

## **APPENDIX B**

# **FINAL REGULATION ORDER SUMMARY & RATIONALE**

### **Small Off-Road Engine Regulations**

- **Title 13, California Code of Regulations**
- **Test Procedures**

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## **SUMMARY AND RATIONALE FOR THE SMALL OFF-ROAD ENGINE REGULATIONS AND TEST PROCEDURES**

Note: This appendix provides a summary of, and the rationale for, the small off-road engine regulations and test procedures amendments approved by the Air Resources Board on December 16, 2011, and with subsequent conforming modifications authorized under Resolution 11-41. Revisions to the original summary and rationale document published on October 26, 2011, as part of the Staff Report: Initial Statement of Reasons, are indicated either by underlined type to indicate additions (except that some existing headings within the document were underlined originally for emphasis, and remain so, and thus do not constitute new language) or by ~~strikeout~~ to indicate deletions.

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## Summary and Rationale for Proposed Regulations

### § 2403 Exhaust Emission Standards and Test Procedures—Small Off-Road Engines.

This purpose of this section is to identify the exhaust and evaporative emission standards, and to incorporate by reference the required test procedures to be used for demonstrating compliance with the applicable emission standards of the small off-road engine category, which are necessary to control the hydrocarbon, carbon monoxide, and oxides of nitrogen emissions from these sources.

(b)(2)(B) The purpose of this subsection is to exclude manufacturers of Blue Sky Engines from the averaging, banking, and trading provisions, as well as enabling manufacturers of zero-emission engines to certify as Blue Sky Engines. Guidance for obtaining zero-emission engine certification is also provided. The proposed amendment is necessary in order to clarify the most recent amendment date to these test procedure documents.

(d) The purpose of this subsection is to identify and incorporate by reference the test procedures applicable for small off-road engines, which are necessary to control the hydrocarbon, carbon monoxide and oxide of nitrogen emissions from these sources. The proposed amendment is necessary in order to modify the applicability date of the existing test procedure and introduces the new test procedures for 2013 and later small off-road engines.

### § 2407 New Engine Compliance and Production Line Testing—New Small Off-Road Engine Selection, Evaluation, and Enforcement Action.

(a)(7) The purpose of this subsection is to identify the applicable test procedures for conducting compliance and production line testing. The proposed amendment is necessary in order to modify the applicability date of the existing test procedure and introduces the new test procedures for 2013 and later small off-road engines.

### California Exhaust Emission Standards and Test Procedures for 2005-2012 Small Off-Road Engines

The purpose of this test procedure is to identify the exhaust emission standards and test procedures applicable for small off-road engines, which is necessary to control the hydrocarbon, carbon monoxide, and oxide of nitrogen emissions from these sources. Staff proposes to retire the existing “California Exhaust Emission Standards and Test Procedures for New 2005 and Later Small Off-Road Engines,” by retitling them as the “California Exhaust Emission Standards and Test Procedures for New 2005-2012 Small

Off-Road Engines.” The applicability of the current test procedures will then be limited to engines through the 2012 model year.

The proposed amendment is necessary in order to rename the existing test procedure document to distinguish its applicability, and incorporate this test procedure by reference in to section 2403, title 13, California Code of Regulations.

## **Summary and Rationale for Proposed Regulatory Amendments**

California Exhaust Emission Standards and Test Procedures For New 2013 and Later Small Off-Road Engines; Engine-Testing Procedures (Part 1054).

The purpose of this Part 1054 is to identify the exhaust emission test procedures applicable for small off-road engines and equipment. Staff is proposing to align the small off-road engine and equipment exhaust emission test procedures with U.S. EPA's Part 1054, as last amended November 8, 2010. A summary and rationale is provided below for the sections and subsections that are being incorporated into the Small Off-Road Engines regulations. Some sections were changed from the original text of Part 1054.

### **Subpart A – Overview and Applicability**

The purpose of Subpart A is to provide a general overview of Part 1054 and to specify its applicability to SORE.

#### **§1054.1 Does this part apply for my engines and equipment?**

§1054.1 (a) The purpose of this subsection is to identify the engines and equipment that are affected by these regulations.

§1054.1 (a) (1) The purpose of this subsection is to lay out the exhaust emission requirements.

§1054.1 (a) (2) The purpose of this subsection is to explain that small off-road equipment evaporative emission standards and regulations remain as specified in to Title 13, CCR, Chapter 15, rather than as U.S. EPA's evaporative emission requirements.

§1054.1 (a) (3) The purpose of this subsection is to state the model year with which these requirements become effective.

§1054.1 (a) (4) The purpose of this subsection is to inform stakeholders how the small off-road engine regulations relate to emergency rescue equipment.

§1054.1 (c) The purpose of this subsection is to inform stakeholders that the existing test procedures are effective until the proposed test procedures go into effect.

In general, the proposed amendments to this section are necessary to establish alignment with similar provisions in the federal regulations for small nonroad engines, as is applicable. Without such an alignment, manufacturers could be forced to satisfy

additional requirements and/or certify separate engine families in California at considerable extra cost without a corresponding increase in emission benefits.

### **§1054.2 Who is responsible for compliance?**

§1054.2 The purpose of this section is to define who “you” is throughout the Part, as well as to whom the certification requirements are applicable. Specifically, “you” would be the certifying manufacturer.

The proposed amendments to this section are necessary to establish alignment with similar provisions in the federal regulations for small nonroad engines, as is applicable. Without such an alignment, manufacturers could be forced to satisfy additional requirements and/or certify separate engine families in California at considerable extra cost without a corresponding increase in emission benefits.

### **§1054.10 How is this part organized?**

§1054.10 (a) The purpose of this subsection is to describe what is in Subpart A which is to give an overview of regulatory requirements.

§1054.10 (b) The purpose of this subsection is to describe what is in Subpart B which is to describe the emission standards and other requirements that need to be met to certify engines.

§1054.10 (c) The purpose of this subsection is to describe what is in Subpart C which describes how to apply for an Executive Order.

§1054.10 (d) The purpose of this subsection is to describe what is in Subpart D which gives general provisions for testing production-line engines.

§1054.10 (e) The purpose of this subsection is to describe what is in Subpart E which describes general provisions for testing in-use engines.

§1054.10 (f) The purpose of this subsection is to describe what is in Subpart F which describes how to test your engines.

§1054.10 (g) The purpose of this subsection is to describe what is in Subpart G which describes requirements, prohibitions, and other provisions that apply to manufacturers.

§1054.10 (i) The purpose of this subsection is to describe what is in Subpart I which contains definitions and reference information.



The proposed amendments to this section are necessary to establish alignment with similar provisions in the federal regulations for small nonroad engines, as is applicable. Without such an alignment, manufacturers could be forced to satisfy additional requirements and/or certify separate engine families in California at considerable extra cost without a corresponding increase in emission benefits.

#### **§1054.15 Do any other CFR parts apply to me?**

§1054.15 (b) The purpose of this subsection is to explain the purpose of Part 1065, and Subpart F of Part 1054, which are to describe procedures and equipment specifications for testing engines to measure exhaust emissions and determine whether or not the engines meet the exhaust emission standards.

§1054.15 (d) The purpose of this subsection is catch all other references that may be made in this Part 1054 so that they are officially included into this document

The proposed amendments to this section are necessary to establish alignment with similar provisions in the federal regulations for small nonroad engines, as is applicable. Without such an alignment, manufacturers could be forced to satisfy additional requirements and/or certify separate engine families in California at considerable extra cost without a corresponding increase in emission benefits.

#### **§1054.20 What requirements apply to my equipment?**

§1054.20 (a) The purpose of this subsection is to state that all applicable standards apply with the engine and fuel systems installed.

§1054.20 (b) The purpose of this subsection is to state that all small off-road equipment are subject to Title 13, CCR, regulations for both exhaust and evaporative emissions.

§1054.20 (c) The purpose of this subsection is to state that label requirements are found in Title 13, CCR.

§1054.20 (d) The purpose of this subsection is to state that equipment and fuel systems meet the evaporative emission requirements in Title 13, CCR.

§1054.20 (e) The purpose of this subsection is to state that emission-related installation instructions from the certifying manufacturer must be adhered to, as stated in the California regulations.

In general, the proposed amendments to this section are necessary to establish alignment with similar provisions in the federal regulations for small nonroad engines, as is applicable. Without such an alignment, manufacturers could be forced to satisfy

additional requirements and/or certify separate engine families in California at considerable extra cost without a corresponding increase in emission benefits.

**§ 1054.30 Submission of information.**

§1054.30 (a) The purpose of this subsection is to indicate the various requirements to record data or other information, as required in Title 13, CCR.

§1054.30 (b) The purpose of this subsection is to indicate that the information submitted by a certifying manufacturer is truthful and complete.

§1054.30 (c) The purpose of this subsection is to indicate where reports and requests are to be sent for approval.

§1054.30 (d) The purpose of this subsection is to state that any written information that is sent or received from another company is deemed to be part of the submitted records.

The proposed amendments to this section are necessary to establish alignment with similar provisions in the federal regulations for small nonroad engines, as is applicable. Without such an alignment, manufacturers could be forced to satisfy additional requirements and/or certify separate engine families in California at considerable extra cost without a corresponding increase in emission benefits.

**Subpart B – Emission Standards and Related Requirements**

The purpose of Subpart B is to specify the applicable emission standards and to indicate other requirements concerning those emission standards.

**§1054.101 What emission standards and requirements must my engines meet?**

§1054.101 (a) The purpose of this subsection is to indicate that all small off-road engines and equipment must meet the standards required by Title 13 and §1054.115. In addition, the requirements to meet the Blue Sky standards are included.

§1054.101 (b) The purpose of this subsection is to state where to find the evaporative requirements for California in Title 13, CCR.

§1054.101 (c) The purpose of this subsection is to state the requirements for wintertime engines.

§1054.101 (f) The purpose of this subsection is to state where to find the interim provisions.

In general, the proposed amendments to this section are necessary to establish alignment with similar provisions in the federal regulations for small nonroad engines, as is applicable. Without such an alignment, manufacturers could be forced to satisfy additional requirements and/or certify separate engine families in California at considerable extra cost without a corresponding increase in emission benefits.

### **§1054.103 What exhaust emission standards must my handheld engines meet?**

§1054.103 (a) The purpose of this subsection is to state that the exhaust emissions from engines with a displacement of less than or equal to eighty cubic centimeters must not exceed the standards as stated in Title 13, CCR.

§1054.103 (b) The purpose of this subsection is to state that emission credits from engines with a displacement of less than or equal to eighty cubic centimeters can be generated under the requirements laid out in Title 13, CCR.

§1054.103 (c) The purpose of this subsection is to state that the exhaust emission standards for engines with a displacement of less than or equal to eighty cubic centimeters apply for engines using the fuel type on which it is designated to operate.

§1054.103 (d) The purpose of this subsection is to state that engines with a displacement of less than or equal to eighty cubic centimeters must meet the exhaust emission standards for the entire useful life of the engine.

§1054.103 (e) The purpose of this subsection is to refer to Title 13, CCR, for emission standards for engines with a displacement of less than or equal to eighty cubic centimeters are set for all testing results.

The proposed amendments to this section are necessary to establish alignment with similar provisions in the federal regulations for small nonroad engines, as is applicable. Without such an alignment, manufacturers could be forced to satisfy additional requirements and/or certify separate engine families in California at considerable extra cost without a corresponding increase in emission benefits.

### **§1054.105 What exhaust emission standards must my nonhandheld engines meet?**

§1054.105 (a) The purpose of this subsection is state that exhaust emissions for engines with a displacement of greater than eighty cubic centimeters may not exceed the emission standards using test procedures described in Subpart F.

§1054.105 (b) The purpose of this subsection is state that emission credits for engines with a displacement of greater than eighty cubic centimeters can be generated under the requirements laid out in Title 13, CCR.

§1054.105 (c) The purpose of this subsection is state that the exhaust emission standards apply for engines for engines with a displacement of greater than eighty cubic centimeters using the fuel type on which it is designated to operate.

§1054.105 (d) The purpose of this subsection is to state that engines with a displacement of greater than eighty cubic centimeters must meet the exhaust emission standards for the entire useful life of the engine.

§1054.105 (e) The purpose of this subsection is to refer to Title 13, CCR, for emission standards for engines with a displacement of greater than eighty cubic centimeters are set for all testing results.

The proposed amendments to this section are necessary to establish alignment with similar provisions in the federal regulations for small nonroad engines, as is applicable. Without such an alignment, manufacturers could be forced to satisfy additional requirements and/or certify separate engine families in California at considerable extra cost without a corresponding increase in emission benefits.

#### **§1054.107 What is the useful life period for meeting exhaust emission standards?**

§1054.107 The purpose of this section is to describe how an engine family's useful life period is defined.

§1054.107 (a) The purpose of this subsection is to specifically determine the useful life period of an engine.

§1054.107 (a) (1) The purpose of this subsection is to refer to the useful life period as laid out in Title 13, CCR.

§1054.107 (b) The purpose of this subsection is to remind manufacturers to make keep any supporting information available in case ARB requests the information.

§1054.107 (b) (1-4) The purpose of the subsections are to provide a list of the type of information that would be acceptable to use as support for the choice of useful life period.

The proposed amendments to this section are necessary to establish alignment with similar provisions in the federal regulations for small nonroad engines, as is applicable. Without such an alignment, manufacturers could be forced to satisfy additional

requirements and/or certify separate engine families in California at considerable extra cost without a corresponding increase in emission benefits.

**§1054.110 What evaporative emission standards must my handheld equipment meet?**

§1054.110 The purpose of this section is to refer manufacturers to Title 13, CCR, for the evaporative emissions requirements and to inform manufacturers that the equipment with an engine displacement of less than or equal to eighty cubic centimeters must meet the evaporative emission requirements for the useful life of the equipment.

The proposed amendments to this section are necessary to maintain the stringency of California's existing SORE evaporative emission standards and associated test procedures.

**§1054.112 What evaporative emission standards must my nonhandheld equipment meet?**

§1054.112 The purpose of this section is to refer manufacturers to Title 13, CCR, for the evaporative emissions requirements and to inform manufacturers that the equipment with an engine displacement of greater than eighty cubic centimeters must meet the evaporative emission requirements for the useful life of the equipment.

The proposed amendments to this section are necessary to maintain the stringency of California's existing SORE evaporative emission standards and associated test procedures.

**§1054.115 What other requirements apply?**

§1054.115 The purpose of this section is to inform manufacturers of other requirements that apply to the exhaust emission standards.

§1054.115 (a) The purpose of this subsection is to inform manufacturers that crankcase emissions will need to be controlled as they are considered to be exhaust emissions.

§1054.115 (b) The purpose of this subsection is to inform manufacturers that engines that have adjustable parameters must meet the exhaust emission standards in any of the adjustable positions of the engine.

§1054.115 (c) The purpose of this subsection is to inform manufacturers of how to make adjustments for the higher altitudes.

§1054.115 (d) The purpose of this subsection is to remind manufacturers that the engines may not be designed in a manner that could cause harm to the operator of the equipment.

§1054.115 (e) The purpose of this subsection is remind manufacturers that any usage of a defeat device is prohibited.

§1054.115 (e) (1)-(3) The purpose of these subsections is to specify situations where this section does not apply.

The proposed amendments to this section are necessary to establish alignment with similar provisions in the federal regulations for small nonroad engines, as is applicable. Without such an alignment, manufacturers could be forced to satisfy additional requirements and/or certify separate engine families in California at considerable extra cost without a corresponding increase in emission benefits.

#### **§1054.120 What emission-related warranty requirements apply to me?**

§1054.120 The purpose of this section is to state the emission-related warranty requirements can be found in Title 13, CCR.

§1054.120 (a) The purpose of this subsection is to specify that the warranty requirements include coverage of the new engine and all parts of its emission control systems.

§1054.120 (a) (1)-(2) The purpose of these subsections is to protect the ultimate purchaser from obtaining a piece of equipment that is defective.

§1054.120 (b) The purpose of this subsection is to establish conditions under which the warranty must be valid.

§1054.120 (b) (1) The purpose of this subsection is to establish that the warranty period must be at least two years.

§1054.120 (c) The purpose of this subsection is to specify that the components that require coverage can be found in Title 13, CCR, and to explain that the components are to be covered by the certifying manufacturer whether or not components are made by them or not.

§1054.120 (e) The purpose of this subsection is to set the requirements of what needs to be in the owners' manual.

§1054.120 (f) The purpose of this subsection is to require the manufacturer to meet the minimum conditions to make sure that the owners will be served promptly when obtaining warranty repairs.

§1054.120 (f) (1-3) The purpose of these subsections is to list what is necessary to meet the warranty requirements.

The proposed amendments to this section are necessary to establish alignment with similar provisions in the federal regulations for small nonroad engines, as is applicable. Without such an alignment, manufacturers could be forced to satisfy additional requirements and/or certify separate engine families in California at considerable extra cost without a corresponding increase in emission benefits.

### **§1054.125 What maintenance instructions must I give to buyers?**

§1054.125 The purpose of this section is to inform the manufacturer of what maintenance instructions must be given to buyers of the equipment so that they can properly maintain the engine including the emission control system.

§1054.125 (a) The purpose of this subsection is to explain what critical emission-related maintenance is.

§1054.125 (a) (1) The purpose of this subsection is to explain that critical emission-related maintenance can be demonstrated by showing any of the following conditions.

§1054.125 (a) (1) (i)-(iv) The purpose of these subsections are to present the conditions of what is acceptable to be considered critical emission-related maintenance

§1054.125 (a) (2) The purpose of this subsection is to give permission to clean or change air filters or change spark plugs at least frequent intervals during the service accumulation. Because these things would be done to equipment during normal usage, it is allowed for the service accumulation.

§1054.125 (a) (3) The purpose of this subsection is to limit what is done during the service accumulation, because these things would not typically be done during normal usage of the equipment.

§1054.125 (a) (4) The purpose of this subsection is to allow for shorter maintenance intervals during the service accumulation if the manufacturer provides supporting evidence that the maintenance may typically be done during normal usage of the equipment.

§1054.125 (b) The purpose of this subsection is to give permission to the manufacturer to recommend additional maintenance as long as the additional maintenance is not required for warranty claims.

§1054.125 (c) The purpose of this subsection is to give permission to the manufacturer to specify more frequent maintenance to address problems related to special situations that may include atypical engine operation.

§1054.125 (d) The purpose of this subsection is to give permission to the manufacturer to allow for noncritical emission-related maintenance. The manufacturer must state in the owner's manual that these steps are not necessary to keep the emission-related warranty valid.

§1054.125 (e) The purpose of this subsection is to give permission to the manufacturer to perform maintenance or inspections to anything that is not emission related during the service accumulation.

§1054.125 (f) The purpose of this subsection is to require the manufacturers to state clearly that a repair shop or person of the owner's choosing may maintain, replace or repair emission-related control devices and systems. This is to keep manufacturers from requiring that owners use the manufacturer's dealers or service establishments.

§1054.125 (f) (1)-(2) The purpose of these subsections is to allow for exceptions to the rule set in this section 1054.125(f).

§1054.125 (g) The purpose of this subsection is to require the manufacturer to pay for certain scheduled maintenance.

§1054.125 (g) (1)-(3) The purpose of these subsections is to state the conditions where the manufacturer would be required to pay for scheduled maintenance.

§1054.125 (h) The purpose of this subsection is to require that the manufacturer explain the owner's responsibility for proper maintenance in the owners' manual.

The proposed amendments to this section are necessary to establish alignment with similar provisions in the federal regulations for small nonroad engines, as is applicable. Without such an alignment, manufacturers could be forced to satisfy additional requirements and/or certify separate engine families in California at considerable extra cost without a corresponding increase in emission benefits.

### **§1054.130 What installation instructions must I give to equipment manufacturers?**

§1054.130 (a) The purpose of this subsection is to require manufacturers to give proper installation instructions to anyone to whom they sell the engine for the purpose of



installing the engine on a piece of equipment. This is necessary to ensure that the engine is installed in its certified configuration.

§1054.130 (b) The purpose of this subsection is to ensure the instructions have the proper information.

§1054.130 (b) (1)-(7) The purpose of these subsections is to list the information that is needed in the instructions mentioned in this subsection 154.130(b).

§1054.130 (c) The purpose of this subsection is to exempt engine manufacturers from the requirement of having installation instructions if they install their engine in their own equipment.

§1054.130 (d) The purpose of this subsection is to specify in which format the instructions must be available.

The proposed amendments to this section are necessary to establish alignment with similar provisions in the federal regulations for small nonroad engines, as is applicable. Without such an alignment, manufacturers could be forced to satisfy additional requirements and/or certify separate engine families in California at considerable extra cost without a corresponding increase in emission benefits.

#### **§1054.135 How must I label and identify the engines I produce?**

§1054.135 The purpose of this section is to specify that the labeling requirements can be found in Title 13, CCR.

The proposed amendments to this section are necessary to maintain the stringency of California's existing SORE evaporative emission standards and associated test procedures.

#### **§1054.140 What is my engine's maximum engine power and displacement?**

§1054.140 The purpose of this section is to specify how to determine the engine's maximum engine power and displacement.

§1054.140 (a) The purpose of this subsection is to specify how to determine the engine's maximum power.

§1054.140 (b) The purpose of this subsection is to specify how to determine the engine's displacement.

§1054.140 (c) The purpose of this subsection is to explain the requirements of how to handle the nominal power curves and intended swept volumes of the production engines, especially if they are not representative.

The proposed amendments to this section are necessary to establish alignment with similar provisions in the federal regulations for small nonroad engines, as is applicable. Without such an alignment, manufacturers could be forced to satisfy additional requirements and/or certify separate engine families in California at considerable extra cost without a corresponding increase in emission benefits.

#### **§1054.145 Are there interim provisions that apply only for a limited time?**

§1054.145 The purpose of this section is to temporarily allow for usage of current procedures.

§1054.145 (j) The purpose of this subsection is to give manufacturers the option to phase in the new procedures over the next two model years if they are not prepared to change over immediately. Most manufacturers should be prepared to switch over to the new procedures, especially if they also plan to certify their engines with U.S. EPA.

#### **Subpart C -- Certifying Emission Families**

The purpose of Subpart C is to provide all of the requirements necessary for certifying SORE.

#### **§1054.201 What are the general requirements for obtaining a certificate of conformity?**

§1054.201 The purpose of this section is to establish that the engines must meet the standards set in Title 13, CCR, if the manufacturer wants to certify their engine for sale in California. In addition, the following subsections specify other conditions that need to be met for certification.

§1054.201 (a) The purpose of this subsection is to indicate that each engine family must have its own application for certification.

§1054.201 (b) The purpose of this subsection is to remind manufacturers that all of the information contained in the application must be true and complete.

§1054.201 (c) The purpose of this subsection is to give ARB the option to request less information as long as the manufacturer keeps the supporting information available when necessary.

§1054.201 (e) The purpose of this subsection is to require an authorized representative of the manufacturing company sign the application so that they are responsible for the authenticity of all of the information in application.

§1054.201 (f) The purpose of this subsection is to inform the manufacturer of how the application will be processed.

§1054.201 (g) The purpose of this subsection is to inform the manufacturer that ARB may require additional testing at a different testing facility.

§1054.201 (i) The purpose of this subsection is to inform the manufacturer that they need to submit a letter of intent.

The proposed amendments to this section are necessary to establish alignment with similar provisions in the federal regulations for small nonroad engines, as is applicable. Without such an alignment, manufacturers could be forced to satisfy additional requirements and/or certify separate engine families in California at considerable extra cost without a corresponding increase in emission benefits.

#### **§1054.205 What must I include in my application?**

§1054.205 The purpose of this section is to specify information that the manufacturer must include in their certification application. The purpose of each subsection is to make sure that the manufacturer understands why they chose what they did. It also ensures that ARB staff can understand each item requested so that the certification process can be completed in a timely manner.

§1054.205 (a) The purpose of this subsection is to specify that manufacturers are required to send separate applications for each engine family and separate applications for exhaust emissions and evaporative emissions.

§1054.205 (b) The purpose of this subsection is to specify that manufacturers must include an explanation of how the emission control systems operate.

§1054.205 (d) The purpose of this subsection is to ensure that manufacturers understand why they are testing specific components and to explain to ARB how those components are pertinent and others are not.

§1054.205 (e) The purpose of this subsection is to ensure that manufacturers understand the use of the test equipment and procedures.

§1054.205 (f) The purpose of this subsection is to specify that the manufacturer need to describe how the engine operates.

§1054.205 (g) The purpose of this subsection is to specify that the manufacturer needs to provide the test fuel specifications.

§1054.205 (h) The purpose of this subsection is to ensure that the manufacturer provides an adequate useful life of the engine.

§1054.205 (i) The purpose of this subsection is to ensure that the manufacturer provides an accurate description of what is covered by the warranty and that the final purchaser is protected by the warranty.

§1054.205 (j) The purpose of this subsection is to ensure that the engine installer receives the proper information to install the engine properly.

§1054.205 (k) The purpose of this subsection is to ensure that the manufacturer is meeting all of the emission label requirements.

§1054.205 (l) The purpose of this subsection is to ensure that the manufacturer provides the correct emission standard or FEL.

§1054.205 (m) The purpose of this subsection is to ensure that the manufacturer provides an accurate deterioration factor.

§1054.205 (n) The purpose of this subsection is to ensure that the stated emission-data engine is operated as described in the application of the manufacturer. This is included to avoid the use of a different engine in the emission testing.

§1054.205 (o) The purpose of this subsection is to advise the manufacturer of how the emission data is to be presented, so that ARB staff can review the data in a more efficient manner.

§1054.205 (o) (1) The purpose of this subsection is to state the format in which the emission data is expected to be submitted.

§1054.205 (o) (2) The purpose of this subsection is to inform the manufacturer of the possibility that new emission data may not need to be submitted.

§1054.205 (p) The purpose of this subsection is to advise the manufacturer of the manner that the test results must be reported.

§1054.205 (p) (1) The purpose of this subsection is to advise the manufacturer of the requirement of reporting all test results of all substances that have emission standards.

§1054.205 (p) (2) The purpose of this subsection is to advise that measurements of other exhaust emission components are also required to be reported.

§1054.205 (q) The purpose of this subsection is to advise the manufacturer that all adjustable operating parameters need to be described so that ARB staff would be able to repeat the test results.

§1054.205 (q) (1)-(5) The purpose of these subsections is to list the operating parameters that are expected to be reported.

§1054.205 (r) The purpose of this subsection is to allow engine manufacturers to use altitude kits for high altitude applications.

§1054.205 (t) The purpose of this subsection is to allow engine manufacturers to limit the certification of certain engine families to specific uses.

§1054.205 (u) The purpose of this subsection is to require manufacturers to state that their engines unconditionally comply with all requirements in this part, any referenced parts, and Title 13, CCR.

§1054.205 (v) The purpose of this subsection is to require the manufacturer to submit good-faith estimates of California –directed production volumes.

§1054.205 (x) The purpose of this subsection is to require that manufacturers submit all information requested in other Subparts.

§1054.205 (y) The purpose of this subsection is to require that manufacturers include all applicable information.

§1054.205 (z) The purpose of this subsection is to require the manufacturer name an agent for services in the United States. This will ensure that the manufacturer has an agent for services in the United States and not require shipment to another country for services.

In general, the proposed amendments to this section are necessary to establish alignment with similar provisions in the federal regulations for small nonroad engines, as is applicable. Without such an alignment, manufacturers could be forced to satisfy additional requirements and/or certify separate engine families in California at considerable extra cost without a corresponding increase in emission benefits.

#### **§1054.220 How do I amend the maintenance instructions in my application?**

§1054.220 The purpose of this section is to inform the manufacturer of how they can amend an application if they so desire.

§1054.220 (a)-(c) The purpose of these subsections is to inform the manufacturer of how to amend their application for different reasons.

**§1054.225 How do I amend my application for certification to include new or modified engines or fuel systems or change an FEL?**

§1054.225 The purpose of this section is to inform the manufacturer of how they can amend an application to include a change in new or modified engines or fuel systems.

§1054.225 (a) (1-2) The purpose of these subsections is to list reasons why an application may need to be amended.

§1054.225 (b) (1-3) The purpose of these subsections is to list what needs to be sent to ARB to amend an application.

§1054.225 (c) The purpose of this subsection is to allow ARB to request more test data or engineering evaluation.

§1054.225 (d) The purpose of this subsection is to allow ARB to determine if the existing Executive Order covers the new configuration of the engine or equipment.

§1054.225 (e) The purpose of this subsection is to allow manufacturers to begin producing engines after submitting an application with the understanding that if the engine does not meet requirements, then the manufacturer will have to cease production immediately.

**§1054.230 How do I select emission families?**

§1054.230 (a)-(g) The purpose of these subsections is to guide the manufacturer as to how they are to divide their product line into different engine families.

The proposed amendments to this section are necessary to establish alignment with similar provisions in the federal regulations for small nonroad engines, as is applicable. Without such an alignment, manufacturers could be forced to satisfy additional requirements and/or certify separate engine families in California at considerable extra cost without a corresponding increase in emission benefits.

**§1054.235 What exhaust emission testing must I perform for my application for a certificate of conformity?**

§1054.235 The purpose of this section is to inform the certifying manufacturer of the exhaust emission testing they must perform to show compliance with the emission standards.

§1054.235 (a) The purpose of this subsection is to inform the manufacturer of the required configuration of the engine for exhaust emission testing.

§1054.235 (b) The purpose of this subsection is to inform the manufacturer of what procedure and equipment to use for exhaust emission tests. This subsection also informs the manufacturer of the proper process of testing dual-fuel engines and flexible fuel engines.

§1054.235 (c) The purpose of this subsection is to inform the manufacturer that ARB may measure emissions from any engine in the engine family. This ensures that none of the engines within the engine family are far out of range of the intended emission standard or FEL.

§1054.235 (c) (1) The purpose of this subsection is to inform the manufacturer where the testing may be done and of the requirements of the test engine. This ensures that the engine is tested in a representative configuration.

§1054.235 (c) (2) The purpose of this subsection is to inform the manufacturer that if ARB does the testing that the results are considered to be an official test result.

§1054.235 (c) (3) The purpose of this subsection is to ensure that the whole range of the engine is tested.

§1054.235 (c) (4) The purpose of this subsection is to determine production variability.

§1054.235 (d) The purpose of this subsection is to inform the manufacturer about the requirements for carryover engines.

§1054.235 (d) (1)-(3) The purpose of these subsections is to list the requirements for carryover engines.

§1054.235 (e) The purpose of this subsection is to give ARB the option of having the manufacturer tests different engines or configurations if the submitted test results are not conclusive or appear not to be conclusive.

§1054.235 (f) The purpose of this subsection is to ensure that any alternative test procedures are equivalent to given test procedures.

§1054.235 (g) The purpose of this subsection is to inform manufacturers of the requirement of measuring CO<sub>2</sub> and CH<sub>4</sub> and N<sub>2</sub>O when depending on a NO<sub>x</sub> aftertreatment. These pollutants may be of importance and having this information would be helpful in understanding their significance.

§1054.235 (g) (1)-(3) The purpose of these subsections is to list the values of these pollutants to the proper number of significant figures.

§1054.235 (h) The purpose of this subsection is to inform manufacturers of the requirement to include a justification for using auxiliary fans.

The proposed amendments to this section are necessary to establish alignment with similar provisions in the federal regulations for small nonroad engines, as is applicable. Without such an alignment, manufacturers could be forced to satisfy additional requirements and/or certify separate engine families in California at considerable extra cost without a corresponding increase in emission benefits.

**§1054.240 How do I demonstrate that my emission family complies with exhaust emission standards?**

§1054.240 (a) The purpose of this subsection is to inform the manufacturer of the requirements of test results showing deteriorated emission levels at or below the standards or FEL.

§1054.240 (b) The purpose of this subsection is remind the manufacturer of the conditions for which an engine family does not comply with the applicable emission standard.

§1054.240 (c) The purpose of this subsection is to inform the manufacturer of the method of determining a deterioration factor.

§1054.240 (d) The purpose of this subsection is to inform the manufacturer how to make adjustments to low-hour test points using the deterioration factor.

§1054.240 (e) The purpose of this subsection is to inform the manufacturer of engine families with a useful life of less than 300 hours how to apply the deterioration factors to engines other than the original emission-data engine.

The proposed amendments to this section are necessary to establish alignment with similar provisions in the federal regulations for small nonroad engines, as is applicable. Without such an alignment, manufacturers could be forced to satisfy additional requirements and/or certify separate engine families in California at considerable extra cost without a corresponding increase in emission benefits.

**§1054.245 How do I determine deterioration factors from exhaust durability testing?**

§1054.245 (a) The purpose of this subsection is to give small-volume engine manufacturers a lower cost option for determining deterioration factors.



§1054.245 (b) The purpose of this subsection is to provide the assigned deterioration values for engines with a displacement of greater than eighty cubic centimeters.

§1054.245 (c) The purpose of this subsection is to provide the assigned deterioration values for engines with a displacement less than or equal to eighty cubic centimeters.

§1054.245 (d) The purpose of this subsection is to provide the formula for the deterioration factors for engines with aftertreatment.

§1054.245 (e) (1) The purpose of this subsection is provide direction on choosing a deterioration factor and where the deterioration factor may be used.

§1054.245 (e) (2) The purpose of this subsection is to describe how a deterioration factor is determined.

§1054.245 (e) (2) (i)-(ix) The purpose of these subsections is to list criteria that the manufacturer needs in order to obtain a deterioration factor that is not on the lists mentioned above.

§1054.245 (e) (3) The purpose of this subsection is to inform the manufacturer of the conditions where the deterioration factor may be rejected.

§1054.245 (e) (4) The purpose of this subsection is to give the option to use the calculated deterioration factors for other engine families if a justification is submitted beforehand. This reduces the work for manufacturers, as long as they can show that the engine families are similar enough.

§1054.245 (e) (5) The purpose of this subsection is to inform the manufacturer that new deterioration factors are not necessary for running changes.

The proposed amendments to this section are necessary to maintain the stringency of California's existing SORE exhaust emission standards and associated test procedures with respect to the determination of the applicable deterioration factors.

### **§1054.250 What records must I keep and what reports must I send to EPA?**

§1054.250 (a) The purpose of this subsection is to give the manufacturer the ARB's contact information and inform them of the requirement to submit information about the engines produced during the model year.

§1054.250 (a) (1)-(2) The purpose of these subsections is to request that manufacturers state total production volume for each engine family and total production volume produced after completing reports.

§1054.250 (b) The purpose of this subsection is to request that manufacturers maintain some records.

§1054.250 (b) (1)-(5) The purpose of these subsections is to list items the manufacturer should maintain.

§1054.250 (c) The purpose of this subsection is to require that manufacturers keep data from routine emission tests.

§1054.250 (d) The purpose of this subsection is inform the manufacturers of the requirement to keep records readily available as long as they may be requested.

The proposed amendments to this section are necessary to establish alignment with similar provisions in the federal regulations for small nonroad engines, as is applicable. Without such an alignment, manufacturers could be forced to satisfy additional requirements and/or certify separate engine families in California at considerable extra cost without a corresponding increase in emission benefits.

#### **§1054.255 What decisions may EPA make regarding my certificate of conformity?**

§1054.255 (a) The purpose of this subsection is to inform manufacturers of the conditions for obtaining an Executive Order.

§1054.255 (b) The purpose of this subsection is to inform manufacturers of the conditions for which their application may be denied.

§1054.255 (c) The purpose of this subsection is to inform manufacturers of conditions for which their application may be denied, suspended or revoked.

§1054.255 (c) (1)-(7) The purpose of these subsections is list conditions for which applications may be denied, suspended or revoked.

§1054.255 (d) The purpose of this subsection is to inform manufacturers of conditions or which the Executive Order may be voided.

§1054.255 (e) The purpose of this subsection is to give the conditions applicable to carryover engines for which these engines could have a reduced emission testing rate.

§1054.255 (f) The purpose of this subsection to inform the manufacturer that ARB may request engines for testing or inspections.

The proposed amendments to this section are necessary to establish alignment with similar provisions in the federal regulations for small nonroad engines, as is applicable. Without such an alignment, manufacturers could be forced to satisfy additional requirements and/or certify separate engine families in California at considerable extra cost without a corresponding increase in emission benefits.

### **Subpart D – Production-Line Testing**

The purpose of Subpart D is to state that the California production-line testing requirements can be found in Section 2407 in Title 13, CCR.

The proposed amendments to this section are necessary to maintain the stringency of California's existing SORE exhaust emission standards and associated test procedures with respect to conducting production-line testing.

### **Subpart E – In-use Testing**

The purpose of Subpart E is to provide the requirements for conducting in-use testing.

### **§1054.401 General provisions**

The purpose of this section is to give ARB the option to perform in-use testing of any engine or equipment.

The proposed amendments to this section are necessary to establish alignment with similar provisions in the federal regulations for small nonroad engines, as is applicable. Without such an alignment, manufacturers could be forced to satisfy additional requirements and/or certify separate engine families in California at considerable extra cost without a corresponding increase in emission benefits.

### **Subpart F – Test Procedures**

The purpose of Subpart F is to provide the general requirements for performing emission testing in accordance with the test procedures detailed in Part 1065.

### **§1054.501 How do I run a valid emission test?**

§1054.501 (a) The purpose of this subsection is to inform manufacturers that they, and anyone that does testing for them, must meet the requirements of this section.

§1054.501 (b) The purpose of this subsection is to require the use of 40 CFR Part 1065 for exhaust emission tests.

§1054.501 (b) (1) The purpose of this subsection is to inform the manufacturers of the constituents subject to emission standards.

§1054.501 (b) (2) (i)-(iv) The purpose of these subsections is to remind the manufacturers to use fuels and lubricants specified in 40 CFR Part 1065, as revised by the California amendments in order to maintain the stringency of the existing SORE emission standards and associated test procedures.

§1054.501 (b) (3) (i)-(ii) The purpose of these subsections is to remind manufacturers that the ambient conditions must be within a specific range.

§1054.501 (b) (4) (i)-(ii) The purpose of these subsections is to inform manufacturers of the conditions where emission levels are considered stable without measurement.

§1054.501 (b) (5) The purpose of this subsection is to inform manufacturers that governors need to be installed for testing if one is on the production engine.

§1054.501 (b) (6) The purpose of this subsection is to inform manufacturers that the fuel system for the test engine should be like that of the production engine.

§1054.501 (b) (7) The purpose of this subsection is to inform manufacturers that the carbon mass fraction of the fuel needs to be determined based on measured fuel properties. This is to ensure that value is a real value rather than an estimated one.

§1054.501 (b) (8) The purpose of this subsection is to inform manufacturers of the proper procedures of determining service accumulation and engine stabilization.

§1054.501 (b) (9) The purpose of this subsection is to inform manufacturers on how to prepare an engine for a pre-test.

§1054.501 (b) (10) The purpose of this subsection is to inform manufacturers of the procedures used for an analyzer pre-test.

§1054.501 (b) (11) The purpose of this subsection is to inform manufacturers that they may check the system flow rates and pressures and reset, if needed.

§1054.501 (c) The purpose of this subsection is to inform manufacturers of when a special or alternate procedure is allowed.

§1054.501 (c) (1) The purpose of these subsections is to inform manufacturers of the provisions that apply for using special or alternative test procedures.

§1054.501 (d) The purpose of this subsection is to inform the manufacturers of the conditions in which a wintertime engine needs to be tested.

In general, the proposed amendments to this section are necessary to establish alignment with similar provisions in the federal regulations for small nonroad engines, as is applicable. Without such an alignment, manufacturers could be forced to satisfy additional requirements and/or certify separate engine families in California at considerable extra cost without a corresponding increase in emission benefits.

### **§ 1054.505 How do I test engines?**

§1054.505 (a) The purpose of this subsection is to describe to manufacturers how to test engines under steady-state conditions.

§1054.505 (a) (1) The purpose of this subsection is to describe what to do for discrete-mode testing.

§1054.505 (a) (1) (i)-(ii) The purpose of these subsections is to list the acceptable methods for confirming torque values for engines with a displacement of greater or equal to eighty cubic centimeters.

§1054.505 (a) (2) The purpose of this subsection is to describe how to conduct ramped-modal testing.

§1054.505 (b) The purpose of this subsection is to inform manufacturers of how all engines must be dynamometer tested in order to demonstrate compliance with the specified exhaust emission stands.

§1054.505 (b) (1) The purpose of this subsection is to inform manufacturers of the requirement for engines with a displacement of less than eighty cubic centimeters to use a two-mode duty cycle.

§1054.505 (b) (1) (i)-(iii) The purpose of these subsections is to list how to establish an engine's rated speed.

§1054.505 (b) (2) The purpose of this subsection is to inform manufacturers of the requirement for engines with a displacement of greater than or equal to eighty cubic centimeters to use a six-mode duty cycle or the corresponding ramped-modal cycle.

§1054.505 (c) The purpose of this subsection is to inform manufacturers of the conditions for how to operate the engine with a displacement of greater than or equal to eighty cubic centimeters during idle mode.

§1054.505 (c) (1)-(3) The purpose of these subsections is to list the parameters at which the engine must operate during the idle mode.

§1054.505 (d) The purpose of this subsection is to inform manufacturers of engines with a displacement of greater than or equal to eighty cubic centimeters how to operate the engine during the full-load operation.

§1054.505 (d) (1)-(4) The purpose of these subsections is to list parameters for engines while under full-load operation.

§1054.505 (e) The purpose of this subsection is to refer to 40 CFR Part 1065 for tolerances and calculations.

The proposed amendments to this section are necessary to establish alignment with similar provisions in the federal regulations for small nonroad engines, as is applicable. Without such an alignment, manufacturers could be forced to satisfy additional requirements and/or certify separate engine families in California at considerable extra cost without a corresponding increase in emission benefits.

#### **§1054.520 What testing must I perform to establish deterioration factors?**

§1054.520 The purpose of this subsection is to refer to other sections for a description of the required methods for testing to establish deterioration factors for an engine family.

The proposed amendments to this section are necessary to establish alignment with similar provisions in the federal regulations for small nonroad engines, as is applicable. Without such an alignment, manufacturers could be forced to satisfy additional requirements and/or certify separate engine families in California at considerable extra cost without a corresponding increase in emission benefits.

#### **Subpart G – Special Compliance Provisions**

The purpose of Subpart G is to provide the general requirements for performing certain compliance actions, including California-specific labeling requirements.

#### **§1054.601 What compliance provisions apply?**

§1054.601 (a) The purpose of this subsection is to inform affected parties that everyone must observe provisions of this Part and California's Health and Safety Code.

§1054.601 (b) The purpose of this subsection is to remind engine manufacturers that they are prohibited from stockpiling engines.

§1054.601 (c) The purpose of this subsection is to inform manufacturers that take possession of engines for purposes of recovering components of the provisions that apply to them.

§1054.601 (c) (1) The purpose of this subsection is to refer back to Title 13, CCR, for labeling requirements. This means that there are not any changes to the existing California labeling requirements in order to maintain the stringency of the existing California emission standards and associated test procedures.

§1054.601 (c) (2) The purpose of this subsection is to state that the engine mentioned in this section may not be resold.

§1054.601 (c) (3) The purpose of this subsection is to inform the manufacturer of record collecting requirements for these engines.

In general, the proposed amendments to this section are necessary to establish alignment with similar provisions in the federal regulations for small nonroad engines, as is applicable. Without such an alignment, manufacturers could be forced to satisfy additional requirements and/or certify separate engine families in California at considerable extra cost without a corresponding increase in emission benefits.

#### **§1054.635 What special provisions apply for small-volume engine and equipment manufacturers?**

§1054.635 The purpose of this section is to allow for the use of assigned deterioration factors for small-volume engine manufacturers.

The proposed amendments to this section are necessary to establish alignment with similar provisions in the federal regulations for small nonroad engines, as is applicable. Without such an alignment, manufacturers could be forced to satisfy additional requirements and/or certify separate engine families in California at considerable extra cost without a corresponding increase in emission benefits.

#### **§1054.640 What special provisions apply to branded engines?**

§1054.640 The purpose of this section is to state what provisions apply to branded engines.

§1054.640 (a)-(c) The purpose of these subsections is to state the requirements for branded engines.

The proposed amendments to this section are necessary to establish alignment with similar provisions in the federal regulations for small nonroad engines, as is applicable. Without such an alignment, manufacturers could be forced to satisfy additional

requirements and/or certify separate engine families in California at considerable extra cost without a corresponding increase in emission benefits.

**§1054.645 What special provisions apply for converting an engine to use an alternate fuel?**

§1054.645 The purpose of this section is to keep engines from being modified beyond the conditions for which they were certified, and to inform anyone who does such modifications that they must certify the new configuration under a new Executive Order.

The proposed amendments to this section are necessary to establish alignment with similar provisions in the federal regulations for small nonroad engines, as is applicable. Without such an alignment, manufacturers could be forced to satisfy additional requirements and/or certify separate engine families in California at considerable extra cost without a corresponding increase in emission benefits.

**§1054.650 What special provisions apply for adding or changing governors?**

§1054.650 The purpose of this section is to state the requirements for adding or changing governors for exhaust emission testing.

§1054.650 (a) The purpose of this subsection is to state the requirements for in-use duty cycles.

§1054.650 (a) (1)-(2) The purpose of these subsections is to state the conditions for which the representative testing is not required.

The proposed amendments to this section are necessary to establish alignment with similar provisions in the federal regulations for small nonroad engines, as is applicable. Without such an alignment, manufacturers could be forced to satisfy additional requirements and/or certify separate engine families in California at considerable extra cost without a corresponding increase in emission benefits.

**§1054.655 What special provisions apply for installing and removing altitude kits?**

§1054.655 The purpose of this section is to provide an allowance to use altitude kits when necessary.

The proposed amendments to this section are necessary to establish alignment with similar provisions in the federal regulations for small nonroad engines, as is applicable. Without such an alignment, manufacturers could be forced to satisfy additional



requirements and/or certify separate engine families in California at considerable extra cost without a corresponding increase in emission benefits.

#### **§1054.660 What are the provisions for exempting emergency rescue equipment?**

§1054.660 The purpose of this section is to provide exemptions for emergency equipment used by fire and police departments and other emergency entities.

The proposed amendments to this section are necessary to establish alignment with similar provisions in the federal regulations for small nonroad engines, as is applicable. Without such an alignment, manufacturers could be forced to satisfy additional requirements and/or certify separate engine families in California at considerable extra cost without a corresponding increase in emission benefits.

#### **Subpart H – Averaging, Banking and Trading for Certification**

The purpose of Subpart H is to provide the general requirements for the emission averaging, banking, and trading provisions.

#### **§1054.701 General Provisions**

§1054.701 The purpose of this section is to inform stakeholders to refer to Title 13, CCR, for the provisions for certification emission credit program.

The proposed amendments to this section are necessary to maintain the stringency of California's existing SORE emission standards and associated test procedures with respect to using averaging, banking, and trading provisions.

#### **Subpart I – Definitions and Other Reference Information**

The purpose of Subpart I is to provide the general information related to definitions and supporting information.

#### **§1054.801 What definitions apply to this part?**

§1054.801 The purpose of this section is to provide definitions for words in this document to ensure that the meaning of the words align with U.S. EPA, and that there is a clear understanding of what is required.

The proposed amendments to this section are necessary to establish alignment with similar provisions in the federal regulations for small nonroad engines, as is applicable.

Without such an alignment, manufacturers could be forced to satisfy additional requirements and/or certify separate engine families in California at considerable extra cost without a corresponding increase in emission benefits.

#### **§1054.805 What symbols, acronyms, and abbreviations does this part use?**

§1054.805 The purpose of this section is to identify the meanings of all of the symbols, acronyms, and abbreviations in order to avoid any misunderstandings in conducting the required test procedures and performing the certification process. This is also a good source of reference while reading the document.

The proposed amendments to this section are necessary to establish alignment with similar provisions in the federal regulations for small nonroad engines, as is applicable. Without such an alignment, manufacturers could be forced to satisfy additional requirements and/or certify separate engine families in California at considerable extra cost without a corresponding increase in emission benefits.

#### **§1054.815 What provisions apply to confidential information?**

§1054.815 The purpose of this section is to set guidelines for manufacturers as to how to identify confidential information.

The proposed amendments to this section are necessary to establish alignment with similar provisions in the federal regulations for small nonroad engines, as is applicable. Without such an alignment, manufacturers could be forced to satisfy additional requirements and/or certify separate engine families in California at considerable extra cost without a corresponding increase in emission benefits.

#### **§1054.820 How do I request a hearing?**

§1054.820 The purpose of this section is to inform manufacturers on how to request a hearing.

The proposed amendments to this section are necessary to establish alignment with similar provisions in the federal regulations for small nonroad engines, as is applicable. Without such an alignment, manufacturers could be forced to satisfy additional requirements and/or certify separate engine families in California at considerable extra cost without a corresponding increase in emission benefits.

### **§1054.821 Right of entry and access**

§1054.821 The purpose of this section is to let manufacturers know of their responsibilities in allowing the ARB Enforcement Officer in to their facilities.

The proposed amendments to this section are necessary to establish alignment with similar provisions in the federal regulations for small nonroad engines, as is applicable. Without such an alignment, manufacturers could be forced to satisfy additional requirements and/or certify separate engine families in California at considerable extra cost without a corresponding increase in emission benefits.

### **§1054.825 What reporting and recordkeeping requirements apply under this part?**

§1054.825 The purpose of this section is to inform the manufacturers of their reporting and record keeping requirements.

The proposed amendments to this section are necessary to establish alignment with similar provisions in the federal regulations for small nonroad engines, as is applicable. Without such an alignment, manufacturers could be forced to satisfy additional requirements and/or certify separate engine families in California at considerable extra cost without a corresponding increase in emission benefits.

### **Appendix II to Part 1054 – Duty Cycles for Laboratory Testing**

The proposed amendments to this Appendix are necessary to establish alignment with similar provisions in the federal regulations for small nonroad engines, as is applicable. Without such an alignment, manufacturers could be forced to satisfy additional requirements and/or certify separate engine families in California at considerable extra cost without a corresponding increase in emission benefits.

## California Exhaust Emission Standards and Test Procedures For New 2013 and Later Small Off-Road Engines; Engine-Testing Procedures (Part 1065).

The proposed Part 1065 test procedures prescribe scaled specifications for test equipment and measurement instruments by parameters such as engine power, engine speed and the emission standards to which an engine must comply. Manufacturers will be able to use these specifications to determine what range of engines and emission standards may be tested.

The basis of the proposed Part 1065 is the federal Part 1065, as last amended June 28, 2011, which is a combination of U.S. EPA's existing test procedures for testing various categories of nonroad engines and heavy-duty on-highway engines.

Part 1065 is organized by Subparts as shown below:

Subpart A	General provisions; global information on applicability, alternate procedures, units of measure, etc.
Subpart B	Equipment specifications; required hardware for testing
Subpart C	Measurement instruments
Subpart D	Calibration and verifications; for measurement systems
Subpart E	Engine selection, preparation, and maintenance
Subpart F	Test protocols; step-by-step sequences for laboratory testing and test validation
Subpart G	Calculations and required information
Subpart H	Fuels, fluids, and analytical gases
Subpart I	Oxygenated fuels; special test procedures
Subpart J	Field testing and portable emissions measurement systems
Subpart K	Definitions, references, and symbols

## **Subpart A**

The purpose of Subpart A is to identify the applicability of Part 1065 and describe how procedures other than those in Part 1065 may be used to comply with Title 13, CCR regulations for small off-road engines.

§1065.1 The purpose of this section is to explain that small off-road engines remain subject to Title 13, CCR, Chapter 9, rather than U.S. EPA's exhaust emission requirements.

The proposed amendments to this Subpart are necessary to maintain the stringency of California's existing SORE emission standards and associated test procedures.

## **Subpart B**

The purpose of Subpart B is to describe engine and dynamometer related systems. Many of these specifications are scaled to an engine's size, speed, torque, exhaust flow rate, etc. Subpart B also describes sampling dilution systems. These include specifications for the allowable components, materials, pressures, and temperatures.

§1065.101 The purpose of this section is to include a diagram illustrating all the available equipment for measuring emissions.

§1065.122 The purpose of this section is to specify that test cells shall be maintained at ambient temperature levels as defined in section 1065.125 (c). This section provides for engine cooling fans to be used to simulate in-use conditions. Staff proposes keeping ARB's current test procedures language in sections 90.118(f) and 90.307 which require manufacturers to justify to the satisfaction of the Executive Officer, in the application for certification, the need for and use of such fans. The manufacturer must also demonstrate that the supplemental cooling resulting from the use of the fans is representative of in-use engine operation. These proposed amendments are necessary in order to maintain the stringency of California's existing emission standards and associated test procedures.

In general, the proposed amendments to this Subpart are necessary to establish alignment with similar provisions in the federal regulations for small nonroad engines, as is applicable. Without such an alignment, manufacturers could be forced to satisfy additional requirements and/or certify separate engine families in California at considerable extra cost without a corresponding increase in emission benefits.

## **Subpart C**

The purpose of Subpart C is to specify the requirements for the measurement instruments used for testing. These specifications apply to both laboratory and field testing. Subpart C recommends accuracy, repeatability, noise, and response time

specifications for individual measurement instruments, and requires that overall measurement systems meet the calibrations and verifications in Subpart D. The proposed amendments to this Subpart are necessary to establish alignment with similar provisions in the federal regulations for small nonroad engines, as is applicable. Without such an alignment, manufacturers could be forced to satisfy additional requirements and/or certify separate engine families in California at considerable extra cost without a corresponding increase in emission benefits.

### **Subpart D**

The purpose of Subpart D is to specify accuracy, repeatability and other related parameters for the test measurement systems.

The proposed amendments to this Subpart are necessary to establish alignment with similar provisions in the federal regulations for small nonroad engines, as is applicable. Without such an alignment, manufacturers could be forced to satisfy additional requirements and/or certify separate engine families in California at considerable extra cost without a corresponding increase in emission benefits.

### **Subpart E**

The purpose of Subpart E is to describe how to select, prepare, and maintain a test engine.

The proposed amendments to this Subpart are necessary to establish alignment with similar provisions in the federal regulations for small nonroad engines, as is applicable. Without such an alignment, manufacturers could be forced to satisfy additional requirements and/or certify separate engine families in California at considerable extra cost without a corresponding increase in emission benefits.

### **Subpart F**

The purpose of Subpart F is to describe the step-by-step protocols for engine mapping, test cycle generation, test cycle validation, pre-test preconditioning, engine starting, emission sampling, and post-test validations.

The proposed amendments to this Subpart are necessary to establish alignment with similar provisions in the federal regulations for small nonroad engines, as is applicable. Without such an alignment, manufacturers could be forced to satisfy additional requirements and/or certify separate engine families in California at considerable extra cost without a corresponding increase in emission benefits.

### **Subpart G**

The purpose of Subpart G is to address all the calculations required in Part 1065. Subpart G specifies emission calculations based on molar quantities for flow rates instead of volume or mass. This change eliminates the frequent confusion caused by using different reference points for standard pressure and standard temperature. Instead of declaring standard densities at standard pressure and standard temperature

to convert volumetric concentration measurements to mass-based units, Subpart G declares molar masses for individual elements and compounds. Since these values are independent of all other parameters, they are known to be universally constant.

§1065.650 (i) The purpose of this subsection is to keep ARB's current test procedure language in section 90.404 (e). Specifically, for two-stroke engines, staff proposes that engine manufacturers continue to be allowed to determine PM emissions by using HC emissions as a surrogate for PM emissions because HC reductions would also correspond to reductions in two-stroke PM emissions. These proposed amendments are necessary in order to maintain the stringency of California's existing emission standards and associate test procedures.

In general, the proposed amendments to this Subpart are necessary to establish alignment with similar provisions in the federal regulations for small nonroad engines, as is applicable. Without such an alignment, manufacturers could be forced to satisfy additional requirements and/or certify separate engine families in California at considerable extra cost without a corresponding increase in emission benefits.

## **Subpart H**

The purpose of Subpart H is to specify test fuels, lubricating oils and coolants, and analytical gases for testing. Subpart H also specifies that service accumulation fuels must be either a test fuel or a commercially available in-use fuel. This helps ensure that testing is representative of in-use engine operation. Staff is proposing amendments to keep certain provisions already specified in California's existing SORE test procedures in lieu of those specified in federal Part 1065.

§1065.701 The purpose of this section is to describe general requirements for test fuels. The proposed amendments to subsection 1065.701 (a) (2) are necessary in order to specify that the test fuel specifications will be consistent with the on-road motor vehicle E10 or other ARB-certified test fuels. The proposed amendments to subsection 1065.701 (a) (3) ~~is~~ are necessary in order to allow use of the on-road motor vehicle E10 or other ARB-certified test fuels as an option for 2013 through 2019 model year engines. In addition, the proposed amendments to subsection 1065.701 (f) are necessary in order to specify that a service accumulation fuel can be either a test fuel or a commercially available in-use fuel.

§1065.703-740 The proposed amendments to these subsections are necessary in order to keep California's test fuel requirements aligned with the applicable on-road vehicle test fuel requirements.

In general, the proposed amendments to this Subpart are necessary to establish alignment with similar provisions in the federal regulations for small nonroad engines, as is applicable. Without such an alignment, manufacturers could be forced to satisfy additional requirements and/or certify separate engine families in California at considerable extra cost without a corresponding increase in emission benefits.

## **Subpart I**

The purpose of this Subpart is to describe special procedures for measuring certain hydrocarbons whenever oxygenated fuels are used.

The proposed amendments to this Subpart are necessary to establish alignment with similar provisions in the federal regulations for small nonroad engines, as is applicable. Without such an alignment, manufacturers could be forced to satisfy additional requirements and/or certify separate engine families in California at considerable extra cost without a corresponding increase in emission benefits.

## **Subpart J**

The purpose of Subpart J is to describe field testing and portable emissions measurement systems (PEMS).

The proposed amendments to this Subpart are necessary to establish alignment with similar provisions in the federal regulations for small nonroad engines, as is applicable. Without such an alignment, manufacturers could be forced to satisfy additional requirements and/or certify separate engine families in California at considerable extra cost without a corresponding increase in emission benefits.

## **Subpart K**

The purpose of Subpart K is to list all the defined terms, identification of reference materials, and lists of acronyms and abbreviations used throughout Part 1065.

The proposed amendments to this Subpart are necessary to establish alignment with similar provisions in the federal regulations for small nonroad engines, as is applicable. Without such an alignment, manufacturers could be forced to satisfy additional requirements and/or certify separate engine families in California at considerable extra cost without a corresponding increase in emission benefits.