulatory references for warranty-related prohibitions and specify the State's authority to enforce warranty requirements.

1036.125. Maintenance instructions and allowable maintenance.

A. Federal Provisions.

Paragraph 1

Purpose

The purpose of this paragraph is to describe that any inspection, adjustment, cleaning, repair, or replacement of components is classified as either emission-related or not emission-related maintenance. Additionally, some emission-related maintenance is also classified as critical emission-related maintenance.

Rationale

The paragraph is necessary to specify the proper maintenance schedules and provide other instructions for any inspection, adjustment, cleaning, repair, or replacement of emission-related components. CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions with no changes or modifications.

Paragraph 2

Purpose

The purpose of this paragraph is to ensure engines are equipped with an approved maintenance alert system that notifies drivers of required maintenance and complies with tampering prohibitions.

Rationale

The paragraph is necessary to promote proper engine maintenance and prevent tampering.

Paragraph 3

Purpose

The purpose of this paragraph is to demonstrate that maintenance is reasonably likely to be done free of charge at the recommended intervals on in-use engines. This paragraph also specifies the minimum scheduled maintenance intervals for replacement of components.

Rationale

CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions with no changes or modifications.

Paragraph 4

Purpose

The purpose of this paragraph is to outline the requirements of minimum scheduled maintenance intervals for emission-related components.

Rationale

The intent of this paragraph is to specify the manufacturer recommended maintenance intervals in miles or hours for the various emission-related components. The recommended maintenance intervals are an important tool to inform the customers about the proper engine maintenance requirements. By adhering to these maintenance requirements, customers can be more confident about the long-term performance of the emission-related components for their trucks. Scheduling the proper engine maintenance at the right time will also help customers by reducing downtime while still maintaining compliance with emission standards.

Paragraph 5

Purpose

The purpose of this paragraph is to specify other maintenance instructions including the maintenance schedule of components identified as new technology, recommended additional maintenance, special maintenance, noncritical emission-related maintenance, maintenance that is not emission-related, and payment for scheduled maintenance. This paragraph also clarifies which components are included in certain systems for maintenance. Further, this paragraph requires the manufacturer to provide maintenance-related information in the owner's manual.

Rationale

CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions with no changes or modifications.

B. California Provisions.

Paragraph 1

Purpose

The purpose of this paragraph is to allow the use of biodiesel fuel blend up to 20% biodiesel content (B20) by the customers in California.

Rationale

The paragraph is necessary to allow the use of B20 by customers in California. Currently, commercial fuel dispensing facilities in California sell diesel fuel that contains up to 20% biodiesel. The use of fuel with up to 20% biodiesel may not be considered misfuelling, and manufacturers are not allowed to void the warranty in cases where a customer uses fuel with up to B20.

Paragraph 2

Purpose

The purpose of this paragraph is to specify the applicability of Emissions Control System Warranty Statement requirements to MDEs.

Rationale

The paragraph is necessary to ensure compliance with warranty requirements, support enforcement, and provide clarity on the applicability of emission control system warranty provisions for MDEs.

1036.130. Installation instructions for vehicle manufacturers.

A. Federal Provisions.

Paragraph 1

Purpose

The purpose of this paragraph is to provide engine installation instructions for vehicle manufacturers. This paragraph also specifies the content of the heading.

Rationale

CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions with no changes or modifications.

Paragraph 2

Purpose

The purpose of this paragraph is to specify that failing to follow the instructions in this section also violates California state law as described in the California Health and Safety Code (HSC), or the California Vehicle Code, as applicable.

Rationale

The paragraph is necessary to inform manufacturers that failure to comply with the specified requirements violates applicable California state law.

Paragraph 3

Purpose

The purpose of this paragraph is to specify other required contents of the installation instructions.

Rationale

CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions with no changes or modifications.

Paragraph 4

Purpose

The purpose of this paragraph is to specify the installation instruction requirements to describe how vehicle manufacturers need to apply mandatory Clean Idle Labels to qualifying vehicles in California in lieu of optional clean idle labels in the federal provision.

Rationale

The paragraph is necessary to ensure that the clean idle label is applied on a vehicle with a California-certified engine according to CARB's regulations specified in paragraph B.1 of § 1036.135. The paragraph is also necessary to direct the engine manufacturer to CARB's clean idle label requirements because CARB clean idle label design and installation requirements are different from U.S. EPA's clean idle label requirements. Unlike U.S. EPA's optional clean idle requirements, CARB's clean idle label requirements have been in place since MY 2008 and include detailed instructions on the design of the label and its application on a vehicle. Therefore, engine manufacturers certifying their engines in California must provide the vehicle manufacturer with detailed instructions on how to apply the clean idle label on the vehicle.

Paragraph 5

Purpose

The purpose of this paragraph is to specify additional installation instructions for vehicle manufacturers, i.e., provide fuel maps results and provide instructions in writing or an equivalent format. This paragraph also clarifies that installation instructions are not necessary for engines that vehicle manufacturers will install in their own vehicles.

Rationale

CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions with no changes or modifications.

1036.135. Labeling.

A. Federal Provisions.

Paragraph 1

Purpose

The purpose of this paragraph is to assign each engine a unique identification number and permanently affix an engine label. This paragraph also specifies the content of the label.

Rationale

The paragraph is necessary to set forth the emission control information labeling requirements for every engine family certified for sale in California. Emission control information labels provide essential engine information for CARB staff, repair technicians, and enforcement officers. They help identify the engine MY, engine family name, and if the engine conforms to CARB's emission standards. CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions with no changes or modifications.

Paragraph 2

Purpose

The purpose of this paragraph is to specify additional requirements, i.e., stating NOx family emission limits (FEL) and clean idle standard on the label if an engine is certified to the California-specific NOx idling emission standards and automatic engine shutdown system requirements.

Rationale

The paragraph is necessary to set forth the emission control information labeling requirements for every engine certified for sale in California. Emission control information labels provide essential engine information for CARB staff, repair technicians, and enforcement officers. They help identify the engine MY, engine family number, and if the engine conforms to any applicable CARB emission standards.

Paragraph 3

Purpose

The purpose of this paragraph is to specify on the label if the engine conforms to any applicable CARB, federal, or Canadian emission standards for new HDEs.

Rationale

The paragraph is necessary to set forth the emission control information labeling requirements for every engine certified for sale in California. Emission control information labels provide essential engine information for CARB staff, repair technicians, and enforcement officers. They help identify the engine MY, engine family number, and if the engine conforms to any applicable emission standards.

Paragraph 4

Purpose

The purpose of this paragraph is to specify additional information on the engine label. This paragraph also allows manufacturers to submit a modified label and place a duplicate label on vehicles with unreadable labels.

Rationale

CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions, with no changes or modifications.

B. California Provisions.

Paragraph 1. Clean Idle Labels for Medium-Duty and Heavy-Duty Engine Idling Requirements.

Purpose

The purpose of this paragraph is to set forth the clean idle labels for HD diesel-fueled engine certified to the NOx idling emission standards or equipped with a certified/verified auxiliary power system (APS) in California.

Rationale

The paragraph is necessary to determine important diesel-fueled engine idling information on the label that is affixed to the engine. Without the idling information in the label, CARB staff will assume that the engine does not meet these NOx idling standards or equipped with APS.

Paragraph 2

Purpose

The purpose of this paragraph is to establish the requirement to include a statement on the label for HDEs certified to the optional low NOx engine emission standards.

Rationale

The paragraph is necessary to set forth the emission control information labeling requirements for every engine certified for sale in California. Emission control information labels provide essential engine information for CARB staff, repair technicians, and enforcement officers. They help identify the engine MY, engine family number, and if the engine conforms to any applicable emission standards.

1036.140. Primary intended service class and engine cycle.

A. Federal Provisions.

Purpose

The purpose of this section is to describe how to identify the primary intended service class and engine cycle for certification.

Rationale

The section is necessary to require each engine family seeking certification to specify a single primary intended service class from the following categories: light HDEs, medium HDEs, heavy HDEs, or SI engines. CARB staff has evaluated the contents of these federal provisions.

CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions with no changes or modifications.

B. California Provisions.

Paragraph 1

Purpose

The purpose of this paragraph is to define MDEs as HDEs that are used in MDVs.

Rationale

The paragraph is necessary to specify the applicable vehicle service class for MDEs for regulatory and certification purposes.

Paragraph 2

Purpose

The purpose of this paragraph is to define an MDV as an HDV with a GVWR between 8,501 and 14,000 lb.

Rationale

The paragraph is necessary to specify the weight classification for MDVs for regulatory and certification purposes.

1036.150. Interim provisions.

A. Federal Provisions.

Paragraph 1

Purpose

The purpose of this paragraph is to inform regulated entities and other interested stakeholders that paragraphs (a) through (c) are marked as not applicable. While the proposed 2027-TPS apply to 2027 and subsequent MY engines, paragraphs (a) through (c) apply to pre-2026 MY engines and are therefore not applicable.

Rationale

This paragraph is necessary to note that the referenced paragraphs of the CFR are not applicable to California-certified engine families.

Paragraph 2. Small manufacturers.

Purpose

The purpose of this paragraph is to provide a delayed schedule for small manufacturers to comply with GHG standards. This paragraph deletes small manufacturer exemptions for engines with a date of manufacture on or after November 14, 2011, but before January 1, 2022.

Rationale

The paragraph is necessary to note that the proposed test procedures cover 2027 and subsequent MY engines and do not apply to MY 2021 and older engines.

Paragraph 3

Purpose

The purpose of this paragraph is to inform regulated entities and other interested stakeholders that this paragraph is marked as not applicable. While the proposed 2027-TPS apply to 2027 and subsequent MY engines, this section applies only for alternative phase-in standards for GHG emissions for 2013 through 2020 MY engines.

Rationale

The paragraph is necessary to note that these test procedures only apply to 2027 and subsequent MY engines in California.

Paragraph 4

Purpose

The purpose of this paragraph is to specify testing exemption for hydrogen (H₂) engines for 2027 and subsequent MYs. This paragraph also specifies default deterioration factors for CO₂ standards without performing durability emission tests or engineering analysis.

Rationale

CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

Paragraph 5

Purpose

The purpose of this paragraph is to specify default deterioration factors for N₂O standards without performing durability emission tests or engineering analysis for 2027 and subsequent MY engines.

Rationale

The paragraph is necessary to ensure that the proposed test procedures only apply to 2027 and subsequent MY engines in California.

Paragraph 6

Purpose

The purpose of this paragraph is to specify the default deterioration factors for CH₄ standards without performing durability emission tests or engineering analysis for 2027 and subsequent MY engines.

Rationale

CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

Paragraph 7

Purpose

The purpose of this paragraph is to inform regulated entities and other interested stakeholders that these paragraphs are marked as not applicable.

Rationale

The paragraph is necessary to note that these test procedures only apply to 2027 and subsequent MY engines in California.

Paragraph 8. Limited production volume allowance under ABT.

Purpose

The purpose of this paragraph is to provide limited production volume allowance under the ABT program for manufacturers to produce a small number (5%) of heavy HDEs that continue to meet the 2023 MY California criteria emission standards in 2027 through 2029 MYs.

Rationale

The paragraph is necessary for harmonizing with the federal provisions while maintaining existing California requirements.

Paragraph 9

Purpose

The purpose of this paragraph is to specify the appropriate CCR description of engine standards and requirements.

Rationale

The paragraph is necessary to identify the California-specific applicable engine standards and requirements.

Paragraph 10

Purpose

The purpose of this paragraph is to specify the NO_x FEL and meet the credit reporting and recordkeeping requirements.

Rationale

CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision with no changes or modifications.

Paragraph 11

Purpose

The purpose of this paragraph is to specify the appropriate CCR description of labeling requirements.

Rationale

The paragraph is necessary to set forth the engine labeling requirements for every engine family certified for sale in California. Emission control information labels provide essential engine information for CARB staff, repair technicians, and enforcement officers. It helps identify the engine MY, engine family name, and if the engine conforms to CARB's emission standards.

Paragraph 12

Purpose

The purpose of this paragraph is to inform regulated entities and other interested stakeholders that this paragraph is marked as not applicable.

Rationale

The paragraph is necessary to note that these test procedures only apply to 2027 and subsequent MY engines in California.

Paragraph 13

Purpose

The purpose of this paragraph is to specify that engines installed in glider vehicles must comply with the requirements in § 1037.635 of the California GHG Exhaust Emission Standards and Test Procedures.

Rationale

The paragraph is necessary to ensure that engines used in glider vehicles meet California's certification requirements and other regulatory provisions.

Paragraph 14

Purpose

The purpose of this paragraph is to specify the transition to Phase 2 CO₂ standards. This paragraph also specifies the longer credit life of certain GHG credits.

Rationale

CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions with no changes or modifications.

Paragraph 15

Purpose

The purpose of this paragraph is to inform regulated entities and other interested stakeholders that this paragraph is marked as not applicable.

Rationale

The paragraph is necessary to note that these test procedures only apply to 2027 and subsequent MY engines in California and follow California's existing program requirements.

Paragraph 16

Purpose

The purpose of this paragraph is to describe the confirmatory and in-use testing of fuel maps, as well as the fuel maps for the transition to the updated greenhouse gas emissions model (GEM).

Rationale

CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

Paragraph 17

Purpose

The purpose of this paragraph is to inform regulated entities and other interested stakeholders that these paragraphs are marked as not applicable. While the proposed 2027-TPS apply to 2027 and subsequent MY engines, paragraph (s) applies only for GHG compliance testing before the 2027 MY, paragraph (t) applies for split or two partial MYs compliance date which is not applicable in California (because California has different sets of emission standards and requirements for the 2026 MY), and paragraph (u) applies only for crankcase emission standards through the 2026 MY. Paragraph (v) is not applicable because California's OBD requirements are provided in title 13, CCR, sections 1968.2, 1968.5, 1971.1, and 1971.5, as applicable.

Rationale

The paragraph is necessary to note that these test procedures only apply to 2027 and subsequent MY engines in California. Furthermore, California has its own OBD regulations which are applicable to California-certified engine families.

Paragraph 18

Purpose

The purpose of this paragraph is to specify the alternate GHG warranty periods for 2027 and subsequent MY engines.

Rationale

CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision with no changes or modifications.

Paragraph 19

Purpose

The purpose of this paragraph is to inform regulated entities and other interested stakeholders that this paragraph is marked as not applicable. While the proposed 2027-TPS apply to 2027 and subsequent MY engines, section (x) applies only for powertrain testing before the 2027 MY.

Rationale

The paragraph is necessary to note that these test procedures only apply to 2027 and subsequent MY engines in California.

Paragraph 20. NOx compliance allowance for in-use testing.

Purpose

The purpose of this paragraph is to provide interim NOx compliance allowance of 15 mg/hp·hr for in-use testing of medium HDE and heavy HDE for 2027 through 2034 MYs. This paragraph indicates that the interim compliance allowance will only apply through the end of the 2034 MY.

Rationale

The paragraph is necessary to permit the interim compliance allowance only for a limited period of time and ensure the emission benefits of the proposed regulation.

Paragraph 21

Purpose

The purpose of this paragraph is to provide alternate family pass criteria for in-use testing.

Rationale

CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

Paragraph 22

Purpose

The purpose of this paragraph is to inform regulated entities and other interested stakeholders that this paragraph is marked as not applicable. While the proposed 2027-TPS apply to 2027 and subsequent MY engines, section (aa) applies only to GHG credit calculation corrections for 2020 or earlier MYs.

Rationale

The paragraph is necessary to note that these test procedures only apply to 2027 and subsequent MY engines in California.

Subpart C – Certifying Engine Families

1036.201. General requirements for obtaining a certificate of conformity.

A. Federal Provisions.

Purpose

The purpose of this section is to describe the general requirements for obtaining an Executive Order (EO) in California.

Rationale

The section is necessary to provide information on the issuance of an EO to affected engine and hybrid powertrain manufacturers and to maintain existing California certification requirements. CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions with no changes or modifications.

B. California Provisions.

Paragraph 1

Purpose

The purpose of this paragraph is to specify the ability to use carryover and carry across data based on in-use test data, warranty reporting, and other requirements in California to obtain an EO.

Rationale

The paragraph is necessary to set forth the California-only certification requirements for carryover and carry across of data that manufacturers need to comply with for each certification application.

1036.205. Requirements for an application for certification.

A. Federal Provisions.

Paragraph 1

Purpose

The purpose of this paragraph is to specify the information that must be submitted in the certification application, including identifying the engine family's primary intended service class, explaining how the emission control system operates, and demonstrating how the engine diagnostic system works.

Rationale

CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

Paragraph 2

Purpose

The purpose of this paragraph is to specify the information that must be provided in the certification application, including how the engine diagnostic system works with engine conditions.

Rationale

The paragraph is necessary to ensure that engine and hybrid powertrain manufacturers know what OBD-related information they need to submit as part of the application for certification for their engine or hybrid powertrains.

Paragraph 3

Purpose

The purpose of this paragraph is to specify the information that must be submitted in the certification application including, but not limited to, describing the engines selected for testing, test equipment and procedures used, how the operated emission-data engine before testing, test fuel specifications, engine family's UL, warranty statement and maintenance instruction, emission-related installation instructions, emission control information label, duty-cycle emission standards, engine family's deterioration factors, statement for emission-data engines, emission data from all valid tests, statement for engine family's compliance with the off-cycle emission standards, confirmation of the emission data, adjustable operating parameters, information broadcast by an engine's on-board computers and electronic control module and statement if certification is limited for certain engines.

Rationale

CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

Paragraph 4

Purpose

The purpose of this paragraph is to require the manufacturers to certify that all engines in the engine family are built as described and comply with all applicable requirements.

Rationale

The paragraph is necessary to ensure that engine and hybrid powertrain manufacturers only build products that comply with the requirements of the certification process. This paragraph would prevent situations where a manufacturer may build engines or hybrid powertrains that fall outside the scope of the system that was tested and demonstrated during the certification process. This would ensure that the products built by the manufacturers are able to comply with all emissions and in-use requirements.

Paragraph 5

Purpose

The purpose of this paragraph is to require manufacturers to submit projected U.S. and California production volumes for a given MY.

Rationale

The paragraph is necessary to ensure that engine and hybrid powertrain manufacturers know what information they need to submit as part of the application for certification.

Paragraph 6

Purpose

The purpose of this paragraph is to specify the information that must be submitted in the certification application including, but not limited to, required and applicable information, information needed for imported engines and GHG certification, and name of an agent for service located in the U.S.

Rationale

CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

B. California Provisions.

Paragraph 1

Purpose

The purpose of this paragraph is to allow manufacturers to use alternative idle reduction technologies, provided the alternative technologies meet the certification application requirements, including having an appropriate label affixed outside the vehicle.

Rationale

The paragraph is necessary to provide flexibility to manufacturers in using other idle reduction technologies. The information submitted in the certification application would ensure that the technology produces minimal or no idle emissions.

Paragraph 2

Purpose

The purpose of this paragraph is to indicate that in lieu of testing for formaldehyde emissions for certification, a manufacturer may provide a statement in its application for certification that such engines comply with the applicable formaldehyde standards, as long as it is supported with previous emission tests, development tests, or other appropriate information.

Rationale

The paragraph is necessary to allow manufacturers to submit a statement of compliance with the formaldehyde emission standards without testing the engine for formaldehyde emissions. It is also necessary to clarify that such a statement needs to be supported with previous emission tests, development tests, or other appropriate information. This flexibility was available in 2026 and previous MYs, therefore it will remain applicable for 2027 and subsequent MYs as well.

1036.210. Preliminary approval before certification.

Purpose

The purpose of this section is to describe the preliminary approval process before certification.

Rationale

The section is necessary to allow CARB to provide preliminary approval after a review of the information provided by the manufacturers. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision with no changes or modifications.

1036.225. Amending applications for certification.

A. Federal Provisions.

Paragraph 1

Purpose

The purpose of this paragraph is to specify the process and requirements for manufacturers to amend the application for certification.

Rationale

The section is necessary to provide a process for manufacturers to amend the application for certification, if needed, after the submittal of the original application. This is intended to help manufacturers to supplement the original application with additional needed information. CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

Paragraph 2

Purpose

The purpose of this paragraph is to allow manufacturers to produce engines or modify in-use engines in the amended certification application, as long as these engines are in compliance with the certified configuration.

Rationale

The paragraph is necessary to provide flexibility to manufacturers while maintaining regulatory compliance.

1036.230. Selecting engine families.

Purpose

The purpose of this section is to provide guidelines as to how a manufacturer divides its product line into families of engines for certification.

Rationale

The section is necessary to provide guidance for manufacturers on the criteria needed for selecting engine families that would be required in the application for certification. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision with no changes or modifications.

1036.235. Testing requirements for certification.

A. Federal Provisions.

Paragraph 1

Purpose

The purpose of this paragraph is to specify the emission testing requirements to show compliance with the emission standards through selecting and configuring one or two emission-data engines from each engine family and testing the emission-data engines using the procedures and equipment.

Rationale

CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

Paragraph 2

Purpose

The purpose of this paragraph is to specify the emission testing requirements for engines used in tractors.

Rationale

The paragraph is necessary to inform manufacturers of the testing requirements for engine family certification and to ensure compliance with the emission standards.

Paragraph 3

Purpose

The purpose of this paragraph is to specify the emission testing requirements to show compliance with the emission standards through testing emission-data engines, performing confirmatory testing, using carryover emission data, testing a second engine of the same configuration, using an alternate test procedure, and evaluating or testing engines to check for defeat device.

Rationale

CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1036.240. Demonstrating compliance with criteria pollutant emission standards.

A. Federal Provisions.

Paragraph 1

Purpose

The purpose of this paragraph is to show how to demonstrate compliance with the criteria pollutant emission standards.

Rationale

The paragraph is necessary to provide information to manufacturers on how to demonstrate compliance with criteria pollutant emission standards and requirements in California. California requirements for meeting the idle emission standards are included.

Paragraph 2

Purpose

The purpose of this paragraph is to specify the requirements to comply with the criteria pollutant emission standards.

Rationale

CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1036.241. Demonstrating compliance with greenhouse gas emission standards.

Purpose

The purpose of this section is to describe the certification compliance determination for GHG emission standards.

Rationale

The section is necessary to inform manufacturers about demonstrating compliance with GHG emission standards and to ensure that engines will not exceed the applicable GHG emission standards. These GHG standards are not new emission standards. Given that these new test procedures apply to 2027 and subsequent MY HDEs, the existing GHG emission standards for 2027 and subsequent MYs are shown in these new test procedures. CARB staff has evaluated the contents of this federal provision, and determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1036.245. Deterioration factors for exhaust emission standards.

A. Federal Provisions.

Paragraph 1

Purpose

The purpose of this paragraph is to describe deterioration factors determination, either with pre-existing test data or with new emission measurements. These deterioration factors would determine if the engine met the duty-cycle emission standards throughout the UL.

Rationale

The paragraph is necessary to determine and apply deterioration factors for exhaust emission standards. The effective date of the provision is for 2027 and subsequent MYs.

Paragraph 2

Purpose

The purpose of this paragraph is to provide different methods to determine deterioration factors and provide all the emission measurement information on the application for certification.

Rationale

CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

B. California Provisions.

Paragraph 1

Purpose

The purpose of this paragraph is to provide flexibility to manufacturers for durability testing and data submission as part of the engine certification process.

Rationale

The paragraph is necessary to provide flexibility to manufacturers when conducting durability testing to demonstrate compliance with criteria pollutant emission standards. In case CARB has issues with the proposed durability testing program, the results from U.S. EPA durability testing are accepted for one MY, and the Executive Officer may request changes to durability testing for future MYs. This provision was effective in previous MYs, and will continue to be in effect for 2027 and subsequent MYs.

1036.246. Verifying deterioration factors.

Purpose

The purpose of this section is to describe the use of in-use engines to verify the deterioration factors used in meeting the exhaust emission standards.

Rationale

The section is necessary to verify the deterioration factors for exhaust emission standards. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1036.250. Reporting and recordkeeping for certification.

A. Federal Provisions.

Paragraph 1

Purpose

The purpose of this paragraph is to require manufacturers to submit the actual U.S. production and California sales volumes of engines produced in a given MY.

Rationale

The paragraph is necessary to ensure that engine manufacturers know what information they need to submit at the end of MY. The U.S. production and California sales volumes would be used in the ABT program through calculating emission credits for compliance with the emission standards and for other inventory uses.

Paragraph 2

Purpose

The purpose of this paragraph is to require manufacturers to organize and maintain records including data from emission tests.

Rationale

CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions with no changes or modifications.

1036.255. EPA oversight on certificates of conformity.

A. Federal Provisions.

Paragraph 1

Purpose

The purpose of this paragraph is to set forth the criteria for completeness of the submitted application and determine compliance with the emission standards and other requirements to obtain an EO.

Rationale

The paragraph is necessary to ensure completeness of the application for certification submitted by manufacturers and to show engine family compliance so CARB can make an accurate decision to issue an EO. This would require compliance with the applicable provisions of the California HSC or the California Vehicle Code, as applicable.

Paragraph 2

Purpose

The purpose of this paragraph is to set forth the criteria for determining noncompliance with the emission standards and other requirements, resulting in denial of the application for certification.

Rationale

The paragraph is necessary to ensure completeness of the application for certification submitted by manufacturers and to show engine family compliance so CARB can make an accurate decision to issue an EO or deny an application for certification. This would require compliance with the applicable provisions of the California HSC or the California Vehicle Code, as applicable.

Paragraph 3

Purpose

The purpose of this paragraph is to describe what decisions CARB could make regarding denying application or suspending or revoking the issued EO.

Rationale

CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions with no changes or modifications.

Subpart D – Testing Production Engines and Hybrid Powertrains

1036.301. Measurements related to GEM inputs in a selective enforcement audit.

Purpose

The purpose of this section is to describe the SEAs that apply for engines, specifically related to the GEM input values provided to vehicle manufacturers.

Rationale

The section is necessary to specify the SEA procedures applicable to California's enforcement of emission standards. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

Subpart E – In-use Testing

1036.401. Testing requirements for in-use engines.

A. Federal Provisions.

Paragraph 1

Purpose

The purpose of this paragraph is to specify the California emission standards and test procedures identified in title 13, CCR, section 1956.8.2(c), that the agency will utilize to perform in-use testing.

Rationale

The paragraph is necessary to provide clarification regarding the in-use standards and test procedures applicable to engines. The paragraph provides enforcement capability for CARB to perform in-use testing on engines to ensure that the engine family continues to comply with the certified emission levels throughout its UL.

Paragraph 2

Purpose

The purpose of this paragraph is to describe a manufacturer-run field-testing program for engines complying with CI standards and in-use test procedures for engines complying with SI standards. The paragraph also specifies consequences if in-use testing obligations are not met.

Rationale

CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal

provisions, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

B. California Provisions.

Paragraph 1. CARB-run In-Use Compliance (IUC) Program.

Purpose

The purpose of this paragraph is to define the parameters under which CARB administered IUC program will be tested and Executive Officer results will be provided to manufacturers and to establish manufacturer influenced recall expectation deadlines.

Rationale

The paragraph is necessary to establish the expectations and process of CARB run IUC testing. This section details Executive Officer notification to the manufacturers for an engine family not meeting in-use pass criteria and the expectations and deadlines for manufacturer submission of an influenced recall plan.

Paragraph 2. CARB-run In-Use Compliance Testing for Idle Emissions.

Purpose

The purpose of this paragraph is to introduce the IUC testing requirements for idle operation. The section identifies the applicability of the idle emission standards and the Executive Officer's ability to test engines. The section additionally identifies the applicable idle emission standards and test procedures.

Rationale

The paragraph is necessary to clarify applicable engine emission standards and test procedures to be used in in-use idle emissions testing.

1036.405. Overview of the manufacturer-run field-testing program.

Purpose

The purpose of this section is to describe the manufacturer-run field-testing program that applies for engines subject to CI standards.

Rationale

The section is necessary to set forth the testing requirements for in-use engines to ensure that the engine family continues to comply with the applicable emission standards throughout its UL. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1036.410. Selecting and screening vehicles and engines for testing.

A. Federal Provisions.

Paragraph 1

Purpose

The purpose of this paragraph is to establish requirements for selecting and screening vehicles and engines to ensure emissions testing is based on representative, properly maintained, and untampered samples.

Rationale

The paragraph is necessary to promote the integrity and reliability of emissions data by preventing biased or unrepresentative test results due to improper vehicle condition or selection.

Paragraph 2

Purpose

The purpose of this section is to ensure that engines selected for testing have not been misfueled, except where the fuel used meets specified regulatory provisions.

Rationale

The section is necessary to maintain the integrity of emissions testing by ensuring that fuel-related variables do not compromise the representativeness or comparability of emission measurements.

Paragraph 3

Purpose

The purpose of this section is to establish additional criteria for selecting vehicles for testing, including expected operation duration, UL limits, equipment compatibility, and to require agency notification for certain disqualifications.

Rationale

The section is necessary to ensure the selected vehicles are suitable for valid in-use emissions testing and to maintain transparency when excluding vehicles for reasons beyond the defined selection criteria.

1036.415. Preparing and testing engines.

A. Federal Provisions.

Purpose

The purpose of this section is to set forth the requirements for preparing and testing engines using portable emission measurement systems (PEMS) for field testing, including using the

appropriate fuels for testing, so that results are representative of the vehicle's normal operation.

Rationale

The section is necessary to establish the requirements for preparing and testing the vehicles and engines to measure emissions designed to represent typical on-the-road operations. CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

B. California Provisions.

Paragraph 1

Purpose

The purpose of this paragraph is to indicate that testing with PEMS can be performed with biodiesel fuel blend up to B20.

Rationale

The paragraph is necessary to allow the use of B20 for testing with PEMS. Currently, commercial fuel dispensing facilities in California sell diesel fuel that contains up to 20% biodiesel. Therefore, this provision is needed to allow the use of commercially available diesel fuel for PEMS testing in California.

1036.420. Pass criteria for individual engines.

Purpose

The purpose of this section is to determine if the engine meets the off-cycle binned emission standards and aligns entirely with the corresponding federal provisions.

Rationale

The section is necessary to determine if the result for each bin is below (engine passes) or above (engine fails) the off-cycle standards. The section points to the appropriate emission calculation methods, clarifies minimum window accumulation requirements for a valid in use test, and describes steps available to meet the minimum window accumulation requirements. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1036.425. Pass criteria for engine families.

Purpose

The purpose of this section is to set forth the number of engines for testing with PEMS and determine if engine passes the off-cycle binned emission standards.

Rationale

The section is necessary to determine if an engine family demonstrates compliance or noncompliance with the in-use emission limits. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1036.430. Reporting requirements.

A. Federal Provisions.

Purpose

The purpose of this section is to specify the field test reporting requirements. The section clarifies the documentation procedure from recruiting engines, preparing engines, testing engines, evaluating emissions, evaluating engine family compliance, and determining the appropriate compliance officer to whom manufacturers should send the reports.

Rationale

The section is necessary to outline the reporting and notification requirements that must be met by manufacturers. The reporting requirements would keep CARB staff informed on the status of and information about the in-use engines. CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions with no changes or modifications.

B. California Provisions.

Paragraph 1

Purpose

The purpose of this paragraph is to identify the Compliance Officer for California and the appropriate address to which manufacturers should send in-use reports.

Rationale

The paragraph is necessary to clarify the location for sending reports to CARB to comply with the in-use testing requirements.

1036.435. Recordkeeping requirements.

Purpose

The purpose of this section is to set forth the recordkeeping requirements for field testing. Records will need to be retained and made available if CARB requests copies of these records.

Rationale

The section is necessary to specify the recordkeeping requirements that must be met by manufacturers. CARB staff can verify compliance with the requirements of these test procedures by requesting and reviewing the records. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision with no changes or modifications.

1036.440. Warranty obligations related to in-use testing.

A. Federal Provisions.

Paragraph 1

Purpose

The purpose of this paragraph is to clarify the appropriate CCR description of warranty requirements.

Rationale

The paragraph is necessary to identify the California-specific applicable warranty regulations.

Subpart F – Test Procedures

1036.501. General testing provisions.

Purpose

The purpose of this section is to specify the equipment and procedures that manufacturers will need to follow to run a valid emission test to determine whether engines meet the applicable emission standards. The section clarifies that for hybrid engines, manufacturers have an option to run the powertrain test or the engine test procedure for measuring emissions.

Rationale

The section is necessary to inform manufacturers of the required equipment and the procedures to follow to determine whether the MDEs and HDEs meet the applicable emission standards. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emissions. This adoption would provide a uniform and standardized process for manufacturers to use for emissions testing.

1036.505. Engine data and information to support vehicle certification.

A. Federal Provisions.

Paragraph 1

Purpose

The purpose of this paragraph is to specify the engine data and information necessary for engine and vehicle certification.

Rationale

The paragraph is necessary to provide information on how manufacturers can certify engines and vehicles to meet the California GHG emission requirements for 2027 and subsequent MYs.

Paragraph 2

Purpose

The purpose of this paragraph is to specify the engine data and information necessary for engine and vehicle certification, including engine and powertrain fuel maps.

Rationale

CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1036.510. Supplemental Emission Test.

Purpose

The purpose of this section is to specify the requirements of the SET procedures for engine or hybrid powertrain testing and how to use them to measure emissions. The SET duty cycle is operated as a ramped-modal cycle.

Rationale

The section is necessary for certification of engines in California using the SET duty cycle and the procedures to follow to determine whether the engines or hybrid powertrains meet the applicable emission standards. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing. This adoption would provide a uniform and standardized process for manufacturers to use for emission testing and calculating emissions results.

1036.512. Federal Test Procedure.

Purpose

The purpose of this section is to specify the requirements of the transient FTP for engine or hybrid powertrain testing and to measure its emissions.

Rationale

The section is necessary for certification of engines in California using the transient FTP cycle and the procedures to follow to determine whether the engines or hybrid powertrains meet the applicable emission standards. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing. This adoption would provide a uniform and standardized process for manufacturers to use for emissions testing and calculating emission results.

1036.514. Low Load Cycle.

Purpose

The purpose of this section is to specify the requirements of the transient low load cycle (LLC) for engine or hybrid powertrain testing and to measure its emissions.

Rationale

The section is necessary for certification of engines in California using the transient LLC cycle and the procedures to follow to determine whether the engines or hybrid powertrains meet the applicable emission standards. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing. This adoption would provide for a uniform and standardized process for manufacturers to use for emission testing and calculating emission results.

1036.520. Determining power and vehicle speed values for powertrain testing.

Purpose

The purpose of this section is to describe how to determine the system peak power and continuous rated power of hybrid and nonhybrid powertrain systems and vehicle speed for carrying out duty cycle testing.

Rationale

The section is necessary to determine the power and vehicle speed values for hybrid and nonhybrid powertrain testing. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the

corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1036.525. Clean Idle test.

Purpose

The purpose of this section is to specify the procedures for testing engines and hybrid powertrains to determine if they meet the clean idle emission standards.

Rationale

The section is necessary to measure emissions using clean idle testing. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1036.530. Test procedures for off-cycle testing.

A. Federal Provisions.

Paragraph 1

Purpose

The purpose of this paragraph is to describe the measurement and calculation procedures to perform field testing and determine whether tested engines and engine families meet emission standards. This paragraph also specifies vehicle preparation and measurement procedures and test intervals determination.

Rationale

CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

Paragraph 2

Purpose

The purpose of this paragraph is to specify ambient temperature thresholds for excluding data during off-cycle testing.

Rationale

The paragraph is necessary to ensure that off-cycle emission testing occurs within appropriate ambient temperature ranges to maintain accuracy and relevance in evaluating engine performance and compliance with emission standards.

Paragraph 3

Purpose

The purpose of this paragraph is to determine and assemble test intervals, determine off-cycle emissions quantities, and test engines using at least one fuel other than carbon-containing fuel.

Rationale

CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

B. California Provisions.

Paragraph 1. CARB-run In-Use Compliance Testing for Idle Emissions.

Purpose

The purpose of this paragraph is to describe appropriate test equipment and measurement methods, protocols, and emission standards to be utilized for in-use idle emissions testing.

Rationale

The paragraph is necessary to clarify the in-use test procedures and the applicable emission standards for idle operations. This test will demonstrate compliance with the idle emission standards using either a chassis dynamometer or PEMS.

1036.535. Determining steady-state engine fuel maps and fuel consumption at idle.

Purpose

The purpose of this section is to provide the procedure to determine an engine's steady-state fuel maps and fuel consumption at idle.

Rationale

The section is necessary to obtain engine fuel maps and use these values in demonstrating compliance with the exhaust emission standards for HDVs. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1036.540. Determining cycle-average engine fuel maps.

Purpose

The purpose of this section is to provide a procedure to determine an engine's cycle-average fuel maps.

Rationale

The section is necessary to obtain cycle-average fuel maps for transient duty cycles, highway cruise cycles, or both, and use these values in demonstrating compliance with the exhaust emission standards for HDVs. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1036.543. Carbon balance error verification.

Purpose

The purpose of this section is to provide an option to verify the carbon balance error by comparing independent assessments of the flow of carbon through the system, i.e., engine plus aftertreatment.

Rationale

The section is necessary to perform carbon balance error verification. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1036.545. Powertrain testing.

A. Federal Provisions.

Paragraph 1

Purpose

The purpose of this paragraph is to describe the procedure to create engine fuel maps by testing a powertrain that includes an engine coupled with a transmission, drive axle, and hybrid components.

Rationale

The section is necessary to provide an option to perform powertrain testing for certifying hybrid powertrains to the engine standards. Additionally, engine fuel maps were already used in demonstrating compliance with vehicle GHG emission standards and generating these fuel maps using powertrain testing would continue to be available for 2027 and subsequent MYs.

Paragraph 2

Purpose

The purpose of this paragraph is to specify the requirements of powertrain testing.

Rationale

CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1036.550. Calculating greenhouse gas emission rates.

Purpose

The purpose of this section is to provide information in calculating the emission test results for CO₂, CH₄, and N₂O.

Rationale

The section is necessary for determining compliance with the California GHG emission standards. These GHG standards are not new emission standards. Given that these new test procedures apply to 2027 and subsequent MY HDEs, the existing GHG emission standards for 2027 and subsequent MYs are shown in these new test procedures. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1036.555. Test procedures to verify deterioration factors.

Purpose

The purpose of this section is to describe the measurement procedures for verifying deterioration factors using PEMS with in-use vehicles.

Rationale

The section is necessary to describe the process for verification of deterioration factors. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1036.580. Infrequently regenerating aftertreatment devices.

Purpose

The purpose of this section is to provide three approaches to account for the emission impact of regeneration on criteria pollutant and GHG emissions for engines using aftertreatment technology with infrequent regeneration events during testing.

Rationale

The section is necessary to account for regeneration events and adjust measured emission results, as applicable. CARB staff has evaluated the contents of this federal provision. CARB

staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

Subpart G – Special Compliance Provisions

1036.601. Overview of compliance provisions.

A. Federal Provisions.

Paragraph 1

Purpose

The purpose of this paragraph is to specify the compliance provisions for engine and vehicle manufacturers as well as owners, operators, and rebuilders of engines, and all other people.

Rationale

The paragraph is necessary to inform affected manufacturers of the exemption, maintenance, warranty-related, emergency vehicle field modification, and other compliance provisions including provisions of the California HSC or the California Vehicle Code, as applicable.

Paragraph 2

Purpose

The purpose of this paragraph is to specify the exemption provisions and maintenance prohibitions under Part 1068.

Rationale

CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

Paragraph 3

Purpose

The purpose of this paragraph is to specify the applicable sections in the CCR for warranty-related prohibitions that apply to manufacturers of new HDEs.

Rationale

The paragraph is necessary to provide California regulatory references for warranty-related prohibitions and demonstrate the State's authority to enforce warranty requirements.

Paragraph 4

Purpose

The purpose of this paragraph is to set forth the applicable parts of the CFR for engine compliance.

Rationale

CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

Paragraph 5

Purpose

The purpose of this paragraph is to inform regulated entities and other interested stakeholders that this paragraph is marked as not applicable.

Rationale

These federal requirements are not applicable, as California has different regulations for alternative fuel conversions.

Paragraph 6

Purpose

The purpose of this paragraph is to specify the applicability of service information requirements, nonconformance penalty provisions, and manufacturer-run in-use testing program for engine compliance.

Rationale

CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

Paragraph 7

Purpose

The purpose of this paragraph is to inform regulated entities and other interested stakeholders that this paragraph is marked as not applicable.

Rationale

These federal requirements are not applicable, as California has existing descriptions of emergency vehicle in section 165 of the California Vehicle Code, which has been used in other existing CARB regulations. This would provide a consistent definition for regulated entities.

Paragraph 8

Purpose

The purpose of this paragraph is to describe dual-fuel and flexible-fuel engine testing and certification.

Rationale

CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1036.605. Alternate emission standards for engines used in specialty vehicles.

Purpose

The purpose of this section is to provide alternate emission standards for CI engines at or above 56 kW and SI engines of any size that will be installed in specialty vehicles.

Rationale

The section is necessary to set forth alternate emission standards for applicable engines beginning in the 2027 MY and to ensure that these engines used in specialty vehicles comply with these emission standards. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1036.610. Off-cycle technology credits and adjustments for reducing greenhouse gas emissions.

A. Federal Provisions.

Paragraph 1

Purpose

The purpose of this paragraph is to describe the option to generate and calculate off-cycle technology credits of powertrain technologies that were not in common use with HDEs before the 2027 MY. The paragraph also specifies adjusting GHG emissions by improvement factor or credit.

Rationale

CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

Paragraph 2

Purpose

The purpose of this paragraph is to describe how CARB could request public comments on off-cycle credits/adjustments.

Rationale

The paragraph is necessary to inform stakeholders that CARB has the ability to seek public comments with regard to requests from manufacturers.

Paragraph 3

Purpose

The purpose of this paragraph is to describe how CARB could approve an improvement factor or credit for any configuration that is properly represented by testing.

Rationale

CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1036.625. In-use compliance with CO₂ family emission limits (FEL).

Purpose

The purpose of this section is to describe the process to apply for a higher in-use CO₂ FEL after the end of the MY.

Rationale

The section is necessary to provide an option to address circumstances in which the manufacturer can apply for a higher in-use CO₂ FEL based on forfeiting an appropriate number of emission credits. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1036.630. Certification of engine greenhouse gas emissions for powertrain testing.

Purpose

The purpose of this section is to describe some options for manufacturers in certifying engines included in powertrain families.

Rationale

The section is necessary to describe the various options in certifying engines to GHG emission standards through powertrain testing. These GHG standards are not new emission standards. Given that these new test procedures apply to 2027 and subsequent MY HDEs, the existing GHG emission standards for 2027 and subsequent MYs are shown in these new test procedures. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

Subpart H – Averaging, Banking, and Trading for Certification

1036.701. General provisions.

A. Federal Provisions.

Paragraph 1

Purpose

The purpose of this paragraph is to specify engine families that are certified to the optional low CO₂ emission standards and Innovative Technology Regulation are not eligible for generating any CO₂ credit or participating in the ABT program. Engine families that are certified to the optional low NO_x emission standards are also not eligible for generating any NO_x emission credits.

Rationale

The paragraph is necessary to set forth the eligibility requirements for generating and calculating emission credits for compliance with the emission standards.

Paragraph 2

Purpose

The purpose of this paragraph is to describe the ABT program for compliance with the emission standards. Participation in this program is voluntary. Additionally, emission credits may be used or banked only within an averaging set, and they may be retired.

Rationale

CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions with no changes or modifications.

Paragraph 3

Purpose

The purpose of this paragraph is to inform regulated entities and other interested stakeholders that this paragraph is marked as not applicable. While the 2027-TPS apply for 2027 and

subsequent MYs, this paragraph applies only for 2020 and earlier MY credits generated from CI engines and banked credits would be expired by MY 2027 when these test procedures become effective.

Rationale

The paragraph is necessary to note that these test procedures only apply to 2027 and subsequent MY engines in California.

Paragraph 4

Purpose

The purpose of this paragraph is to specify that engine families with a nonconformance penalty may not generate emission credits.

Rationale

CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision with no changes or modifications.

B. California Provisions.

Paragraph 1

Purpose

The purpose of this paragraph is to define the initial NOx ABT account balance for manufacturers at the beginning of the 2027 MY. The credit calculation methodology for 2027 and subsequent MYs is also described in this paragraph.

Rationale

The paragraph is necessary to describe how manufacturers will determine their original NOx ABT account balance in the 2027 MY. Manufacturers will start by using their federal NOx account balance starting with the 2027 MY, and the NOx ABT calculations will be performed using the national U.S. production volumes for 2027 and subsequent MYs.

Paragraph 2

Purpose

The purpose of this paragraph is to allow manufacturers to use excess NOx credits accumulated at the end of the 2026 MY in the California-only ABT program for certifying 2027 and later MY engines in California. This will provide an equitable solution for manufacturers to continue using excess NOx credits that were accumulated in previous MYs in the California-only ABT program.

Rationale

The paragraph is necessary to provide flexibility in credit usage for 2027 and subsequent MYs. Manufacturers are allowed to carryover excess NOx credits earned in the California-only ABT program and use those credits for certification to ensure a smooth transition into the 2027 MY

emission standards. Given that manufacturers have earned these excess NOx credits by certifying engines below the applicable NOx emission standards, those excess NOx credits should be available for use in future MYs. The 5-year credit life requirement will continue to be applicable. For example, credits accumulated during the 2025 MY period will expire at the end of the 2030 MY. Furthermore, cross trading of NOx credits between different averaging sets are prohibited.

Paragraph 3

Purpose

The purpose of this paragraph is to specify that no ABT program applies to formaldehyde emissions.

Rationale

The paragraph is necessary to clarify that there is no ABT program for formaldehyde emissions. Manufacturers must meet the applicable formaldehyde emission standards for each certified engine family.

1036.705. Generating and calculating emission credits.

Purpose

The purpose of this section is to establish the equation for calculating positive or negative emission credits for each pollutant in the ABT program.

Rationale

The section is necessary to set forth the requirements in generating and calculating emission credits for compliance with the emission standards. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision with no changes or modifications.

1036.710. Averaging.

Purpose

The purpose of this section is to allow exchanging of emission credits within the same averaging set in the ABT program.

Rationale

The section is necessary to show the process for averaging of emission credits. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision with no changes or modifications.

1036.715. Banking.

Purpose

The purpose of this section is to allow banking excess emission credits for future use in the ABT program.

Rationale

The section is necessary to show the process for banking emission credits. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision with no changes or modifications.

1036.720. Trading.

Purpose

The purpose of this section is to allow trading of emission credits between manufacturers in the ABT program.

Rationale

The section is necessary to show the process for trading emission credits. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision with no changes or modifications.

1036.725. Required information for certification.

Purpose

The purpose of this section is to specify the information needed in the certification application if the manufacturer participates in the ABT program.

Rationale

The section is necessary to inform manufacturers participating in the ABT program with regards to the information needed when submitting a certification application. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision with no changes or modifications.

1036.730. ABT reports.

Purpose

The purpose of this section is to specify the reporting requirements for participation in the ABT program.

Rationale

The section is necessary to detail the reporting requirements that must be met by manufacturers. The reporting requirements would keep CARB staff informed of the status and the availability of credits for each certifying manufacturer. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision with no changes or modifications.

1036.735. Recordkeeping.

A. Federal Provisions.

Paragraph 1

Purpose

The purpose of this paragraph is to specify the requirements of organizing and maintaining copies of records.

Rationale

The paragraph is necessary to outline the recordkeeping requirements that must be met by manufacturers. CARB staff can verify compliance with the requirements of these test procedures by requesting and reviewing the records. CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions with no changes or modifications.

Paragraph 2

Purpose

The purpose of this paragraph is to specify recordkeeping requirements for manufacturers.

Rationale

The paragraph is necessary to specify the additional recordkeeping requirements that must be met by manufacturers. CARB staff can verify compliance with the requirements of these test procedures by requesting and reviewing the records.

1036.740. Restrictions for using emission credits.

A. Federal Provisions.

Purpose

The purpose of this section is to specify the requirements for using emission credits, i.e., defining the averaging set, applying credits to prior year deficits, CO₂ credits from hybrid engines and other advanced technologies, NO_x and CO₂ credit life, and other restrictions.

Rationale

The section is necessary to inform the manufacturers participating in the ABT program of the requirements for using emission credits. CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions with no changes or modifications.

B. California Provisions.

Paragraph 1

Purpose

The purpose of this paragraph is to specify the inclusion of MD CI engines used in vehicles with a GVWR of 10,001 to 14,000 lb in the light HDE averaging set.

Rationale

The paragraph is necessary to clearly define the categorization of these engines within the averaging set.

Paragraph 2

Purpose

The purpose of this paragraph is to specify the inclusion of MD SI engines used in vehicles with a GVWR of 10,001 to 14,000 lb in the SI HDE averaging set.

Rationale

The paragraph is necessary to ensure proper categorization of these engines within the appropriate averaging set.

1036.745. End-of-year CO₂ credit deficits.

Purpose

The purpose of this section is necessary to identify the process for remedying end-of-year CO₂ credit deficits.

Rationale

The section is necessary to eliminate credit deficit within the specified time frame and to enable CARB to ensure a manufacturer is complying with the ABT program requirements. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision with no changes or modifications.

1036.750. Consequences for noncompliance.

A. Federal Provisions.

Paragraph 1

Purpose

The purpose of this paragraph is to specify the consequences for noncompliance with applicable standards and ABT program requirements.

Rationale

CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions with no changes or modifications.

Paragraph 2

Purpose

The purpose of this paragraph is to describe that in addition to voiding an issued EO, noncompliance with emission standards and other requirements may also be a violation of the HSC.

Rationale

The paragraph is necessary to inform manufacturers participating in the ABT program of the consequences for noncompliance with CARB regulations.

Paragraph 3

Purpose

The purpose of this paragraph is to provide an option to request a hearing for void EOs.

Rationale

CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision with no changes or modifications.

Subpart I – Definitions and Other Reference Information

1036.801. Definitions.

A. Federal Provisions.

“Act”

Purpose

The purpose of this definition is to describe what “Act” means in CARB regulations.

Rationale

The definition is necessary to establish another terminology and have a common understanding of the description used in test procedures.

“Certification”

Purpose

The purpose of this definition is to describe what “Certification” means in CARB regulations.

Rationale

The definition is necessary for processing applications submitted by engine and hybrid powertrain manufacturers and obtaining an EO through demonstrating that an engine or hybrid powertrain complies with the applicable emission standards and requirements.

“Designated Compliance Officer”

Purpose

The purpose of this definition is to describe what “Designated Compliance Officer” means in CARB regulations.

Rationale

The definition is necessary to state that “Designated Compliance Officer” means the Executive Officer of CARB and to allow the Executive Officer to delegate authority to another person in the agency.

“Emergency vehicle”

Purpose

The purpose of this definition is to describe what “Emergency vehicle” means in CARB regulations.

Rationale

The definition is necessary because, in California, the definition of an emergency vehicle is provided in section 165 of the California Vehicle Code.

“Manufacturer”

Purpose

The purpose of this definition is to describe what “Manufacturer” means in CARB regulations.

Rationale

The definition is necessary to describe those persons or entities engaged in manufacturing or assembling new engines for sale in California. This definition also means the person or entity who is granted certification for a certified engine.

“We (us, our)”

Purpose

The purpose of this definition is to describe what “We (us, our)” means in CARB regulations.

Rationale

The definition is necessary to state that “We (us, our)” means the Executive Officer of CARB and to allow the Executive Officer to delegate authority to another individual in the agency.

B. California Provisions.

“Auxiliary power system” or “APS”

Purpose

The purpose of this definition is to describe what “Auxiliary power system” or “APS” means.

Rationale

The definition is necessary to describe an auxiliary device that is designed to provide electrical, mechanical, or thermal energy to the primary engine or to provide power for hoteling loads in the truck cab or sleeper cab, as an alternative to idling the primary engine. This definition also uses the existing APS definition specified in title 13, CCR, section 2485(h)(3), for consistency.

“California sales volume”

Purpose

The purpose of this definition is to describe what “California sales volume” means.

Rationale

The definition is necessary to track which products are sold as new in the California market. After the end of the MY, manufacturers would submit the required end-of-year production reports to CARB to identify the specific engines that were sold in California.

“Certificate of Conformity”

Purpose

The purpose of this definition is to state that a “Certificate of Conformity” means an EO for engines, vehicles or hybrid powertrains.

Rationale

The definition is necessary to specify the document which CARB issues upon certifying that engines have demonstrated and met the requirements set forth in CARB regulations.

“EPA”

Purpose

The purpose of this definition is to describe what “EPA” means.

Rationale

The definition is necessary to specify that, in California, CARB will be enforcing the applicable regulations in lieu of the U.S. EPA.

“Medium-duty engine”

Purpose

The purpose of this definition is to describe what “Medium-duty engine” means.

Rationale

The definition is necessary to specify the applicable vehicle service class for MDEs.

“Medium-duty vehicle”

Purpose

The purpose of this definition is to describe what “Medium-duty vehicle” means.

Rationale

The definition is necessary to specify the GVWR of an MDV and to identify the applicable vehicles for the 2027-TPS.

“Optional Low NOx Engine”

Purpose

The purpose of this definition is to describe what “Optional Low NOx Engine” means.

Rationale

The definition is necessary to inform manufacturers regarding an option to demonstrate compliance with optional low NOx emission standards and requirements beginning the 2027 MY.

“Power take-off” (PTO)

Purpose

The purpose of this definition is to describe what “power take-off” (PTO) means.

Rationale

The definition is necessary to clarify the meaning of “PTO,” which refers to the secondary engine shaft (or equivalent) that provides substantial auxiliary power for purposes unrelated to vehicle propulsion such as for example transmit power to a hydraulic pump that powers auxiliary equipment, such as a boom on a bucket truck. The definition is also necessary to further clarify engine operations not considered as PTO such as drawing power from the engine to operate normal vehicle accessories including air conditioning, power steering, and basic electrical accessories. to clarify the automatic engine shutdown system override provisions specified in paragraph B.1.2.2 of section 1036.104 of the 2027-TPS.

1036.805. Symbols, abbreviations, and acronyms.

A. Federal Provisions.

Purpose

The purpose of this section is to explain the symbols, abbreviations, and acronyms that are used within the 2027-TPS and to incorporate California-specific acronyms into the 2027-TPS.

Rationale

The section is necessary to define the symbols, abbreviations, and acronyms used within the 2027-TPS and to provide clarity, specificity, and consistency to regulated entities. CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions with no changes or modifications.

B. California Provisions.

“ARB” or “CARB”

Purpose

The purpose of the acronym is to state what “ARB” or “CARB” means.

Rationale

The definition is necessary to specify the acronym formed from the initial letters of CARB. CARB has been granted the authority to develop, amend, and adopt on-road HD regulations.

“CCR”

Purpose

The purpose of this acronym is to state what “CCR” means.

Rationale

The definition is necessary to specify the acronym formed from the initial letters of the CCR. CCR is the official compilation and publication of the regulations adopted, amended, or repealed by state agencies, including CARB, pursuant to the Administrative Procedure Act.

1036.810. Incorporation by reference.

Purpose

The purpose of this section is to list all regulations, publications, and other applicable documents that are incorporated by reference in Part 1036.

Rationale

The section is necessary to provide affected entities with the list of relevant regulations, as well as publications that are incorporated by reference within the 2027-TPS. By referring to these cited publications, this section helps ensure that the regulated entities can find additional

technical information and guidelines regarding engine-related compliance in California. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision with no changes or modifications.

1036.815. Confidential information.

A. Federal Provisions.

Purpose

The purpose of this section is to reference California regulatory authority to consider confidential information for submitted information.

Rationale

The section is necessary to identify if the information should be treated as confidential. CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions with no changes or modifications.

B. California Provisions.

Paragraph 1

Purpose

The purpose of this paragraph is to specify the applicable sections in the CCR for information that is considered as confidential.

Rationale

The paragraph is necessary to identify the criteria used for determining if information should be treated as confidential or if it can be disclosed to the public. This provision was effective in 2026 and previous MYs and will continue to be in effect for 2027 and subsequent MYs.

1036.820. Requesting a hearing.

A. Federal Provisions.

Paragraph 1

Purpose

The purpose of this paragraph is to set forth the requirements for requesting a hearing.

Rationale

The paragraph is necessary to provide an option for stakeholders to request a hearing with the Executive Officer or another individual designated by the Executive Officer.

Paragraph 2

Purpose

The purpose of this paragraph is to provide an option to request a hearing for substantial factual issues.

Rationale

CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision with no changes or modifications.

Paragraph 3

Purpose

The purpose of this paragraph is to specify the applicable sections specified in the CCR for holding a hearing.

Rationale

The paragraph is necessary to identify the requirements and process with respect to holding a hearing.

1036.825. Reporting and recordkeeping requirements.

A. Federal Provisions.

Paragraph 1

Purpose

The purpose of this paragraph is to specify the requirements to submit, record, and maintain data or other information.

Rationale

CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions with no changes or modifications.

Paragraph 2

Purpose

The purpose of this paragraph is to inform regulated entities and other interested stakeholders that the specified reporting and recordkeeping regulations are not applicable in California.

Rationale

The paragraph is necessary to note that this provision does not apply to California's reporting and recordkeeping requirements for 2027 and subsequent MY engines.

Appendix A of Part 1036 – Summary of Previous Emission Standards.

Purpose

The purpose of this appendix is to inform regulated entities and other interested stakeholders that this section is marked as not applicable. While the 2027-TPS apply for 2027 and subsequent MYs, this section contains a summary of previous emission standards that apply for CI engines produced before the 2007 MY and for SI engines produced before the 2008 MY.

Rationale

The appendix is necessary to note that these test procedures only apply to California's emission standards applicable for 2027 and subsequent MY engines. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision with no changes or modifications.

Appendix B of Part 1036 – Transient Duty Cycles.

Purpose

The purpose of this appendix is to specify transient test intervals and duty cycles for engine and powertrain testing.

Rationale

The appendix is necessary for engine and powertrain testing to determine compliance with the emission standards. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision with no changes or modifications.

Appendix C of Part 1036 – Default Engine Fuel Maps for §1036.540.

Purpose

The purpose of this appendix is to provide an option for manufacturers to use the default steady-state fuel maps for performing cycle-average engine fuel mapping in GEM.

Rationale

The appendix is necessary for vehicle testing to determine compliance with the emission standards. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision with no changes or modifications.

PART 1065 – ENGINE-TESTING PROCEDURES

Subpart A – Applicability and General Provisions

1065.1. Applicability.

A. Federal Provisions.

Paragraph 1

Purpose

The purpose of this paragraph is to specify the testing procedures applicable to certain engines and vehicles.

Rationale

CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision with no changes or modifications.

Paragraph 2

Purpose

The purpose of this paragraph is to outline the testing procedures required for locomotives regulated under Part 1033. Therefore, this paragraph is marked as not applicable.

Rationale

The paragraph is necessary to note that these provisions only apply to 2027 and subsequent MY HDEs.

Paragraph 3

Purpose

The purpose of this paragraph is to align testing procedures for 2027 and subsequent MY HDEs with title 13, CCR, section 1956.8.2.

Rationale

The paragraph is necessary to clarify the regulatory framework for 2027 and subsequent MY HDEs.

Paragraph 4

Purpose

The purpose of this paragraph is to specify the engines and vehicles subject to testing procedures, including nonroad, marine, SI, and stationary engines. These paragraphs are marked as not applicable because in California, Part 1065 test procedures only apply to on-road HDEs.

Rationale

The paragraph is necessary to note that these provisions only apply to 2027 and subsequent MY HDEs.

Paragraph 5

Purpose

The purpose of this paragraph is to specify the applicability of testing procedures under this part, specify the entities subject to these requirements, clarify references to standard-setting parts, and outline additional provisions related to emission measurement and testing.

Rationale

CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.2. Submitting information to EPA under this part.

A. Federal Provisions.

Paragraph 1

Purpose

The purpose of this paragraph is to establish the responsibility of entities submitting information to U.S. EPA under this part, ensure the accuracy and completeness of submissions, outline the consequences of providing false or misleading information, and specify potential requirements for certification by an authorized representative.

Rationale

CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions with no changes or modifications.

Paragraph 2

Purpose

The purpose of this paragraph is to reference title 17, CCR, section 91011, for provisions related to confidential information, specifically clarifying that emission data shall not be identified as confidential under this section.

Rationale

The paragraph is necessary since California's specifications and requirements for confidential information differ from the corresponding federal requirements.

Paragraph 3

Purpose

The purpose of this paragraph is to verify engine compliance with the requirements of these test procedures.

Rationale

The paragraph is necessary to specify that engines must conform to CARB regulations under California law.

1065.5. Overview of this part 1065 and its relationship to the standard-setting part.

Purpose

The purpose of this section is to specify the different testing procedures for measuring brake-specific emissions from various engine categories.

Rationale

The section is necessary to outline the various sections of Part 1065. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.10. Other procedures.

Purpose

The purpose of this section is to establish flexibility in testing procedures for demonstrating compliance with emission standards.

Rationale

The section is necessary to ensure that emissions testing is both accurate and representative of real-world operation, while providing flexibility in situations where standard testing methods may not be appropriate. The section is also necessary to provide other procedures that may be applicable to engines. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.12. Approval of alternate procedures.

Purpose

The purpose of this section is to provide an option for manufacturers to request an alternate testing procedure as long as it is equivalent to the specified procedure.

Rationale

The section is necessary to inform manufacturers of this option to get approval of an alternate procedure. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.15. Overview of procedures for laboratory and field testing.

Purpose

The purpose of this section is to outline the procedures for test engines that are subject to emission standards, both in laboratory and field environments.

Rationale

The section is necessary to provide a clear framework for conducting emissions tests that ensures consistency and accuracy in evaluating engine emissions. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.20. Units of measure and overview of calculations.

Purpose

The purpose of this section is to standardize the units of measure and establish guidelines for performing calculations related to emissions testing.

Rationale

The section is necessary to maintain uniformity across emissions testing by establishing a clear set of guidelines for measurement units and calculation methods. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.25. Recordkeeping.

Purpose

The purpose of this section is to establish recordkeeping requirements related to emissions testing, ensuring that relevant data and documentation are properly maintained and made available to regulatory authorities.

Rationale

The section is necessary to ensure transparency and accountability in emissions testing by mandating proper documentation of test data and related information. CARB staff has

evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

Subpart B – Equipment Specifications

1065.101. Overview.

Purpose

The purpose of this section is to outline the equipment required for emissions testing and reference related subparts for measurement instruments, engine fluids, and field testing.

Rationale

The section is necessary to provide clarity on equipment used for both dynamometer and field testing, ensuring consistent testing procedures. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.110. Work inputs and outputs, accessory work, and operator demand.

Purpose

The purpose of this section is to ensure accurate simulation and accounting of engine work inputs and outputs, including accessories and operator demand, during emission testing.

Rationale

The section is necessary to ensure that engine work, accessories, and operator demand are properly simulated and measured during testing, providing consistent and representative results for emissions compliance. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.120. Fuel properties and fuel temperature and pressure.

Purpose

The purpose of this section is to specify how to use, measure, and control fuel properties, temperature, and pressure during engine emissions testing.

Rationale

The section is necessary to ensure that fuel conditions during testing accurately represent in-use conditions, providing consistency and reliability in emission measurements. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these

proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.122. Engine cooling and lubrication.

Purpose

The purpose of this section is to specify requirements for engine cooling and lubrication during emission testing, ensuring that temperatures and fluids are managed within normal operational ranges.

Rationale

The section is necessary to maintain consistent and realistic engine operating conditions during testing, ensuring accurate emissions data while accounting for cooling and lubrication factors. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.125. Engine intake air.

Purpose

The purpose of this section is to specify requirements for engine intake air conditions, including temperature, pressure, humidity, and charge-air cooling, during emissions testing.

Rationale

The section is necessary to ensure intake air conditions during testing meet the specified requirements. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.127. Exhaust gas recirculation.

Purpose

The purpose of this section is to specify the use of the exhaust gas recirculation (EGR) system, including any cooling devices, during engine emissions testing.

Rationale

The section is necessary to ensure that the EGR system used in testing accurately represents the typical in-use configuration, allowing for realistic emission measurements and compliance with regulatory standards. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the

corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.130. Engine exhaust.

Purpose

The purpose of this section is to define the requirements for the engine exhaust system, including aftertreatment devices, exhaust tubing, and sampling system connections, to ensure accurate and representative emission testing.

Rationale

The section is necessary to ensure that the exhaust system used during testing replicates typical in-use configurations and conditions. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.140. Dilution for gaseous and PM constituents.

Purpose

The purpose of this section is to outline the requirements for diluting exhaust gases and PM to accurately measure emissions.

Rationale

The section is necessary to standardize the dilution process for gaseous and PM emissions testing. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.145. Gaseous and PM probes, transfer lines, and sampling system components.

Purpose

The purpose of this section is to establish the standards and procedures for the design, construction, and use of probes, transfer lines, and other sampling system components.

Rationale

The section is necessary to provide clear guidelines on how to design and operate sampling systems to ensure consistency and accuracy in emission measurements. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.150. Continuous sampling.

Purpose

The purpose of this section is to permit the use of continuous sampling for raw or dilute exhaust emissions, following specific system and analyzer requirements.

Rationale

The section is necessary to ensure continuous sampling systems meet established standards, providing accurate and reliable emissions data for regulatory compliance. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.170. Batch sampling for gaseous and PM constituents.

Purpose

The purpose of this section is to outline the requirements and methodologies for batch sampling of gaseous and PM emissions.

Rationale

The section is necessary to establish standardized procedures that enhance the reliability of emissions data, facilitate compliance with regulatory standards, and account for variability between different emission tests. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.190. PM-stabilization and weighing environments for gravimetric analysis.

Purpose

The purpose of this section is to outline the requirements for stabilization and weighing environments for accurate gravimetric analysis of PM.

Rationale

The section is necessary to prevent contamination and ensure consistent environmental conditions. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.195. PM-stabilization environment for in-situ analyzers.

Purpose

The purpose of this section is to establish the necessary environmental conditions for in-situ analyzers used to measure PM accurately within a PM sampling system.

Rationale

The section is necessary to ensure that the PM samples are not contaminated by ambient pollutants and that stable thermodynamic conditions are maintained. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

Subpart C – Measurement Instruments

1065.201. Overview and general provisions.

Purpose

The purpose of this section is to specify the measurement instruments and system requirements for emissions testing in both laboratory and field environments.

Rationale

The section is necessary to ensure accurate, consistent, and reliable emission measurements across different testing scenarios. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.202. Data updating, recording, and control.

Purpose

The purpose of this section is to establish the requirements for data updating, recording, and control in emission test systems.

Rationale

The section is necessary to ensure that emission testing systems capture and process data at appropriate frequencies to avoid errors. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.205. Performance specifications for measurement instruments.

Purpose

The purpose of this section is to outline the performance specifications for measurement instruments used in emission testing.

Rationale

The section is necessary to ensure the accuracy and reliability of the instruments used in emission testing. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

Measurement of Engine Parameters and Ambient Conditions

1065.210. Work input and output sensors.

Purpose

The purpose of this section is to specify the instruments and methods for measuring work inputs and outputs during engine operation.

Rationale

The section is necessary to ensure accurate and consistent measurement of engine work. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.215. Pressure transducers, temperature sensors, and dewpoint sensors.

Purpose

The purpose of this section is to specify the instruments used to measure pressure, temperature, and dewpoint in emissions testing systems.

Rationale

The section is necessary to ensure the precise measurement of critical parameters such as pressure, temperature, and dewpoint, which directly affect emissions testing accuracy. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

Flow-Related Measurements

1065.220. Fuel flow meter.

Purpose

The purpose of this section is to specify the requirements for using fuel flow meters in emissions testing.

Rationale

The section is necessary to ensure accurate measurement and control of fuel flow during emissions testing. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.225. Intake-air flow meter.

Purpose

The purpose of this section is to specify the requirements for using intake-air flow meters in emissions testing.

Rationale

The section is necessary to ensure precise measurement of intake-air flow during testing. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.230. Raw exhaust flow meter.

Purpose

The purpose of this section is to outline the requirements for using raw exhaust flow meters in emissions testing.

Rationale

The section is necessary to ensure the accurate measurement of raw exhaust flow. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.240. Dilution air and diluted exhaust flow meters.

Purpose

The purpose of this section is to establish the requirements for using diluted exhaust flow meters in emissions testing.

Rationale

The section is necessary to ensure the precise measurement of diluted exhaust flow. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.245. Sample flow meter for batch sampling.

Purpose

The purpose of this section is to specify the requirements for using sample flow meters in batch sampling systems for emissions testing.

Rationale

The section is necessary to ensure accurate and reliable measurements of sample flow during emissions testing. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.247. Diesel exhaust fluid flow rate.

Purpose

The purpose of this section is to define methods for determining the DEF flow rate over a test interval during emissions testing.

Rationale

The section is necessary to ensure precise and reliable measurement of DEF flow. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.248. Gas divider.

Purpose

The purpose of this section is to provide guidelines for using gas dividers to blend calibration gases accurately for emissions testing.

Rationale

The section is necessary to ensure the accurate preparation of calibration gases. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

CO and CO₂ Measurements

1065.250. Nondispersive infra-red analyzer.

Purpose

The purpose of this section is to provide guidelines for the use of nondispersive infra-red (NDIR) analyzers to measure concentrations of CO and CO₂ in raw or diluted exhaust.

Rationale

The section is necessary to ensure accurate and consistent emission measurements by specifying the use of NDIR analyzers. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

Hydrocarbon, H₂, and H₂O Measurements

1065.255. H₂ measurement devices.

Purpose

The purpose of this section is to specify requirements for measuring H₂ using certain analyzers and verifying interference.

Rationale

The section is necessary to ensure accurate H₂ measurement by recommending suitable instruments and addressing potential interference. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.257. H₂O measurement devices.

Purpose

The purpose of this section is to outline requirements for measuring water (H₂O) concentrations in emissions using infrared analyzers.

Rationale

The section is necessary to ensure accurate H₂O measurements and address potential interferences for reliable emissions testing. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.260. Flame-ionization detector.

Purpose

The purpose of this section is to specify the requirements for using a flame-ionization detector (FID) analyzer to measure HC concentrations.

Rationale

The section is necessary to ensure accurate and consistent measurement of HC. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.265. Nonmethane cutter.

Purpose

The purpose of this section is to outline the use of a nonmethane cutter in conjunction with an FID analyzer to measure CH₄ concentrations in emissions testing.

Rationale

The section is necessary to ensure that only CH₄ is measured during emissions testing. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.266. Fourier transform infrared analyzer.

Purpose

The purpose of this section is to describe the application of a Fourier transform infrared (FTIR) analyzer for measuring nonmethane HC (NMHC) and nonmethane nonethane hydrocarbon (NMNEHC) concentrations in emissions from natural gas engines.

Rationale

The section is necessary to provide a standardized method for measuring specific HC species in gaseous emissions. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the

corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.267. Gas chromatograph with a flame ionization detector.

Purpose

The purpose of this section is to specify the use of a gas chromatograph with an FID for measuring CH₄ and ethane (C₂H₆) concentrations in diluted exhaust during batch sampling.

Rationale

The section is necessary to ensure accurate, standardized measurements of CH₄ and C₂H₆ and to establish the gas chromatograph with an FID as the reference method for emissions testing. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.269. Photoacoustic analyzer for ethanol and methanol.

Purpose

The purpose of this section is to specify the use of a photoacoustic analyzer for measuring ethanol and methanol concentrations in diluted exhaust for batch sampling.

Rationale

The section is necessary to provide a reliable method for detecting alcohol-based emissions. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

NO_x, N₂O, and NH₃ Measurements

1065.270. Chemiluminescent NO_x analyzer.

Purpose

The purpose of this section is to outline the use of a chemiluminescent detector (CLD) for measuring NO_x concentrations in raw or diluted exhaust during batch or continuous sampling.

Rationale

The section is necessary to ensure accurate and reliable measurement of NO_x emissions. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.272. Nondispersive ultraviolet NO_x analyzer.

Purpose

The purpose of this section is to describe the use of a nondispersive ultraviolet (NDUV) analyzer for measuring NO_x concentrations in raw or diluted exhaust during batch or continuous sampling.

Rationale

The section is necessary to provide guidelines for using NDUV analyzers. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.274. Zirconium dioxide (ZrO₂) NO_x analyzer.

Purpose

The purpose of this section is to provide guidelines for using a ZrO₂ analyzer to measure NO_x emissions in raw exhaust during field testing of engines.

Rationale

The section is necessary to ensure accurate NO_x measurement in field conditions by defining requirements for ZrO₂ analyzers. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.275. N₂O measurement devices.

Purpose

The purpose of this section is to provide guidelines for using N₂O measurement devices and to specify the types of instruments and verification procedures for accurate measurement of N₂O in exhaust emissions.

Rationale

The section is necessary to ensure the proper selection and use of N₂O analyzers by detailing the component requirements. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.277. NH₃ measurement devices.

Purpose

The purpose of this section is to provide specifications for ammonia (NH₃) measurement using NDUV, FTIR, or laser infrared analyzer.

Rationale

The section is necessary to provide standardized methods for NH₃ measurement, addressing potential interferences and ensuring measurement accuracy. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

O₂ and Air-To-Fuel Ratio Measurements

1065.280. Paramagnetic and magnetopneumatic O₂ detection analyzers.

Purpose

The purpose of this section is to provide guidelines for the application and requirements of paramagnetic detection and magnetopneumatic detection analyzers in measuring oxygen (O₂) concentrations in raw or diluted exhaust.

Rationale

The section is necessary to ensure accurate O₂ measurements. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.284. Zirconium dioxide (ZrO₂) air-fuel ratio and O₂ analyzer.

Purpose

The purpose of this section is to establish guidelines for the use of ZrO₂ analyzers to measure air-to-fuel ratios in raw exhaust for continuous sampling.

Rationale

The section is necessary to ensure accurate measurement of air-to-fuel ratios. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

PM Measurements

1065.290. PM gravimetric balance.

Purpose

The purpose of this section is to specify the requirements for using a gravimetric balance to accurately weigh PM on a sample medium in laboratory testing.

Rationale

The section is necessary to ensure the precision and accuracy of PM measurements. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.295. PM inertial balance for field-testing analysis.

Purpose

The purpose of this section is to outline the requirements for using an inertial balance to measure net PM on a sample medium during field testing.

Rationale

The section is necessary to ensure accurate quantification of PM in field conditions. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.298. Correcting real-time PM measurement based on gravimetric PM filter measurement for field-testing analysis.

Purpose

The purpose of this section is to provide guidelines for correcting real-time PM measurements taken with continuous monitoring instruments based on gravimetric PM filter measurements during field testing.

Rationale

The section is necessary to ensure that continuous PM measurement methods accurately reflect actual emissions. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

Subpart D – Calibrations and Verifications

1065.301. Overview and general provisions.

Purpose

The purpose of this section is to outline the required and recommended procedures for calibrating and verifying measurement systems used in emissions testing.

Rationale

The section is necessary to establish a standardized approach to calibrating and verifying measurement systems. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.303. Summary of required calibration and verifications.

Purpose

The purpose of this section is to provide a summarized list of required and recommended calibrations and verifications for emission measurement systems.

Rationale

The section is necessary to ensure that all measurement systems are regularly calibrated and verified according to regulatory standards. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.305. Verifications for accuracy, repeatability, and noise.

Purpose

The purpose of this section is to outline the procedure for determining the accuracy, repeatability, and noise of measurement instruments used in emissions testing.

Rationale

The section is necessary to ensure that measurement systems provide reliable and consistent data. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.307. Linearity verification.

Purpose

The purpose of this section is to ensure that emission measurement systems are capable of responding accurately and proportionally across a range of reference values.

Rationale

The section is necessary to guarantee that measurement systems perform reliably and consistently. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.308. Continuous gas analyzer system-response and updating-recording verification– for gas analyzers not continuously compensated for other gas species.

Purpose

The purpose of this section is to establish a verification procedure for assessing the system response and updating-recording frequency of continuous gas analyzers.

Rationale

The section is necessary to ensure that continuous gas analyzers used in emission testing have sufficiently fast response times and appropriate recording frequencies to track rapid changes in gas concentrations. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.309. Continuous gas analyzer system-response and updating-recording verification – for gas analyzers continuously compensated for other gas species.

Purpose

The purpose of this section is to provide a verification procedure for the system response and updating-recording frequency of continuous gas analyzers.

Rationale

The section is necessary to verify that the combined signals from continuously compensated gas analyzers respond to rapid changes in concentrations with sufficient speed and are recorded at appropriate frequencies to ensure accurate emission measurements. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

Measurement of Engine Parameters and Ambient Conditions

1065.310. Torque calibration.

Purpose

The purpose of this section is to establish calibration procedures for torque measurement systems.

Rationale

The section is necessary to guarantee the accuracy and reliability of torque measurements in emissions testing applications. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.315. Pressure, temperature, and dewpoint calibration.

Purpose

The purpose of this section is to establish calibration procedures for instruments measuring pressure, temperature, and dewpoint in emissions testing systems.

Rationale

The section is necessary to ensure the accuracy and reliability of pressure, temperature, and dewpoint measurements. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

Flow-Related Measurements

1065.320. Fuel-flow calibration.

Purpose

The purpose of this section is to establish calibration procedures for fuel-flow meters used in emissions testing systems.

Rationale

The section is necessary to ensure the accuracy and reliability of fuel-flow measurements. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.325. Intake-flow calibration.

Purpose

The purpose of this section is to establish calibration procedures for intake-air flow meters utilized in emissions testing systems.

Rationale

The section is necessary to ensure the precision and reliability of intake-air flow measurements. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.330. Exhaust-flow calibration.

Purpose

The purpose of this section is to outline the calibration requirements for exhaust-flow meters used in emissions testing.

Rationale

The section is necessary to ensure the accuracy and reliability of exhaust-flow measurements. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.340. Diluted exhaust flow (CVS) calibration.

Purpose

The purpose of this section is to provide detailed procedures for calibrating flow meters used in diluted exhaust constant-volume sampling (CVS) systems.

Rationale

The section is necessary to ensure the integrity and accuracy of diluted exhaust flow measurements. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.341. CVS and PFD flow verification (propane check).

Purpose

The purpose of this section is to establish methods for verifying the accuracy of flow measurements in CVS systems and partial-flow dilution (PFD) using propane as a tracer gas.

Rationale

The section is necessary to maintain the integrity and validity of emissions testing processes. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.342. Sample dryer verification.

Purpose

The purpose of this section is to establish verification procedures for sample dryers used in emissions testing to ensure their effectiveness in removing moisture from the sample gas.

Rationale

The section is necessary to ensure the reliability and precision of emissions testing results. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.345. Vacuum-side leak verification.

Purpose

The purpose of this section is to outline verification procedures for detecting vacuum-side leaks in sampling systems used for emissions testing.

Rationale

The section is necessary to prevent erroneous emissions data caused by vacuum-side leaks. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

CO and CO₂ Measurements

1065.350. H₂O interference verification for CO₂ NDIR analyzers.

Purpose

The purpose of this section is to establish verification procedures for assessing H₂O interference in CO₂ measurements using NDIR analyzers.

Rationale

The section is necessary because water vapor can significantly interfere with the accuracy of CO₂ measurements obtained from NDIR analyzers. CARB staff has evaluated the contents of

this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.355. H₂O and CO₂ interference verification for CO NDIR analyzers.

Purpose

The purpose of this section is to establish verification procedures for assessing the interference caused by H₂O and CO₂ in CO measurements using NDIR analyzers.

Rationale

The section is necessary to maintain the reliability of CO emissions testing. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

H₂O Measurements

1065.357 CO₂ interference verification for H₂O FTIR analyzer.

Purpose

The purpose of this section is to establish procedures for verifying CO₂ interference in H₂O measurements using FTIR analyzers.

Rationale

The section is necessary to maintain the integrity of H₂O emissions testing. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

Hydrocarbon Measurements

1065.360. FID optimization and verification.

Purpose

The purpose of this section is to establish procedures for the optimization and verification of FID analyzers used to measure total hydrocarbon (THC).

Rationale

The section is necessary to maintain the reliability and accuracy of THC measurements in emissions testing. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the

corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.362. Non-stoichiometric raw exhaust FID O₂ interference verification.

Purpose

The purpose of this section is to establish verification procedures for FID analyzers regarding their interference from O₂ when measuring raw exhaust from engines operating in non-stoichiometric combustion modes.

Rationale

The section is necessary to ensure that FID analyzers provide reliable and accurate data in non-stoichiometric combustion conditions. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.365. Nonmethane cutter penetration fractions and NMC FID response factors.

Purpose

The purpose of this section is to establish verification procedures for the performance of nonmethane cutter (NMC) and FID analyzers in measuring CH₄ and NMHC in exhaust emissions.

Rationale

The section is necessary to maintain the reliability and accuracy of emissions testing. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.366. Interference verification for FTIR analyzers.

Purpose

The purpose of this section is to establish procedures for verifying interference in FTIR analyzers used to measure CH₄, C₂H₆, NMHC, and NMNEHC.

Rationale

The section is necessary to identify and mitigate interference from other species that can skew measurement results. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.369. H₂O, CO, and CO₂ interference verification for photoacoustic alcohol analyzers.

Purpose

The purpose of this section is to outline the procedures for verifying the interference from H₂O, CO, and CO₂ when measuring ethanol or methanol using photoacoustic analyzers.

Rationale

The section is necessary to prevent positive interference from H₂O, CO, and CO₂. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

NO_x and N₂O Measurements

1065.370. CLD CO₂ and H₂O quench verification.

Purpose

The purpose of this section is to establish the requirements for verifying the interference effects of H₂O and CO₂ on CLD used for measuring NO_x.

Rationale

The section is necessary to mitigate the negative impact of H₂O and CO₂ on NO_x measurement accuracy due to collisional quenching. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.372. NDUV analyzer HC and H₂O interference verification.

Purpose

The purpose of this section is to establish the verification requirements for the interference of H₂O and HC when measuring NO_x using an NDUV analyzer.

Rationale

The section is necessary to address the potential positive interference from HC and H₂O that can lead to inaccurate NO_x measurements. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.375. Interference verification for N₂O analyzers.

Purpose

The purpose of this section is to define the procedures and requirements for verifying interference in N₂O analyzers.

Rationale

The section is necessary to address potential positive interferences that may affect the accuracy of N₂O measurements. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.376. Chiller NO₂ penetration.

Purpose

The purpose of this section is to outline the verification procedures for assessing NO₂ penetration through chillers used to dry gas samples before NO_x measurements.

Rationale

The section is necessary to mitigate the risk of inaccurate NO_x measurements caused by the potential removal of NO₂ due to residual liquid water in the chiller. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.377. Interference verification for NH₃ analyzers.

Purpose

The purpose of this section is to outline the procedures for verifying interference in NH₃ analyzers.

Rationale

The section is necessary to maintain the integrity and reliability of NH₃ measurements in emissions testing. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.378. NO₂-to-NO converter conversion verification.

Purpose

The purpose of this section is to establish verification procedures for NO₂-to-NO converters used in analyzers that measure only NO to determine total NO_x concentrations.

Rationale

The section is necessary to ensure the reliability and accuracy of NO_x emission measurements. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

PM Measurements

1065.390. PM balance verifications and weighing process verification.

Purpose

The purpose of this section is to outline procedures for verifying PM balance performance, including weighing process verification, to ensure accurate PM measurements.

Rationale

The section is necessary to maintain the integrity of PM measurements and ensure compliance with emission standards. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.395. Inertial PM balance verifications.

Purpose

The purpose of this section is to establish procedures for verifying the performance of inertial PM balances used in emissions testing.

Rationale

The section is necessary to ensure the reliability and accuracy of inertial PM balances. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

Subpart E – Engine Selection, Preparation, and Maintenance

1065.401. Test engine selection.

Purpose

The purpose of this section is to define the process for selecting a test engine within an engine family for certification testing.

Rationale

The section is necessary to ensure that representative engine configurations within an engine family are tested for emissions compliance. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.405. Test engine preparation and maintenance.

Purpose

The purpose of this section is to establish requirements for the preparation and maintenance of test engines.

Rationale

The section is necessary to ensure that the test engines used in emissions testing accurately represent production engines and their real-world operation. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.410. Maintenance limits for stabilized test engines.

Purpose

The purpose of this section is to establish limits on maintenance for stabilized test engines used in emissions testing.

Rationale

The section is necessary to prevent unscheduled or inappropriate maintenance from altering emissions results. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.415. Durability demonstration.

Purpose

The purpose of this section is to outline the requirements for demonstrating the durability of engines through service accumulation and emission testing.

Rationale

The section is necessary to provide a structured framework for durability testing. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with

no changes or modifications, as they specify the criteria for conducting emission-related testing.

Subpart F – Performing an Emission Test Over Specified Duty Cycles

1065.501. Overview.

Purpose

The purpose of this section is to provide a detailed overview of the procedures used to measure engine emissions over specified duty cycles, including transient and steady-state cycles.

Rationale

The section is necessary to ensure consistent and standardized methods for measuring engine emissions across various duty cycles. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.510. Engine mapping.

Purpose

The purpose of this section is to provide the procedures and requirements for engine mapping.

Rationale

The section is necessary to standardize engine mapping procedures, ensuring consistency across tests and compliance with regulatory requirements. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.512. Duty cycle generation.

Purpose

The purpose of this section is to establish the procedures for generating duty cycles for engine configurations that require engine mapping.

Rationale

The section is necessary to ensure consistency and precision in the testing of engine emissions across different engine configurations. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.514. Cycle-validation criteria for operation over specified duty cycles.

Purpose

The purpose of this section is to establish the criteria for validating the execution of duty cycles during engine testing.

Rationale

The section is necessary to maintain consistency and accuracy in engine emissions testing. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.516. Sample system decontamination and preconditioning.

Purpose

The purpose of this section is to establish guidelines for managing contamination in emission sampling systems to ensure accurate emission measurements.

Rationale

The section is necessary to prevent sampling system contamination from skewing emission test results. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.518. Engine preconditioning.

Purpose

The purpose of this section is to define procedures for engine preconditioning to ensure consistent and representative emission measurements during testing.

Rationale

The section is necessary to manage the variability in engine emissions and emission control performance. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.520. Pre-test verification procedures and pre-test data collection.

Purpose

The purpose of this section is to establish pre-test verification procedures and data collection requirements to ensure that engine emissions testing is conducted under controlled and consistent conditions.

Rationale

The section is necessary to ensure emission measurements are accurate, consistent, and compliant with regulatory standards by requiring confirmation of ambient conditions, system readiness, and analytical method suitability before testing. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.525. Engine starting, restarting, and shutdown.

Purpose

The purpose of this section is to specify the procedures for engine starting, restarting, and shutdown during emission testing.

Rationale

The section is necessary to provide clear and standardized procedures for handling engine starting, restarting, and shutdown during emissions tests. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.526. Repeating of void modes or test intervals.

Purpose

The purpose of this section is to provide guidance on how to repeat voided test modes or test intervals during emission testing without invalidating the entire test.

Rationale

The section is necessary to allow the repetition of specific test modes or intervals in cases of unexpected deviations. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.530. Emission test sequence.

Purpose

The purpose of this section is to provide a detailed sequence of steps for conducting an engine emission test.

Rationale

The section is necessary to ensure that emission testing is conducted in a consistent and precise manner across various test types, engine conditions, and equipment setups. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.543. Carbon balance error verification.

Purpose

The purpose of this section is to provide a procedure for verifying the accuracy of carbon balance calculations during emission testing.

Rationale

The section is necessary to ensure the accuracy and reliability of emissions data by offering a method to cross-check carbon mass flow measurements. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.545. Verification of proportional flow control for batch sampling.

Purpose

The purpose of this section is to establish procedures for verifying that proportional flow control is maintained during batch sampling of exhaust emissions.

Rationale

The section is necessary to ensure the reliability of emission test results. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.546. Verification of minimum dilution ratio for PM batch sampling.

Purpose

The purpose of this section is to outline methods for verifying the minimum dilution ratios during PM batch sampling.

Rationale

The section is necessary to maintain the integrity of PM sampling by ensuring that the exhaust gases are properly diluted during testing. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.550. Gas analyzer range verification, and drift verification.

Purpose

The purpose of this section is to establish requirements for verifying the range and drift of gas analyzers, thereby ensuring accurate measurements of gaseous exhaust constituents during emissions testing.

Rationale

The section is necessary to ensure that gas analyzers are functioning correctly during emissions tests. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.590. PM sampling media (e.g., filters) preconditioning and tare weighing.

Purpose

The purpose of this section is to establish the procedures for preconditioning, handling, and tare weighing of PM sampling media.

Rationale

The section is necessary to ensure the accuracy and reliability of PM measurements in emissions testing. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.595. PM sample post-conditioning and total weighing.

Purpose

The purpose of this section is to outline the procedures for post-conditioning and weighing of PM sampling media.

Rationale

The section is necessary to ensure the accuracy and consistency of PM measurement in emissions testing. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

Subpart G – Calculations and Data Requirements

1065.601. Overview.

Purpose

The purpose of this section is to provide an overview of how to use data from emission tests to calculate brake-specific emissions, perform necessary calibrations and performance checks, and determine statistical values.

Rationale

The section is necessary to ensure standardized and consistent procedures for calculating emissions data. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.602. Statistics.

Purpose

The purpose of this section is to provide formulas and procedures for performing statistical analyses on emission testing data.

Rationale

The section is necessary to ensure that data generated during emissions testing is evaluated consistently and accurately. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.610. Duty cycle generation.

Purpose

The purpose of this section is to provide a standardized methodology for generating engine-specific duty cycles for emission testing.

Rationale

The section is necessary to establish a consistent and reproducible framework for testing the emissions of engines with varying characteristics. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.630. Local acceleration of gravity.

Purpose

The purpose of this section is to provide a method for determining the local acceleration of gravity.

Rationale

The section is necessary to ensure accurate calculations and measurements during emissions testing and other scientific evaluations. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.640. Flow meter calibration calculations.

Purpose

The purpose of this section is to establish the procedures and calculations required for calibrating various types of flow meters.

Rationale

The section is necessary to establish a consistent framework for calibrating flow meters. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.642. PDP, SSV, and CFV molar flow rate calculations.

Purpose

The purpose of this section is to provide standardized methodologies for calculating the molar flow rates of emissions from positive-displacement pump (PDP), subsonic venturi (SSV), and critical-flow venturi (CFV) during emissions testing.

Rationale

The section is necessary to establish a clear and precise framework for calculating molar flow rates. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.643. Carbon balance error verification calculations.

Purpose

The purpose of this section is to provide a standardized methodology for calculating the mass of carbon in fuel, intake air, and exhaust emissions during testing.

Rationale

The section is necessary to ensure consistency and accuracy in carbon emissions testing and reporting. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.644. Vacuum-decay leak rate.

Purpose

The purpose of this section is to outline a standardized method for calculating the leak rate during vacuum-decay leak verification tests.

Rationale

The section is necessary to establish a consistent approach for verifying the performance of the vacuum sampling systems used in emissions testing. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.645. Amount of water in an ideal gas.

Purpose

The purpose of this section is to provide a standardized method for determining the amount of water present in an ideal gas.

Rationale

The section is necessary to ensure accurate quantification of water vapor in gases. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.650. Emission calculations.

Purpose

The purpose of this section is to establish standardized procedures for calculating brake-specific emissions of engines and vehicles during various testing conditions.

Rationale

The section is necessary to achieve reliable and valid emissions data that can be utilized for regulatory compliance, environmental protection, and public health considerations. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.655. Carbon-based chemical balances of fuel, DEF, intake air, and exhaust.

Purpose

The purpose of this section is to establish a comprehensive framework for performing carbon-based chemical balances of fuel, DEF, intake air, and exhaust gases in engines.

Rationale

The section is necessary to ensure compliance with regulatory requirements for emissions testing and to improve the accuracy of emission calculations. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.656. Hydrogen-based chemical balances of fuel, DEF, intake air, and exhaust.

Purpose

The purpose of this section is to establish a systematic approach for performing hydrogen-based chemical balances involving fuel, DEF, intake air, and exhaust emissions in internal combustion engines.

Rationale

The section is necessary to provide a reliable method for determining emission-related parameters when direct measurements are impractical. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.659. Removed water correction.

Purpose

The purpose of this section is to provide a standardized method for correcting concentration measurements for the amount of water removed upstream of the measurement point.

Rationale

The section is necessary to maintain the accuracy and reliability of emission measurements in compliance with regulatory standards. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.660. THC, NMHC, NMNEHC, CH₄, and C₂H₆ determination.

Purpose

The purpose of this section is to establish standardized procedures for the accurate determination of THC, NMHC, NMNEHC, CH₄, and C₂H₆ emissions in regulated environments.

Rationale

The section is necessary to provide clear and precise guidance on the determination of HC emissions. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.665. THCE and NMHCE determination.

Purpose

The purpose of this section is to provide a standardized methodology for determining the total hydrocarbon equivalent (THCE) and nonmethane hydrocarbon equivalent (NMHCE) concentrations in exhaust emissions.

Rationale

The section is necessary to ensure that emissions testing is conducted in a scientifically valid and consistent manner. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.667. Dilution air background emission correction.

Purpose

The purpose of this section is to establish a systematic approach for correcting exhaust emission measurements by accounting for background emissions from dilution air.

Rationale

The section is necessary to ensure that emissions testing accurately reflects the true emissions produced by engines or vehicles. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.670. NOx intake-air humidity and temperature corrections.

Purpose

The purpose of this section is to provide a framework for correcting NOx emission measurements based on variations in intake-air humidity and temperature.

Rationale

The section is necessary to ensure that NOx emission measurements accurately reflect the emissions produced under varying conditions of intake-air humidity and temperature. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.672. Drift correction.

Purpose

The purpose of this section is to establish a systematic approach for detecting and correcting gas analyzer drift during emissions testing.

Rationale

The section is necessary to ensure the integrity of emissions testing results by addressing the potential impact of gas analyzer drift on measurements. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.675. CLD quench verification calculations.

Purpose

The purpose of this section is to provide a detailed methodology for verifying and calculating the quenching effects that may occur in CLD used in emissions testing.

Rationale

The section is necessary to maintain the integrity of emissions testing results by addressing the potential impact of quenching on NO measurements in CLD systems. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.680. Adjusting emission levels to account for infrequently regenerating aftertreatment devices.

Purpose

The purpose of this section is to establish a clear and consistent methodology for calculating and applying emission adjustment factors for engines equipped with aftertreatment systems that experience infrequent regeneration events during testing.

Rationale

The section is necessary to account for the variability in emissions that can occur due to the infrequent nature of regeneration events in aftertreatment devices. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.690. Buoyancy correction for PM sample media.

Purpose

The purpose of this section is to provide guidelines for correcting the buoyancy of PM sample media when weighing them on a balance.

Rationale

The section is necessary to enhance the precision and reliability of PM mass measurements. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.695. Data requirements.

Purpose

The purpose of this section is to establish comprehensive data requirements for engine emissions testing.

Rationale

The section is necessary to ensure the integrity and reliability of emissions testing data. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

Subpart H – Engine Fluids, Test Fuels, Analytical Gases and Other Calibration Standards

1065.701. General requirements for test fuels.

A. Federal Provisions.

Paragraph 1. General.

Purpose

The purpose of this paragraph is to specify the use of test fuels that meet the requirements of these test procedures for all emission measurements, clarify exceptions based on the standard-setting part, and emphasize the requirement for emission controls to function properly with commercially available fuels.

Rationale

CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal

provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

Paragraph 2. Fuels meeting alternate specifications.

Purpose

The purpose of this paragraph is to clarify conditions for using alternate test fuels, ensuring compliance with emission standards.

Rationale

The paragraph is necessary to ensure that manufacturers demonstrate that alternate test fuels do not hinder compliance with emission standards.

Paragraph 3.

Purpose

The purpose of this paragraph is to establish requirements for obtaining approval to use test fuels not specified in these test procedures, ensuring that alternative fuels are commercially available, appropriate for the engine, and representative of in-use emissions. The paragraph also defines measurement and reporting requirements for fuel specifications, ensuring consistency and accuracy in test fuel properties.

Rationale

CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision with no changes or modifications.

Paragraph 4

Purpose

The purpose of this paragraph is to outline specific requirements for the measuring and calculation of test fuel specifications used in emission measurements.

Rationale

The paragraph is necessary to ensure test fuels meet precise specifications, which is crucial for accurate and consistent emission testing of engines.

Paragraph 5

Purpose

The purpose of this paragraph is to specify fuel requirements for two-stroke engines, service accumulation, and field testing, ensuring the use of appropriate commercially available fuels.

Rationale

CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions with no changes or modifications.

B. California Provisions.

Paragraph 1. Methanol (M-100) Fuel.

Purpose

The purpose of this paragraph is to set specific fuel specifications for methanol (M-100) fuel used in exhaust and evaporative emission testing and service accumulation for engines and hybrid powertrains, as well as additive requirements and report requirements

Rationale

The paragraph is necessary to set forth California-specific provisions and ensure accurate emission measurements and compliance with regulatory standards. This provision was effective in 2026 and previous MYs, and it will continue to be in effect for 2027 and subsequent MYs.

Paragraph 2. Mixtures of Petroleum and Methanol Fuels (M-85) for Flexible Fuel Vehicles.

Purpose

The purpose of this paragraph is to establish specific fuel specifications for mixtures of petroleum and methanol fuels (M-85) used in exhaust and evaporative emission testing for flexible fuel vehicles (FFV), as well as additive requirements and report requirements.

Rationale

The paragraph is necessary to ensure consistent emissions testing procedures and to align with California programs. This provision was effective in 2026 and previous MYs, and it will continue to be in effect for 2027 and subsequent MYs.

Paragraph 3. Identification of New Clean Fuels to be Used in Certification Testing.

Purpose

The purpose of this paragraph is to provide a process for petitioning the state board to establish certification specifications for new clean fuels without existing standards in Part 1065, Subpart H.

Rationale

The paragraph is necessary to ensure that new clean fuels effectively reduce emissions and do not adversely affect existing vehicles. This provision was effective in 2026 and previous MYs, and it will continue to be in effect for 2027 and subsequent MYs.

1065.703. Distillate diesel fuel.

A. Federal Provisions.

Paragraph 1

Purpose

The purpose of this paragraph is to ensure that distillate diesel fuels used for testing are clean, bright, and have appropriate pour and cloud points for proper engine operation.

Rationale

CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision with no changes or modifications.

Paragraph 2

Purpose

The purpose of this paragraph is to outline the distillate diesel fuel specifications that may be used in exhaust emission testing.

Rationale

The paragraph is necessary to set forth California distillate diesel fuel specifications and to ensure that the diesel fuel used for testing is representative of commercially available fuels and meets specific performance criteria.

Paragraph 3

Purpose

The purpose of this paragraph is to specify the allowable nonmetallic additives that may be used with distillate diesel fuels.

Rationale

CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision with no changes or modifications.

1065.705. Residual and intermediate residual fuel.

Purpose

The purpose of this section is to establish clear specifications for residual and intermediate residual fuels used in emission testing and service accumulation.

Rationale

The section is necessary to maintain the integrity and reliability of emissions testing. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that

these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.710. Gasoline.

A. Federal Provisions.

Paragraph 1

Purpose

The purpose of this paragraph is to outline the specific test fuel properties for gasoline with low-level ethanol blends and gasoline without ethanol, including considerations for low-temperature testing and testing at higher altitudes.

Rationale

CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision with no changes or modifications.

Paragraph 2

Purpose

The purpose of this paragraph is to outline the certification gasoline fuel specifications that may be used in exhaust and evaporative emission testing.

Rationale

The paragraph is necessary to set forth California certification gasoline specifications and to ensure that the gasoline used for testing is representative of commercially available fuels and meets specific performance criteria.

Paragraph 3

Purpose

The purpose of this paragraph is to specify the test fuel properties and requirements for neat gasoline, including distillation range, aromatic HCs, olefins, and other properties. It also specifies the use of high-octane gasoline for engines or vehicles requiring premium fuel per manufacturer warranties.

Rationale

CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions with no changes or modifications.

1065.715. Natural gas.

A. Federal Provisions.

Paragraph 1

Purpose

The purpose of this paragraph is to specify the fuel requirements for exhaust and evaporative emissions testing of dedicated and dual-fueled engines and hybrid powertrains that use natural gas.

Rationale

The paragraph is necessary to establish clear standards for the type of natural gas used and other specifications (e.g., service accumulation fuel) in emissions testing. This paragraph would maintain the integrity and accuracy of emissions testing for engines that utilize natural gas.

Paragraph 2

Purpose

The purpose of this paragraph is to outline the conditions under which test fuel not meeting the standard specifications may be used, including using fuel typically used by in-use engines, obtaining approval for alternate fuel specifications, and the requirement for natural gas to meet specific odor standards at ambient conditions.

Rationale

CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions with no changes or modifications.

1065.720. Liquefied petroleum gas.

A. Federal Provisions.

Paragraph 1

Purpose

The purpose of this paragraph is to establish specific fuel specifications for exhaust and evaporative emission testing using liquefied petroleum gas (LPG) in dedicated or dual-fueled engines and hybrid powertrains.

Rationale

The paragraph is necessary to establish clear LPG test fuel specifications and other specifications (e.g., service accumulation fuel) in emissions testing. This paragraph would maintain the integrity and accuracy of emissions testing for engines that utilize LPG.

Paragraph 2

Purpose

The purpose of this paragraph is to specify the conditions under which test fuel not meeting standard specifications may be used, including the use of fuel normally used by in-use engines, approval for alternate specifications, and the requirement for liquefied petroleum gas to meet odor standards at ambient conditions.

Rationale

CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions with no changes or modifications.

1065.725. High-level ethanol-gasoline blends.

A. Federal Provisions.

Purpose

The purpose of this section is to establish the specifications and procedures for using high-level ethanol-gasoline blends for testing vehicles that are designed to operate on such fuels.

Rationale

The section is necessary to ensure that emissions testing for vehicles operating on high-level ethanol blends accurately reflect real-world conditions. CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

B. California Provisions

Paragraph 1. Ethanol (E-100) Fuel.

Purpose

The purpose of this paragraph is to establish the California E-100 fuel specifications for emission testing and service accumulation for engines and hybrid powertrains that utilize ethanol fuels, as well as additive requirements and reporting requirements.

Rationale

This paragraph is necessary to ensure that emission testing accurately reflects the operational characteristics of vehicles running on ethanol fuels. This provision was effective in 2026 and previous MYs, and it will continue to be in effect for 2027 and subsequent MYs.

Paragraph 2. Mixtures of Petroleum and Ethanol Fuels (E-85) for Flexible Fuel Vehicles.

Purpose

The purpose of this paragraph is to establish the California fuel specifications for E-85 used in FFVs.

Rationale

This paragraph is necessary to provide a clear framework for the certification of FFVs operating on E-85 fuel. This provision was effective in 2026 and previous MYs and will continue to be in effect for 2027 and subsequent MYs.

1065.735. Diesel exhaust fluid.

Purpose

The purpose of this section is to provide specifications for DEF that can be used in emission testing.

Rationale

The section is necessary to guarantee the consistency and reliability of emissions testing results. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.740. Lubricants.

Purpose

The purpose of this section is to establish the requirements for using lubricants in emission testing.

Rationale

The section is necessary to ensure that emissions testing accurately represents real-world engine operation. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.745. Coolants.

Purpose

The purpose of this section is to specify the acceptable coolants for use in emissions testing of engines.

Rationale

The section is necessary to maintain the accuracy and relevance of emissions testing. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.750. Analytical gases.

Purpose

The purpose of this section is to establish the requirements for analytical gases used in emissions testing to ensure the accuracy and reliability of measurement instruments.

Rationale

The section is necessary to maintain the integrity of emissions testing results. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.790. Mass standards.

Purpose

The purpose of this section is to set requirements for the National Institute for Standards and Technology traceable mass standards used in emissions testing.

Rationale

The section is necessary to ensure the accuracy and reliability of emissions testing results. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

Subpart I –Testing with Oxygenated Fuels

1065.801. Applicability.

Purpose

The purpose of this section is to establish the applicability of specific testing procedures when using oxygenated fuels.

Rationale

The section is necessary to ensure that appropriate and accurate testing methods are applied for fuels with high oxygenate content. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.805. Sampling system.

Purpose

The purpose of this section is to outline the specific requirements for sampling engine exhaust emissions containing alcohols and carbonyls during tests involving oxygenated fuels.

Rationale

The section is necessary to prevent errors in sampling alcohols and carbonyls by specifying procedures. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.845. Response factor determination.

Purpose

The purpose of this section is to establish procedures for determining the response factor of FID for alcohols and carbonyls.

Rationale

The section is necessary to adjust FID analyzer readings for alcohols and carbonyls. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.850. Calculations.

Purpose

The purpose of this section is to outline the required calculations for determining THCE, NMHCE, and nonmethane organic gas (NMOG) in emissions testing.

Rationale

The section is necessary to ensure consistency and accuracy in calculating critical emission parameters like THCE, NMHCE, and NMOG. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should

completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

Subpart J – Field Testing and Portable Emission Measurement Systems

1065.901. Applicability.

Purpose

The purpose of this section is to delineate the applicability of procedures for field and laboratory testing of engines using PEMS.

Rationale

The section is necessary to provide clarity and guidance on the appropriate use of PEMS in different testing contexts. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.905. General provisions.

Purpose

The purpose of this section is to establish the general provisions governing the use of PEMS for both field and laboratory testing of engines.

Rationale

The section is necessary to provide a clear framework for conducting emissions testing with PEMS. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.910. PEMS auxiliary equipment for field testing.

Purpose

The purpose of this section is to establish guidelines for the auxiliary equipment that can be used in conjunction with PEMS during field testing of engines.

Rationale

The section is necessary to ensure that emissions testing conducted with PEMS in the field is performed under optimal conditions, leading to accurate and reliable data. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.915. PEMS instruments.

Purpose

The purpose of this section is to specify the performance requirements, installation procedures, and use of PEMS instruments for field testing of engines.

Rationale

The section is necessary to ensure that PEMS used in field testing provide accurate, repeatable, and reliable emissions data, similar to those obtained in laboratory environments. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.920. PEMS calibrations and verifications.

Purpose

The purpose of this section is to define the procedures and criteria for calibrating and verifying PEMS to ensure they provide accurate and reliable emissions data.

Rationale

The section is necessary to maintain the integrity of emissions testing performed with PEMS. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.925. PEMS preparation for field testing.

Purpose

The purpose of this section is to outline the procedures for preparing PEMS for field testing.

Rationale

The section is necessary to ensure that PEMS are properly set up and functioning before emissions testing begins. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.930. Engine starting, restarting, and shutdown.

Purpose

The purpose of this section is to specify the procedures for starting, restarting, and shutting down an engine during field testing.

Rationale

The section is necessary to standardize the handling of engine starting, restarting, and shutdowns during field tests. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.935. Emission test sequence for field testing.

Purpose

The purpose of this section is to outline the specific sequence of steps required to conduct emission testing for PEMS during field testing.

Rationale

The section is necessary to provide clear guidelines that facilitate the consistent execution of field testing procedures. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.940. Emission calculations.

Purpose

The purpose of this section is to establish the requirements for calculating emissions from PEMS during field testing.

Rationale

The section is necessary to ensure consistency and accuracy of the emission calculations performed during field testing. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

Subpart K – Definitions and Other Reference Information

1065.1001. Definitions.

A. Federal Provisions.

“Act”

Purpose

The purpose of this definition is to describe what “Act” means in CARB regulations.

Rationale

The definition is necessary to establish another terminology and have a common understanding of the description used in the test procedures.

“EPA Program Officer”

Purpose

The purpose of this definition is to describe what “EPA Program Officer” means in CARB regulations.

Rationale

The definition is necessary to specify the acronym formed from the initial letters of the EPA Program Officer.

“Manufacturer”

Purpose

The purpose of this definition is to describe what “Manufacturer” means in CARB regulations.

Rationale

The definition is necessary to describe those persons or entities engaged in manufacturing or assembling new engines for sale in California. This definition also applies to the person or entity who is granted certification for a certified engine.

1065.1005. Symbols, abbreviations, acronyms, and units of measure.

A. Federal Provisions.

Purpose

The purpose of this section is to explain the symbols, abbreviations, and acronyms that are used within the 2027-TPS and to incorporate California-specific acronyms into the 2027-TPS.

Rationale

The section is necessary to define the symbols, abbreviations, and acronyms used within the 2027-TPS and to provide clarity, specificity, and consistency to regulated entities. CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions with no changes or modifications.

B. California Provisions.

“ARB” or “CARB”

Purpose

The purpose of this acronym is to state the meaning of “ARB” or “CARB”.

Rationale

The definition is necessary to specify the acronym formed from the initial letters of CARB. CARB has been granted the authority to develop, amend, and adopt on-road HD regulations in California.

1065.1010. Incorporation by reference.

A. Federal Provisions.

Paragraph 1

Purpose

The purpose of this paragraph is to outline the materials incorporated by reference in these test procedures, providing details on how to access these materials and the approval process for their use.

Rationale

The section is necessary to provide affected entities with the list of relevant regulations, as well as publications that are incorporated by reference within the 2027-TPS. By referring to these cited publications, this section helps ensure that the regulated entities can find additional technical information and guidelines regarding engine-related compliance in California. CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions, with no changes or modifications.

Paragraph 2

Purpose

The purpose of this paragraph is to specify CARB's address and website, where individuals may request a copy of CARB's test procedures.

Rationale

The paragraph is necessary to provide CARB's current address and website to ensure CARB's documents and materials are available to the public.

Paragraph 3

Purpose

The purpose of this paragraph is to reference industry standards and test methods from various organizations.

Rationale

CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions with no changes or modifications.

Subpart L – Methods for Unregulated and Special Pollutants and Additional Procedures

1065.1101. Applicability.

Purpose

The purpose of this section is to establish optional procedures for measuring emission constituents that are not addressed or separately measured by the existing test procedures outlined in other subparts of this part.

Rationale

The section is necessary to enhance the understanding and monitoring of pollutants that may not be covered by existing regulations but are still relevant for air quality assessment and research purposes. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

Semi-Volatile Organic Compounds

1065.1103. General provisions for SVOC measurement.

Purpose

The purpose of this section is to outline the general provisions for measuring semi-volatile organic compounds (SVOC) in conjunction with PM during exhaust emission testing.

Rationale

The section is necessary to ensure accurate and reliable measurements of SVOCs. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.1105. Sampling system design.

Purpose

The purpose of this section is to establish guidelines for the design and construction of sampling systems used to collect SVOCs from exhaust emissions.

Rationale

The section is necessary to ensure that the sampling systems used for measuring SVOCs are effective and reliable. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the

corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.1107. Sample media and sample system preparation; sample system assembly.

Purpose

The purpose of this section is to specify the required procedures for preparing sample media and the sampling system for measuring SVOCs in emissions.

Rationale

The section is necessary to ensure the accuracy and reliability of SVOC measurements by mandating a thorough preparation and cleaning process for the sample media and system components. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.1109. Post-test sampler disassembly and sample extraction.

Purpose

The purpose of this section is to outline the procedures for disassembling the sampling system and extracting SVOCs from collected samples after emission testing.

Rationale

The section is necessary to ensure the integrity and reliability of SVOC measurements by detailing systematic procedures for post-test handling and sample extraction. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.1111. Sample analysis.

Purpose

The purpose of this section is to provide guidelines for the analysis of extracts collected during emission testing.

Rationale

The section is necessary because the choice of chromatographic or analytical methods varies widely based on the characteristics of the target analytes. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

Vanadium Sublimation in SCR Catalysts

1065.1113. General provisions related to vanadium sublimation temperatures in SCR catalysts.

Purpose

The purpose of this section is to establish procedures for determining vanadium emissions from SCR catalysts.

Rationale

The section is necessary because vanadium emissions from SCR catalysts can significantly affect environmental and human health. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.1115. Reactor design and setup.

Purpose

The purpose of this section is to provide detailed guidelines for the design and setup of a reactor specifically intended for measuring vanadium emissions through sublimation.

Rationale

The section is necessary to ensure that the reactor design maximizes the capture of vanadium vapors and minimizes potential measurement inaccuracies. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.1117. Reactor aging cycle for determination of vanadium sublimation temperature.

Purpose

The purpose of this section is to outline the operational conditions and procedures for conducting an aging cycle in the reactor designed for measuring vanadium sublimation temperatures.

Rationale

The section is necessary to ensure that the reactor operates under controlled and reproducible conditions for accurate assessment of vanadium sublimation. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.1119. Blank testing.

Purpose

The purpose of this section is to establish a standardized process for conducting blank tests to identify and quantify background effects and potential contamination.

Rationale

The section is necessary to provide a comprehensive approach to contamination assessment. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.1121. Vanadium sample dissolution and analysis in alumina capture beds.

Purpose

The purpose of this section is to outline the standardized procedures for the dissolution of vanadium from sublimation samples collected during reactor aging cycles and from associated blanks.

Rationale

The section is necessary to ensure consistent and reliable measurement of vanadium emissions. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

Smoke Opacity

1065.1123. General provisions for determining exhaust opacity.

Purpose

The purpose of this section is to establish general provisions for determining the exhaust opacity of various engine types.

Rationale

The section is necessary to ensure accurate and standardized measurement of exhaust opacity. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.1125. Exhaust opacity measurement system.

Purpose

The purpose of this section is to define the specifications and requirements for exhaust opacity measurement systems.

Rationale

The section is necessary for standardizing opacity measurements across different engine types. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.1127. Test procedure for determining percent opacity.

Purpose

The purpose of this section is to outline the test procedure for determining the percent opacity of exhaust emissions from engines.

Rationale

The section is necessary to establish a standardized method for measuring exhaust opacity. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

Accelerated Aftertreatment Aging

1065.1131. General provisions related to accelerated aging of compression-ignition aftertreatment for deterioration factor determination.

Purpose

The purpose of this section is to outline procedures for the accelerated aging of CI engine aftertreatment systems.

Rationale

The section is necessary to ensure aftertreatment systems are rigorously tested for durability under realistic conditions. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.1133. Application selection, data gathering, and analysis.

Purpose

The purpose of this section is to outline the procedures for selecting applications, gathering field data, and analyzing it to generate an accelerated aging cycle for CI aftertreatment systems.

Rationale

The section is necessary to ensure that the data used for accelerated aging reflects real-world conditions, facilitating accurate durability assessments. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.1135. Determination of key aftertreatment system components.

Purpose

The purpose of this section is to establish a framework for identifying key catalyst components within CI engine aftertreatment systems.

Rationale

The section is necessary to ensure that the accelerated aging protocol accurately reflects the aging characteristics of the system as a whole. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.1137. Determination of thermal reactivity coefficient.

Purpose

The purpose of this section is to provide a standardized method for determining thermal reactivity coefficients used in thermal heat load calculations during the accelerated aging of aftertreatment systems.

Rationale

The section is necessary to ensure a consistent approach for evaluating catalyst thermal degradation. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.1139. Aging cycle generation.

Purpose

The purpose of this section is to outline the processes for generating accelerated aging cycles for aftertreatment systems.

Rationale

The section is necessary to provide a structured approach for assessing and simulating the thermal and operational stresses that aftertreatment systems undergo during their UL. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.1141. Facility requirements for engine-based aging stands.

Purpose

The purpose of this section is to define the facility requirements for engine-based aging stands used in accelerated aging tests of aftertreatment systems.

Rationale

The section is necessary to ensure that aging stands can accurately replicate real-world conditions. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.1143. Requirements for burner-based aging stands.

Purpose

The purpose of this section is to establish the requirements for burner-based aging stands used for accelerated aging tests of aftertreatment systems.

Rationale

The section is necessary to guarantee that burner-based aging stands can effectively simulate real-world exhaust conditions. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1065.1145. Execution of accelerated aging, cycle tracking, and cycle validation criteria.

Purpose

The purpose of this section is to outline the procedures for executing accelerated aging cycles, tracking aging parameters, and validating the cycle conditions for aftertreatment systems.

Rationale

The section is necessary to ensure that aging processes accurately replicate real-world conditions, facilitating reliable performance assessments of aftertreatment systems. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

PART 1068 – GENERAL COMPLIANCE PROVISIONS FOR HIGHWAY, STATIONARY, AND NONROAD PROGRAMS

Subpart A – Applicability and Miscellaneous Provisions

1068.1. Does this part apply to me?

A. Federal Provisions.

Paragraph 1

Purpose

The purpose of this paragraph is to specify the applicability of these test procedures to various engine and equipment categories, including responsibilities for owners, operators, parts manufacturers, and maintenance personnel.

Rationale

CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions with no changes or modifications.

Paragraph 2

Purpose

The purpose of this paragraph is to specify the applicability of these test procedures to California-certified HDEs and HDVs.

Rationale

The paragraph is necessary to ensure that these provisions apply to HDEs and HDVs that are certified under title 13, CCR, section 1956.8.

Paragraph 3

Purpose

The purpose of this paragraph is to remove the applicability of these procedures to sources other than HDEs and HDVs.

Rationale

Sources other than HDEs and HDVs are regulated by other regulations; therefore, the applicability here has been modified to reflect that.

1068.5. How must manufacturers apply good engineering judgment?

A. Federal Provisions.

Paragraph 1

Purpose

The purpose of this paragraph is to explain how manufacturers use good engineering judgment related to certification, testing, and other requirements of these test procedures.

Rationale

CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions with no changes or modifications.

Paragraph 2

Purpose

The purpose of this paragraph is to inform regulated entities and other interested stakeholders that this paragraph is marked as not applicable.

Rationale

The paragraph describes the process to request a hearing with the designated compliance officer to object to the agency's analysis. California has its own set of requirements for manufacturers to object to CARB's analysis. Therefore, this paragraph is marked as not applicable.

1068.20. May EPA enter my facilities for inspections?

A. Federal Provisions.

Paragraph 1

Purpose

The purpose of this paragraph is to authorize CARB enforcement staff to enter into testing, manufacturing processes, and storage facilities for inspection including records inspection, as authorized by HSC.

Rationale

The paragraph is necessary to specify CARB's authority to inspect facilities for compliance with the 2027-TPS and is necessary for consistency with other CARB regulations.

Paragraph 2

Purpose

The purpose of this paragraph is to specify CARB's authority to inspect, monitor, and document various aspects of engine and equipment manufacturing, testing, storage, and assembly.

Rationale

CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision with no changes or modifications.

Paragraph 3

Purpose

The purpose of this paragraph is to require reasonable assistance to CARB enforcement staff as necessary at the facility.

Rationale

The paragraph is necessary to specify CARB's authority to inspect facilities for compliance with the 2027-TPS and is necessary for consistency with other CARB regulations.

Paragraph 4

Purpose

The purpose of this paragraph is to describe compatibility with existing local law.

Rationale

The paragraph is necessary to specify CARB's authority to inspect facilities for compliance with the 2027-TPS and is necessary for consistency with other CARB regulations.

1068.25. What information must I give to EPA?

A. Federal Provisions.

Paragraph 1

Purpose

The purpose of this paragraph is to specify CARB's authority to request information from manufacturers to evaluate compliance with applicable regulations.

Rationale

The paragraph is necessary to ensure manufacturers provide the information required for compliance evaluation. This would require compliance with the applicable provisions of the California HSC or the California Vehicle Code, as applicable.

Paragraph 2

Purpose

The purpose of this paragraph is to require manufacturers to submit accurate and complete information to CARB by an authorized representative.

Rationale

CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision with no changes or modifications.

Paragraph 3

Purpose

The purpose of this paragraph is to define manufacturers' obligations for recordkeeping, testing, reporting, and information submission.

Rationale

The paragraph is necessary to ensure compliance verification and support enforcement through consistent documentation and testing. This would require compliance with the applicable California provisions.

Paragraph 4

Purpose

The purpose of this paragraph is to hold manufacturers accountable for the accuracy of statements and information submitted to CARB.

Rationale

The paragraph is necessary to ensure integrity and compliance in submissions, reinforcing accountability under the California HSC or the California Vehicle Code, as applicable. This would require compliance with the applicable California provisions.

1068.27. May EPA conduct testing with my engines/equipment?

Purpose

The purpose of this section is to establish CARB's authority to conduct testing on manufacturers' engines or equipment to verify compliance with regulatory requirements.

Rationale

The section is necessary to ensure compliance with emission standards through confirmatory and production-line testing, requiring manufacturers to provide access to engines, equipment, and necessary components for proper evaluation. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should

completely adopt the corresponding federal provision, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

1068.30. Definitions.

A. Federal Provisions.

“Clean Air Act”

Purpose

The purpose of this definition is to describe what “Clean Air Act” means in CARB regulations.

Rationale

The definition is necessary to establish another terminology and have a common understanding of the description used in the test procedures.

“Manufacturer”

Purpose

The purpose of this definition is to describe what “Manufacturer” means in CARB regulations.

Rationale

The definition is necessary to describe those persons or entities engaged in manufacturing or assembling new engines for sale in California. This definition also applies to the person or entity who is granted certification for a certified engine.

“Secondary engine manufacturer”

Purpose

The purpose of this definition is to describe what “Secondary engine manufacturer” means in CARB regulations.

Rationale

The definition is necessary to clarify the meaning of “secondary engine manufacturer,” which in general refers to a manufacturer who produces a new engine by modifying a complete or partially complete engine that was made by a different company. The definition is also necessary to distinguish the secondary engine manufacturer from the manufacturer of the base engine. It also helps clarify that importers as well as equipment manufacturers that use engines manufactured by other companies to be considered as secondary engine manufacturers.

“United States”

Purpose

The purpose of this definition is to restrict applicability of the regulations to HDEs, HDVs and HD hybrid powertrains that are produced and delivered for sale in California.

Rationale

The definition is necessary to restrict the applicability of these regulations to HDEs, HDVs and HD hybrid powertrains that are produced and delivered for sale in the California market. While the U.S. EPA regulations apply to other states, CARB regulates the HDEs, HDVs and HD hybrid powertrains that are introduced into commerce in California.

“We (us, our)”

Purpose

The purpose of this definition is to describe what “We (us, our)” mean in CARB regulations.

Rationale

The definition is necessary to state that “We (us, our)” means the Executive Officer of CARB and allow the Executive Officer to designate a duty or role.

B. California Provisions.

“Administrator”

Purpose

The purpose of this definition is to state that an “Administrator” means the Executive Officer of CARB.

Rationale

The definition is necessary to establish another terminology and have a common understanding of the description used in the test procedures.

“Certificate of Conformity”

Purpose

The purpose of this definition is to state that a “Certificate of Conformity” means an EO for HDEs, HDVs and HD hybrid powertrains.

Rationale

The definition is necessary to define the document which CARB issues upon certifying that HDEs, HDVs and HD hybrid powertrains have demonstrated they meet requirements set forth in CARB regulations.

“Certification”

Purpose

The purpose of this definition is to describe what “Certification” means.

Rationale

The definition is necessary for processing applications submitted by HDE, HD hybrid powertrain, and HDV manufacturers and obtaining an EO through demonstrating that an

engine, hybrid powertrain, or vehicle complies with the applicable emission standards and requirements.

“Designated Compliance Officer”

Purpose

The purpose of this definition is to describe what “Designated Compliance Officer” means.

Rationale

The definition is necessary to state that a “Designated Compliance Officer” means the Executive Officer of the ARB and allow the compliance officer to designate a duty or role. Without the possibility to designate, if the Executive Officer is unavailable, no one could, for instance, approve a manufacturer’s request.

“EPA”

Purpose

The purpose of this definition is to describe what “EPA” means.

Rationale

The definition is necessary to specify the acronym formed from the initial letters of EPA. In California, CARB has been granted the authority to develop, amend, and enforce regulations.

“Standard-setting part”

Purpose

The purpose of this definition is to describe what “Standard-setting part” mean.

Rationale

The definition is necessary to establish another terminology and have a common understanding of the description used in the test procedures. For example, title 13, CCR, sections 1956.8 or the proposed 1956.8.2 are always the standard-setting part for engines.

1068.32. Explanatory terms.

Purpose

The purpose of this section is to explain the symbols, abbreviations, and acronyms that are used within the 2027-TPS and to incorporate California-specific acronyms into the 2027-TPS.

Rationale

The section is necessary to define the symbols, abbreviations, and acronyms used within the 2027-TPS and to provide clarity, specificity, and consistency to regulated entities. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision with no changes or modifications.

1068.35. Symbols, acronyms, and abbreviations.

A. Federal Provisions.

Purpose

The purpose of this section is to explain the symbols, abbreviations, and acronyms that are used within the 2027-TPS and to incorporate California-specific acronyms into the 2027-TPS.

Rationale

The section is necessary to define the symbols, abbreviations, and acronyms used within the 2027-TPS and to provide clarity, specificity, and consistency to regulated entities. CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions with no changes or modifications.

B. California Provisions.

“ARB” or “CARB”

Purpose

The purpose of this acronym is to state the meaning of “ARB” or “CARB”.

Rationale

The definition is necessary to specify the acronym formed from the initial letters of CARB. CARB has been granted the authority to adopt on-road HD regulations in California.

1068.45. General labeling provisions.

Purpose

The purpose of this section is to describe the general labeling requirements for engines and vehicles.

Rationale

The section is necessary to have a uniform and standardized label format and for consistency among manufacturers and with other CARB regulations. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision with no changes or modifications.

1068.50. Adjustable parameters.

Purpose

The purpose of this section is to set forth the conditions for certifying engines with adjustable parameters.

Rationale

The section is necessary to establish a common understanding of the requirements for engines with adjustable parameters and for consistency among manufacturers. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision with no changes or modifications.

1068.95. Incorporation by reference.

Purpose

The purpose of this section is to specify materials incorporated by reference into the regulations and provide details on their availability and approval process.

Rationale

The section is necessary to ensure transparency and accessibility of referenced materials, allowing stakeholders to locate and understand the standards and documents integral to regulatory compliance. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision with no changes or modifications.

Subpart B – Prohibited Actions and Related Requirements

1068.101. What general actions does this regulation prohibit?

A. Federal Provisions.

Paragraph 1

Purpose

The purpose of this paragraph is to define prohibited actions and specify the maximum civil penalties for each violation as outlined in California provisions.

Rationale

The paragraph is necessary to enforce compliance with regulatory standards, provide clarity on prohibited activities, and establish a deterrent through defined penalties.

Paragraph 2

Purpose

The purpose of this paragraph is to specify the prohibitions and requirements applicable to manufacturers and other entities involved with new engines and equipment.

Rationale

CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision with no changes or modifications.

Paragraph 3. Introduction into commerce.

Purpose

The purpose of this paragraph is to prohibit the sale, introduction, or importation of new engines or equipment in California unless they comply with emission standards, are covered by a valid EO for their MY, and have the required label or tag.

Rationale

The paragraph is necessary to ensure that only compliant engines and equipment are produced and delivered for sale in California.

Paragraph 4

Purpose

The purpose of this paragraph is to define the conditions under which an EO is valid and specify exemptions to the prohibition on introducing uncertified engines or equipment into California.

Rationale

CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions with no changes or modifications.

Paragraph 5. Reporting and recordkeeping.

Purpose

The purpose of this paragraph is to establish requirements for reporting and recordkeeping to demonstrate compliance with applicable standards.

Rationale

The paragraph is necessary to ensure accountability, facilitate regulatory oversight, and support enforcement actions as authorized under the California provisions.

Paragraph 6. Testing and access to facilities.

Purpose

The purpose of this paragraph is to allow testing and grant access to facilities for inspections to verify compliance with regulatory requirements.

Rationale

The paragraph is necessary to ensure that engines and equipment meet emission standards and to enable regulatory authorities to conduct oversight and enforce compliance effectively.

Paragraph 7**Purpose**

The purpose of this paragraph is to establish prohibitions applicable to all parties regarding engines and equipment covered under this part.

Rationale

CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision with no changes or modifications.

Paragraph 8. Tampering.**Purpose**

The purpose of this paragraph is to prohibit anyone from tampering with engine hardware or software.

Rationale

The paragraph is necessary to ensure compliance with California regulations and prevent unlawful activities such as tampering.

Paragraph 9. Defeat devices.**Purpose**

The purpose of this paragraph is to prohibit the manufacture, sale, or installation of defeat devices that bypass, impair, or disable emission control systems, except as explicitly permitted by regulations.

Rationale

The paragraph is necessary to ensure the effectiveness of emission control systems, prevent circumvention of regulatory standards, and safeguard air quality by deterring practices that could lead to increased pollutant emissions.

Paragraph 10**Purpose**

The purpose of this paragraph is to remove the applicability of these procedures to sources other than HDEs and HDVs.

Rationale

Sources other than HDEs and HDVs are regulated by other regulations; therefore, the applicability here has been modified to reflect that.

Paragraph 11. Importation.

Purpose

The purpose of this paragraph is to prohibit the importation of uncertified engines or equipment defined as new and subject to applicable emission standards for their MY.

Rationale

The paragraph is necessary to ensure that all imported engines and equipment comply with emission standards.

Paragraph 12

Purpose

The purpose of this paragraph is to define the applicability of emission standards to imported engines and equipment, including the treatment of new and used engines/equipment.

Rationale

CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions with no changes or modifications.

Paragraph 13

Purpose

The purpose of this paragraph is to inform regulated entities and other interested stakeholders that these paragraphs are marked as not applicable.

Rationale

Warranty, recall, and maintenance instructions are regulated by other sections; therefore, the applicability here has been modified to reflect that.

Paragraph 14

Purpose

The purpose of this paragraph is to prohibit the removal or alteration of emission control information labels, with limited exceptions.

Rationale

CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions with no changes or modifications.

Paragraph 15

Purpose

The purpose of this paragraph is to specify that regulations may require the removal of labels under certain conditions.

Rationale

The paragraph is necessary to clarify instances where the removal of labels is allowed to maintain regulatory compliance.

Paragraph 16

Purpose

The purpose of this paragraph is to establish prohibitions and conditions regarding the removal, alteration, and application of emission control information labels to ensure compliance with regulatory requirements.

Rationale

CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions with no changes or modifications.

Paragraph 17

Purpose

The purpose of this paragraph is to identify that exemptions from the stated prohibitions are detailed in subpart C of this part and the standard-setting part.

Rationale

The paragraph is necessary to inform stakeholders where to find applicable exemptions, ensuring clarity and guidance for compliance with regulatory requirements.

Paragraph 18

Purpose

The purpose of this paragraph is to reference additional requirements and prohibitions specified in the standard-setting parts that apply to manufacturers and other regulated entities.

Rationale

CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision with no changes or modifications.

Paragraph 19

Purpose

The purpose of this paragraph is to clarify that the prohibitions and penalties in this part do not limit those established under California law and that a single act may constitute multiple violations.

Rationale

The paragraph is necessary to ensure compliance verification and support enforcement by clarifying that violations may trigger multiple penalties. This ensures alignment with applicable California provisions.

Paragraph 20

Purpose

The purpose of this paragraph is to set a placeholder for later use.

Rationale

CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision with no changes or modifications.

Paragraph 21

Purpose

The purpose of this paragraph is to inform regulated entities and other interested stakeholders that this paragraph is marked as not applicable.

Rationale

The paragraph is necessary to note that the referenced federal maximum penalty values of this paragraph are not applicable, as California has its own set of penalty values specified in the California Vehicle Code.

1068.103. Provisions related to the duration and applicability of certificates of conformity.

A. Federal Provisions.

Paragraph 1

Purpose

The purpose of this paragraph is to specify the limitations on engines and equipment covered by an EO, including production periods, specifications, and conditions for compliance.

Rationale

CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

Paragraph 2

Purpose

The purpose of this paragraph is to prohibit the sale or distribution of engines/equipment in California before the EO's effective date.

Rationale

The paragraph is necessary to ensure regulatory compliance, prevent premature market entry, and support enforcement of certification requirements in California.

Paragraph 3

Purpose

The purpose of this paragraph is to require notification of production plans and ensure that testing and inspection requirements are followed during production, even before certification approval.

Rationale

The paragraph is necessary to prepare and ensure compliance with emission standards through early testing, inspections, and audits.

Paragraph 4

Purpose

The purpose of this paragraph is to define the conditions under which an EO applies, including provisions for secondary engine manufacturers, contractual agreements before certification, production period limitations, MY assignments, and restrictions on stockpiling engines to circumvent new emission standards.

Rationale

CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

Paragraph 5

Purpose

The purpose of this paragraph is to clarify the impact of suspending, revoking, or voiding an EO on engine/equipment coverage and compliance.

Rationale

The paragraph is necessary to ensure regulatory certainty, prevent non-compliant sales or distribution, and support enforcement of certification requirements in California.

Paragraph 6

Purpose

The purpose of this paragraph is to specify the limited circumstances under which an EO may be transferred, including transfers to a parent company, a subsidiary, or a subsidiary of the parent company.

Rationale

CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision with no changes or modifications.

1068.105. What other provisions apply to me specifically if I manufacture equipment needing certified engines?

A. Federal Provisions.

Paragraph 1

Purpose

The purpose of this paragraph is to outline general provisions for equipment manufacturers subject to engine-based standards and to reference applicable requirements and penalties for violations.

Rationale

CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision with no changes or modifications.

Paragraph 2. Transitioning to new engine-based standards.

Purpose

The purpose of this paragraph is to specify the requirements for equipment manufacturers transitioning to new engine-based emission standards.

Rationale

The paragraph is necessary to ensure compliance with new engine-based emission standards.

Paragraph 3

Purpose

The purpose of this paragraph is to specify requirements for installing certified engines and components, including adherence to manufacturer instructions, and to outline the process for requesting and attaching duplicate labels when the original engine label is obscured.

Rationale

CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions with no changes or modifications.

1068.110. Other provisions for engines/equipment in service.

A. Federal Provisions.

Paragraph 1

Purpose

The purpose of this paragraph is to inform regulated entities and other interested stakeholders that these paragraphs are marked as not applicable.

Rationale

Aftermarket parts certification and service are set forth in the California regulations; therefore, the applicability here has been modified to reflect that.

Paragraph 2

Purpose

The purpose of this paragraph is to establish provisions for compliance testing of engines and equipment, including the authority to investigate and verify adherence to emission standards, and to prohibit the use of defeat devices by requiring manufacturers to demonstrate compliance through testing and technical disclosures.

Rationale

CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

Paragraph 3

Purpose

The purpose of this paragraph is to inform regulated entities and other interested stakeholders that this paragraph is marked as not applicable.

Rationale

Warranty and maintenance requirements are set forth in the California regulations; therefore, the applicability here has been modified to reflect that.

1068.120. Requirements for rebuilding engines.

A. Federal Provisions.

Paragraph 1

Purpose

The purpose of this paragraph is to establish requirements for rebuilding engines to ensure compliance with emission standards, prevent tampering, and maintain emission control performance. It defines rebuilding, specifies acceptable procedures, and outlines conditions for maintaining or altering certified configurations.

Rationale

CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

Paragraph 2

Purpose

The purpose of this paragraph is to clarify emission standards for engines not certified with a FEL.

Rationale

The paragraph is necessary to ensure consistent application of standards and maintain regulatory clarity for engines not certified with FEL.

Paragraph 3

Purpose

The purpose of this paragraph is to ensure that rebuilt or replacement engines meet equivalent or more stringent emission standards by specifying conditions for allowable configurations, including FEL and certified MY equivalency.

Rationale

CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

Paragraph 4

Purpose

The purpose of this paragraph is to specify that the federal provision, which allows rebuilt Tier 1 engines without certification to replace certified Tier 1 engines under a transition program for off-road engines is not applicable.

Rationale

This paragraph applies to off-road engines and is therefore not applicable here.

Paragraph 5

Purpose

The purpose of this paragraph is to prohibit replacing a certified engine with one rebuilt to a configuration that does not meet CARB emission standards

Rationale

The paragraph is necessary to prevent the use of engines that do not meet the required emission standards.

Paragraph 6

Purpose

The purpose of this paragraph is to acknowledge that additional restrictions may apply to the installation of used engines for repowering equipment.

Rationale

The paragraph is necessary to ensure that repowering equipment with used engines complies with all relevant CARB requirements.

Paragraph 7

Purpose

The purpose of this paragraph is to establish requirements for maintaining emission-related diagnostic codes, servicing emission-related components, and keeping records when rebuilding or installing rebuilt engines to ensure compliance with emission standards.

Rationale

CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

Subpart C – Exemptions and Exclusions

1068.201. General exemption and exclusion provisions.

A. Federal Provisions.

Paragraph 1

Purpose

The purpose of this paragraph is to establish the eligibility for the exemption of new engines from certain provisions.

Rationale

The paragraph is necessary to specify the conditions under which engines can be exempted and excluded from certain provisions.

Paragraph 2

Purpose

The purpose of this paragraph is to outline the requirements, conditions, and procedures for qualifying for and maintaining exemptions for engines/equipment, including labeling, recordkeeping, and actions to be taken if the exemption terms are violated.

Rationale

CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions, with no changes or modifications.

1068.220. Exempting display engines/equipment

Purpose

The purpose of this section is to establish the requirements for requesting and granting exemptions for display engines/equipment.

Rationale

The section is necessary to allow display engines/equipment to operate in public or business displays while ensuring they comply with emission control standards, with appropriate oversight and labeling to inform the public and the enforcement officer of their exempt status. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision with no changes or modifications.

1068.240. Exempting new replacement engines

A. Federal Provisions.

Paragraph 1

Purpose

The purpose of this paragraph is to clarify that the prohibitions in § 1068.101(a)(1) do not apply to a new engine that is exempt as a replacement engine for an engine that has already been placed into service.

Rationale

CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision with no changes or modifications.

Paragraph 2. General provisions.

Purpose

The purpose of this paragraph is to specify that eligibility for the exemption of new replacement engines is limited to certificate holders.

Rationale

The paragraph is necessary to ensure that only certified entities with appropriate regulatory authority can produce and manage exempt replacement engines.

Paragraph 3

Purpose

The purpose of this paragraph is to describe the different approaches for exempting new replacement engines, including requirements for tracking and conditions for producing engines that replace older models with less stringent standards or no longer covered by an EO, and to specify that the exemption applies only to equipment that is 40 years old or less at the time of installation.

Rationale

CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions with no changes or modifications.

Paragraph 4

Purpose

The purpose of this paragraph is to outline the requirements for configuring a new replacement engine in cases of premature engine failure.

Rationale

The paragraph is necessary to ensure that replacement engines meet equivalent or stricter emission standards.

Paragraph 5**Purpose**

The purpose of this paragraph is to determine the emission standards for appropriate replacement engines and to maintain records of these determinations.

Rationale

CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions with no changes or modifications.

Paragraph 6**Purpose**

The purpose of this paragraph is to outline the requirements for replacing or destroying an engine.

Rationale

The paragraph is necessary to ensure that replacement engines meet equivalent or stricter emission standards or that the engine is destroyed if it can never be restored to a running configuration.

Paragraph 7**Purpose**

The purpose of this paragraph is to ensure that replacement engines for old engines subject to emission standards comply with the appropriate emission standards by requiring them to be in a previously certified configuration.

Rationale

The paragraph is necessary to maintain regulatory compliance and uphold emission control standards for replacement engines.

Paragraph 8**Purpose**

The purpose of this paragraph is to require permanent labels for replacement engines.

Rationale

CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision with no changes or modifications.

Paragraph 9

Purpose

The purpose of this paragraph is to require a label for replacement engines used exclusively for replacing unregulated engines.

Rationale

The paragraph is necessary to ensure compliance with legal restrictions, prevent misuse, and uphold emission standards.

Paragraph 10

Purpose

The purpose of this paragraph is to require specific labeling on replacement engines to identify compliance with CARB emission standards.

Rationale

The paragraph is necessary to ensure transparency, prevent misuse of replacement engines, and enforce compliance with emission standards and regulatory requirements.

Paragraph 11

Purpose

The purpose of this paragraph is to outline the reporting requirements for exempt engines.

Rationale

The paragraph is necessary to ensure transparency and enforce compliance with emission standards and regulatory requirements.

Paragraph 12. Previous-tier replacement engines without tracking.

Purpose

The purpose of this paragraph is to allow the production of a limited number of replacement engines without tracking.

Rationale

The paragraph is necessary to provide flexibility for replacing engines with configurations that may no longer be covered by an EO.

Paragraph 13

Purpose

The purpose of this paragraph is to set limits on the number of replacement engines that can be produced without tracking.

Rationale

The paragraph is necessary to ensure that the number of replacement engines produced under these provisions is reasonable and proportionate to the manufacturer's sales volume, while also allowing flexibility for unusual circumstances.

Paragraph 14**Purpose**

The purpose of this paragraph is to require the inclusion of all exempted new replacement engines.

Rationale

The paragraph is necessary to ensure accurate tracking of all exempted replacement engines produced.

Paragraph 15**Purpose**

The purpose of this paragraph is to outline the reporting requirements for producing exempted replacement engines and to specify the deadlines for submitting these reports to CARB.

Rationale

CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions with no changes or modifications.

Paragraph 16**Purpose**

The purpose of this paragraph is to require reporting of the total number of replacement engines produced and their production volumes across specified categories.

Rationale

The paragraph is necessary to ensure transparency, monitor compliance with production limits, and maintain regulatory oversight.

Paragraph 17**Purpose**

The purpose of this paragraph is to specify the requirements for tracking exempted replacement engines. This paragraph also includes labeling requirement for partially complete engines.

Rationale

CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions with no changes or modifications.

Paragraph 18**Purpose**

The purpose of this paragraph is to remove the applicability of these procedures to sources other than HDEs and HDVs.

Rationale

Sources other than HDEs and HDVs are regulated by other regulations; therefore, the applicability here has been modified to reflect that.

Paragraph 19**Purpose**

The purpose of this paragraph is to outline the requirements for shipping partially complete replacement engines.

Rationale

CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions with no changes or modifications.

Paragraph 20**Purpose**

The purpose of this paragraph is to require clear instructions for completing engine assemblies, ensuring that the resulting engine conforms to the applicable EO and specifying how a partially complete engine can be used for multiple configurations.

Rationale

The paragraph is necessary to ensure that the final assembler can identify and assemble the engine correctly.

Paragraph 21**Purpose**

The purpose of this paragraph is to specify the labeling requirements for partially complete replacement engines.

Rationale

CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision with no changes or modifications.

Paragraph 22

Purpose

The purpose of this paragraph is to allow the addition of a removable label with specific information on exempt replacement engines.

Rationale

The paragraph is necessary to provide a clear, compliant labeling process for replacement engines.

Paragraph 23

Purpose

The purpose of this paragraph is to specify labeling requirements for replacement engines, including permanent labeling if a removable label is not allowed, and to outline provisions for partially complete current-tier replacement engines to ensure compliance with applicable standards.

Rationale

CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions with no changes or modifications.

Paragraph 24

Purpose

The purpose of this paragraph is to allow the production and delivery of short blocks or other partially complete engines from a currently certified engine family for use as replacement components in in-use equipment powered by engines originally produced in California.

Rationale

The paragraph is necessary to ensure that partially complete engines are correctly identified for their intended use and comply with the applicable replacement standards for engine-based systems.

Paragraph 25

Purpose

The purpose of this paragraph is to allow the production and delivery of engines identical to those covered by a current EO for installation as replacement engines in California.

Rationale

The paragraph is necessary to clarify that engines intended for replacement in equipment are considered partially complete until installed in the equipment.

Paragraph 26

Purpose

The purpose of this paragraph is to indicate that Table 1 to § 1068.240 as shown in paragraph 12 of this section is not applicable.

Rationale

The table in the federal regulations includes many categories of engines such as non-road and marine engines. Those provisions are not applicable here.

1068.260. General provisions for selling or shipping engines that are not yet in their certified configuration

Purpose

The purpose of this section is to establish the general provisions and exemptions for selling or shipping engines that are not yet in their certified configuration.

Rationale

The section is necessary to specify the conditions under which engines can be shipped without being in their certified configuration.

1068.261. Delegated assembly and other provisions related to engines not yet in the certified configuration

A. Federal Provisions.

Paragraph 1

Purpose

The purpose of this paragraph is to allow EO holders to ship engines missing emission-related components, provided they are installed by an equipment manufacturer.

Rationale

The paragraph is necessary to ensure engines meet certified configurations after final assembly while allowing temporary exemptions for shipping incomplete engines.

Paragraph 2

Purpose

The purpose of this paragraph is to outline the conditions under which engines can be shipped without their specified aftertreatment components, including requirements for ensuring the engine operates within its certified configuration.

Rationale

CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions, with no changes or modifications, as they specify the criteria for conducting emission-related testing.

Paragraph 3

Purpose

The purpose of this paragraph is to require a removable label to indicate that the engine is incomplete and must be installed in its certified configuration.

Rationale

The paragraph is necessary to ensure that the engine is properly assembled and prevents non-compliance with CARB requirements.

Paragraph 4

Purpose

The purpose of this paragraph is to outline the requirements for shipping engines with or without aftertreatment components, including labeling, certification, auditing, and recordkeeping responsibilities, to ensure compliance with emission control standards.

Rationale

CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions with no changes or modifications.

Paragraph 5

Purpose

The purpose of this paragraph is to allow for a reduced auditing rate if fewer than 40 equipment manufacturers are involved.

Rationale

The paragraph is necessary to ensure flexibility while maintaining oversight, provided the manufacturer has demonstrated compliance in prior years.

Paragraph 6

Purpose

The purpose of this paragraph is to outline the requirements and conditions for shipping engines with missing components, conducting audits, maintaining records, ensuring compliance with certified configurations, and addressing noncompliance, including provisions for exemption suspension, revocation, or voiding.

Rationale

CARB staff has evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions, with no changes or modifications.

1068.262. Shipment of engines to secondary engine manufacturers

Purpose

The purpose of this section is to outline the conditions under which manufacturers may ship partially complete engines that are not yet in a certified configuration, to secondary engine manufacturers who will complete the engine assembly.

Rationale

The section is necessary to provide a framework for introducing partially complete engines into commerce while ensuring that final assembly meets regulatory requirements and that the engines conform to emission standards before reaching the ultimate purchaser. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision with no changes or modifications.

1068.265. Provisions for engines/equipment conditionally exempted from certification.

Purpose

The purpose of this section is to establish requirements for engines and equipment conditionally exempted from certification.

Rationale

The section is necessary to ensure engines meet the applicable alternate standards and other requirements including, but not limited to, demonstrating compliance, labeling, recordkeeping, and reporting. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision with no changes or modifications.

Subpart E – Selective Enforcement Auditing

1068.401. What is a selective enforcement audit?

Purpose

The purpose of this section is to outline the responsibilities of manufacturers subject to this regulation with respect to describing a SEA.

Rationale

The section is necessary to inform and explain to the EO holder that they may be required to participate in and perform emission tests on production engines. Audits play an important role in the enforcement of CARB regulations. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision with no changes or modifications.

1068.405. What is in a test order?

Purpose

The purpose of this section is to describe a test order to the EO holder when conducting SEA.

Rationale

The section is necessary to inform the EO holder, through a test order, of the requirements for performing emission tests on production engines in SEA. Audits play an important role in the enforcement of CARB regulations. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision with no changes or modifications.

1068.410. How must I select and prepare my engines/equipment?

Purpose

The purpose of this section is to specify the engine selection process and preparation for testing in SEA.

Rationale

The section is necessary to provide instructions for appropriately obtaining engines to comply with the SEA. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision with no changes or modifications.

1068.415. How do I test my engines/equipment?

Purpose

The purpose of this section is to provide testing instructions for compliance with the SEA.

Rationale

The section is necessary for accurate and consistent engine testing for SEA among EO holders. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision with no changes or modifications.

1068.420. How do I know when my engine family fails an SEA?

Purpose

The purpose of this section is to establish criteria in determining if the test result of the engine family is below (engine passes) or above (engine fails) the emission standards.

Rationale

The section is necessary to determine if an engine family demonstrates compliance or noncompliance with the applicable emission standards. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision with no changes or modifications.

1068.425. What happens if one of my production-line engines/equipment exceeds the emission standards?

Purpose

The purpose of this section is to specify the consequence for an engine that failed a SEA, i.e., the suspension of the EO for that affected engine. The section also provides guidance to correct the problem and retest the engine for compliance with the emission standards.

Rationale

The section is necessary to inform EO holders of the consequences for noncompliance and how to take corrective actions to affected engine family. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision with no changes or modifications.

1068.430. What happens if a family fails an SEA?

Purpose

The purpose of this section is to specify the consequence for an engine family that failed SEA, i.e., the suspension of the EO for the entire family.

Rationale

The section is necessary to inform EO holders of the consequences for noncompliance and how to take corrective actions if warranted. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision with no changes or modifications.

1068.435. May I sell engines/equipment from a family with a suspended certificate of conformity?

Purpose

The purpose of this section is to describe the possibility of selling engines from a family with a suspended EO provided that the engine is complying with the emission standards.

Rationale

The section is necessary to specify the conditions under which the engines may be sold. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision with no changes or modifications.

1068.440. How do I ask EPA to reinstate my suspended certificate?

Purpose

The purpose of this section is to specify the procedure for an EO holder to request reinstating the suspended EO.

Rationale

The section is necessary to allow a process to reinstate the suspended certification. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision with no changes or modifications.

1068.445. When may EPA revoke my certificate under this subpart and how may I sell these engines/equipment again?

Purpose

The purpose of this section is to specify when CARB may need to revoke an EO and how the EO holder can modify the affected engine family and show compliance to sell engines again.

Rationale

The section is necessary to ensure that CARB can revoke an EO for noncompliance and at the same time provide means for the EO holder to sell engines again. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision with no changes or modifications.

1068.450. What records must I send to EPA?

Purpose

The purpose of this section is to specify the reporting requirements of the EO holder within 30 days of the end of each SEA.

Rationale

The section is necessary to establish reporting requirements for SEA and keep CARB staff informed on the status and information of the selected engines. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision with no changes or modifications.

1068.455. What records must I keep?

Purpose

The purpose of this section is to specify the recordkeeping requirements of the EO holder after conducting a SEA. Records will need to be retained and made available if CARB requests copies of these records.

Rationale

The section is necessary to establish recordkeeping requirements for SEA. CARB staff can verify compliance with the requirements of these test procedures by requesting and reviewing the records. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision with no changes or modifications.

Appendix A to Subpart E of Part 1068—Plans for Selective Enforcement Auditing.

Purpose

The purpose of this appendix is to outline the sampling plans and criteria for SEA.

Rationale

The appendix is necessary to ensure consistent and transparent procedures for the SEA process. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision with no changes or modifications.

Appendix A of Part 1068 – Emission-Related Components.

A. Federal Provisions.

Purpose

The purpose of this appendix is to specify the emission-related components related to emission-related warranty or maintenance or requirements for rebuilding engines.

Rationale

The appendix is necessary to establish a list of parts or systems that are considered emission-related components for engines. This appendix would also provide clarity, specificity, and consistency to regulated entities on the components for exhaust emissions. CARB staff has

evaluated the contents of these federal provisions. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provisions with no changes or modifications.

B. California Provisions.

Paragraph 1

Purpose

The purpose of this paragraph is to specify that any component that can cause the vehicle's on-board diagnostic MIL to illuminate is also considered as an emission related component.

Rationale

The paragraph is necessary to include additional components that are considered emission related components for engines. This appendix also provides clarity, specificity, and consistency to regulated entities on the components for exhaust emissions.

Appendix B of Part 1068 – Emission-Related Parameters and Specifications.

Purpose

The purpose of this appendix is to specify the emission-related parameters and specifications related to emission-related defects or requirements for rebuilding engines.

Rationale

The appendix is necessary to establish a list of engine parameters and specifications that are described as emission-related defects for engines. This appendix also provides clarity, specificity, and consistency to regulated entities on identifying defect components and systems. CARB staff has evaluated the contents of this federal provision. CARB staff has determined that these proposed test procedures should completely adopt the corresponding federal provision with no changes or modifications.

References

1. (CARB, 1992) Initial Statement of Reasons for Rulemaking, *Final Report on the Identification of Formaldehyde as a Toxic Air Contaminant*. California Air Resources Board, July 1992.
2. (CARB, 2023) *Clean Truck Partnership Agreement*, California Air Resources Board, July 5, 2023.
3. (CARB, 2025a) *Heavy-Duty Low NOx*, California Air Resources Board, (accessed July 8, 2025).
4. (CARB, 2025b) *Truck and Bus Regulation*, California Air Resources Board, (accessed July 8, 2025).