



Federal Register

**Wednesday,
July 13, 2005**

Part II

Environmental Protection Agency

40 CFR Parts 85, 86, et al.

**Test Procedures for Testing Highway and
Nonroad Engines and Omnibus Technical
Amendments; Final Rule**

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 85, 86, 89, 90, 91, 92, 94, 1039, 1048, 1051, 1065, and 1068

[AMS-FRL-7922-5]

RIN 2060-AM35

Test Procedures for Testing Highway and Nonroad Engines and Omnibus Technical Amendments

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final Rule.

SUMMARY: This regulation revises and harmonizes test procedures from the various EPA programs for controlling engine emissions. It does not change emission standards, nor is it intended to change the emission reductions expected from these EPA programs. Rather, it amends the regulations that describe laboratory specifications for equipment and test fuels, instructions for preparing engines and running tests, calculations for determining final emission levels from measured values, and instructions for running emission tests using portable measurement devices outside the laboratory. These updated testing regulations currently apply to land-based nonroad diesel engines, land-based nonroad spark-ignition engines over 19 kilowatts, and recreational vehicles. The revisions in this final rule will update the regulations to deal more effectively with the more stringent standards recently promulgated by EPA and will also clarify and better define certain elements of the required test procedures. In particular, the amendments better specify the procedures applicable to field testing under the regulations.

This action also applies the updated testing regulations to highway heavy-duty diesel engine regulations. This action is appropriate because EPA has historically drafted a full set of testing specifications for each vehicle or engine category subject to emission standards as each program was developed over the past three decades. This patchwork approach has led to some variation in test parameters across programs, which we hope to address by adopting a common set of test requirements. The primary goal of this effort is to create unified testing requirements for all engines, which when implemented will streamline laboratory efforts for EPA and industry.

This action will also include other technical changes intended to clarify and better define requirements for

several different EPA engine programs. These changes are relatively minor and are technical in scope.

DATES: This final rule is effective September 12, 2005.

The incorporation by reference of certain publications listed in this regulation is approved by the Director of the Federal Register as of September 12, 2005.

ADDRESSES: EPA has established a docket for this action under Docket ID No. OAR-2004-0017. All documents in the docket are listed in the EDOCKET index at <http://www.epa.gov/edocket>. Although listed in the index, some information is not publicly available, *i.e.*, CBI or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy form. Publicly available docket materials are available either electronically in EDOCKET or in hard copy at the Air Docket in the EPA Docket Center, EPA/DC, EPA West, Room B102, 1301 Constitution Ave., NW., Washington, DC. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566-1744, and the telephone number for the Air Docket is (202) 566-1742.

FOR FURTHER INFORMATION CONTACT: Alan Stout, U.S. EPA, Voice-mail (734) 214-4636; E-mail: stout.alan@epa.gov.

SUPPLEMENTARY INFORMATION:

A. Regulated Entities

This action affects companies that manufacture or sell engines. Regulated categories and entities include:

Category	NAICS codes ^a	Examples of potentially regulated entities
Industry	333618 ...	Manufacturers of new engines.

^aNorth American Industry Classification System (NAICS)

This list is not intended to be exhaustive, but rather provides a guide regarding entities likely to be regulated by this action. To determine whether particular activities may be regulated by this action, you should carefully examine the regulations. You may direct questions regarding the applicability of this action to the person listed in **FOR FURTHER INFORMATION CONTACT.**

B. How Can I Get Copies of This Document and Other Related Information?

1. Docket. EPA has established an official public docket for this action under Docket ID No. OAR-2004-0017. The official public docket consists of the documents specifically referenced in this action, any public comments received, and other information related to this action. Although a part of the official docket, the public docket does not include Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Documents in the official public docket are listed in the index list in EPA's electronic public docket and comment system, EDOCKET. Documents may be available either electronically or in hard copy. Electronic documents may be viewed through EDOCKET. Hard copy documents may be viewed at the EPA Docket Center, (EPA/DC) EPA West, Room B102, 1301 Constitution Ave., NW., Washington, DC. Docket in The EPA Docket Center Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566-1744.

This rule relies in part on information related to our November 2002 final rule, which can be found in Public Docket A-2000-01. This docket is incorporated by reference into the docket for this action, OAR-2004-0017.

2. Electronic Access. You may access this **Federal Register** document electronically through the EPA Internet under the "**Federal Register**" listings at <http://www.epa.gov/fedrgstr/> Or you can go to the federal-wide eRulemaking site at www.regulations.gov.

An electronic version of the public docket is available through EDOCKET. You may use EDOCKET at <http://www.epa.gov/edocket/> to view public comments, access the index listing of the contents of the official public docket, and to access those documents in the public docket that are available electronically. Once in the system, select "search," then key in the appropriate docket identification number.

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I. Modified Test Procedures for Highway and Nonroad Engines

A. Incorporation of Nonroad Test Procedures for Heavy Duty Highway Engines

As part of our initiative to update the content, organization and writing style of our regulations, we are revising our test procedures.¹ We have grouped all of our engine dynamometer and field testing test procedures into one part entitled, "Part 1065: Test Procedures." For each engine or vehicle sector for which we have recently promulgated standards (such as land-based nonroad diesel engines or recreational vehicles), we identified an individual part as the standard-setting part for that sector. These standard-setting parts then refer to one common set of test procedures in part 1065. We intend in this rule to continue this process of having all our engine programs refer to a common set of procedures by applying part 1065 to all heavy-duty highway engines.

In the past, each engine or vehicle sector had its own set of testing procedures. There are many similarities in test procedures across the various sectors. However, as we introduced new regulations for individual sectors, the more recent regulations featured test procedure updates and improvements that the other sectors did not have. As this process continued, we recognized that a single set of test procedures would allow for improvements to occur simultaneously across engine and vehicle sectors. A single set of test procedures is easier to understand than trying to understand many different sets of procedures, and it is easier to move toward international test procedure harmonization if we only have one set of test procedures. We note that procedures that are particular for

different types of engines or vehicles, for example, test schedules designed to reflect the conditions expected in use for particular types of vehicles or engines, will remain separate and will be reflected in the standard-setting parts of the regulations.

In addition to reorganizing and rewriting the test procedures for improved clarity, we are making a variety of changes to improve the content of the testing specifications, including the following:

- Writing specifications and calculations in international units
- Adding procedures by which manufacturers can demonstrate that alternate test procedures are equivalent to specified procedures.
- Including specifications for new measurement technology that has been shown to be equivalent or more accurate than existing technology; procedures that improve test repeatability, calculations that simplify emissions determination; new procedures for field testing engines, and a more comprehensive set of definitions, references, and symbols.
- Defining calibration and accuracy specifications that are scaled to the applicable standard, which allows us to adopt a single specification that applies to a wide range of engine sizes and applications.

Some emission-control programs already rely on the test procedures in part 1065. These programs regulate land-based nonroad diesel engines, recreational vehicles, and nonroad spark-ignition engines over 19 kW.

We are adopting the lab-testing and field-testing specifications in part 1065 for all heavy-duty highway engines, as described in Section II.J. These procedures replace those currently published in subpart N in 40 CFR part 86. We are making a gradual transition from the part 86 procedures. For several years, manufacturers will be able to optionally use the part 1065 procedures. By the 2010 model year, part 1065 procedures will be required for any new testing. For all testing completed for 2009 and earlier model years, manufacturers may continue to rely on carryover test data based on part 86 procedures to certify engine families in later years. In addition, other subparts in part 86, as well as regulations for many different nonroad engines refer to the test procedures in part 86. We are including updated references for all these other programs to refer instead to the appropriate cite in part 1065.

Part 1065 is also advantageous for in-use testing because it specifies the same procedures for all common parts of field testing and laboratory testing. It also

contains new provisions that help ensure that engines are tested in a laboratory in a way that is consistent with how they operate in use. These new provisions will ensure that engine dynamometer lab testing and field testing are conducted in a consistent way.

In the future, we may apply the test procedures specified in part 1065 to other types of engines, so we encourage companies involved in producing or testing other engines to stay informed of developments related to these test procedures. For example, we expect to propose in the near future new regulations for locomotives, marine engines, and several types of nonroad SI engines. We are likely to consider some changes to part 1065 in each of these rulemakings.

B. Revisions to Part 1065

Part 1065 was originally adopted on November 8, 2002 (67 FR 68242), and was initially applicable to standards regulating large nonroad spark-ignition engines and recreational vehicles under 40 CFR parts 1048 and 1051. The recent rulemaking adopting emission standards for nonroad diesel engines has also made part 1065 optional for Tier 2 and Tier 3 standards and required for Tier 4 standards. The test procedures initially adopted in part 1065 were sufficient to conduct testing, but in this final rule we have reorganized these procedures and added content to make various improvements. In particular, we have reorganized part 1065 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

The regulations now 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. That way this single set of specifications will cover the

¹ For an overview of our new regulatory organization, refer to our fact sheet entitled, "Plain-Language Format of Emission Regulations for Nonroad Engines," EPA420-F-02-046, September 2002, <http://www.epa.gov/otaq/largesi.htm>.

full range of engine sizes and our full range of emission standards. Manufacturers will be able to use these specifications to determine what range of engines and emission standards may be tested using a given laboratory or field testing system.

The new content for part 1065 is mostly a combination of content from our most recent updates to other test procedures and from test procedures specified by the International Organization for Standardization (ISO). In some cases, however, there is new content that never existed in previous regulations. This new content addresses very recent issues such as measuring very low concentrations of emissions, using new measurement technology, using portable emissions measurement systems, and performing field testing. A full description of the changes is in the Technical Support Document that accompanies this final rule (this document is available in the docket for this rulemaking).

The new content also reflects a shift in our approach for specifying measurement performance. In the past we specified numerous calibration accuracies for individual measurement instruments, and we specified some verifications for individual components, such as NO₂ to NO converters. We have shifted our focus away from individual instruments and toward the overall performance of complete measurement systems. We did this for several reasons. First, some of what we specified in the past precluded the implementation of new measurement technologies. These new technologies, sometimes called "smart analyzers", combine signals from multiple instruments to compensate for interferences that were previously tolerable at higher emissions levels. These analyzers are useful for detecting low concentrations of emissions. They are also useful for detecting emissions from raw exhaust, which can contain high concentrations of interferences, such as water vapor. This is particularly important for field testing, which will most likely rely upon raw exhaust measurements. Second, this new "systems approach" challenges complete measurement systems with a series of periodic verifications, which we feel will provide a more robust assurance that a measurement system as a whole is operating properly. Third, the systems approach provides a direct pathway to demonstrate that a field test system performs similarly to a laboratory system. This is explained in more detail in item 10 below. Finally, we feel that our systems approach will lead to a more efficient way of assuring measurement performance in the

laboratory and in the field. We believe that this efficiency will stem from less frequent individual instrument calibrations, and higher confidence that a complete measurement system is operating properly.

We have organized the new content relating to measurement systems performance into subparts C and D. We specify measurement instruments in subpart C and calibrations and periodic system verifications in subpart D. These two subparts apply to both laboratory and field testing. We have organized content specific to running a laboratory emissions test in subpart F, and we separated content specific to field testing in subpart J.

In subpart C we specify the types of acceptable instruments, but we only recommend individual instrument performance. We provide these recommendations as guidance for procuring new instruments. We feel that the periodic verifications that we require in subpart D will sufficiently evaluate the individual instruments as part of their respective overall measurement systems. In subpart F we specify performance validations that must be conducted as part of every laboratory test. In subpart J we specify similar performance validations for field testing that must be conducted as part of every field test. We feel that the periodic verifications in subpart D and the validations for every test that we prescribed in subparts F and J ensure that complete measurement systems are operating properly.

In subpart J we also specify an additional overall verification of portable emissions measurement systems (PEMS). This verification is a comprehensive comparison of a PEMS versus a laboratory system, and it may take several days of laboratory time to set up, run, and evaluate. However, we only require that this particular verification must be performed at least once for a given make, model, and configuration of a field test system.

Below is a brief description of the content of each subpart, highlighting some of the new content. We also highlight the more significant changes from the regulatory language that was proposed in our responses to public comments. See the TSD for a more complete listing of the changes and comments to our proposed part 1065.

1. Subpart A: General Provisions

In Subpart A we identify the applicability of part 1065 and describe how procedures other than those in part 1065 may be used to comply with a standard-setting part. In § 1065.10(c)(1), we specify that testing must be

conducted in a way that represents in-use engine operation, such that in the rare case where provisions in part 1065 result in unrepresentative testing, other procedures would be used. We have revised the proposed regulatory language for this requirement to clarify the manufacturers' requirements and the process that we would use to make changes to the test procedures in these cases.

Other information in this subpart includes a description of the conventions we use regarding units and certain measurements and we discuss recordkeeping. We also provide an overview of how emissions and other information are used to determine final emission results. The regulations in § 1065.15 include a figure illustrating the different ways we allow brake-specific emissions to be calculated.

In this same subpart, we describe how continuous and batch sampling may be used to determine total emissions. We also describe the two ways of determining total work that we approve. Note that the figure indicates our default procedures and those procedures that require additional approval before we will allow them.

2. Subpart B: Equipment Specifications

Subpart B first describes engine and dynamometer related systems. Many of these specifications are scaled to an engine's size, speed, torque, exhaust flow rate, etc. We specify the use of in-use engine subsystems such as air intake systems wherever possible in order to best represent in-use operation when an engine is tested in a laboratory.

Subpart B also describes sampling dilution systems. These include specifications for the allowable components, materials, pressures, and temperatures. We describe how to sample crankcase emissions. We also now allow limited use of partial-flow dilution for PM sampling. Subpart B also specifies environmental conditions for PM filter stabilization and weighing. Although these provisions mostly come from our recent update to part 86, subpart N, we also describe some new aspects in detail.

The regulations in § 1065.101 include a diagram illustrating all the available equipment for measuring emissions.

3. Subpart C: Measurement Instruments

Subpart C specifies the requirements for the measurement instruments used for testing. In subpart C we recommend accuracy, repeatability, noise, and response time specifications for individual measurement instruments, but note that we require that overall

measurement systems meet the calibrations and verifications Subpart D.

In some cases we allow new instrument types to be used where we previously did not allow them. For example, we now allow the use of a nonmethane cutter for NMHC measurement, a nondispersive ultraviolet analyzers for NO_x measurement, zirconia sensors for O₂ measurement, various raw-exhaust flow meters for laboratory and field testing measurement, and an ultrasonic flow meter for CVS systems. We had proposed to also allow zirconia sensors for NO_x measurement, but we are not finalizing that option at this time because of manufacturer concerns about drift and sensor response to NO₂ and NH₃.

4. Subpart D: Calibrations and Verifications

Subpart D describes what we mean when we specify accuracy, repeatability and other parameters in subpart C. We are adopting calibrations and verifications that scale with engine size and with the emission standards to which an engine is certified. We are replacing some of what we have called "calibrations" in the past with a series of verifications, such as a linearity verification, which essentially verifies the calibration of an instrument without specifying how the instrument must be initially calibrated. Because new instruments have built-in routines that linearize signals and compensate for various interferences, our existing calibration specifications sometimes conflicted with an instrument manufacturer's instructions. In addition, there are new verifications in subpart D to ensure that the new instruments we specify in subpart C are used correctly. The most significant changes in this subpart from the proposal are that we split the language for continuous gas analyzer verification into two sections (§§ 1065.308 and 1065.309), we provide more detailed descriptions for the FID O₂ interference verifications (§ 1065.362) and NMHC cutter setups (§ 1065.365), and we added § 1065.395 for inertial PM balance verification.

5. Subpart E: Engine Selection, Preparation, and Maintenance

Subpart E describes how to select, prepare, and maintain a test engine. We updated these provisions to include both gasoline and diesel engines. This subpart is relatively short, and we did not make many changes to its proposed content.

6. Subpart F Test Protocols

Subpart F describes 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. We proposed an improved way to map and generate cycles for constant-speed engines that would better represent in-use engine operation. We have modified this language slightly to reflect the different ways in which constant-speed test cycles can be specified. We are adopting a more streamlined set of test cycle and validation criteria. We allow modest corrections for drift of emission analyzer signals within a certain range. We are also adopting a recommended procedure for weighing PM samples. We are not finalizing our proposed procedure to correct for instrument noise because after receiving many comments, we now acknowledge that the procedure is not robust and applicable to all emissions.

7. Subpart G Calculations and Required Information

Subpart G includes all the calculations required in part 1065. We are adopting definitions of statistical quantities such as mean, standard deviation, slope, intercept, t-test, F-test, etc. By defining these quantities mathematically we intend to resolve any potential mis-communication when we discuss these quantities in other subparts. We have written all calculations for calibrations and emission calculations in international units to comply with 15 CFR part 1170, which removes the voluntary aspect of the conversion to international units for federal agencies. Furthermore, Executive Order 12770 (56 FR 35801, July 29, 1991) reinforces this policy by providing Presidential authority and direction for the use of the metric system of measurement by Federal agencies and departments. For our standards that are not completely in international units (*i.e.*, grams/horsepower-hour, grams/mile), we specify in part 1065 the correct use of internationally recognized conversion factors.

We also specify 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, we

declare molar masses for individual elements and compounds. Since these values are independent of all other parameters, they are known to be universally constant.

We have added some detail to the calculations relative to the proposed calculations to make them clearer. We also made changes in response to comments from manufacturers.

8. Subpart H Fuels, Fluids, and Analytical Gases

Subpart H specifies test fuels, lubricating oils and coolants, and analytical gases for testing. We are eliminating the Cetane Index specification for all diesel fuels, because the existing specification for Cetane Number sufficiently determines the cetane levels of diesel test fuels. We are not identifying any detailed specification for service accumulation fuel. Instead, we specify that service accumulation fuel may be a test fuel or a commercially available in-use fuel. This helps ensure that testing is representative of in-use engine operation. We are adding a list of ASTM specifications for in-use fuels as examples of appropriate service accumulation fuels. Compared to the proposed regulatory language, we have clarified that § 1065.10(c)(1) does not require test fuels to be more representative than the specified test fuels. We have added an allowance to use similar test fuels that do not meet all of the specifications, provided they do not compromise the manufacturer's ability to demonstrate compliance. We also now allow the use of ASTM test methods specified in 40 CFR part 80 in lieu of those specified in part 1065. We did this because we more frequently review and update the ASTM methods in 40 CFR part 80 versus those in part 1065.

We proposed purity specifications for analytical gases that scale with the standards that an engine must meet. In the final regulations, we have clarified the requirement to use good engineering judgment to maintain the stability of these gases, and have tightened the purity specification for FID fuel in response to comment.

9. Subpart I Oxygenated Fuels

Subpart I describes special procedures for measuring certain hydrocarbons whenever oxygenated fuels are used. We updated the calculations for these procedures in Subpart G. We have made some revisions to the proposed text to make it consistent the original content of the comparable provisions in 40 CFR part 86. We have also added an allowance to use the California NMOG

test procedures to measure alcohols and carbonyls.

10. Subpart J Field Testing and Portable Emissions Measurement Systems

We are adopting a wide range of changes to subpart J Field Testing, Portable Emissions Measurement Systems (PEMS) must generally meet the same specifications and verifications that laboratory instruments must meet, according to subparts B, C, and D. However, allow some deviations from laboratory specifications. In addition to meeting many of the laboratory system requirements, a PEMS must meet an overall verification relative to a laboratory measurements. This verification involves repeating a duty cycle several times. The duty cycle itself must have several individual field-test intervals (e.g., NTE events) against which a PEMS is compared to the laboratory system. This is a comprehensive verification of a PEMS. We are also adopting a procedure for preparing and conducting a field test, and we are adopting drift corrections for emission analyzers. Given the evolving state of PEMS technology, the field-testing procedures provide for a number of known measurement techniques. We have added provisions and conditions for the use of PEMS in an engine dynamometer laboratory to conduct laboratory testing.

11. Subpart K Definitions, References, and Symbols

In subpart K we are adopting new and revised definitions of terms frequently used in part 1065. For example we have revised our definitions of "brake power", "constant-speed engine", and "aftertreatment" to provide more clarity, and we have added new definitions for things such as "300 series stainless steel", "barometric pressure", and "operator demand". There are new definitions such as "duty cycle" and "test interval" to distinguish the difference between a single interval over which brake-specific emissions are calculated and the complete cycle over which emissions are evaluated in a laboratory. We also present a thorough and consistent set of symbols, abbreviations, and acronyms.

II. Technical Amendments

A. Standard-Setting Changes That Apply to Multiple Categories

1. Definitions

We are revising several definitions that apply over more than one part of our regulations. These changes are designed to harmonize our regulations.

We are changing the definition of Marine engine and Marine vessel to harmonize our approach to amphibious vehicles and clarify other issues. We have treated amphibious vehicles differently whether they had a diesel engine or a spark-ignition engine. We are harmonizing our treatment of amphibious vehicles by consistently treating these as land-based products. We are also adding a provision defining amphibious vehicles are those that are designed primarily for operation on land to clarify that we don't consider hovercraft to be amphibious vehicles. This is consistent with our intent and our analyses in the rulemaking to initially set standards for these products. See the Technical Support Document for additional information related to these definitions. In particular, note that we describe our interpretation of what it means for an engine to be "installed in a marine vessel." Manufacturers have raised several questions related to this issue, especially as it relates to portable engines installed on barges.

2. Penalties

The Clean Air Act specifies maximum penalty amounts corresponding to each prohibited Act. These maximum penalty amounts are periodically adjusted for inflation, based on the provisions of the Debt Collection Improvement Act. These maximum penalties have been updated under 40 CFR part 19. The new maximum penalties are \$32,500 for introducing noncompliant engines into commerce and for manufacturers guilty of tampering, and \$2,750 for non-manufacturers guilty of tampering. In addition, the maximum penalty we can recover using administrative procedures is \$270,000. We are extending these revised penalties into each of our emission-control programs.

3. Deterioration Factors for HC+NO_x Standards

Manufacturers requested that we allow them to calculate a single deterioration factor for engines that are subject to combined HC+NO_x emission standards, rather than calculating separate deterioration factors for each pollutant. We proposed for some engines to clarify that separate deterioration factors were appropriate. In the case of spark-ignition engines, it is especially true that changing carburetor calibrations and other things affecting air-fuel ratios have a direct inverse relationship on HC and NO_x emissions. Where deterioration factors are based on service accumulation through the entire useful life, we believe it is therefore appropriate to base

deterioration factors for spark-ignition engines subject to HC+NO_x emission standards on a single deterioration factor for the combined pollutants. However, if deterioration factors are based on service accumulation over less than the full useful life, we want to avoid the situation where a manufacturer is extrapolating values that presume further improvement in the emission levels of any particular pollutant. For such testing, we therefore specify that separate deterioration factors for each pollutant are appropriate. We are making a related, additional change to clarify that manufacturers must include both low-hour and deteriorated emission measurements for each pollutant, even if the regulations allow for a single deterioration factor for HC+NO_x emissions together. Compression-ignition engines have different wear mechanisms and generally have much longer useful-life values, so it is not clear that this approach to allowing combined deterioration factor is appropriate for these engines. We may further consider applying this change to compression-ignition engines in a future rulemaking.

4. Emission Warranty Related to Extended Service Contracts

Manufacturers objected to our proposal to apply emission-related warranty requirements to components for which a consumer pays for an extended performance warranty. We agree with the point raised by the manufacturers that these service contracts do not necessarily imply that the part should last longer, but rather that the manufacturer (or a third-party provider) has made a calculation regarding the financial and customer service benefits of offering contracts that provide free or reduced-cost coverage for certain components after collecting an up-front charge. We will remove this provision across all engine categories.

5. Exemption for Staged Assembly

Some manufacturers pointed out that they were facing difficulties with production processes that required them to ship nearly completed engines to one or more different facilities for final assembly. Without an exemption, this would violate the applicable prohibited acts, since it involves the introduction into commerce an engine that is not in its certified configuration. To address this concern, we have adopted an exemption that allows manufacturers to assemble engines at multiple facilities, as long as they maintain control of the engines at all times before final assembly. Manufacturers would need to

request approval for such an arrangement. EPA approval may be conditioned on the manufacturer taking reasonable additional steps to ensure that engines end up in their certified configuration. This exemption applies to all the engine categories that are subject to 40 CFR part 1068 (as described in the next section), and to locomotives and marine diesel engines.

B. Nonroad General Compliance Provisions (40 CFR Part 1068)

In addition to the changing test procedures described above, we are making various changes to the general compliance provisions in 40 CFR part 1068, which currently applies to land-based nonroad diesel engines, recreational vehicles, and nonroad spark-ignition engines over 19 kW. We encourage manufacturers of other engines to take note of these changes, since we intend eventually to apply the provisions of part 1068 to all engines subject to EPA emission standards.

There was extensive comment related to the existing provisions in § 1068.260 related to the exemption that allows engine manufacturers to arrange for shipment of aftertreatment devices separately from engines that are intended to rely on aftertreatment. Commenters suggested that we relax some of the provisions that were intended to prevent noncompliance. We continue to believe the provisions adopted in § 1068.260 are appropriate for nonroad engines. The more extensive oversight and control mechanisms are important to ensuring that engines are assembled correctly, since there are so many possible equipment manufacturers and so many different business relationships among companies. Given that we are requiring engine manufacturers to include the cost of aftertreatment components in the price of the engine, we believe it is implicitly clear that the engine manufacturer is responsible for shipping costs, so we have removed the proposal to restate that in the regulations. We are making three other adjustments to the proposal. First, we are removing the requirement for engine manufacturers to arrange for direct shipment of aftertreatment components from the supplier to the equipment manufacturer, since a third party may appropriately be involved to produce system assemblies for integration into equipment. Second, we are adding a paragraph to clarify that integrated manufacturers can meet their auditing requirements by maintaining a database for matching up engines with the appropriate aftertreatment components. Third, we are adopting the staged-assembly exemption, as

described above, which would streamline the production process for integrated engine and equipment manufacturers and address a wide range of production scenarios in addition to separate shipment of aftertreatment components.

The changes to part 1068 include several other minor adjustments and corrections. These changes are described in the Technical Support Document.

C. Land-Based Nonroad Diesel Engines (40 CFR Parts 89 and 1039)

We recently adopted a new tier of emission standards for nonroad diesel engines, codifying these standards in 40 CFR part 1039. This rulemaking led us to make several regulatory changes to the existing tiers of standards for these engines in 40 CFR part 89. In cases where we discovered the need for changes after publishing the proposed rule, but we did not make those changes to part 89 in the final rule out of concern that the public had not had an opportunity for comment. Similarly, we are adopting some adjustments to part 1039, based on information that surfaced late in that rulemaking. See the Technical Support Document for a complete discussion of the rulemaking changes for these engines.

We proposed to add a constraint for averaging, banking, and trading to prevent manufacturers from including credits earned in California or another state if there would ever be a situation in which manufacturers would be making engines with lower emissions to meet more stringent state standards or to earn emission credits under the state program. In the case of nonroad diesel engines, California has adopted our Tier 4 standards without an emission-credit program that does not involve California-specific credit calculations. The proposed provision would therefore have no effect for the foreseeable future. We have decided not to adopt the proposed provision, but expect to pursue this if California adopts more stringent standards or creates a California-specific emission-credit program for these engines (see 40 CFR 1051.701(d)(4)).

D. Marine Diesel Engines (40 CFR Part 94)

We are making several changes to our marine diesel engine program, in 40 CFR part 94. These changes are intended to clarify several aspects of the program. These changes are described in detail in the Technical Support Document. This discussion also elaborates on our interpretation of various provisions. For example, we

describe how to determine which standards apply to amphibious vehicles and hovercraft. We also explain how we interpret the term "marine diesel engine" with respect to auxiliary applications in which it may not be clear whether the engine is "installed" on the vessel or not.

E. Small Nonroad Spark-Ignition Engines (40 CFR Part 90)

We are adding a new § 90.913 to better define the responsibilities for manufacturers choosing to certify their engines below 19 kW to the emission standards for Large SI engines in 40 CFR part 1048. We are also revising § 90.1 to cross-reference provisions in parts 86, 1048, and 1051 that allow highway motorcycle engines and nonroad engines above 19 kW to meet the requirements in part 90 under certain conditions.

We are making several amendments to the test procedures, such as improving calculations for humidity corrections, adding clarifying language, and adjusting reporting provisions. We are also updating current references to test procedures in 40 CFR part 86 by pointing instead to 40 CFR part 1065. In addition, we are making a variety of minor corrections and clarifications. See the Technical Support Document for a discussion of all these changes.

F. Marine Spark-Ignition Engines (40 CFR Part 91)

We are adopting only minimal changes for Marine SI engines in 40 CFR part 91. These changes are primarily to update current references to test procedures in 40 CFR part 86 by pointing instead to 40 CFR part 1065. We are also updating various definitions, as described in Section II.A. Manufacturers raised some issues in the comment period that resulted in further minor corrections and adjustments for the final rule. We also corrected equations for typographical errors.

G. Large Nonroad Spark-Ignition Engines (40 CFR Part 1048)

We adopted emission standards for nonroad spark-ignition engines over 19 kW in November 2002 (67 FR 68242). The regulations in 40 CFR part 1048 were our first attempt to draft emission-control regulations in plain-language format. In the recent final rule for nonroad diesel engines, we went through a similar process, including extensive interaction with a different set of manufacturers. This process led us to adopt regulatory provisions in 40 CFR part 1039 that differ somewhat from those in part 1048. Since the process of meeting standards, applying for

certificates, and complying with other emission-related requirements has a lot of commonality across programs, we have a strong interest in adopting consistent provisions and uniform terminology where possible. As a result, we are making extensive changes in part 1048 to align with the regulations in part 1039.

For discussion of these changes, see the Technical Support Document.

H. Recreational Vehicles (40 CFR Part 1051)

We adopted emission standards for recreational vehicles in November 2002 (67 FR 68242). The regulations in 40 CFR part 1051 were our first attempt to draft emission-control regulations in plain-language format. In the recent final rule for nonroad diesel engines, we went through a similar process, including extensive interaction with a different set of manufacturers. This process led us to adopt regulatory provisions in 40 CFR part 1039 that differ from those in part 1051. Since the process of meeting standards, applying for certificates, and complying with other emission-related requirements has a lot of commonality across programs, we have a strong interest in adopting consistent provisions and uniform terminology as much as possible. As a result, we are making extensive changes in part 1051 to align with the regulations in part 1039. These provisions are all discussed in more detail in the Technical Support Document.

We proposed to add a constraint for averaging, banking, and trading to prevent manufacturers from including credits earned in California or another state if there would ever be a situation in which manufacturers would be making engines with lower emissions to meet more stringent state standards or to earn emission credits under the state program. We are adopting this provision in the final rule to require exclusion of California sales from federal ABT calculations if a company is subject to more stringent state standards, or if a company generates or uses emissions credits to show that it meets California standards. This provision is necessary to prevent double-counting of emission credits. In the case of recreational vehicles, California adopted emission standards that predate the EPA rulemaking. The California emission standards are based on a similar technology assessment, but are in a different form. For example, California specifies different numerical standards that apply to hydrocarbon emissions only, while EPA's standards apply to HC+NO_x emissions. Given the difficulty

in comparing these two sets of standards, we are making the judgment that, for the purposes of ABT calculations, California's current exhaust emission standards are equivalent to the EPA standards. Under the current requirements, companies would therefore exclude their California products from federal ABT calculations only if those products generate or use emission credits under the California program. If California adopts new standards for recreational vehicles, we will again make a judgment regarding the relative stringency of the two programs for ABT purposes.

I. Locomotives (40 CFR Part 92)

We proposed a variety of changes for our locomotive regulations in 40 CFR part 92 to correct various technical references and typographical errors. We are finalizing those changes. We are also finalizing other changes in response to comments. The large majority of the comments received regarding locomotives came from the Engine Manufacturers Association (EMA). See the Technical Support Document for additional information. In addition to the changes being finalized, we are also publishing the following clarifications in response to public comments.

EMA asked that remanufacturers be allowed to limit the practice of not replacing every power assembly with remanufactured power assemblies at the time of engine remanufacture. Remanufacturers already can limit this practice just as original manufacturers limit the parts that are used in their locomotives. In fact, remanufacturers would be expected to limit this practice to only those cases in which they can be certain that the previously used power assembly will not cause an engine to exceed an emission standard. By allowing an engine to be remanufactured under its certificate, the remanufacturer is assuming responsibility for the emission performance of that remanufactured engine. We define remanufactured locomotives to be "new", and the certificate holder has the same responsibilities as the manufacturer of a freshly manufactured locomotive. The remanufacturer is thus expected to maintain some degree of control over the remanufacturing process to ensure that the remanufactured locomotive. For example, the remanufacturer might limit the certificate to only those engines remanufactured by installers that has been properly trained. It must be noted, however, that while certificate holders have responsibility for the emission performance of locomotives remanufactured under their certificates,

40 CFR 92.209 also assigns responsibility to others involved in the remanufacturing process.

EMA asked that EPA not use the term "offer for sale" in the prohibited acts (40 CFR 92.1103). They are concerned that this would be problematic because locomotives are generally manufactured only after a sales agreement has been completed. The manufacturer offers to manufacture and sell a locomotive at least several months before it actually has obtained a certificate of conformity for the locomotive. Given this confusion, we are clarifying that EPA does not interpret the phrase "offer to sell" to apply to products that have not yet been manufactured (or remanufactured, as applicable).

EMA asked that EPA exempt replacement engines as we do in other nonroad engine programs. However, such exemption is not necessary with locomotives. Long after the manufacturer has stopped manufacturing brand new engines, that manufacturer (along with other remanufacturers) will be certifying remanufacturing systems. Thus, we believe that the cases in which a brand new engine will be needed will be rare. Nevertheless, we are finalizing a regulatory change in 40 CFR 92.204 to explicitly allow manufacturers to include freshly manufactured locomotive engines in the same engine family as remanufactured locomotives. We believe that this will resolve the issue, since manufacturers would merely need to certify a remanufacturing system for each engine it manufactures.

Finally, we are adopting a provision that will allow manufacturers to certify locomotives that have total power less than 750 kW. This provision will allow manufacturers of hybrid locomotives to certify under 40 CFR part 92. EMA commented that if we do this, we should specify test procedures and duty-cycle weightings for such hybrids. We agree that this would be appropriate in the long term, but do not believe that this rulemaking would be the proper place for such provisions. Instead, we expect to rely on the testing and calculation flexibility of 40 CFR 92.207 and 92.132(e) to certify hybrids on a case-by-case basis.

J. Highway Engines and Vehicles (40 CFR Parts 85 and 86)

Most of the changes we are adopting in parts 85 and 86 apply uniquely to different types of vehicles or engines. We are, however, adopting changes to the program for Independent Commercial Importers that affect all the different applications. The Technical

Support Document describes how we are limiting the importation of products where the applicable standards are based on the year of original production. We continue to allow unlimited importation of products where the applicable standards are based on the year of modification.

The following paragraphs provide an overview of the changes for each type of engine or vehicle. See the Technical Support Document for a more detailed discussion of these changes.

1. Light-Duty Vehicles

For light-duty vehicles, we are adopting a variety of clarifications and corrections, especially related to test procedures.

2. Highway Motorcycles

For highway motorcycles, we are correcting fuel specifications, clarifying the requirements related to engine labels, fixing the provisions related to using nonroad certificates for highway motorcycles below 50 cc (consistent with similar changes in other programs), and making a variety of other minor corrections.

3. Heavy-Duty Highway Engines

As discussed above, we are adopting the lab-testing and field-testing specifications in part 1065 for heavy-duty highway engines, including both diesel and Otto-cycle engines. These procedures replace those currently published in 40 CFR part 86, subpart N.

We proposed to complete the migration of heavy-duty highway test procedures to part 1065 by the 2008 model year. Manufacturers pointed out that it would be most appropriate to move this date back to 2010 to correspond with the implementation of the new emission standards in that year. We agree that it would be appropriate to make this transition over several model years to fully migrate to part 1065, no later than model year 2010.

Manufacturers do not need to conduct new testing if they are able to use carryover data, but any new testing for 2010 and later model years must be done using the part 1065 procedures. Migrating heavy-duty highway engines to the part 1065 procedures allows us to include all the testing-related improvements in the HD2007 rule, including those we have adopted through guidance.² In addition, part 1065 incorporates revisions based on updated procedures for sampling low concentrations of PM.

Another question was raised about how EPA should conduct testing during this transition stage. We intend to incorporate near-term upgrades that would make our testing facilities capable of meeting the requirements in part 1065. Most of the testing methods in part 1065 result in better measurements and should therefore not pose problems, even if manufacturers based their certification on the test procedures specified in part 86. Three exceptions to this include the steps for mapping an engine, denormalizing test cycles, and evaluating cycle-validation criteria. Changing the specified procedure for these three items would involve different engine operation that could cause an engine to have higher or lower emission levels. For all other parameters, the new procedures would be equivalent, or would give more accurate or more precise results. We are therefore specifying that we will follow the manufacturer's procedures for these three items related to engine operation, but will otherwise consider our tests valid if we use procedures from either part 86 or part 1065, regardless of the procedures used by the manufacturer.

EMA responded to our request for comment related to a provision that would allow engine manufacturers to ship certified engines without applicable aftertreatment components, while providing for separate shipment of those components to equipment manufacturers. EMA commented that such a provision would be appropriate, and that it should be set up to require either that the component cost be included in the price of the engine, or auditing requirements for engine manufacturers, but not both, since the equipment manufacturer has enough incentive to make the final installation without additional oversight. We agree with manufacturers that these more flexible arrangements are appropriate for the prevailing business relationships for heavy-duty highway engines. There are far fewer manufacturers producing heavy-duty trucks and buses than nonroad equipment. Engine manufacturers are therefore expected to be able to maintain control with an approach that requires them either to include the price of the aftertreatment in the engine price or to conduct periodic audits of vehicle manufacturers, but not both. In the periodic audit we require manufacturers to confirm the number of aftertreatment component shipped is sufficient for the applicable vehicle production. This confirmation is intended to show that the vehicle manufacturers have purchasing and manufacturing processes in place to

ensure that they are ordering and receiving enough aftertreatment components and that each vehicle is equipped with the correct components. To reduce the risk of noncompliance where the engine and aftertreatment components are not priced together, we require that engine manufacturers have a written confirmation that the vehicle manufacturer has ordered the appropriate aftertreatment before shipping engines without the otherwise required aftertreatment components.

We are adopting a test-related provision that was described in the proposal. We requested comment on approaches to address the concern that some engines experience significant overspeed excursions when following the proposed approach to defining maximum test speed and denormalizing duty cycles. As described in the Technical Support Document, we are finalizing a provision to define maximum test speed at the highest speed point at which engines are expected to operate in use.

III. Public Participation

In the proposed rule, we invited public participation in a public hearing, a public workshop, and a comment period for written comments. No one responded to indicate interest in the public hearing, but we held the public workshop to talk through a wide range of issues. We also received written comments from about 20 organizations, mostly representing manufacturers. Several principle issues raised by commenters are described in the individual sections above. The Final Technical Support Document addresses the full range of comments.

IV. Statutory and Executive Order Reviews

A. Executive Order 12866: Regulatory Planning and Review

Under Executive Order 12866 the Agency must determine whether the regulatory action is "significant" and therefore subject to review by the Office of Management and Budget (OMB) and the requirements of this Executive Order. The Executive Order defines a "significant regulatory action" as any regulatory action that is likely to result in a rule that may:

- Have an annual effect on the economy of \$100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, Local, or Tribal governments or communities;

² "Guidance Regarding Test Procedures for Heavy-Duty On-Highway and Non-Road Engines," December 3, 2002.

- Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;
- Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs, or the rights and obligations of recipients thereof; or
- Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the Executive Order.

The Office of Management and Budget reviewed this rule under the provisions of Executive Order 12866. Any new costs associated with this rule will be minimal. In addition, some of the changes will substantially reduce the burden associated with testing, as described in the Regulatory Support Document.

B. Paperwork Reduction Act

This rule does not include any new collection requirements, as it merely revises the measurement methods and makes a variety of technical amendments to existing programs.

C. Regulatory Flexibility Act

EPA has determined that it is not necessary to prepare a regulatory flexibility analysis in connection with this final rule.

For purposes of assessing the impacts of this final rule on small entities, a small entity is defined as: (1) A small business as defined in the underlying rulemakings for each individual category of engines; (2) a small governmental jurisdiction that is a government of a city, county, town, school district or special district with a population of less than 50,000; and (3) a small organization that is any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.

After considering the economic impacts of this final rule on small entities, EPA has concluded that this action will not have a significant economic impact on a substantial number of small entities. The small entities directly regulated by this rule are small businesses that produce nonroad engines. We have determined that no small entities will be negatively affected as a result of this rule. This rule merely revises the measurement methods and makes a variety of technical amendments to existing programs. This rule, therefore, does not require a regulatory flexibility analysis.

Although this rule will not have a significant economic impact on a substantial number of small entities, EPA nonetheless has tried to reduce the impact of this rule on small entities. For example, most of the changes clarify

existing requirements, which will reduce the time needed to comply, and added flexibility, which may allow for a simpler effort to comply.

D. Unfunded Mandates Reform Act

Title II of the Unfunded Mandates Reform Act of 1995 (UMRA), Public Law. 104-4, establishes requirements for federal agencies to assess the effects of their regulatory actions on state, local, and tribal governments and the private sector. Under section 202 of the UMRA, EPA generally must prepare a written statement, including a cost-benefit analysis, for proposed and final rules with "federal mandates" that may result in expenditures to state, local, and tribal governments, in the aggregate, or to the private sector, of \$100 million or more in any one year. Before promulgating an EPA rule for which a written statement is needed, section 205 of the UMRA generally requires EPA to identify and consider a reasonable number of regulatory alternatives and adopt the least costly, most cost-effective, or least burdensome alternative that achieves the objectives of the rule. The provisions of section 205 do not apply when they are inconsistent with applicable law. Moreover, section 205 allows EPA to adopt an alternative other than the least costly, most cost-effective, or least burdensome alternative if the Administrator publishes with the final rule an explanation of why that alternative was not adopted.

Before EPA establishes any regulatory requirements that may significantly or uniquely affect small governments, including tribal governments, it must have developed under section 203 of the UMRA a small government agency plan. The plan must provide for notifying potentially affected small governments, enabling officials of affected small governments to have meaningful and timely input in the development of EPA regulatory proposals with significant federal intergovernmental mandates, and informing, educating, and advising small governments on compliance with the regulatory requirements.

This rule contains no federal mandates for state, local, or tribal governments as defined by the provisions of Title II of the UMRA. The rule imposes no enforceable duties on any of these governmental entities. Nothing in the rule significantly or uniquely affects small governments. We have determined that this rule contains no federal mandates that may result in expenditures of more than \$100 million to the private sector in any single year. This rule merely revises the measurement methods and makes a

variety of technical amendments to existing programs. The requirements of UMRA therefore do not apply to this action.

E. Executive Order 13132: Federalism

Executive Order 13132, entitled "Federalism" (64 FR 43255, August 10, 1999), requires EPA to develop an accountable process to ensure "meaningful and timely input by State and local officials in the development of regulatory policies that have federalism implications." "Policies that have federalism implications" is defined in the Executive Order to include regulations that have "substantial direct effects on the states, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government."

Under Section 6 of Executive Order 13132, EPA may not issue a regulation that has federalism implications, that imposes substantial direct compliance costs, and that is not required by statute, unless the Federal government provides the funds necessary to pay the direct compliance costs incurred by State and local governments, or EPA consults with State and local officials early in the process of developing the proposed regulation. EPA also may not issue a regulation that has federalism implications and that preempts State law, unless the Agency consults with State and local officials early in the process of developing the proposed regulation.

Section 4 of the Executive Order contains additional requirements for rules that preempt State or local law, even if those rules do not have federalism implications (*i.e.*, the rules will not have substantial direct effects on the States, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government). Those requirements include providing all affected State and local officials notice and an opportunity for appropriate participation in the development of the regulation. If the preemption is not based on express or implied statutory authority, EPA also must consult, to the extent practicable, with appropriate State and local officials regarding the conflict between State law and Federally protected interests within the agency's area of regulatory responsibility.

This rule does not have federalism implications. It will not have substantial direct effects on the States, on the relationship between the national government and the States, or on the

distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132.

F. Executive Order 13175: Consultation and Coordination With Indian Tribal Governments

Executive Order 13175, entitled “Consultation and Coordination with Indian Tribal Governments” (65 FR 67249, November 6, 2000), requires EPA to develop an accountable process to ensure “meaningful and timely input by tribal officials in the development of regulatory policies that have tribal implications.”

This rule does not have tribal implications as specified in Executive Order 13175. This rule will be implemented at the Federal level and impose compliance costs only on engine manufacturers and ship builders. Tribal governments will be affected only to the extent they purchase and use equipment with regulated engines. Thus, Executive Order 13175 does not apply to this rule.

G. Executive Order 13045: Protection of Children From Environmental Health and Safety Risks

Executive Order 13045, “Protection of Children from Environmental Health Risks and Safety Risks” (62 FR 19885, April 23, 1997) applies to any rule that (1) is determined to be “economically significant” as defined under Executive Order 12866, and (2) concerns an environmental health or safety risk that EPA has reason to believe may have a disproportionate effect on children. If the regulatory action meets both criteria, Section 5–501 of the Order directs the Agency to evaluate the environmental health or safety effects of the planned rule on children, and explain why the planned regulation is preferable to other potentially effective and reasonably feasible alternatives considered by the Agency.

This rule is not subject to the Executive Order because it does not involve decisions on environmental health or safety risks that may disproportionately affect children.

H. Executive Order 13211: Actions That Significantly Affect Energy Supply, Distribution, or Use

This rule is not a “significant energy action” as defined in Executive Order 13211, “Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use” (66 FR 28355 (May 22, 2001)), because it is not likely to have a significant effect on the supply, distribution, or use of energy.

I. National Technology Transfer Advancement Act

Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (“NTTAA”), Public Law 104–113, section 12(d) (15 U.S.C. 272 note) directs EPA to use voluntary consensus standards in its regulatory activities unless doing so would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards (e.g., materials specifications, test methods, sampling procedures, and business practices) that are developed or adopted by voluntary consensus standards bodies. NTTAA directs EPA to provide Congress, through OMB, explanations when the Agency decides not to use available and applicable voluntary consensus standards.

This rule involves technical standards. The International Organization for Standardization (ISO) has a voluntary consensus standard that can be used to test engines. However, the test procedures in this final rule reflect a level of development that goes substantially beyond the ISO or other published procedures. The procedures incorporate new specifications for transient emission measurements, measuring PM emissions at very low levels, measuring emissions using field-testing procedures. The procedures we adopt in this rule will form the working template for ISO and national and state governments to define test procedures for measuring engine emissions. As such, we have worked extensively with the representatives of other governments, testing organizations, and the affected industries.

J. Congressional Review Act

The Congressional Review Act, 5 U.S.C. 801 *et seq.*, as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. EPA will submit a report containing this rule and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of the rule in the **Federal Register**. This rule is not a “major rule” as defined by 5 U.S.C. 804(2).

V. Statutory Provisions and Legal Authority

Statutory authority for the engine controls adopted in this rule is in 42 U.S.C. 7401–7671q.

List of Subjects

40 CFR Part 85

Confidential business information, Imports, Labeling, Motor vehicle pollution, Reporting and recordkeeping requirements, Research, Warranties.

40 CFR Part 86

Administrative practice and procedure, Confidential business information, Labeling, Motor vehicle pollution, Reporting and recordkeeping requirements.

40 CFR Part 89

Environmental protection, Administrative practice and procedure, Confidential business information, Imports, Labeling, Motor vehicle pollution, Reporting and recordkeeping requirements, Research, Vessels, Warranties.

40 CFR Part 90

Environmental protection, Administrative practice and procedure, Air pollution control, Confidential business information, Imports, Labeling, Reporting and recordkeeping requirements, Research, Warranties.

40 CFR Part 91

Environmental protection, Administrative practice and procedure, Air pollution control, Confidential business information, Imports, Labeling, Penalties, Reporting and recordkeeping requirements, Warranties

40 CFR Part 92

Administrative practice and procedure, Air pollution control, Confidential business information, Imports, Labeling, Railroads, Reporting and recordkeeping requirements, Warranties

40 CFR Part 94

Environmental protection, Administrative practice and procedure, Air pollution control, Confidential business information, Imports, Penalties, Reporting and recordkeeping requirements, Vessels, Warranties.

40 CFR Parts 1039, 1048, and 1051

Environmental protection, Administrative practice and procedure, Air pollution control, Confidential business information, Imports, Labeling, Penalties, Reporting and recordkeeping requirements, Warranties.

40 CFR Part 1065

Environmental protection, Administrative practice and procedure, Incorporation by reference, Reporting and recordkeeping requirements, Research.

40 CFR Part 1068

Environmental protection, Administrative practice and procedure, Confidential business information, Imports, Motor vehicle pollution, Penalties, Reporting and recordkeeping requirements, Warranties.

Dated: June 3, 2005.

Stephen L. Johnson, Administrator.

For the reasons set out in the preamble, title 40, chapter I of the Code of Federal Regulations is amended as follows:

PART 85—CONTROL OF AIR POLLUTION FROM MOBILE SOURCES

1. The authority citation for part 85 continues to read as follows:

Authority: 42 U.S.C. 7401–7671q.

2. Section 85.1502 is amended by revising paragraph (a)(14) to read as follows:

§ 85.1502 Definitions.

(a) * * *

(14) United States. United States includes the States, the District of Columbia, the Commonwealth of Puerto Rico, the Commonwealth of the Northern Mariana Islands, Guam, American Samoa, and the U.S. Virgin Islands.

* * * * *

3. Section 85.1503 is amended by revising the section heading and adding paragraphs (c), (d), and (e) to read as follows:

§ 85.1503 General requirements for importation of nonconforming vehicles and engines.

* * * * *

(c) In any one certificate year (e.g., the current model year), an ICI may finally admit no more than the following numbers of nonconforming vehicles or engines into the United States under the provisions of § 85.1505 and § 85.1509, except as allowed by paragraph (e) of this section:

- (1) 5 heavy-duty engines.
(2) A total of 50 light-duty vehicles, light-duty trucks, and medium-duty passenger vehicles.
(3) 50 highway motorcycles.

(d) For ICIs owned by a parent company, the importation limits in paragraph (c) of this section include importation by the parent company and all its subsidiaries.

(e) An ICI may exceed the limits outlined paragraphs (c) and (d) of this section, provided that any vehicles/engines in excess of the limits meet the emission standards and other requirements outlined in the provisions of § 85.1515 for the model year in which the motor vehicle/engine is modified (instead of the emission standards and other requirements applicable for the OP year of the vehicle/engine).

4. Section 85.1513 is amended by revising paragraph (d) to read as follows:

§ 85.1513 Prohibited acts; penalties.

* * * * *

(d) Any importer who violates section 203(a)(1) of the Act is subject to a civil penalty under section 205 of the Act of not more than \$32,500 for each vehicle or engine subject to the violation. In addition to the penalty provided in the Act, where applicable, under the exemption provisions of § 85.1511(b), or under § 85.1512, any person or entity who fails to deliver such vehicle or engine to the U.S. Customs Service is liable for liquidated damages in the amount of the bond required by applicable Customs laws and regulations.

* * * * *

5. Section 85.1515 is amended by revising paragraphs (c)(1) and (c)(2) to read as follows:

§ 85.1515 Emission standards and test procedures applicable to imported nonconforming motor vehicles and motor vehicle engines.

* * * * *

(c)(1) Nonconforming motor vehicles or motor vehicle engines of 1994 OP model year and later conditionally imported pursuant to § 85.1505 or § 85.1509 shall meet all of the emission standards specified in 40 CFR part 86 for the OP year of the vehicle or motor vehicle engine. At the option of the ICI, the nonconforming motor vehicle may comply with the emissions standards in 40 CFR 86.1708–99 or 86.1709–99, as applicable to a light-duty vehicle or light light-duty truck, in lieu of the otherwise applicable emissions standards specified in 40 CFR part 86 for the OP year of the vehicle. The provisions of 40 CFR 86.1710–99 do not apply to imported nonconforming motor vehicles. The useful life specified in 40 CFR part 86 for the OP year of the motor vehicle or motor vehicle engine is applicable where useful life is not designated in this subpart.

(2)(i) Nonconforming light-duty vehicles and light light-duty trucks(LDV/LLDTs) originally manufactured in OP years 2004, 2005 or 2006 must meet the FTP exhaust

emission standards of bin 9 in Tables S04–1 and S04–2 in 40 CFR 86.1811–04 and the evaporative emission standards for light-duty vehicles and light light-duty trucks specified in 40 CFR 86.1811–01(e)(5).

(ii) Nonconforming LDT3s and LDT4s (HLDTs) and medium-duty passenger vehicles (MDPVs) originally manufactured in OP years 2004 through 2006 must meet the FTP exhaust emission standards of bin 10 in Tables S04–1 and S04–2 in 40 CFR 86.1811–04 and the applicable evaporative emission standards specified in 40 CFR 86.1811–04(e)(5). For 2004 OP year HLDTs and MDPVs where modifications commence on the first vehicle of a test group before December 21, 2003, this requirement does not apply to the 2004 OP year. ICIs opting to bring all of their 2004 OP year HLDTs and MDPVs into compliance with the exhaust emission standards of bin 10 in Tables S04–1 and S04–2 in 40 CFR 86.1811–04, may use the optional higher NMOG values for their 2004–2006 OP year LDT2s and 2004–2008 LDT4s.

(iii) Nonconforming LDT3s and LDT4s (HLDTs) and medium-duty passenger vehicles (MDPVs) originally manufactured in OP years 2007 and 2008 must meet the FTP exhaust emission standards of bin 8 in Tables S04–1 and S04–2 in 40 CFR 86.1811–04 and the applicable evaporative standards specified in 40 CFR 86.1811–04(e)(5).

(iv) Nonconforming LDV/LDTs originally manufactured in OP years 2007 and later and nonconforming HLDTs and MDPVs originally manufactured in OP years 2009 and later must meet the FTP exhaust emission standards of bin 5 in Tables S04–1 and S04–2 in 40 CFR 86.1811–04, and the evaporative standards specified in 40 CFR 86.1811(e)(1) through (e)(4).

(v) ICIs are exempt from the Tier 2 and the interim non-Tier2 phase-in intermediate percentage requirements for exhaust, evaporative, and refueling emissions described in 40 CFR 86.1811–04.

(vi) In cases where multiple standards exist in a given model year in 40 CFR part 86 due to phase-in requirements of new standards, the applicable standards for motor vehicle engines required to be certified to engine-based standards are the least stringent standards applicable to the engine type for the OP year.

* * * * *

6. Section 85.1713 is added to subpart R to read as follows:

§ 85.1713 Delegated-assembly exemption.

The provisions of this section apply for manufacturers of heavy-duty

highway engines. (a) Shipping an engine separately from an aftertreatment component that you have specified as part of its certified configuration will not be a violation of the prohibitions in Clean Air Act section 203 (42 U.S.C. 7522), if you follow the provisions of paragraph (b) or (c) of this section.

(b) If you include the cost of all aftertreatment components in the cost of the engine and ship the aftertreatment components directly to the vehicle manufacturer, or arrange for separate shipment by the component manufacturer to the vehicle manufacturer, you must meet all the following conditions:

(1) Apply for and receive a certificate of conformity for the engine and its emission-control system before shipment.

(2) Provide installation instructions in enough detail to ensure that the engine will be in its certified configuration if someone follows these instructions.

(3) Have a contractual agreement with a vehicle manufacturer obligating the vehicle manufacturer to complete the final assembly of the engine so it is in its certified configuration when installed in the vehicle. This agreement must also obligate the vehicle manufacturer to provide the affidavits required under paragraph (b)(4) of this section.

(4) Take appropriate additional steps to ensure that all engines will be in their certified configuration when installed by the vehicle manufacturer. At a minimum, you must obtain annual affidavits from every vehicle manufacturer to whom you sell engines under this section. Include engines that you sell through distributors or dealers. The affidavits must list the part numbers of the aftertreatment devices that vehicle manufacturers install on each engine they purchase from you under this section.

(5) Describe in your application for certification how you plan to use the provisions of this section and any steps you plan to take under paragraph (b)(3) of this section.

(6) Keep records to document how many engines you produce under this exemption. Also, keep records to document your contractual agreements under paragraph (b)(3) of this section. Keep all these records for five years after the end of the model year and make them available to us upon request.

(7) Make sure the engine has the emission control information label we require under the standard-setting part.

(c) If you do not include the cost of all aftertreatment components in the cost of the engine, you must meet all the conditions described in paragraphs

(b)(1) through (7) of this section, with the following additional provisions:

(1) The contractual agreement described in paragraph (b)(3) of this section must include a commitment that the vehicle manufacturer will do the following things:

(i) Separately purchase the aftertreatment components you have specified in your application for certification.

(ii) Perform audits as described in paragraph (c)(3) of this section.

(2) Before you ship an engine under the provisions of this paragraph (c), you must have written confirmation that the vehicle manufacturer has ordered the appropriate aftertreatment components.

(3) You must audit vehicle manufacturers as follows:

(i) If you sell engines to 16 or more vehicle manufacturers under the provisions of this section, you must annually audit four vehicle manufacturers to whom you sell engines under this section. To select individual vehicle manufacturers, divide all the affected vehicle manufacturers into quartiles based on the number of engines they buy from you; select a single vehicle manufacturer from each quartile each model year. Vary the vehicle manufacturers you audit from year to year, though you may repeat an audit in a later model year if you find or suspect that a particular vehicle manufacturer is not properly installing aftertreatment devices.

(ii) If you sell engines to fewer than 16 vehicle manufacturers under the provisions of this section, set up a plan to audit each vehicle manufacturer on average once every four model years.

(iii) Starting with the 2014 model year, if you sell engines to fewer than 40 vehicle manufacturers under the provisions of this section, you may ask us to approve a reduced auditing rate. We may approve an alternate plan that involves auditing each vehicle manufacturer on average once every ten model years, as long as you show that you have met the auditing requirements in preceding years without finding noncompliance or improper procedures.

(iv) Audits must involve the assembling companies' facilities, procedures, and production records to monitor their compliance with your instructions, must include investigation of some assembled engines, and must confirm that the number of aftertreatment devices shipped were sufficient for the number of engines produced. Where a vehicle manufacturer is not located in the United States, you may conduct the audit at a distribution or port facility in the United States.

(v) If you produce engines and use them to produce vehicles under the provisions of this section, you must take steps to ensure that your facilities, procedures, and production records are set up to ensure compliance with the provisions of this section, but you may meet your auditing responsibilities under this paragraph (c)(3) of this section by maintaining a database showing how you pair aftertreatment components with the appropriate engines.

(vi) You must keep records of these audits for five years after the end of the model year and provide a report to us describing any uninstalled or improperly installed aftertreatment components. Send us these reports within 90 days of the audit, except as specified in paragraph (f) of this section.

(4) In your application for certification, give a detailed plan for auditing vehicle manufacturers, as described in paragraph (c)(3) of this section.

(d) An engine you produce under this section becomes new when it is fully assembled, except for aftertreatment devices, for the first time. Use this date to determine the engine's model year.

(e) Once the vehicle manufacturer takes possession of an engine exempted under this section, the exemption expires and the engine is subject to all the prohibitions in Clean Air Act section 203 (42 U.S.C. 7522).

(f) You must notify us within 15 days if you find from an audit or another source that a vehicle manufacturer has failed to meet its obligations under this section.

(g) We may suspend, revoke, or void an exemption under this section, as follows:

(1) We may suspend or revoke your exemption for the entire engine family if we determine that any of the engines are not in their certified configuration after installation in the vehicle, or if you fail to comply with the requirements of this section. If we suspend or revoke the exemption for any of your engine families under this paragraph (g), this exemption will not apply for future certificates unless you demonstrate that the factors causing the nonconformity do not apply to the other engine families. We may suspend or revoke the exemption for shipments to a single facility where final assembly occurs.

(2) We may void your exemption for the entire engine family if you intentionally submit false or incomplete information or fail to keep and provide to EPA the records required by this section.

(h) You are liable for the in-use compliance of any engine that is exempt under this section.

(i) It is a violation of the Act for any person to complete assembly of the exempted engine without complying fully with the installation instructions.

(j) [Reserved]

(k) You may ask us to provide a temporary exemption to allow you to complete production of your engines at different facilities, as long as you maintain control of the engines until they are in their certified configuration. We may require you to take specific steps to ensure that such engines are in their certified configuration before reaching the ultimate purchaser. You may request an exemption under this paragraph (k) in your application for certification, or in a separate submission.

■ 7. Section 85.2111 is amended by revising the introductory text and adding paragraph (d) to read as follows:

§ 85.2111 Warranty enforcement.

The following acts are prohibited and may subject a manufacturer to up to a \$32,500 civil penalty for each offense, except as noted in paragraph (d) of this section:

* * * * *

(d) The maximum penalty value listed in this section is shown for calendar year 2004. Maximum penalty limits for later years may be adjusted based on the Consumer Price Index. The specific regulatory provisions for changing the maximum penalties, published in 40 CFR part 19, reference the applicable U.S. Code citation on which the prohibited action is based.

■ 8. Appendix II to subpart V is amended by revising section 1 of part A to read as follows:

Appendix II to Subpart V of Part 85—Arbitration Rules

Part A—Pre-Hearing

Section 1: Initiation of Arbitration

Either party may commence an arbitration under these rules by filing at any regional office of the American Arbitration Association (the AAA) three copies of a written submission to arbitrate under these rules, signed by either party. It shall contain a statement of the matter in dispute, the amount of money involved, the remedy sought, and the hearing locale requested, together with the appropriate administrative fee as provided in the Administrative Fee Schedule of the AAA in effect at the time the arbitration is filed. The filing party shall notify the MOD Director in writing within 14 days of when it files for arbitration and provide the MOD Director with the date of receipt of the bill by the part manufacturer.

Unless the AAA in its discretion determines otherwise and no party disagrees, the Expedited Procedures (as described in Part E of these Rules) shall be applied in any case where no disclosed claim or counterclaim exceeds \$32,500, exclusive of interest and arbitration costs. Parties may also agree to the Expedited Procedures in cases involving claims in excess of \$32,500.

All other cases, including those involving claims not in excess of \$32,500 where either party so desires, shall be administered in accordance with Parts A through D of these Rules.

* * * * *

PART 86—CONTROL OF EMISSIONS FROM NEW AND IN-USE HIGHWAY VEHICLES AND ENGINES

■ 9. The authority citation for part 86 continues to read as follows:

Authority: 42 U.S.C. 7401-7671q.

■ 10. Section 86.004-16 is amended by revising paragraph (d) to read as follows:

§ 86.004-16 Prohibition of defeat devices.

* * * * *

(d) For vehicle and engine designs designated by the Administrator to be investigated for possible defeat devices:

(1) *General.* The manufacturer must show to the satisfaction of the Administrator that the vehicle or engine design does not incorporate strategies that reduce emission control effectiveness exhibited during the applicable Federal emissions test procedures when the vehicle or engine is operated under conditions which may reasonably be expected to be encountered in normal operation and use, unless one of the specific exceptions set forth in the definition of "defeat device" in § 86.004-2 has been met.

(2) *Information submissions required.* The manufacturer will provide an explanation containing detailed information (including information which the Administrator may request to be submitted) regarding test programs, engineering evaluations, design specifications, calibrations, on-board computer algorithms, and design strategies incorporated for operation both during and outside of the applicable Federal emission test procedure.

■ 11. Section 86.004-26 is amended by revising paragraph (c)(4) to read as follows:

§ 86.004-26 Mileage and service accumulation; emission measurements.

* * * * *

(c) * * *

(4) The manufacturer shall determine, for each engine family, the number of hours at which the engine system

combination is stabilized for emission-data testing. The manufacturer shall maintain, and provide to the Administrator if requested, a record of the rationale used in making this determination. The manufacturer may elect to accumulate 125 hours on each test engine within an engine family without making a determination. Any engine used to represent emission-data engine selections under § 86.094-24(b)(2) shall be equipped with an engine system combination that has accumulated at least the number of hours determined under this paragraph. Complete exhaust emission tests shall be conducted for each emission-data engine selection under § 86.094-24(b)(2). Evaporative emission controls must be connected, as described in 40 CFR part 1065, subpart F. The Administrator may determine under § 86.094-24(f) that no testing is required.

* * * * *

■ 12. Section 86.007-11 is amended by revising paragraphs (a)(2) and (a)(3)(i) and adding paragraph (g)(6) to read as follows:

§ 86.007-11 Emission standards and supplemental requirements for 2007 and later model year heavy-duty engines and vehicles.

* * * * *

(a) * * *

(2) The standards set forth in paragraph (a)(1) of this section refer to the exhaust emitted over the duty cycle specified in paragraphs (a)(2)(i) through (iii) of this section, where exhaust emissions are measured and calculated as specified in paragraphs (a)(2)(iv) and (v) of this section in accordance with the procedures set forth in 40 CFR part 1065, except as noted in § 86.007-23(c)(2):

(i) Perform the test interval set forth in paragraph (f)(2) of Appendix I of this part with a cold-start according to 40 CFR part 1065, subpart F. This is the cold-start test interval.

(ii) Shut down the engine after completing the test interval and allow 20 minutes to elapse. This is the hot-soak.

(iii) Repeat the test interval. This is the hot-start test interval.

(iv) Calculate the total emission mass of each constituent, m, and the total work, W, over each test interval according to 40 CFR 1065.650.

(v) Determine your engine's brake-specific emissions using the following calculation, which weights the emissions from the cold-start and hot-start test intervals:

$$\text{brake-specific emissions} = \frac{m_{\text{cold-start}} + 6\Box m_{\text{hot-start}}}{W_{\text{cold-start}} + 6\Box W_{\text{hot-start}}}$$

(3) * * *

(i) Exhaust emissions, as determined under § 86.1360–2007(b) pertaining to the supplemental emission test cycle, for each regulated pollutant shall not exceed 1.0 times the applicable emission standards or FELs specified in paragraph (a)(1) of this section.

* * * * *

(g) * * *

(6) Manufacturers may determine the number of engines and vehicles that are required to certify to the NO_x standard in this section (including the phase-out engines certified to the NO_x+NMHC standard referenced in this paragraph(g)) based on calendar years 2007, 2008, and 2009, rather than model years 2007, 2008, and 2009.

* * * * *

■ 13. Section 86.007–21 is amended by revising paragraph (o) to read as follows:

§ 86.007–21 Application for certification.

* * * * *

(o) For diesel heavy-duty engines, the manufacturer must provide the following additional information pertaining to the supplemental emission test conducted under § 86.1360–2007:

(1) Weighted brake-specific emissions data (*i.e.*, in units of g/bhp-hr), calculated according to 40 CFR 1065.650 for all pollutants for which a brake-specific emission standard is established in this subpart;

(2) For engines subject to the MAEL (see § 86.007–11(a)(3)(ii)), brake specific gaseous emission data for each of the 12 non-idle test points (identified under § 86.1360–2007(b)(1)) and the 3 EPA-selected test points (identified under § 86.1360–2007(b)(2));

(3) For engines subject to the MAEL (see § 86.007–11(a)(3)(ii)), concentrations and mass flow rates of all regulated gaseous emissions plus carbon dioxide;

(4) Values of all emission-related engine control variables at each test point;

(5) A statement that the test results correspond to the test engine selection criteria in 40 CFR 1065.401. The manufacturer also must maintain records at the manufacturer’s facility which contain all test data, engineering analyses, and other information which provides the basis for this statement, where such information exists. The manufacturer must provide such information to the Administrator upon request;

(6) For engines subject to the MAEL (see § 86.007–11(a)(3)(ii)), a statement that the engines will comply with the weighted average emissions standard and interpolated values comply with the Maximum Allowable Emission Limits specified in § 86.007–11(a)(3) for the useful life of the engine where applicable. The manufacturer also must maintain records at the manufacturer’s facility which contain a detailed description of all test data, engineering analyses, and other information which provides the basis for this statement, where such information exists. The manufacturer must provide such information to the Administrator upon request.

(7) [Reserved]

* * * * *

■ 14. Section 86.007–35 is amended by revising paragraph (c) to read as follows:

§ 86.007–35 Labeling.

* * * * *

(c) Vehicles powered by model year 2007 and later diesel-fueled engines must include permanent, readily visible labels on the dashboard (or instrument panel) and near all fuel inlets that state “Use Ultra Low Sulfur Diesel Fuel Only”; or “Ultra Low Sulfur Diesel Fuel Only”.

* * * * *

■ 15. Part 86 is amended by removing the first § 86.008–10, which was added on October 6, 2000.

■ 16. Section 86.084–2 is amended by revising the definition for “Curb-idle” to read as follows:

§ 86.084–2 Definitions.

* * * * *

Curb-idle means:

(1) For manual transmission code light-duty trucks, the engine speed with the transmission in neutral or with the clutch disengaged and with the air conditioning system, if present, turned off. For automatic transmission code light-duty trucks, curb-idle means the engine speed with the automatic transmission in the Park position (or Neutral position if there is no Park position), and with the air conditioning system, if present, turned off.

(2) For manual transmission code heavy-duty engines, the manufacturer’s recommended engine speed with the clutch disengaged. For automatic transmission code heavy-duty engines, curb idle means the manufacturer’s recommended engine speed with the automatic transmission in gear and the

output shaft stalled. (Measured idle speed may be used in lieu of curb-idle speed for the emission tests when the difference between measured idle speed and curb idle speed is sufficient to cause a void test under 40 CFR 1065.530 but not sufficient to permit adjustment in accordance with 40 CFR part 1065, subpart E.

* * * * *

■ 17. Section 86.095–35 is amended by revising paragraph (a)(3)(iii)(B) to read as follows:

§ 86.095–35 Labeling.

* * * * *

(a) * * *

(3) * * *

(iii) * * *

(B) The full corporate name and trademark of the manufacturer; though the label may identify another company and use its trademark instead of the manufacturer’s as long as the manufacturer complies with the provisions of 40CFR 1039.640.

* * * * *

■ 18. Section 86.096–38 is amended by revising paragraph (g)(19)(iii) to read as follows:

§ 86.096–38 Maintenance instructions.

* * * * *

(g) * * *

(19) * * *

(iii) Any person who violates a provision of this paragraph (g) shall be subject to a civil penalty of not more than \$32,500 per day for each violation. This maximum penalty is shown for calendar year 2004. Maximum penalty limits for later years may be set higher based on the Consumer Price Index, as specified in 40 CFR part 19. In addition, such person shall be liable for all other remedies set forth in Title II of the Clean Air Act, remedies pertaining to provisions of Title II of the Clean Air Act, or other applicable provisions of law.

■ 19. Section 86.121–90 is amended by revising paragraph (d) introductory text to read as follows:

§ 86.121–90 Hydrocarbon analyzer calibration.

* * * * *

(d) *FID response factor to methane.*

When the FID analyzer is to be used for the analysis of gasoline, diesel, methanol, ethanol, liquefied petroleum gas, and natural gas-fueled vehicle hydrocarbon samples, the methane

response factor of the analyzer must be established. To determine the total hydrocarbon FID response to methane, known methane in air concentrations traceable to the National Institute of Standards and Technology (NIST) must be analyzed by the FID. Several methane concentrations must be analyzed by the FID in the range of concentrations in the exhaust sample. The total hydrocarbon FID response to methane is calculated as follows:

$$r_{CH4} = FID_{ppm} / SAM_{ppm}$$

Where:

* * * * *

■ 20. Section 86.144–94 is amended by revising paragraph (c)(8)(vi) to read as follows:

§ 86.144–94 Calculations; exhaust emissions.

* * * * *

(c) * * *

(8) * * *

(vi) $r_{CH4} = HC$ FID response to methane as measured in § 86.121(d).

* * * * *

■ 21. Section 86.158–00 is amended by revising the introductory text to read as follows:

§ 86.158–00 Supplemental Federal Test Procedures; overview.

The procedures described in §§ 86.158–00, 86.159–00, 86.160–00, and 86.162–00 discuss the aggressive driving (US06) and air conditioning (SC03) elements of the Supplemental Federal Test Procedures (SFTP). These test procedures consist of two separable test elements: A sequence of vehicle operation that tests exhaust emissions with a driving schedule (US06) that tests exhaust emissions under high speeds and accelerations (aggressive driving); and a sequence of vehicle operation that tests exhaust emissions with a driving schedule (SC03) which includes the impacts of actual air conditioning operation. These test procedures (and the associated standards set forth in subpart S of this part) are applicable to light-duty vehicles and light-duty trucks.

* * * * *

■ 22. Section 86.159–00 is amended by revising paragraph (f)(2)(ix) to read as follows:

§ 86.159–00 Exhaust emission test procedure for US06 emissions.

* * * * *

(f) * * *

(2) * * *

(ix) Turn the engine off 2 seconds after the end of the last deceleration (i.e., engine off at 596 seconds).

* * * * *

■ 23. Section 86.160–00 is amended by revising the first sentence of paragraph (a), and paragraphs (c)(10), (c)(12), (d)(10), and (d)(13) to read as follows:

§ 86.160–00 Exhaust emission test procedure for SC03 emissions.

(a) Overview. The dynamometer operation consists of a single, 600 second test on the SC03 driving schedule, as described in appendix I, paragraph (h), of this part. * * *

* * * * *

(c) * * *

(10) Eighteen seconds after the engine starts, begin the initial vehicle acceleration of the driving schedule.

* * * * *

(12) Turn the engine off 2 seconds after the end of the last deceleration (i.e., engine off at 596 seconds).

* * * * *

(d) * * *

(10) Turn the engine off 2 seconds after the end of the last deceleration (i.e., engine off at 596 seconds).

* * * * *

(13) Immediately after the end of the sample period, turn off the cooling fan, disconnect the exhaust tube from the vehicle tailpipe(s), and drive the vehicle from dynamometer.

* * * * *

■ 24. Section 86.161–00 is amended by revising paragraph (b)(1) to read as follows:

§ 86.161–00 Air conditioning environmental test facility ambient requirements.

* * * * *

(b) * * *

(1) Ambient humidity is controlled, within the test cell, during all phases of the air conditioning test sequence to an average of 100 +/- 5 grains of water/pound of dry air.

* * * * *

■ 25. Section 86.164–00 is amended by revising paragraph (c)(1)(i) introductory text to read as follows:

§ 86.164–00 Supplemental federal test procedure calculations.

* * * * *

(c)(1) * * *

$$(i) Y_{WSFTP} = 0.35(Y_{FTP}) + 0.37(Y_{SC03}) + 0.28(Y_{US06})$$

Where:

* * * * *

■ 26. Section 86.410–2006 is amended by adding paragraph (e)(3) to read as follows:

§ 86.410–2006 Emission standards for 2006 and later model year motorcycles.

* * * * *

(e) * * *

(3) Small-volume manufacturers are not required to comply with permeation requirements in paragraph (g) of this section until model year 2010.

* * * * *

■ 27. A new § 86.413–2006 is added to read as follows:

§ 86.413–2006 Labeling.

(a)(1) The manufacturer of any motorcycle shall, at the time of manufacture, affix a permanent, legible label, of the type and in the manner described in this section, containing the information provided in this section, to all production models of such vehicles available for sale to the public and covered by a certificate of conformity.

(2) A permanent, legible label shall be affixed in a readily accessible position. Multi-part labels may be used.

(3) The label shall be affixed by the vehicle manufacturer who has been issued the certificate of conformity for such vehicle, in such a manner that it cannot be removed without destroying or defacing the label, and shall not be affixed to any part which is easily detached from the vehicle or is likely to be replaced during the useful life of the vehicle.

(4) The label shall contain the following information lettered in the English language in block letters and numerals, which shall be of a color that contrasts with the background of the label:

(i) The label heading shall read: “Vehicle Emission Control Information”;

(ii) Full corporate name and trademark of the manufacturer;

(iii) Engine displacement (in cubic centimeters or liters) and engine family identification;

(iv) Engine tuneup specifications and adjustments, as recommended by the manufacturer, including, if applicable: idle speed, ignition timing, and the idle air-fuel mixture setting procedure and value (e.g., idle CO, idle air-fuel ratio, idle speed drop). These specifications shall indicate the proper transmission position during tuneup, and which accessories should be in operation and which systems should be disconnected during a tuneup;

(v) Any specific fuel or engine lubricant requirements (e.g., lead content, research octane number, engine lubricant type);

(vi) Identification of the exhaust emission control system, using abbreviations in accordance with SAE J1930, June 1993, including the following abbreviations for items commonly appearing on motorcycles:

OC Oxidation catalyst;
 TWC Three-way catalyst;
 AIR Secondary air injection (pump);
 PAIR Pulsed secondary air injection;
 DFI Direct fuel injection;
 O2S Oxygen sensor;
 HO2S Heated oxygen sensor;
 EM Engine modification;
 CFI Continuous fuel injection;
 MFI Multi-port (electronic) fuel injection;
 and
 TBI Throttle body (electronic) fuel injection.

(viii) An unconditional statement of conformity to U.S. EPA regulations which includes the model year; for example, "This Vehicle Conforms to U.S. EPA Regulations Applicable to ___ Model Year New Motorcycles" (the blank is to be filled in with the appropriate model year). For all Class III motorcycles and for Class I and Class II motorcycles demonstrating compliance with the averaging provisions in 40 CFR 86.449 the statement must also include the phrase "is certified to an HC+NO_x emission standard of ___ grams/kilometer" (the blank is to be filled in with the Family Emission Limit determined by the manufacturer).

(b) The provisions of this section shall not prevent a manufacturer from also reciting on the label that such vehicle conforms to any other applicable Federal or State standards for new motorcycles or any other information that such manufacturer deems necessary for, or useful to, the proper operation and satisfactory maintenance of the vehicle.

■ 28. Section 86.447–2006 is revised to read as follows:

§ 86.447–2006 What provisions apply to motorcycle engines below 50 cc that are certified under the Small SI program or the Recreational-vehicle program?

(a) *General provisions.* If you are an engine manufacturer, this section allows you to introduce into commerce a new highway motorcycle (that is, a motorcycle that is a motor vehicle) if it has an engine below 50 cc that is already certified to the requirements that apply to engines or vehicles under 40 CFR part 90 or 1051 for the appropriate model year. If you comply with all the provisions of this section, we consider the certificate issued under 40 CFR part 90 or 1051 for each engine or vehicle to also be a valid certificate of conformity under this part 86 for its model year, without a separate application for certification under the requirements of this part 86. See § 86.448–2006 for similar provisions that apply to vehicles that are certified to chassis-based standards under 40 CFR part 1051.

(b) *Vehicle-manufacturer provisions.* If you are not an engine manufacturer,

you may produce highway motorcycles using nonroad engines below 50 cc under this section as long as you meet all the requirements and conditions specified in paragraph (d) of this section. If you modify the nonroad engine in any of the ways described in paragraph (d)(2) of this section for installation in a highway motorcycle, we will consider you a manufacturer of a new highway motorcycle. Such engine modifications prevent you from using the provisions of this section.

(c) *Liability.* Engines for which you meet the requirements of this section, and vehicles containing these engines, are exempt from all the requirements and prohibitions of this part, except for those specified in this section. Engines and vehicles exempted under this section must meet all the applicable requirements from 40 CFR part 90 or 1051. This applies to engine manufacturers, vehicle manufacturers who use these engines, and all other persons as if these engines were used in recreational vehicles or other nonroad applications. The prohibited acts of 42 U.S.C. 7522 apply to these new highway motorcycles; however, we consider the certificate issued under 40 CFR part 90 or 1051 for each engine to also be a valid certificate of conformity under this part 86 for its model year. If we make a determination that these engines do not conform to the regulations during their useful life, we may require you to recall them under 40 CFR part 86, 90, or 1068.

(d) *Specific requirements.* If you are an engine or vehicle manufacturer and meet all the following criteria and requirements regarding your new engine or vehicle, the highway motorcycle is eligible for an exemption under this section:

(1) Your engine must be below 50 cc and must be covered by a valid certificate of conformity for Class II engines issued under 40 CFR part 90 or for recreational vehicles under 40 CFR part 1051.

(2) You must not make any changes to the certified engine that could reasonably be expected to increase its exhaust emissions for any pollutant, or its evaporative emissions, if applicable. For example, if you make any of the following changes to one of these engines, you do not qualify for this exemption:

(i) Change any fuel system or evaporative system parameters from the certified configuration.

(ii) Change, remove, or fail to properly install any other component, element of design, or calibration specified in the engine manufacturer's application for certification. This includes

aftertreatment devices and all related components.

(iii) Modify or design the engine cooling system so that temperatures or heat rejection rates are outside the original engine manufacturer's specified ranges.

(3) You must show that fewer than 50 percent of the engine family's total sales in the United States are used in highway motorcycles. This includes engines used in any application, without regard to which company manufactures the vehicle or equipment. In addition, if you manufacture highway motorcycles, you must show that fewer than 50 percent of the engine family's total sales in the United States are highway motorcycles. Show that you meet the engine-sales criterion as follows:

(i) If you are the original manufacturer of the engine, base this showing on your sales information.

(ii) In all other cases, you must get the original manufacturer of the engine to confirm the engine sales volumes based on its sales information.

(4) You must ensure that the engine has the label we require under 40 CFR part 90 or 1051.

(5) You must add a permanent supplemental label to the engine in a position where it will remain clearly visible after installation in the vehicle. In the supplemental label, do the following:

(i) Include the heading: "HIGHWAY MOTORCYCLE ENGINE EMISSION CONTROL INFORMATION".

(ii) Include your full corporate name and trademark. You may instead include the full corporate name and trademark of another company you choose to designate.

(iii) State: "THIS ENGINE WAS ADAPTED FOR HIGHWAY USE WITHOUT AFFECTING ITS EMISSION CONTROLS.".

(iv) State the date you finished installation (month and year), if applicable.

(6) Send the Designated Compliance Officer a signed letter by the end of each calendar year (or less often if we tell you) with all the following information:

(i) Identify your full corporate name, address, and telephone number.

(ii) List the engine or vehicle models you expect to produce under this exemption in the coming year.

(iii) State: "We produce each listed [engine or vehicle] model for without making any changes that could increase its certified emission levels, as described in 40 CFR 86.447–2006.".

(e) *Failure to comply.* If your highway motorcycles do not meet the criteria listed in paragraph (d) of this section, they will be subject to the standards,

requirements, and prohibitions of this part 86 and the certificate issued under 40 CFR part 90 or 1051 will not be deemed to also be a certificate issued under this part 86. Introducing these engines into commerce without a valid exemption or certificate of conformity under this part violates the prohibitions in 40 CFR part 85.

(f) *Data submission.* We may require you to send us emission test data on any applicable nonroad duty cycles.

(g) *Participation in averaging, banking and trading.* Engines or vehicles adapted for recreational use under this section may not generate or use emission credits under this part 86. These engines or vehicles may generate credits under the ABT provisions in 40 CFR part 90 or 1051. These engines or vehicles must use emission credits under 40 CFR part 90 or 1051 if they are certified to an FEL that exceeds an applicable standard.

■ 29. Section 86.448–2006 is revised to read as follows:

§ 86.448–2006 What provisions apply to vehicles certified under the Recreational-vehicle program?

(a) *General provisions.* If you are a highway-motorcycle manufacturer, this section allows you to introduce into commerce a new highway motorcycle with an engine below 50 cc if it is already certified to the requirements that apply to recreational vehicles under 40 CFR parts 1051. A highway motorcycle is a motorcycle that is a motor vehicle. If you comply with all of the provisions of this section, we consider the certificate issued under 40 CFR part 1051 for each recreational vehicle to also be a valid certificate of conformity for the motor vehicle under this part 86 for its model year, without a separate application for certification under the requirements of this part 86. See § 86.447–2006 for similar provisions that apply to nonroad engines produced for highway motorcycles.

(b) *Nonrecreational-vehicle provisions.* If you are not a recreational-vehicle manufacturer, you may produce highway motorcycles from recreational vehicles with engines below 50 cc under this section as long as you meet all the requirements and conditions specified in paragraph (d) of this section. If you modify the recreational vehicle or its engine in any of the ways described in paragraph (d)(2) of this section for installation in a highway motorcycle, we will consider you a manufacturer of a new highway motorcycle. Such modifications prevent you from using the provisions of this section.

(c) *Liability.* Vehicles for which you meet the requirements of this section are

exempt from all the requirements and prohibitions of this part, except for those specified in this section. Engines and vehicles exempted under this section must meet all the applicable requirements from 40 CFR part 1051. This applies to engine manufacturers, vehicle manufacturers, and all other persons as if the highway motorcycles were recreational vehicles. The prohibited acts of 42 U.S.C. 7522 apply to these new highway motorcycles; however, we consider the certificate issued under 40 CFR part 1051 for each recreational vehicle to also be a valid certificate of conformity for the highway motorcycle under this part 86 for its model year. If we make a determination that these engines or vehicles do not conform to the regulations during their useful life, we may require you to recall them under 40 CFR part 86 or 40 CFR 1068.505.

(d) *Specific requirements.* If you are a recreational-vehicle manufacturer and meet all the following criteria and requirements regarding your new highway motorcycle and its engine, the highway motorcycle is eligible for an exemption under this section:

(1) Your motorcycle must have an engine below 50 cc and it must be covered by a valid certificate of conformity as a recreational vehicle issued under 40 CFR part 1051.

(2) You must not make any changes to the certified recreational vehicle that we could reasonably expect to increase its exhaust emissions for any pollutant, or its evaporative emissions if it is subject to evaporative-emission standards. For example, if you make any of the following changes, you do not qualify for this exemption:

(i) Change any fuel system parameters from the certified configuration.

(ii) Change, remove, or fail to properly install any other component, element of design, or calibration specified in the vehicle manufacturer's application for certification. This includes aftertreatment devices and all related components.

(iii) Modify or design the engine cooling system so that temperatures or heat rejection rates are outside the original vehicle manufacturer's specified ranges.

(3) You must show that fewer than 50 percent of the engine family's total sales in the United States are used in highway motorcycles. This includes highway and off-highway motorcycles, without regard to which company completes the manufacturing of the highway motorcycle. Show this as follows:

(i) If you are the original manufacturer of the vehicle, base this showing on your sales information.

(ii) In all other cases, you must get the original manufacturer of the vehicle to confirm this based on their sales information.

(4) The highway motorcycle must have the vehicle emission control information we require under 40 CFR part 1051.

(5) You must add a permanent supplemental label to the highway motorcycle in a position where it will remain clearly visible. In the supplemental label, do the following:

(i) Include the heading: "HIGHWAY MOTORCYCLE ENGINE EMISSION CONTROL INFORMATION".

(ii) Include your full corporate name and trademark. You may instead include the full corporate name and trademark of another company you choose to designate.

(iii) State: "THIS VEHICLE WAS ADAPTED FOR HIGHWAY USE WITHOUT AFFECTING ITS EMISSION CONTROLS.".

(iv) State the date you finished modifying the vehicle (month and year), if applicable.

(6) Send the Designated Compliance Officer a signed letter by the end of each calendar year (or less often if we tell you) with all the following information:

(i) Identify your full corporate name, address, and telephone number.

(ii) List the highway motorcycle models you expect to produce under this exemption in the coming year.

(iii) State: "We produced each listed highway motorcycle without making any changes that could increase its certified emission levels, as described in 40 CFR 86.448–2006.".

(e) *Failure to comply.* If your highway motorcycles do not meet the criteria listed in paragraph (d) of this section, they will be subject to the standards, requirements, and prohibitions of this part 86 and 40 CFR part 85, and the certificate issued under 40 CFR part 1051 will not be deemed to also be a certificate issued under this part 86. Introducing these motorcycles into commerce without a valid exemption or certificate of conformity under this part violates the prohibitions in 40 CFR part 85.

(f) *Data submission.* We may require you to send us emission test data on the duty cycle for Class I motorcycles.

(g) *Participation in averaging, banking and trading.* Recreational vehicles adapted for use as highway motorcycles under this section may not generate or use emission credits under this part 86. These engines may generate credits under the ABT provisions in 40 CFR part 1051. These engines must use emission credits under 40 CFR part

1051 if they are certified to an FEL that exceeds an applicable standard.

■ 30. In § 86.513–2004, Table 1 in paragraph (a)(1) is revised to read as follows:

§ 86.513–2004 Fuel and engine lubricant specifications.
 * * * * *
 (a) * * *
 (1) * * *

TABLE 1 OF § 86.513–2004—GASOLINE TEST FUEL SPECIFICATIONS

Item	Procedure	Value
Distillation Range:		
1. Initial boiling point, °C	ASTM D 86–97	23.9–35.0 ¹
2. 10% point, °C	ASTM D 86–97	48.9–57.2
3. 50% point, °C	ASTM D 86–97	93.3–110.0
4. 90% point, °C	ASTM D 86–97	148.9–162.8
5. End point, °C	ASTM D 86–97	212.8
Hydrocarbon composition:		
1. Olefins, volume %	ASTM D 1319–98	10 maximum
2. Aromatics, volume %	ASTM D 1319–98	35 maximum
3. Saturates	ASTM D 1319–98	Remainder
Lead (organic), g/liter	ASTM D 3237	0.013 maximum
Phosphorous, g/liter	ASTM D 3231	0.0013 maximum
Sulfur, weight %	ASTM D 1266	0.008 maximum
Volatility (Reid Vapor Pressure), kPa	ASTM D 323	55.2 to 63.4 ¹

¹ For testing at altitudes above 1,219 m, the specified volatility range is 52 to 55 kPa and the specified initial boiling point range is (23.9 to 40.6) °C.

* * * * *

■ 31. Section 86.884–8 is amended by revising paragraph (c) introductory text to read as follows:

§ 86.884–8 Dynamometer and engine equipment.

* * * * *

(c) An exhaust system with an appropriate type of smokemeter placed no more than 32 feet from the exhaust manifold(s), turbocharger outlet(s), exhaust aftertreatment device(s), or crossover junction (on Vee engines), whichever is farthest downstream. The smoke exhaust system shall present an exhaust backpressure within ±0.2 inch Hg of the upper limit at maximum rated horsepower, as established by the engine manufacturer in his sales and service literature for vehicle application. The following options may also be used:

* * * * *

■ 32. Section 86.884–10 is amended by revising paragraph (a) introductory text to read as follows:

§ 86.884–10 Information.

* * * * *

(a) Engine description and specifications. A copy of the information specified in this paragraph must accompany each engine sent to the Administrator for compliance testing. If the engine is submitted to the Administrator for testing under subpart N of this part or 40 CFR part 1065, only the specified information need accompany the engine. The manufacturer need not record the

information specified in this paragraph for each test if the information, with the exception of paragraphs (a)(3), (a)(12), and (a)(13) of this section, is included in the manufacturer's part I.

* * * * *

■ 33. Section 86.884–12 is amended by revising paragraph (c)(2) to read as follows:

§ 86.884–12 Test run.

* * * * *

(c) * * *
 (2) Warm up the engine by the procedure described in 40 CFR 1065.530.

* * * * *

■ 34. Section 86.1005–90 is amended by revising paragraphs (a)(1)(i), (a)(1)(ii), (a)(2)(vi)(A), and (a)(2)(vi)(B) to read as follows:

§ 86.1005–90 Maintenance of records; submittal of information.

(a) * * *
 (1) * * *

(i) If testing heavy-duty gasoline-fueled or methanol-fueled Otto-cycle engines, the equipment requirements specified in 40 CFR part 1065, subparts B and C;

(ii) If testing heavy-duty petroleum-fueled or methanol-fueled diesel engines, the equipment requirements specified in 40 CFR part 1065, subparts B and C;

* * * * *

(2) * * *
 (vi) * * *

(A) If testing gasoline-fueled or methanol-fueled Otto-cycle heavy-duty engines, the record requirements specified in 40 CFR 1065.695;

(B) If testing petroleum-fueled or methanol-fueled diesel heavy-duty engines, the record requirements specified in 40 CFR 1065.695;

* * * * *

■ 35. Section 86.1108–87 is amended by revising paragraphs (a)(1)(i), (a)(1)(ii), (a)(2)(vi)(A), and (a)(2)(vi)(B) to read as follows:

§ 86.1108–87 Maintenance of records.

(a) * * *
 (1) * * *

(i) If testing heavy-duty gasoline engines, the equipment requirements specified in 40 CFR part 1065, subparts B and C;

(ii) If testing heavy-duty diesel engines, the equipment requirements specified in 40 CFR part 1065, subparts B and C;

* * * * *

(2) * * *
 (vi) * * *

(A) If testing heavy-duty gasoline engines, the record requirements specified in 40 CFR 1065.695;

(B) If testing heavy-duty diesel engines, the record requirements specified in 40 CFR 1065.695;

* * * * *

■ 36. A new § 86.1213–08 is added to read as follows:

§ 86.1213-08 Fuel specifications.

The test fuels listed in 40 CFR part 1065, subpart H, shall be used for evaporative emission testing.

■ 37. Section 86.1301-90 is redesignated as § 86.1301 and revised to read as follows:

§ 86.1301 Scope; applicability.

This subpart specifies gaseous emission test procedures for Otto-cycle and diesel heavy-duty engines, and particulate emission test procedures for diesel heavy-duty engines, as follows:

(a) For model years 1990 through 2003, manufacturers must use the test procedures specified in § 86.1305-90.

(b) For model years 2004 through 2009, manufacturers may use the test procedures specified in § 86.1305-2004 or § 86.1305-2010. For any EPA testing before the 2010 model year, EPA will use the manufacturer's selected procedures for mapping engines, generating duty cycles, and applying cycle-validation criteria. For any other parameters, EPA may conduct testing using either of the specified procedures.

(c) For model years 2010 and later, manufacturers must use the test procedures specified in § 86.1305-2010.

(d) As allowed under subpart A of this part, manufacturers may use carryover data from previous model years to demonstrate compliance with emission standards, without regard to the provisions of this section.

■ 38. Section 86.1304-90 is redesignated as § 86.1304 and amended by revising paragraph (a) to read as follows:

§ 86.1304 Section numbering; construction.

(a) *Section numbering.* The model year of initial applicability is indicated by the section number. The digits following the hyphen designate the first model year for which a section is applicable. The section continues to apply to subsequent model years unless a later model year section is adopted.

(Example: § 86.13xx-2004 applies to the 2004 and subsequent model years. If a § 86.13xx-2007 is promulgated it would apply beginning with the 2007 model year; § 86.13xx-2004 would apply to model years 2004 through 2006.)

* * * * *

■ 39. A new § 86.1305-2010 is added to read as follows:

§ 86.1305-2010 Introduction; structure of subpart.

(a) This subpart specifies the equipment and procedures for performing exhaust-emission tests on Otto-cycle and diesel-cycle heavy-duty engines. Subpart A of this part sets forth the emission standards and general testing requirements to comply with EPA certification procedures.

(b) Use the applicable equipment and procedures for spark-ignition or compression-ignition engines in 40 CFR part 1065 to determine whether engines meet the duty-cycle emission standards in subpart A of this part. Measure the emissions of all regulated pollutants as specified in 40 CFR part 1065. Use the duty cycles and procedures specified in § 86.1333-2007, § 86.1360-2007, and § 86.1362-2007. Adjust emission results from engines using aftertreatment technology with infrequent regeneration events as described in § 86.004-28.

(c) The provisions in § 86.1370-2007 and § 86.1372-2007 apply for determining whether an engine meets the applicable not-to-exceed emission standards.

(d) Measure smoke using the procedures in subpart I of this part for evaluating whether engines meet the smoke standards in subpart A of this part.

(e) Use the fuels specified in 40 CFR part 1065 to perform valid tests, as follows:

(1) For service accumulation, use the test fuel or any commercially available fuel that is representative of the fuel that in-use engines will use.

(2) For diesel-fueled engines, use the ultra low-sulfur diesel fuel specified in 40 CFR part 1065 for emission testing.

(f) You may use special or alternate procedures to the extent we allow them under 40 CFR 1065.10.

(g) This subpart applies to you as a manufacturer, and to anyone who does testing for you.

■ 40. Section 86.1321-90 is amended by revising paragraph (a)(3)(ii) to read as follows:

§ 86.1321-90 Hydrocarbon analyzer calibration.

* * * * *

(a) * * *

(3) * * *

(ii) The HFID optimization procedures outlined in § 86.331-79(c).

* * * * *

■ 41. Section 86.1321-94 is amended by revising paragraph (a)(3)(ii) to read as follows:

§ 86.1321-94 Hydrocarbon analyzer calibration.

* * * * *

(a) * * *

(3) * * *

(ii) The procedure listed in § 86.331-79(c).

* * * * *

■ 42. A new § 86.1333-2010 is added to read as follows:

§ 86.1333-2010 Transient test cycle generation.

(a) *Generating transient test cycles.* The heavy-duty transient engine cycles for Otto-cycle and diesel engines are listed in Appendix I((f) (1), (2) and (3)) to this part. These second-by-second listings represent torque and rpm maneuvers characteristic of heavy-duty engines. Both rpm and torque are normalized (expressed as a percentage of maximum) in these listings.

(1) To unnormalize rpm, use the following equations:

(i) For diesel engines:

$$\text{Actualrpm} = \frac{\% \text{rpm} \cdot (\text{MaxTestSpeed} - \text{CurbIdleSpeed})}{112} + \text{CurbIdleSpeed}$$

Where:

MaxTestSpeed = the maximum test speed as calculated in 40 CFR part 1065.

(ii) For Otto-cycle engines:

$$\text{Actualrpm} = \frac{\% \text{rpm} \cdot (\text{MaxTestSpeed} - \text{CurbIdleSpeed})}{112} + \text{CurbIdleSpeed}$$

Where:

MaxTestSpeed = the maximum test speed as calculated in 40 CFR part 1065.

(2) Torque is normalized to the maximum torque at the rpm listed with it. Therefore, to unnormalize the torque

values in the cycle, the maximum torque curve for the engine in question must be used. The generation of the

maximum torque curve is described in 40 CFR part 1065.

(b) *Example of the unnormalization procedure.* Unnormalize the following

test point, given Maximum Test speed = 3800 rpm and Curb Idle Speed = 600 rpm.

PercentRPM	PercentTorque
43	82

(1) Calculate actual rpm:

$$\text{Actualrpm} = \frac{43 \cdot (3800 - 600)}{112} + 600 = 1,829\text{rpm}$$

(2) Determine actual torque: Determine the maximum observed torque at 1829 rpm from the maximum torque curve. Then multiply this value (e.g., 358 ft-lbs) by 0.82. This results in an actual torque of 294 ft-lbs.

(c) *Clutch operation.* Manual transmission engines may be tested with a clutch. If used, the clutch shall be disengaged at all zero percent speeds, zero percent torque points, but may be engaged up to two points preceding a non-zero point, and may be engaged for time segments with zero percent speed and torque points of durations less than four seconds. (See 40 CFR 1065.514 for allowances in the cycle validation criteria.)

■ 43. Section 86.1360–2007 is amended by revising paragraph (b), removing and reserving paragraphs (c) and (e), and removing paragraphs (h) and (i) to read as follows:

§ 86.1360–2007 Supplemental emission test; test cycle and procedures.

* * * * *

(b) *Test cycle.* (1) Perform testing as described in § 86.1362–2007 for determining whether an engine meets the applicable standards when measured over the supplemental emission test.

(2) For engines not certified to a NO_x standard or FEL less than 1.5 g/bhp-hr, EPA may select, and require the manufacturer to conduct the test using, up to three discrete test points within the control area defined in paragraph (d) of this section. EPA will notify the manufacturer of these supplemental test points in writing in a timely manner before the test. Emission sampling for these discrete test modes must include all regulated pollutants except particulate matter.

* * * * *

■ 44. A new § 86.1362–2007 is added to read as follows:

§ 86.1362–2007 Steady-state testing with a ramped-modal cycle.

This section describes how to test engines under steady-state conditions. Manufacturers may alternatively use the procedures specified in § 86.1363–2007 through the 2009 model year.

(a) Start sampling at the beginning of the first mode and continue sampling until the end of the last mode. Calculate emissions as described in 40 CFR 1065.650 and cycle statistics as described in 40 CFR 1065.514.

(b) Measure emissions by testing the engine on a dynamometer with the following ramped-modal duty cycle to determine whether it meets the applicable steady-state emission standards:

RMC mode	Time in mode (seconds)	Engine speed ^{1,2}	Torque (percent) ^{2,3}
1a Steady-state	170	Warm Idle	0
1b Transition	20	Linear Transition	Linear Transition
2a Steady-state	170	A	100
2b Transition	20	A	Linear Transition
3a Steady-state	102	A	25
3b Transition	20	A	Linear Transition
4a Steady-state	100	A	75
4b Transition	20	A	Linear Transition
5a Steady-state	103	A	50
5b Transition	20	Linear Transition	Linear Transition
6a Steady-state	194	B	100
6b Transition	20	B	Linear Transition
7a Steady-state	219	B	25
7b Transition	20	B	Linear Transition
8a Steady-state	220	B	75
8b Transition	20	B	Linear Transition
9a Steady-state	219	B	50
9b Transition	20	Linear Transition	Linear Transition
10a Steady-state	171	C	100
10b Transition	20	C	Linear Transition
11a Steady-state	102	C	25
11b Transition	20	C	Linear Transition
12a Steady-state	100	C	75
12b Transition	20	C	Linear Transition
13a Steady-state	102	C	50
13b Transition	20	Linear Transition	Linear Transition
14 Steady-state	168	Warm Idle	0

¹ Speed terms are defined in 40 CFR part 1065.

² Advance from one mode to the next within a 20-second transition phase. During the transition phase, command a linear progression from the speed or torque setting of the current mode to the speed or torque setting of the next mode.

³ The percent torque is relative to maximum torque at the commanded engine speed.

(c) During idle mode, operate the engine with the following parameters:
 (1) Hold the speed within your specifications.
 (2) Set the engine to operate at its minimum fueling rate.
 (3) Keep engine torque under 5 percent of maximum test torque.
 (d) For full-load operating modes, operate the engine at its maximum fueling rate.

(e) See 40 CFR part 1065 for detailed specifications of tolerances and calculations.
 (f) Perform the ramped-modal test with a warmed-up engine. If the ramped-modal test follows directly after testing over the Federal Test Procedure, consider the engine warm. Otherwise, operate the engine to warm it up as described in 40 CFR part 1065, subpart F.

■ 45. A new § 86.1363–2007 is added to read as follows:

§ 86.1363–2007 Steady-state testing with a discrete-mode cycle.

This section describes an alternate procedure for steady-state testing that manufacturers may use through the 2009 model year.

(a) Use the following 13-mode cycle in dynamometer operation on the test engine:

Mode number	Engine speed ¹	Percent load ²	Weighting factors	Mode length (minutes) ³
1	Idle .....	.....	0.15	4
2	A	100	0.08	2
3	B	50	0.10	2
4	B	75	0.10	2
5	A	50	0.05	2
6	A	75	0.05	2
7	A	25	0.05	2
8	B	100	0.09	2
9	B	25	0.10	2
10	C	100	0.08	2
11	C	25	0.05	2
12	C	75	0.05	2
13	C	50	0.05	2

¹ Speed terms are defined in 40 CFR part 1065.
² The percent torque is relative to the maximum torque at the commanded test speed.
³ The percent torque is relative to maximum torque at the commanded engine speed.

(b) Prior to beginning the test sequence, the engine must be warmed-up according to the procedures in § 86.1332–90(d)(3)(i) through (iv).

(c) The test must be performed in the order of the mode numbers in paragraph (a) of this section. Where applicable, the EPA-selected test points identified under § 86.1360–2007(b)(2) must be performed immediately upon completion of mode 13. The engine must be operated for the prescribed time in each mode, completing engine speed and load changes in the first 20 seconds of each mode. The specified speed must be held to within ±50 rpm and the specified torque must be held to within plus or minus two percent of the maximum torque at the test speed.

(d) One filter shall be used for sampling PM over the 13-mode test procedure. The modal weighting factors specified in paragraph (a) of this section shall be taken into account by taking a sample proportional to the exhaust mass flow during each individual mode of the cycle. This can be achieved by adjusting sample flow rate, sampling time, and/or dilution ratio, accordingly, so that the criterion for the effective weighting factors is met. The sampling time per mode must be at least 4 seconds per 0.01 weighting factor. Sampling must be conducted as late as possible within each mode. Particulate sampling shall

be completed no earlier than 5 seconds before the end of each mode.

(e) The test must be conducted with all emission-related engine control variables in the highest brake-specific NO_x emissions state which could be encountered for a 30 second or longer averaging period at the given test point and for the conditions under which the engine is being tested.

(f) Manufacturers must follow the exhaust emissions sample analysis procedures under § 86.1340, and the calculation formulas and procedures under § 86.1342, for the 13-mode cycle and the 3 EPA-selected test points as applicable for steady-state testing, including the NO_x correction factor for humidity.

(g) Calculate the weighted average emissions as follows:

(1) For each regulated gaseous pollutant, calculate the weighted average emissions using the following equation:

$$A_{WA} = 1 - \frac{\sum_{i=1}^N [A_{Mi} \cdot WF_i]}{\sum_{i=2}^N [A_{Pi} \cdot WF_i]}$$

Where:

A_{WA} = Weighted average emissions for each regulated gaseous pollutant, in grams per brake horse-power hour.

A_M = Modal average mass emissions level, in grams per hour. Mass emissions must be calculated as described in § 86.1342.
 A_P = Modal average power, in brake horse-power. Any power measured during the idle mode (mode 1) is not included in this calculation.
 W_F = Weighting factor corresponding to each mode of the steady-state test cycle, as defined in paragraph (a) of this section.
 i = The modes of the steady-state test cycle defined in paragraph (a) of this section.
 n = 13, corresponding to the 13 modes of the steady-state test cycle defined in paragraph (a) of this section.

(2) For PM measurements, a single filter must be used to measure PM over the 13 modes. The brake-specific PM emission level for the test must be calculated as described for a transient hot start test in § 86.1343. Only the power measured during the sampling period shall be used in the calculation.

(h) The test fuel used for supplemental steady-state testing under this section must meet the requirements of § 86.1313.

(i) Ambient conditions, charge cooling specifications, and intake and exhaust restrictions for supplemental steady-state testing and maximum allowable emission limit testing under this section must meet the requirements of § 86.1330.

■ 46. Section 86.1370–2007 is amended by revising paragraph (a) to read as follows:

§ 86.1370–2007 Not-To-Exceed test procedures.

(a) *General.* The purpose of this test procedure is to measure in-use emissions of heavy-duty diesel engines while operating within a broad range of speed and load points (the Not-To-Exceed Control Area) and under conditions which can reasonably be expected to be encountered in normal vehicle operation and use. Emission results from this test procedure are to be compared to the Not-To-Exceed Limits specified in § 86.007–11(a)(4), or to later Not-To-Exceed Limits. The Not-To-Exceed Limits do not apply for engine-starting conditions. Tests conducted using the procedures specified in § 86.1301 are considered valid Not-To-Exceed tests (**Note:** duty cycles and limits on ambient conditions do not apply for Not-To-Exceed tests).

■ 47. Section 86.1509–84 is amended by revising paragraphs (c) and (d) to read as follows:

§ 86.1509–84 Exhaust gas sampling system.

* * * * *

(c) A CVS sampling system with bag or continuous analysis as specified in 40 CFR part 1065 is permitted as applicable. The inclusion of an additional raw carbon dioxide (CO₂) analyzer as specified in 40 CFR part 1065 is required if the CVS system is used, in order to accurately determine the CVS dilution factor. The heated sample line specified in 40 CFR part 1065 for raw emission requirements is not required for the raw (CO₂) measurement.

(d) A raw exhaust sampling system as specified in 40 CFR part 1065 is permitted.

■ 48. Section 86.1511–84 is amended by revising paragraphs (a)(1) and (b) to read as follows:

§ 86.1511–84 Exhaust gas analysis system.

(a) * * *

(1) The analyzer used shall conform to the accuracy provisions of 40 CFR part 1065, subparts C, D, and F.

* * * * *

(b) The inclusion of a raw CO₂ analyzer as specified in 40 CFR part 1065 is required in order to accurately determine the CVS dilution factor.

■ 49. Section 86.1513–90 is revised to read as follows:

§ 86.1513–90 Fuel specifications.

The requirements of this section are set forth in § 86.1313–94 for heavy-duty

engines, and in § 86.113–90(a) for light-duty trucks.

■ 50. Section 86.1513–94 is revised to read as follows:

§ 86.1513–94 Fuel specifications.

The requirements of this section are set forth in 40 CFR part 1065, subpart H, for heavy-duty engines and in § 86.113–94 for light-duty trucks.

■ 51. Section 86.1514–84 is amended by revising paragraphs (b) and (c) to read as follows:

§ 86.1514–84 Analytical gases.

* * * * *

(b) If the raw CO sampling system specified in 40 CFR part 1065 is used, the analytical gases specified in 40 CFR part 1065, subpart H, shall be used.

(c) If a CVS sampling system is used, the analytical gases specified in 40 CFR part 1065, subpart H, shall be used.

■ 52. Section 86.1519–84 is revised to read as follows:

§ 86.1519–84 CVS calibration.

If the CVS system is used for sampling during the idle emission test, the calibration instructions are specified in 40 CFR part 1065, subpart D, for heavy-duty engines, and § 86.119–78 for light-duty trucks.

■ 53. Section 86.1524–84 is revised to read as follows:

§ 86.1524–84 Carbon dioxide analyzer calibration.

(a) The calibration requirements for the dilute-sample CO₂ analyzer are specified in 40 CFR part 1065, subpart D, for heavy-duty engines and § 86.124–78 for light-duty trucks.

(b) The calibration requirements for the raw CO₂ analyzer are specified in 40 CFR part 1065, subpart D.

■ 54. Section 86.1530–84 is amended by revising paragraph (b) to read as follows:

§ 86.1530–84 Test sequence; general requirements.

* * * * *

(b) Ambient test cell conditions during the test shall be those specified in § 86.130–78 or 40 CFR part 1065, subpart F.

■ 55. Section 86.1537–84 is amended by revising paragraphs (c), (e)(6), and (f) to read as follows:

§ 86.1537–84 Idle test run.

* * * * *

(c) Achieve normal engine operating condition. The transient engine or chassis dynamometer test is an acceptable technique for warm-up to normal operating condition for the idle test. If the emission test is not performed prior to the idle emission test, a heavy-duty engine may be

warmed up according to 40 CFR part 1065, subpart F. A light-duty truck may be warmed up by operation through one Urban Dynamometer Driving Schedule test procedure (see § 86.115–78 and appendix I to this part).

* * * * *

(e) * * *

(6) For bag sampling, sample idle emissions long enough to obtain a sufficient bag sample, but in no case shorter than 60 seconds nor longer than 6 minutes. Follow the sampling and exhaust measurements requirements of 40 CFR part 1065, subpart F, for conducting the raw CO₂ measurement.

* * * * *

(f) If the raw exhaust sampling and analysis technique specified in 40 CFR part 1065 is used, the following procedures apply:

(1) Warm up the engine or vehicle per paragraphs (c) and (d) of this section. Operate the engine or vehicle at the conditions specified in paragraph (e)(4) of this section.

(2) Follow the sampling and exhaust measurement requirements of 40 CFR part 1065, subpart F. The idle sample shall be taken for 60 seconds minimum, and no more than 64 seconds. The chart reading procedures of 40 CFR part 1065, subpart F, shall be used to determine the analyzer response.

* * * * *

■ 56. Section 86.1540–84 is amended by revising paragraphs (b) and (c) to read as follows:

§ 86.1540–84 Idle exhaust sample analysis.

* * * * *

(b) If the CVS sampling system is used, the analysis procedures for dilute CO and CO₂ specified in 40 CFR part 1065 apply. Follow the raw CO₂ analysis procedure specified in 40 CFR part 1065, subpart F, for the raw CO₂ analyzer.

(c) If the continuous raw exhaust sampling technique specified in 40 CFR part 1065 is used, the analysis procedures for CO specified in 40 CFR part 1065, subpart F, apply.

■ 57. Section 86.1542–84 is amended by revising paragraph (a) introductory text to read as follows:

§ 86.1542–84 Information required.

(a) *General data—heavy-duty engines.* Information shall be recorded for each idle emission test as specified in 40 CFR part 1065, subpart G. The following test data are required:

* * * * *

■ 58. Section 86.1544–84 is amended by revising paragraphs (b)(1), (b)(2), and (c) to read as follows:

§ 86.1544–84 Calculation; idle exhaust emissions.

* * * * *

(b) * * *

(1) Use the procedures, as applicable, in 40 CFR 1065.650 to determine the dilute wet-basis CO and CO₂ in percent.

(2) Use the procedure, as applicable, in 40 CFR 1065.650 to determine the raw dry-basis CO₂ in percent.

* * * * *

(c) If the raw exhaust sampling and analysis system specified in 40 CFR part 1065 is used, the percent for carbon monoxide on a dry basis shall be calculated using the procedure, as applicable, in 40 CFR 1065.650.

* * * * *

■ 59. Section 86.1708–99 is amended by revising Tables R99–5 and R99–6 to read as follows:

§ 86.1708–99 Exhaust emission standards for 1999 and later light-duty vehicles.

* * * * *

(c) * * *

(2) * * *

TABLE R99–5.—INTERMEDIATE USEFUL LIFE (50,000 MILE) IN-USE STANDARDS (G/MI) FOR LIGHT-DUTY VEHICLES

Vehicle emission category	Model year	NMOG	CO	NO _x	HCHO
LEV	1999	0.100	3.4	0.3	0.015
ULEV	1999–2002	0.055	2.1	0.3	0.008

TABLE R99–6.—FULL USEFUL LIFE (100,000 MILE) IN-USE STANDARDS (G/MI) FOR LIGHT-DUTY VEHICLES

Vehicle emission category	Model year	NMOG	CO	NO _x	HCHO
LEV	1999	0.125	4.2	0.4	0.018
ULEV	1999–2002	0.075	3.4	0.4	0.011

* * * * *

■ 60. Section 86.1709–99 is amended by revising paragraph (c)(1) introductory text and by revising Table R99–14.2, to read as follows:

§ 86.1709–99 Exhaust emission standards for 1999 and later light light-duty trucks.

* * * * *

(c) * * *

(1) 1999 model year light light-duty trucks certified as LEVs and 1999 through 2002 model year light light-duty trucks certified as ULEVs shall

meet the applicable intermediate and full useful life in-use standards in paragraph (c)(2) of this section, according to the following provisions:

* * * * *

(e) * * *

(2) * * *

TABLE R99–14.2.—SFTP EXHAUST EMISSION STANDARDS (G/MI) FOR LEVs AND ULEVs

Loaded vehicle weight (lbs)	US06 Test		A/C Test	
	MNHC + NO _x	CO	NMHC + NO _x	CO
0–3750	0.14	8.0	0.20	2.7
3751–5750	0.25	10.5	0.27	3.5

* * * * *

■ 61. Section 86.1710–99 is amended by revising paragraph (c)(8) introductory text to read as follows:

§ 86.1710–99 Fleet average non-methane organic gas exhaust emission standards for light-duty vehicles and light light-duty trucks.

* * * * *

(c) * * *

(8) Manufacturers may earn and bank credits in the NTR for model years 1997 and 1998. In states without a Section 177 Program effective in model year 1997 or 1998, such credits will be calculated as set forth in paragraphs (a) and (b) of this section, except that the applicable fleet average NMOG standard shall be 0.25 g/mi NMOG for the averaging set for light light-duty trucks from 0–3750 lbs LVW and light-duty vehicles or 0.32 g/mi NMOG for the

averaging set for light light-duty trucks from 3751–5750 lbs LVW. In states that opt into National LEV and have a Section 177 Program effective in model year 1997 or 1998, such credits will equal the unused credits earned in those states.

* * * * *

■ 62. Section 86.1711–99 is amended by revising the section heading and paragraph (a) to read as follows:

§ 86.1711–99 Limitations on sale of Tier 1 vehicles and TLEVs.

(a) In the 2001 and subsequent model years, manufacturers may sell Tier 1 vehicles and TLEVs in the NTR only if vehicles with the same engine families are certified and offered for sale in California in the same model year,

except as provided under § 86.1707(d)(4).

* * * * *

■ 63. Section 86.1807–07 is amended by revising paragraph (h) to read as follows:

§ 86.1807–07 Vehicle labeling.

* * * * *

(h) Vehicles powered by model year 2007 and later diesel-fueled engines and other diesel vehicles certified using a test fuel with 15 ppm sulfur or less, must include permanent readily visible labels on the dashboard (or instrument panel) and near all fuel inlets that state “Use Ultra Low Sulfur Diesel Fuel Only” or “Ultra Low Sulfur Diesel Fuel Only”.

■ 64. Section 86.1808–01 is amended by revising paragraph (f)(19)(iii) to read as follows:

§ 86.1808-01 Maintenance instructions.

* * * * *

(f) * * *

(19) * * *

(iii) Any person who violates a provision of this paragraph (f) shall be subject to a civil penalty of not more than \$32,500 per day for each violation. This maximum penalty is shown for calendar year 2004. Maximum penalty limits for later years may be set higher based on the Consumer Price Index, as specified in 40 CFR part 19. In addition, such person shall be liable for all other

remedies set forth in Title II of the Clean Air Act, remedies pertaining to provisions of Title II of the Clean Air Act, or other applicable provisions of law.

■ 65. Section 86.1808-07 is amended by revising paragraph (g) to read as follows:

§ 86.1808-07 Maintenance instructions.

* * * * *

(g) For each new diesel-fueled Tier 2 vehicle (certified using a test fuel with 15 ppm sulfur or less), the manufacturer shall furnish or cause to be furnished to the purchaser a statement that "This

vehicle must be operated only with ultra low sulfur diesel fuel (that is, diesel fuel meeting EPA specifications for highway diesel fuel, including a 15 ppm sulfur cap)."

■ 66. Section 86.1811-04 is amended by revising Table S04-2 in paragraph (c)(6) to read as follows:

§ 86.1811-04 Emission standards for light-duty vehicles, light-duty trucks and medium-duty passenger vehicles.

* * * * *

(c) * * *

(6) * * *

TABLE S04-2.—TIER 2 AND INTERIM NON-TIER 2 INTERMEDIATE USEFUL LIFE (50,000 MILE) EXHAUST MASS EMISSION STANDARDS (GRAMS PER MILE)

Bin No.	NO _x	NMOG	CO	HCHO	PM	Notes
11	0.6	0.195	5.0	0.022	.....	a c f h
10	0.4	0.125/0.160	3.4/4.4	0.015/0.018	.....	a b d f g h
9	0.2	0.075/0.140	3.4	0.015	.....	a b e f g h
8	0.14	0.100/0.125	3.4	0.015	.....	b f h i
7	0.11	0.075	3.4	0.015	.....	f h
6	0.08	0.075	3.4	0.015	.....	f h
5	0.05	0.075	3.4	0.015	.....	f h

Notes:

^a This bin deleted at end of 2006 model year (end of 2008 model year for HLDTs and MDPVs).

^b Higher NMOG, CO and HCHO values apply for HLDTs and MDPVs only.

^c This bin is only for MDPVs.

^d Optional NMOG standard of 0.195 g/mi applies for qualifying LDT4s and qualifying MDPVs only.

^e Optional NMOG standard of 0.100 g/mi applies for qualifying LDT2s only.

^f The full useful life PM standards from Table S04-1 also apply at intermediate useful life.

^g Intermediate life standards of this bin are optional for diesels.

^h Intermediate life standards are optional for vehicles certified to a useful life of 150,000 miles.

ⁱ Higher NMOG standard deleted at end of 2008 model year.

* * * * *

■ 67. Section 86.1816-08 is amended by revising paragraph (j)(2) to read as follows:

§ 86.1816-08 Emission standards for complete heavy-duty vehicles.

* * * * *

(j) * * *

(2) The in-use adjustments are:

(i) 0.1 g/mi for NO_x.

(ii) 0.100 g/mi NMHC.

(iii) 0.01 g/mi for PM.

■ 68. Section 86.1834-01 is amended by revising paragraph (b)(4) introductory text, (b)(6)(ii) introductory text, and (b)(6)(ii)(D) to read as follows:

§ 86.1834-01 Allowable maintenance.

* * * * *

(b) * * *

(4) For diesel-cycle light-duty vehicles and light-duty trucks, emission-related maintenance in addition to, or at shorter intervals than the following will not be accepted as technologically necessary, except as provided in paragraph (b)(7) of this section:

* * * * *

(6) * * *

(ii) All critical emission-related scheduled maintenance must have a

reasonable likelihood of being performed in use. The manufacturer shall be required to show the reasonable likelihood of such maintenance being performed in use, and such showing shall be made prior to the performance of the maintenance on the durability data vehicle. Critical emission-related scheduled maintenance items which satisfy one of the following conditions will be accepted as having a reasonable likelihood of the maintenance item being performed in use:

* * * * *

(D) A manufacturer may desire to demonstrate through a survey that a critical maintenance item is likely to be performed without a visible signal on a maintenance item for which there is no prior in-use experience without the signal. To that end, the manufacturer may in a given model year market up to 200 randomly selected vehicles per critical emission-related maintenance item without such visible signals, and monitor the performance of the critical maintenance item by the owners to show compliance with paragraph (b)(6)(ii)(B) of this section. This option is restricted to two consecutive model years and may not be

repeated until any previous survey has been completed.

If the critical maintenance involves more than one test group, the sample will be sales weighted to ensure that it is representative of all the groups in question.

* * * * *

■ 69. In Appendix I to Part 86, paragraph (a) is amended by revising the table entries for "961" and "1345", paragraph (b) is amended by revising the table entries for "363," "405," "453," "491," "577," "662," "663," "664," and "932", and paragraph (h) is amended by adding table entries for "595," "596," "597," "598," "599," and "600" in numerical order to read as follows:

Appendix I to Part 86—Urban Dynamometer Schedules

(a) EPA Urban Dynamometer Driving Schedule for Light-Duty Vehicles and Light-Duty Trucks.

EPA URBAN DYNAMOMETER DRIVING SCHEDULE

[Speed versus Time Sequence]

	Time (sec.)	Speed (m.p.h.)
961	*	5.3
1345	*	18.3

(b) EPA Urban Dynamometer Driving Schedule for Light-Duty Vehicles, Light-Duty Trucks, and Motorcycles with engine displacements equal to or greater than 170 cc (10.4 cu. in.).

SPEED VERSUS TIME SEQUENCE

	Time (seconds)	Speed (kilometers per hour)
363	*	52.8
405	*	14.8
453	*	31.9
491	*	55.5
577	*	27.4
662	*	42.0
663	*	42.2
664	*	42.2
932	*	40.2

(h) EPA SC03 Driving Schedule for Light-Duty Vehicles and Light-Duty Trucks.

EPA SC03 DRIVING SCHEDULE

[Speed versus Time Sequence]

	Time (sec)	Speed (mph)
595	*	0.0
596	*	0.0
597	*	0.0
598	*	0.0
599	*	0.0
600	*	0.0

PART 89—CONTROL OF EMISSIONS FROM NEW AND IN-USE NONROAD COMPRESSION-IGNITION ENGINES

■ 70. The authority citation for part 89 is revised to read as follows:

Authority: 42 U.S.C. 7401–7671q.

■ 71. Section 89.1 is amended by revising paragraph (b)(4)(ii) and adding paragraph (c) to read as follows:

§ 89.1 Applicability.

* * * * *

(b) * * *

(4) * * *

(ii) Are exempted from the requirements of 40 CFR part 94 by exemption provisions of 40 CFR part 94 other than those specified in 40 CFR 94.907 or 94.912.

* * * * *

(c) In certain cases, the regulations in this part 89 apply to engines at or above 250 kW that would otherwise be covered by 40 CFR part 1048. See 40 CFR 1048.620 for provisions related to this allowance.

■ 72. Section 89.2 is amended by removing the definitions for “Marine diesel engine” and “Vessel”, revising the definition of “United States”, and adding definitions for “Amphibious vehicle”, “Marine engine”, and “Marine vessel” to read as follows:

§ 89.2 Definitions.

* * * * *

Amphibious vehicle means a vehicle with wheels or tracks that is designed primarily for operation on land and secondarily for operation in water.

Marine engine means a nonroad engine that is installed or intended to be installed on a marine vessel. This includes a portable auxiliary marine engine only if its fueling, cooling, or exhaust system is an integral part of the vessel. There are two kinds of marine engines:

(1) Propulsion marine engine means a marine engine that moves a vessel through the water or directs the vessel’s movement.

(2) Auxiliary marine engine means a marine engine not used for propulsion.

Marine vessel has the meaning given in 1 U.S.C. 3, except that it does not include amphibious vehicles. The definition in 1 U.S.C. 3 very broadly includes every craft capable of being used as a means of transportation on water.

* * * * *

United States means the States, the District of Columbia, the Commonwealth of Puerto Rico, the Commonwealth of the Northern Mariana

Islands, Guam, American Samoa, and the U.S. Virgin Islands.

* * * * *

■ 73. Section 89.102 is amended by revising paragraph (d)(1)(i) to read as follows:

§ 89.102 Effective dates, optional inclusion, flexibility for equipment manufacturers.

* * * * *

(d) * * *

(1) * * *

(i) Equipment rated at or above 37 kW. For nonroad equipment and vehicles with engines rated at or above 37 kW, a manufacturer may take any of the actions identified in § 89.1003(a)(1) for a portion of its U.S.-directed production volume of such equipment and vehicles during the seven years immediately following the date on which Tier 2 engine standards first apply to engines used in such equipment and vehicles, provided that the seven-year sum of these portions in each year, as expressed as a percentage for each year, does not exceed 80, and provided that all such equipment and vehicles or equipment contain Tier 1 or Tier 2 engines;

* * * * *

■ 74. Section 89.110 is amended by revising paragraph (b)(2) to read as follows:

§ 89.110 Emission control information label.

* * * * *

(b) * * *

(2) The full corporate name and trademark of the manufacturer; though the label may identify another company and use its trademark instead of the manufacturer’s if the provisions of § 89.1009 are met.

* * * * *

■ 75. Section 89.112 is amended by revising paragraph (f)(3) to read as follows:

§ 89.112 Oxides of nitrogen, carbon monoxide, hydrocarbon, and particulate matter exhaust emission standards.

* * * * *

(f) * * *

(3) *Test procedures.* NO_x, NMHC, and PM emissions are measured using the procedures set forth in 40 CFR part 1065, in lieu of the procedures set forth in subpart E of this part. CO emissions may be measured using the procedures set forth either in 40 CFR part 1065 or in subpart E of this part. Manufacturers may use an alternate procedure to demonstrate the desired level of emission control if approved in advance by the Administrator. Engines meeting the requirements to qualify as Blue Sky

Series engines must be capable of maintaining a comparable level of emission control when tested using the procedures set forth in paragraph (c) of this section and subpart E of this part. The numerical emission levels measured using the procedures from subpart E of this part may be up to 20 percent higher than those measured using the procedures from 40 CFR part 1065 and still be considered comparable.

* * * * *

■ 76. Section 89.114 is amended by revising paragraph (b)(3) and adding paragraph (b)(4) to read as follows:

§ 89.114 Special and alternate test procedures.

* * * * *

(b) * * *

(3) A manufacturer may elect to use the test procedures in 40 CFR part 1065 as an alternate test procedure without advance approval by the Administrator. The manufacturer must identify in its application for certification that the engines were tested using the procedures in 40 CFR part 1065. For any EPA testing with Tier 2 or Tier 3 engines, EPA will use the manufacturer's selected procedures for mapping engines, generating duty cycles, and applying cycle-validation criteria. For any other parameters, EPA may conduct testing using either of the specified procedures.

(4) Where we specify mandatory compliance with the procedures of 40 CFR part 1065, such as in § 89.419, manufacturers may elect to use the procedures specified in 40 CFR part 86, subpart N, as an alternate test procedure without advance approval by the Administrator.

■ 77. Section 89.130 is revised to read as follows:

§ 89.130 Rebuild practices.

The provisions of 40 CFR 1068.120 apply to rebuilding of engines subject to the requirements of this part 89, except Tier 1 engines rated at or above 37 kW.

■ 78. Section 89.301 is amended by revising paragraph (d) to read as follows:

§ 89.301 Scope; applicability.

* * * * *

(d) Additional information about system design, calibration methodologies, and so forth, for raw gas sampling can be found in 40 CFR part 1065. Examples for system design, calibration methodologies, and so forth, for dilute exhaust gas sampling can be found in 40 CFR part 1065.

■ 79. Section 89.319 is amended by revising paragraphs (b)(2)(ii) and (c) introductory text to read as follows:

§ 89.319 Hydrocarbon analyzer calibration.

(b) * * *
(2) * * *

(ii) The HFID optimization procedures outlined in 40 CFR part 1065, subpart D.

* * * * *

(c) *Initial and periodic calibration.*

Prior to introduction into service, after any maintenance which could alter calibration, and monthly thereafter, the FID or HFID hydrocarbon analyzer shall be calibrated on all normally used instrument ranges using the steps in this paragraph (c). Use the same flow rate and pressures as when analyzing samples. Calibration gases shall be introduced directly at the analyzer, unless the "overflow" calibration option of 40 CFR part 1065, subpart F, for the HFID is taken. New calibration curves need not be generated each month if the existing curve can be verified as continuing to meet the requirements of paragraph (c)(3) of this section.

* * * * *

■ 80. Section 89.320 is amended by revising paragraph (d) to read as follows:

§ 89.320 Carbon monoxide analyzer calibration.

* * * * *

(d) The initial and periodic interference, system check, and calibration test procedures specified in 40 CFR part 1065 may be used in lieu of the procedures specified in this section.

■ 81. Section 89.321 is amended by revising paragraph (d) to read as follows:

§ 89.321 Oxides of nitrogen analyzer calibration.

* * * * *

(d) The initial and periodic interference, system check, and calibration test procedures specified in 40 CFR part 1065 may be used in lieu of the procedures specified in this section.

■ 82. Section 89.322 is amended by revising paragraph (b) to read as follows:

§ 89.322 Carbon dioxide analyzer calibration.

* * * * *

(b) The initial and periodic interference, system check, and calibration test procedures specified in 40 CFR part 1065 may be used in lieu of the procedures in this section.

■ 83. Section 89.410 is amended by adding paragraph (e) to read as follows:

§ 89.410 Engine test cycle.

* * * * *

(e) Manufacturers may optionally use the ramped-modal duty cycles corresponding to the discrete-mode duty cycles specified in this section, as described in 40 CFR 1039.505.

■ 84. Section 89.419 is amended by revising paragraphs (a) introductory text, (a)(3)(i), (b)(1) introductory text, (b)(2)(i), (b)(2)(v)(B), (b)(4)(ii), and (b)(4)(iii) to read as follows:

§ 89.419 Dilute gaseous exhaust sampling and analytical system description.

(a) *General.* The exhaust gas sampling system described in this section is designed to measure the true mass of gaseous emissions in the exhaust of petroleum-fueled nonroad compression-ignition engines. This system utilizes the CVS concept (described in 40 CFR part 1065, subparts A and B) of measuring mass emissions of HC, CO, and CO₂. A continuously integrated system is required for HC and NO_x measurement and is allowed for all CO and CO₂ measurements. The mass of gaseous emissions is determined from the sample concentration and total flow over the test period. As an option, the measurement of total fuel mass consumed over a cycle may be substituted for the exhaust measurement of CO₂. General requirements are as follows:

* * * * *

(3) * * *

(i) Bag sampling (see 40 CFR part 1065) and analytical capabilities (see 40 CFR part 1065), as shown in Figure 2 and Figure 3 in appendix A to this subpart; or

* * * * *

(b) * * *

(1) *Exhaust dilution system.* The PDP-CVS shall conform to all of the requirements listed for the exhaust gas PDP-CVS in 40 CFR part 1065. The CFV-CVS shall conform to all the requirements listed for the exhaust gas CFV-CVS in 40 CFR part 1065. In addition, the CVS must conform to the following requirements:

* * * * *

(2) * * *

(i) The continuous HC sample system (as shown in Figure 2 or 3 in appendix A to this subpart) uses an "overflow" zero and span system. In this type of system, excess zero or span gas spills out of the probe when zero and span checks of the analyzer are made. The "overflow" system may also be used to calibrate the HC analyzer according to 40 CFR part 1065, subpart F, although this is not required.

* * * * *

(v) * * *

(B) Have a wall temperature of 191 °C ±11 °C over its entire length. The temperature of the system shall be demonstrated by profiling the thermal characteristics of the system where possible at initial installation and after

any major maintenance performed on the system. The profiling shall be accomplished using the insertion thermocouple probing technique. The system temperature will be monitored continuously during testing at the locations and temperature described in 40 CFR 1065.145.

* * * * *

(4) * * *

(ii) The continuous NO_x, CO, or CO₂ sampling and analysis system shall conform to the specifications of 40 CFR 1065.145 with the following exceptions and revisions:

(A) The system components required to be heated by 40 CFR 1065.145 need only be heated to prevent water condensation, the minimum component temperature shall be 55 °C.

(B) The system response shall meet the specifications in 40 CFR part 1065, subpart C.

(C) Alternative NO_x measurement techniques outlined in 40 CFR part 1065, subpart D, are not permitted for NO_x measurement in this subpart.

(D) All analytical gases must conform to the specifications of § 89.312.

(E) Any range on a linear analyzer below 155 ppm must have and use a calibration curve conforming to § 89.310.

(iii) The chart deflections or voltage output of analyzers with non-linear calibration curves shall be converted to concentration values by the calibration curve(s) specified in § 89.313 before flow correction (if used) and subsequent integration takes place.

■ 85. Section 89.421 is amended by revising paragraphs (b) and (c) to read as follows:

§ 89.421 Exhaust gas analytical system; CVS bag sample.

* * * * *

(b) *Major component description.* The analytical system, Figure 4 in appendix A to this subpart, consists of a flame ionization detector (FID) (heated for petroleum-fueled compression-ignition engines to 191 °C ±6 °C) for the measurement of hydrocarbons, nondispersive infrared analyzers (NDIR) for the measurement of carbon monoxide and carbon dioxide, and a chemiluminescence detector (CLD) (or HCLD) for the measurement of oxides of nitrogen. The exhaust gas analytical system shall conform to the following requirements:

(1) The CLD (or HCLD) requires that the nitrogen dioxide present in the sample be converted to nitric oxide before analysis. Other types of analyzers may be used if shown to yield equivalent results and if approved in advance by the Administrator.

(2) If CO instruments are used which are essentially free of CO₂ and water vapor interference, the use of the conditioning column may be deleted. (See 40 CFR part 1065, subpart D.)

(3) A CO instrument will be considered to be essentially free of CO₂ and water vapor interference if its response to a mixture of 3 percent CO₂ in N₂, which has been bubbled through water at room temperature, produces an equivalent CO response, as measured on the most sensitive CO range, which is less than 1 percent of full scale CO concentration on ranges above 300 ppm full scale or less than 3 ppm on ranges below 300 ppm full scale. (See 40 CFR part 1065, subpart D.)

(c) *Alternate analytical systems.* Alternate analysis systems meeting the specifications of 40 CFR part 1065, subpart A, may be used for the testing required under this subpart. Heated analyzers may be used in their heated configuration.

* * * * *

■ 86. Section 89.424 is amended by revising the note at the end of paragraph (d)(3) to read as follows:

§ 89.424 Dilute emission sampling calculations.

* * * * *

(d) * * *

(3) * * *

(Note: If a CO instrument that meets the criteria specified in 40 CFR part 1065, subpart C, is used without a sample dryer according to 40 CFR 1065.145, CO_{em} must be substituted directly for CO_e and CO_{dm} must be substituted directly for CO_d.)

* * * * *

■ 87. Appendix A to Subpart F is amended by revising Table 1 to read as follows:

Appendix A to Subpart F of Part 89— Sampling Plans for Selective Enforcement Auditing of Nonroad Engines

TABLE 1.—SAMPLING PLAN CODE LETTER

Annual engine family sales	Code letter
20–50	AA ¹
20–99	A
100–299	B
300–499	C
500 or greater	D

¹ A manufacturer may optionally use either the sampling plan for code letter “AA” or sampling plan for code letter “A” for Selective Enforcement Audits of engine families with annual sales between 20 and 50 engines. Additionally, the manufacturer may switch between these plans during the audit.

* * * * *

■ 88. Section 89.603 is amended by adding paragraph (e) to read as follows:

§ 89.603 General requirements for importation of nonconforming nonroad engines.

* * * * *

(e)(1) The applicable emission standards for engines imported by an ICI under this subpart are the emission standards applicable to the Original Production (OP) year of the engine.

(2) Where engine manufacturers have choices in emission standards for one or more pollutants in a given model year, the standard that applies to the ICI is the least stringent standard for that pollutant applicable to the OP year for the appropriate power category.

(3) ICIs may not generate, use or trade emission credits or otherwise participate in any way in the averaging, banking and trading program.

(4) An ICI may import no more than a total of five engines under this part for any given model year, except as allowed by paragraph (e)(5) of this section. For ICIs owned by a parent company, the importation limit includes importation by the parent company and all its subsidiaries.

(5) An ICI may exceed the limit outlined in paragraph (e)(4) of this section, provided that any engines in excess of the limit meet the emission standards and other requirements outlined in the applicable provisions of Part 89 or 1039 of this chapter for the model year in which the engine is modified (instead of the emission standards and other requirements applicable for the OP year of the vehicle/engine).

■ 89. Section 89.611 is amended by revising paragraph (b)(1) to read as follows:

§ 89.611 Exemptions and exclusions.

* * * * *

(b) * * *

(1) *Exemption for repairs or alterations.* A person may conditionally import under bond a nonconforming engine solely for purpose of repairs or alterations. The engine may not be operated in the United States other than for the sole purpose of repair or alteration or shipment to the point of repair or alteration and to the port of export. It may not be sold or leased in the United States and is to be exported upon completion of the repairs or alterations.

* * * * *

■ 90. Section 89.612 is amended by revising paragraph (d) to read as follows:

§ 89.612 Prohibited acts; penalties.

* * * * *

(d) An importer who violates section 213(d) and section 203 of the Act is subject to the provisions of section 209 of the Act and is also subject to a civil penalty under section 205 of the Act of not more than \$32,500 for each nonroad engine subject to the violation.

In addition to the penalty provided in the Act, where applicable, a person or entity who imports an engine under the exemption provisions of § 89.611(b) and, who fails to deliver the nonroad engine to the U.S. Customs Service is liable for liquidated damages in the amount of the bond required by applicable Customs laws and regulations. The maximum penalty value listed in this paragraph (d) is shown for calendar year 2004.

Maximum penalty limits for later years may be adjusted based on the Consumer Price Index. The specific regulatory provisions for changing the maximum penalties, published in 40 CFR part 19, reference the applicable U.S. Code citation on which the prohibited action is based.

* * * * *

■ 91. A new § 89.614 is added to subpart G to read as follows:

§ 89.614 Importation of partially complete engines.

The provisions of 40 CFR 1068.330 apply for importation of partially complete engines, or engines that will be modified for applications other than those covered by this part 89.

■ 92. A new § 89.913 is added to subpart J to read as follows:

§ 89.913 What provisions apply to engines certified under the motor-vehicle program?

You may use the provisions of 40 CFR 1039.605 to introduce new nonroad engines into commerce if they are already certified to the requirements that apply to compression-ignition engines under 40 CFR parts 85 and 86. However, when using the provisions of 40 CFR 1039.605, references to this part 89 or sections in this part shall be used instead of references to 40 CFR part 1039 or sections in that part.

■ 93. A new § 89.914 is added to subpart J to read as follows:

§ 89.914 What provisions apply to vehicles certified under the motor-vehicle program?

You may use the provisions of 40 CFR 1039.610 to introduce new nonroad engines or equipment into commerce if the vehicle is already certified to the requirements that apply under 40 CFR parts 85 and 86. However, when using the provisions of 40 CFR 1039.610, references to this part 89 or sections in this part shall be used instead of references to 40 CFR part 1039 or sections in that part.

■ 94. A new § 89.915 is added to subpart J to read as follows:

§ 89.915 Staged-assembly exemption.

You may ask us to provide a temporary exemption to allow you to complete production of your engines at different facilities, as long as you maintain control of the engines until they are in their certified configuration. We may require you to take specific steps to ensure that such engines are in their certified configuration before reaching the ultimate purchaser. You may request an exemption under this section in your application for certification, or in a separate submission.

■ 95. Section 89.1003 is amended by removing and reserving paragraphs (b)(5) and (b)(6), redesignating (b)(7)(iv) as (b)(7)(vii), revising paragraphs (a)(3)(iii), (b)(7)(ii), and (b)(7)(iii), and adding paragraphs (b)(7)(iv) and (b)(7)(viii) to read as follows:

§ 89.1003 Prohibited acts.

(a) * * *

(3) * * *

(iii) For a person to deviate from the provisions of § 89.130 when rebuilding an engine (or rebuilding a portion of an engine or engine system). Such a deviation violates paragraph (a)(3)(i) of this section.

* * * * *

(b) * * *

(7) * * *

(ii) The engine manufacturer or its agent takes ownership and possession of the engine being replaced or confirms that the engine has been destroyed; and

(iii) If the engine being replaced was not certified to any emission standards under this part, the replacement engine must have a permanent label with your corporate name and trademark and the following language, or similar alternate language approved by the Administrator: THIS ENGINE DOES NOT COMPLY WITH FEDERAL NONROAD OR ON-HIGHWAY EMISSION REQUIREMENTS. SALE OR INSTALLATION OF THIS ENGINE FOR ANY PURPOSE OTHER THAN AS A REPLACEMENT ENGINE FOR AN ENGINE MANUFACTURED PRIOR TO JANUARY 1 [INSERT APPROPRIATE YEAR] IS A VIOLATION OF FEDERAL LAW SUBJECT TO CIVIL PENALTY.

(iv) If the engine being replaced was certified to emission standards less stringent than those in effect when you produce the replacement engine, the replacement engine must have a permanent label with your corporate name and trademark and the following language, or similar alternate language approved by the Administrator: THIS

ENGINE COMPLIES WITH U.S. EPA NONROAD EMISSION REQUIREMENTS FOR [Insert appropriate year reflecting when the Tier 1 or Tier 2 standards for the replaced engine began to apply] ENGINES UNDER 40 CFR 89.1003(b)(7). SELLING OR INSTALLING THIS ENGINE FOR ANY PURPOSE OTHER THAN TO REPLACE A NONROAD ENGINE BUILT BEFORE JANUARY 1, [Insert appropriate year reflecting when the next tier of emission standards began to apply] MAY BE A VIOLATION OF FEDERAL LAW SUBJECT TO CIVIL PENALTY.

* * * * *

(viii) The provisions of this section may not be used to circumvent emission standards that apply to new engines under this part.

■ 96. Section 89.1006 is amended by revising paragraphs (a)(1), (a)(2), (a)(5), and (c)(1) and adding paragraph (a)(6) to read as follows:

§ 89.1006 Penalties.

(a) * * *

(1) A person who violates § 89.1003(a)(1), (a)(4), or (a)(6), or a manufacturer or dealer who violates § 89.1003(a)(3)(i), is subject to a civil penalty of not more than \$32,500 for each violation.

(2) A person other than a manufacturer or dealer who violates § 89.1003(a)(3)(i) or any person who violates § 89.1003(a)(3)(ii) is subject to a civil penalty of not more than \$2,750 for each violation.

* * * * *

(5) A person who violates § 89.1003(a)(2) or (a)(5) is subject to a civil penalty of not more than \$32,500 per day of violation.

(6) The maximum penalty values listed in this section are shown for calendar year 2004. Maximum penalty limits for later years may be adjusted based on the Consumer Price Index. The specific regulatory provisions for changing the maximum penalties, published in 40 CFR part 19, reference the applicable U.S. Code citation on which the prohibited action is based.

* * * * *

(c) * * *

(1) Administrative penalty authority. In lieu of commencing a civil action under paragraph (b) of this section, the Administrator may assess any civil penalty prescribed in paragraph (a) of this section, except that the maximum amount of penalty sought against each violator in a penalty assessment proceeding shall not exceed \$270,000, unless the Administrator and the Attorney General jointly determine that a matter involving a larger penalty

amount is appropriate for administrative penalty assessment. Any such determination by the Administrator and the Attorney General is not subject to judicial review. Assessment of a civil penalty shall be by an order made on the record after opportunity for a hearing held in accordance with the procedures found at part 22 of this chapter. The Administrator may compromise, or remit, with or without conditions, any administrative penalty which may be imposed under this section.

* * * * *
■ 97. A new § 89.1009 is added to subpart K to read as follows:

§ 89.1009 What special provisions apply to branded engines?

A manufacturer identifying the name and trademark of another company on the emission control information label, as provided by § 89.110(b)(2), must comply with the provisions of 40 CFR 1039.640.

PART 90—CONTROL OF EMISSIONS FROM NONROAD SPARK-IGNITION ENGINES AT OR BELOW 19 KILOWATTS

■ 98. The authority citation for part 90 is revised to read as follows:

Authority: 42 U.S.C. 7401–7671q.

■ 99. Section 90.1 is amended by revising paragraphs (b) and (d)(5) and adding text to paragraph (c) to read as follows:

§ 90.1 Applicability.

(b) In certain cases, the regulations in this part 90 also apply to new engines with a gross power output above 19 kW that would otherwise be covered by 40 CFR part 1048 or 1051. See 40 CFR 1048.615 or 1051.145(a)(3) for provisions related to this allowance.

(c) In certain cases, the regulations in this part 90 apply to new engines below 50 cc used in motorcycles that are motor vehicles. See 40 CFR 86.447–2006 for provisions related to this allowance.

(d) * * *

(5) Engines certified to meet the requirements of 40 CFR part 1048, subject to the provisions of § 90.913.

■ 100. Section 90.3 is amended by revising the definitions for Marine engine, Marine vessel, and United States and adding definitions for Amphibious vehicle, Good engineering judgment, and Maximum engine power in alphabetical order to read as follows:

§ 90.3 Definitions.

Amphibious vehicle means a vehicle with wheels or tracks that is designed primarily for operation on land and secondarily for operation in water.

Good engineering judgment has the meaning given in 40 CFR 1068.30. See 40 CFR 1068.5 for the administrative process we use to evaluate good engineering judgment.

Marine engine means a nonroad engine that is installed or intended to be installed on a marine vessel. This includes a portable auxiliary marine engine only if its fueling, cooling, or exhaust system is an integral part of the vessel. There are two kinds of marine engines:

(1) Propulsion marine engine means a marine engine that moves a vessel through the water or directs the vessel's movement.

(2) Auxiliary marine engine means a marine engine not used for propulsion.

Marine vessel has the meaning given in 1 U.S.C. 3, except that it does not include amphibious vehicles. The definition in 1 U.S.C. 3 very broadly includes every craft capable of being used as a means of transportation on water.

Maximum engine power means the maximum value of gross power at rated speed.

United States means the States, the District of Columbia, the Commonwealth of Puerto Rico, the Commonwealth of the Northern Mariana Islands, Guam, American Samoa, and the U.S. Virgin Islands.

■ 101. Section 90.119 is amended by revising paragraph (a)(1)(i) to read as follows:

§ 90.119 Certification procedure—testing.

(a) * * *

(1) * * *

(i) Class I and II engines must use the test cycle that is appropriate for their application. Engines that operate only at intermediate speed must use Test Cycle A, which is described in Table 2 of Appendix A to subpart E of this part. Engines that operate only at rated speed must use Test Cycle B, which is described in Table 2 of Appendix A to subpart E of this part. If an engine family includes engines used in both rated-speed and intermediate-speed applications, the manufacturer must select the duty cycle that will result in worst-case emission results for certification. For any testing after certification, the engine must be tested using the most appropriate test cycle

based on the engine's installed governor.

■ 102. Section 90.120 is amended by adding and reserving paragraph (b)(3) and adding paragraph (b)(4) to read as follows:

§ 90.120 Certification procedure—use of special test procedures.

(b) * * *

(3) [Reserved]

(4) Where we specify mandatory compliance with the procedures of 40 CFR part 1065, manufacturers may elect to use the procedures specified in 40 CFR part 86, subpart N, as an alternate test procedure without advance approval by the Administrator.

■ 103. Section 90.301 is amended by revising paragraphs (c) and (d) to read as follows:

§ 90.301 Applicability.

(c) Additional information about system design, calibration methodologies, and so forth, for raw gas sampling can be found in 40 CFR part 1065. Examples for system design, calibration methodologies, and so forth, for dilute exhaust gas sampling can be found in 40 CFR part 1065.

(d) For Phase 2 Class I, Phase 2 Class I–B, and Phase 2 Class II natural gas fueled engines, use the procedures of 40 CFR part 1065 to measure nonmethane hydrocarbon (NMHC) exhaust emissions from Phase 2 Class I, Phase 2 Class I–B, and Phase 2 Class II natural gas fueled engines.

■ 104. Section 90.308 is amended by revising paragraph (b)(1) to read as follows:

§ 90.308 Lubricating oil and test fuels.

(b) * * *

(1) The manufacturer must use gasoline having the specifications, or substantially equivalent specifications approved by the Administrator, as specified in Table 3 in Appendix A of this subpart for exhaust emission testing of gasoline fueled engines. As an option, manufacturers may use the fuel specified in 40 CFR part 1065, subpart H, for gasoline-fueled engines.

■ 105. Section 90.316 is amended by revising paragraphs (b)(2)(ii) and (c) introductory text to read as follows:

§ 90.316 Hydrocarbon analyzer calibration.

(b) * * *

(2) * * *

(ii) The HFID optimization procedures outlined in 40 CFR part 1065, subpart D.

* * * * *

(c) *Initial and periodic calibration.*

Prior to initial use and monthly thereafter, or within one month prior to the certification test, the FID or HFID hydrocarbon analyzer must be calibrated on all normally used instrument ranges using the steps in this paragraph. Use the same flow rate and pressures as when analyzing samples. Introduce calibration gases directly at the analyzer. An optional method for dilute sampling described in 40 CFR part 1065, subpart F, may be used.

* * * * *

■ 106. Section 90.318 is amended by revising paragraph (d) to read as follows:

§ 90.318 Oxides of nitrogen analyzer calibration.

* * * * *

(d) The initial and periodic interference, system check, and calibration test procedures specified in 40 CFR part 1065, subpart D, may be used in lieu of the procedures specified in this section.

■ 107. Section 90.320 is amended by revising paragraph (b) to read as follows:

§ 90.320 Carbon dioxide analyzer calibration.

* * * * *

(b) The initial and periodic interference, system check, and calibration test procedures specified in 40 CFR part 1065, subparts C and D, may be used in lieu of the procedures in this section.

■ 108. Section 90.324 is amended by revising paragraphs (a)(3) and (b) to read as follows:

§ 90.324 Analyzer leakage check.

(a) * * *

(3) The sample probe and the connection between the sample probe and valve V2, see Figure 1 in Appendix B of subpart E of this part, may be excluded from the leak check.

(b) *Pressure-side leak check.* Substantial leaks of the sample on the pressure side of the system may impact sample integrity if the leaks are of sufficient magnitude. As a safety precaution, good engineering practice would require that manufacturers perform periodic pressure-side leak checks of the sampling system. The recommended maximum leakage rate on the pressure side is five percent of the in-use flow rate.

■ 109. Section 90.326 is amended by revising the introductory text, and paragraphs (a) and (e)(4) to read as follows:

§ 90.326 Pre- and post-test analyzer calibration.

Calibrate only the range of each analyzer used during the engine exhaust emission test prior to and after each test in accordance with the following:

(a) Make the calibration by using a zero gas and a span gas. The span gas value must be between 75 and 100 percent of the highest range used.

* * * * *

(e) * * *

(4) If the response of the zero gas or span gas differs more than one percent of full scale at the highest range used, then repeat paragraphs (e)(1) through (3) of this section.

■ 110. Section 90.401 is amended by revising paragraph (d) to read as follows:

§ 90.401 Applicability.

* * * * *

(d) For Phase 2 Class I, Phase 2 Class I-B, and Phase 2 Class II natural gas fueled engines, use the equipment specified in 40 CFR part 1065, subparts D and E, to measure nonmethane hydrocarbon (NMHC) exhaust emissions from Phase 2 Class I, Phase 2 Class I-B, and Phase 2 Class II natural gas fueled engines.

■ 111. Section 90.405 is amended by removing paragraph (d)(10).

■ 112. Section 90.408 is amended by revising paragraph (b)(2) to read as follows:

§ 90.408 Pre-test procedures.

* * * * *

(b) * * *

(2) An evaluation of the effects of test measurement systems on engine emissions shall be conducted using good engineering judgment to ensure that such test systems do not significantly impact exhaust emissions from the engine. For example, this would require evaluation of all types of emission sampling systems, and of fuel- and air-flow measurement systems for raw sampling. This can be accomplished by operating the engine at the highest engine torque value that will be encountered on the test cycle before and after such test systems are installed to ensure that the impact on measured torque is less than 5 percent. This may also be accomplished by measuring air-to-fuel ratio using a zirconia universal exhaust gas oxygen (UEGO) sensor to ensure that the impact on measured air-to-fuel ratio is less than 5 percent at the highest engine torque value that will be encountered on the test cycle before and after such test systems are installed. The impact of air- and fuel-flow measurement systems may be evaluated based on an engineering analysis of the impact of the change in pressure

induced on air-intake pressure and fuel supply pressure by these measurement systems. While this would typically be done before testing, it may also be done as a post-test verification.

* * * * *

■ 113. Section 90.409 is amended by revising paragraph (c)(6) to read as follows:

§ 90.409 Engine dynamometer test run.

* * * * *

(c) * * *

(6) If, during the emission measurement portion of a mode, the value of the gauges downstream of the NDIR analyzer(s) G3 or G4 (see Figure 1 in Appendix B of this subpart), differs by more than ± 0.5 kPa from the pretest value, the test mode is void.

■ 114. Section 90.417 is revised to read as follows:

§ 90.417 Fuel flow measurement specifications.

(a) Fuel flow measurement is required only for raw testing. Fuel flow is allowed for dilute testing.

(b) The fuel flow measurement instrument must have a minimum accuracy of one percent of full-scale flow rate for each measurement range used. An exception is allowed for the idle mode. For this mode, the minimum accuracy is \pm five percent of full-scale flow rate for the measurement range used. The controlling parameters are the elapsed time measurement of the event and the weight or volume measurement. You may apply the accuracy specifications of 40 CFR part 1065, subpart C, instead of those in this paragraph(b).

■ 115. Section 90.418 is revised to read as follows:

§ 90.418 Data evaluation for gaseous emissions.

For the evaluation of the gaseous emissions recording, record the last two minutes of each mode and determine the average values for HC, CO, CO₂ and NO_x during each mode from the average concentration readings determined from the corresponding calibration data. Longer averaging times are acceptable, but the reported sampling period must be a continuous set of data.

■ 116. Section 90.419 is amended by removing paragraph (e) and revising the equations for K_H and H in paragraphs (b) and (c) to read as follows:

§ 90.419 Raw emission sampling calculations—gasoline fueled engines.

* * * * *

(b) * * *

K_H = Factor for correcting the effects of humidity on NO₂ formation for 4-

stroke gasoline small engines, as follows:
 $K_H = (9.953 \times H + 0.832)$

Where:
 H = the amount of water in an ideal gas; 40 CFR 1065.645 describes how to determine this value (referred to as x_{H_2O}).

$K_H = 1$ for two-stroke gasoline engines.
 (c) * * *

K_H = Factor for correcting the effects of humidity on NO₂ formation for 4-stroke gasoline small engines, as follows:
 $K_H = (9.953 \times H + 0.832)$

Where:
 H = the amount of water in an ideal gas; 40 CFR 1065.645 describes how to determine this value (referred to as x_{H_2O}).

$K_H = 1$ for two-stroke gasoline engines.
 * * * * *

■ 117. Section 90.421 is amended by revising paragraph (b) introductory text and (b)(4)(ii) introductory text to read as follows:

§ 90.421 Dilute gaseous exhaust sampling and analytical system description.

(b) *Component description.* The components necessary for exhaust sampling must meet the following requirements:
 * * * * *

(4) * * *
 (ii) Conform to the continuous NO_x, CO, or CO₂ sampling and analysis system to the specifications of 40 CFR 1065.145, with the following exceptions and revisions:
 * * * * *

■ 118. Section 90.426 is amended by removing and reserving paragraphs (f) and (g) and revising paragraph (e) to read as follows:

§ 90.426 Dilute emission sampling calculations—gasoline fueled engines.

(e) The humidity correction factor K_H is an adjustment made to measured NO_x values. This corrects for the sensitivity that a spark-ignition engine has to the humidity of its combustion air. The following formula is used to determine K_H for NO_x calculations:
 $K_H = (9.953 H + 0.832)$

Where:
 H = the amount of water in an ideal gas; 40 CFR 1065.645 describes how to determine this value (referred to as x_{H_2O}).

$K_H = 1$ for two-stroke gasoline engines.
 (f) [Reserved]
 (g) [Reserved]

* * * * *

■ 119. Section 90.612 is amended by revising paragraph (b)(1) to read as follows:

§ 90.612 Exemptions and exclusions.

* * * * *

(b) * * *

(1) *Exemption for repairs or alterations.* A person may conditionally import under bond a nonconforming engine solely for purpose of repairs or alterations. The engine may not be operated in the United States other than for the sole purpose of repair or alteration or shipment to the point of repair or alteration and to the port of export. It may not be sold or leased in the United States and is to be exported upon completion of the repairs or alterations.
 * * * * *

■ 120. Section 90.613 is amended by revising paragraph (d) to read as follows:

§ 90.613 Prohibited acts; penalties.

* * * * *

(d) An importer who violates section 213(d) and section 203 of the Act is subject to a civil penalty under section 205 of the Act of not more than \$32,500 for each engine subject to the violation. In addition to the penalty provided in the Act, where applicable, under the exemption provisions of § 90.612(b), a person or entity who fails to deliver the engine to the U.S. Customs Service is liable for liquidated damages in the amount of the bond required by applicable Customs laws and regulations. The maximum penalty value listed in this paragraph (d) is shown for calendar year 2004. Maximum penalty limits for later years may be adjusted based on the Consumer Price Index. The specific regulatory provisions for changing the maximum penalties, published in 40 CFR part 19, reference the applicable U.S. Code citation on which the prohibited action is based.

■ 121. A new § 90.615 is added to subpart G to read as follows:

§ 90.615 Importation of partially complete engines.

The provisions of 40 CFR 1068.330 apply for importation of partially complete engines, or engines that will be modified for applications other than those covered by this part 90.

■ 122. Section 90.706 is amended by revising the equation for N in paragraph (b)(1) to read as follows:

§ 90.706 Engine sample selection.

* * * * *

(b) * * *

$$N = \left[\frac{(t_{95} \times \sigma)}{(x - FEL)} \right]^2 + 1$$

* * * * *

■ 123. A new § 90.913 is added to subpart J to read as follows:

§ 90.913 Exemption for engines certified to standards for large SI engines.

(a) An engine is exempt from the requirements of this part if it is in an engine family that has a valid certificate of conformity showing that it meets emission standards and other requirements under 40 CFR part 1048 for the appropriate model year.

(b) The only requirements or prohibitions from this part that apply to an engine that is exempt under this section are in this section.

(c) If your engines do not have the certificate required in paragraph (a) of this section, they will be subject to the provisions of this part. Introducing these engines into commerce without a valid exemption or certificate of conformity violates the prohibitions in § 90.1003.

(d) Engines exempted under this section are subject to all the requirements affecting engines under 40 CFR part 1048. The requirements and restrictions of 40 CFR part 1048 apply to anyone manufacturing these engines, anyone manufacturing equipment that uses these engines, and all other persons in the same manner as if these were nonroad spark-ignition engines above 19 kW.

(e) Engines exempted under this section may not generate or use emission credits under this part 90.

■ 124. Section 90.1006 is amended by revising paragraphs (a)(1), (a)(2), (a)(5), and (c)(1) and adding paragraph (a)(6) to read as follows:

§ 90.1006 Penalties.

(a) * * *

(1) A person who violates § 90.1003(a)(1), (a)(4), or (a)(5), or a manufacturer or dealer who violates § 90.1003(a)(3)(i), is subject to a civil penalty of not more than \$32,500 for each violation.

(2) A person other than a manufacturer or dealer who violates § 90.1003(a)(3)(i) or any person who violates § 90.1003(a)(3)(ii) is subject to a civil penalty of not more than \$2,750 for each violation.

* * * * *

(5) A person who violates § 90.1003(a)(2) or (a)(6) is subject to a civil penalty of not more than \$32,500 per day of violation.

(6) The maximum penalty values listed in this section are shown for

calendar year 2004. Maximum penalty limits for later years may be adjusted based on the Consumer Price Index. The specific regulatory provisions for changing the maximum penalties, published in 40 CFR part 19, reference the applicable U.S. Code citation on which the prohibited action is based.

* * * * *

(c) * * *

(1) Administrative penalty authority. In lieu of commencing a civil action under paragraph (b) of this section, the Administrator shall assess any civil penalty prescribed in paragraph (a) of this section, except that the maximum amount of penalty sought against each violator in a penalty assessment proceeding can not exceed \$270,000, unless the Administrator and the Attorney General jointly determine that a matter involving a larger penalty amount is appropriate for administrative penalty assessment. Any such determination by the Administrator and the Attorney General is not subject to judicial review. Assessment of a civil penalty is made by an order made on the record after opportunity for a hearing held in accordance with the procedures found at part 22 of this chapter. The Administrator may compromise, or remit, with or without conditions, any administrative penalty which may be imposed under this section.

* * * * *

PART 91—CONTROL OF EMISSIONS FROM MARINE SPARK-IGNITION ENGINES

■ 125. The authority citation for part 91 is revised to read as follows:

Authority: 42 U.S.C. 7401—7671q.

■ 126. Section 91.3 is amended by revising the definitions for “Marine spark-ignition engine”, “Marine vessel”, and “United States”, adding definitions for “Amphibious vehicle”, “Marine engine”, and “Spark-ignition” in alphabetical order to read as follows:

§ 91.3 Definitions.

* * * * *

Amphibious vehicle means a vehicle with wheels or tracks that is designed primarily for operation on land and secondarily for operation in water.

* * * * *

Marine engine means a nonroad engine that is installed or intended to be installed on a marine vessel. This includes a portable auxiliary marine engine only if its fueling, cooling, or exhaust system is an integral part of the vessel. There are two kinds of marine engines:

(1) Propulsion marine engine means a marine engine that moves a vessel through the water or directs the vessel’s movement.

(2) Auxiliary marine engine means a marine engine not used for propulsion.

* * * * *

Marine spark-ignition engine means a spark-ignition marine engine that propels a marine vessel.

Marine vessel has the meaning given in 1 U.S.C. 3, except that it does not include amphibious vehicles. The definition in 1 U.S.C. 3 very broadly includes every craft capable of being used as a means of transportation on water.

* * * * *

Spark-ignition means relating to a gasoline-fueled engine or any other type of engine with a spark plug (or other sparking device) and with operating characteristics significantly similar to the theoretical Otto combustion cycle. Spark-ignition engines usually use a throttle to regulate intake air flow to control power during normal operation.

* * * * *

United States means the States, the District of Columbia, the Commonwealth of Puerto Rico, the Commonwealth of the Northern Mariana Islands, Guam, American Samoa, and the U.S. Virgin Islands.

* * * * *

■ 127. Section 91.119 is amended by adding and reserving paragraph (b)(3) and adding paragraph (b)(4) to read as follows:

§ 91.119 Certification procedure—use of special test procedures.

* * * * *

(b) * * *

(3) [Reserved]

(4) Where we specify mandatory compliance with the procedures of 40 CFR part 1065, manufacturers may elect to use the procedures specified in 40 CFR part 86, subpart N, as an alternate test procedure without advance approval by the Administrator.

■ 128. Section 91.207 is amended by revising the second equation for S(t) in paragraph (a) to read as follows:

§ 91.207 Credit calculation and manufacturer compliance with emission standards.

(a) * * *

$$S(t) = \exp - (0.906 \times t / \mu_{life})^4$$

* * * * *

■ 129. Section 91.301 is amended by revising paragraph (c) to read as follows:

§ 91.301 Scope; applicability.

* * * * *

(c) Additional information about system design, calibration

methodologies, and so forth, for raw gas sampling can be found in 40 CFR part 1065. Examples for system design, calibration methodologies, and so forth, for dilute sampling can be found in 40 CFR part 1065.

■ 130. Section 91.316 is amended by revising paragraphs (b)(2)(ii) and (c) introductory text, and the first equation in paragraph (d)(6) to read as follows:

§ 91.316 Hydrocarbon analyzer calibration.

* * * * *

(b) * * *

(2) * * *

(ii) The HFID optimization procedures outlined in 40 CFR part 1065, subpart D.

* * * * *

(c) Initial and periodic calibration. Prior to introduction into service and monthly thereafter, or within one month prior to the certification test, calibrate the FID or HFID hydrocarbon analyzer on all normally used instrument ranges, using the steps in this paragraph. Use the same flow rate and pressures as when analyzing samples. Introduce calibration gases directly at the analyzer. An optional method for dilute sampling described in 40 CFR part 1065, subpart F, may be used.

* * * * *

(d) * * *

(6) * * *

$$\text{percent O}_2 \text{ I} = (B - \text{Analyzer response (ppm C)}) / B \times 100$$

* * * * *

■ 131. Section 91.318 is amended by revising paragraph (d) and the equation in paragraph (b)(11) to read as follows:

§ 91.318 Oxides of nitrogen analyzer calibration.

* * * * *

(b) * * *

(11) * * *

$$\text{percent efficiency} = (1 + (a - b) / (c - d)) \times 100$$

* * * * *

(d) The initial and periodic interference, system check, and calibration test procedures specified in 40 CFR part 1065, subparts C and D, may be used in lieu of the procedures specified in this section.

■ 132. Section 91.320 is amended by revising paragraph (b) to read as follows:

§ 91.320 Carbon dioxide analyzer calibration.

* * * * *

(b) The initial and periodic interference, system check, and calibration test procedures specified in 40 CFR part 1065, subparts C and D, may be used in lieu of the procedures in this section.

■ 133. Section 91.325 is amended by revising the equations in paragraphs

(c)(1)(iv) and (c)(2)(iii) and adding paragraph (c)(2)(iv) to read as follows:

§ 91.325 Analyzer interference checks.

- * * * * *
- (c) * * *
- (1) * * *
- (iv) * * *

$$\text{percent CO}_2 \text{ quench} = 100 - 100 \times [c \times a / (d \times a - d \times b)] \times a/b$$

- * * * * *
- (2) * * *
- (iii) * * *

$$D1 = D \times (1 - Z1/100)$$

(iv)(A) The maximum raw or dilute exhaust water vapor concentration expected during testing (designated as Wm) can be estimated from the CO₂ span gas (or as defined in the equation in this paragraph and designated as A) criteria in paragraph (c)(1) of this section and the assumption of a fuel atom H/C ratio of 1.8:1 as:

$$Wm(\%) = 0.9 \times A(\%)$$

Where:

A = maximum CO₂ concentration expected in the sample system during testing.

(B) Percent water quench shall not exceed 3 percent and shall be calculated by:

$$\% \text{ Water Quench} = 100 \times (D1 - AR) / D1 \times Wm/Z1$$

■ 134. Section 91.419 is amended by revising the entry defining “M_{H_Cexh}” in paragraph (b) to read as follows:

§ 91.419 Raw emission sampling calculations.

- * * * * *
- (b) * * *

M_{H_Cexh} = Molecular weight of hydrocarbons in the exhaust; see the following equation:

$$M_{H_{C}exh} = 12.01 + 1.008 \times \alpha$$

* * * * *

■ 135. Section 91.421 is amended by revising paragraph (b)(4)(ii) and (b)(4)(iii) to read as follows:

§ 91.421 Dilute gaseous exhaust sampling and analytical system description.

- * * * * *
- (b) * * *
- (4) * * *

(ii) Conform to the continuous NO_x, CO, or CO₂ sampling and analysis system to the specifications of 40 CFR 1065.145, with the following exceptions and revisions:

(A) Heat the system components requiring heating only to prevent water condensation, the minimum component temperature is 55 °C.

(B) Coordinate analysis system response time with CVS flow fluctuations and sampling time/test

cycle offsets to meet the time-alignment and dispersion specifications in 40 CFR part 1065, subpart C.

(C) Use only analytical gases conforming to the specifications of 40 CFR 1065.750 for calibration, zero, and span checks.

(D) Use a calibration curve conforming to 40 CFR part 1065, subparts C and D, for CO, CO₂, and NO_x for any range on a linear analyzer below 155 ppm.

(iii) Convert the chart deflections or voltage output of analyzers with non-linear calibration curves to concentration values by the calibration curve(s) specified in 40 CFR part 1065, subpart D, before flow correction (if used) and subsequent integration takes place.

■ 136. Section 91.705 is amended by revising paragraph (d) to read as follows:

§ 91.705 Prohibited acts; penalties.

* * * * *

(d) An importer who violates § 91.1103(a)(1), section 213(d) and section 203 of the Act is subject to a civil penalty under § 91.1106 and section 205 of the Act of not more than \$32,500 for each marine engine subject to the violation. In addition to the penalty provided in the Act, where applicable, a person or entity who imports an engine under the exemption provisions of § 91.704(b) and, who fails to deliver the marine engine to the U.S. Customs Service by the end of the period of conditional admission is liable for liquidated damages in the amount of the bond required by applicable Customs laws and regulations. The maximum penalty value listed in this paragraph (d) is shown for calendar year 2004. Maximum penalty limits for later years may be adjusted based on the Consumer Price Index. The specific regulatory provisions for changing the maximum penalties, published in 40 CFR part 19, reference the applicable U.S. Code citation on which the prohibited action is based.

■ 137. A new § 91.707 is added to read as follows:

§ 91.707 Importation of partially complete engines.

The provisions of 40 CFR 1068.330 apply for importation of partially complete engines.

■ 138. Section 91.1106 is amended by revising paragraphs (a)(1), (a)(2), (a)(5), and (c)(1) and adding paragraph (a)(6) to read as follows:

§ 91.1106 Penalties.

- (a) * * *

(1) A person who violates § 91.1103(a)(1), (a)(4), or (a)(5), or a manufacturer

or dealer who violates § 91.1103(a)(3)(i), is subject to a civil penalty of not more than \$32,500 for each violation.

(2) A person other than a manufacturer or dealer who violates § 91.1103(a)(3)(i) or any person who violates § 91.1103(a)(3)(ii) is subject to a civil penalty of not more than \$2,750 for each violation.

* * * * *

(5) A person who violates § 91.1103(a)(2) or (a)(6) is subject to a civil penalty of not more than \$32,500 per day of violation.

(6) The maximum penalty values listed in this section are shown for calendar year 2004. Maximum penalty limits for later years may be adjusted based on the Consumer Price Index. The specific regulatory provisions for changing the maximum penalties, published in 40 CFR part 19, reference the applicable U.S. Code citation on which the prohibited action is based.

* * * * *

- (c) * * *

(1) Administrative penalty authority. In lieu of commencing a civil action under paragraph (b) of this section, the Administrator shall assess any civil penalty prescribed in paragraph (a) of this section, except that the maximum amount of penalty sought against each violator in a penalty assessment proceeding can not exceed \$270,000, unless the Administrator and the Attorney General jointly determine that a matter involving a larger penalty amount is appropriate for administrative penalty assessment. Any such determination by the Administrator and the Attorney General is not subject to judicial review. Assessment of a civil penalty is made by an order made on the record after opportunity for a hearing held in accordance with the procedures found at part 22 of this chapter. The Administrator may compromise, or remit, with or without conditions, any administrative penalty which may be imposed under this section.

* * * * *

PART 92—CONTROL OF AIR POLLUTION FROM LOCOMOTIVES AND LOCOMOTIVE ENGINES

■ 139. The authority citation for part 92 is revised to read as follows:

Authority: 42 U.S.C. 7401–7671q.

■ 140. Section 92.1 is amended by revising paragraphs (a) introductory text, (b)(3), and (b)(4) and adding paragraph (d) to read as follows:

§ 92.1 Applicability.

(a) Except as noted in paragraphs (b) and (d) of this section, the provisions of this part apply to manufacturers, remanufacturers, owners and operators of:

* * * * *

(b) * * *

(3) Locomotive engines which provide only hotel power (see 40 CFR parts 89 and 1039 to determine if such engines are subject to EPA emission requirements); or

(4) Nonroad vehicles excluded from the definition of locomotive in § 92.2, and the engines used in such nonroad vehicles (see 40 CFR parts 86, 89, and 1039 to determine if such vehicles or engines are subject to EPA emission requirements).

* * * * *

(d) The provisions of subpart L of this part apply to all persons.

■ 141. Section 92.2 is amended in paragraph (b) by revising the definitions for “Calibration”, “Locomotive”, paragraph (5) of the definition for “New locomotive or new locomotive engine”, “Repower”, and “United States” to read as follows:

§ 92.2 Definitions.

* * * * *

(b) * * *

Calibration means the set of specifications, including tolerances, specific to a particular design, version, or application of a component, or components, or assembly capable of functionally describing its operation over its working range. This definition does apply to Subpart B of this part.

* * * * *

Locomotive means a self-propelled piece of on-track equipment designed for moving or propelling cars that are designed to carry freight, passengers or other equipment, but which itself is not designed or intended to carry freight, passengers (other than those operating the locomotive) or other equipment. The following other equipment are not locomotives (see 40 CFR parts 86 and 89 for this equipment):

(1) Equipment which is designed for operation both on highways and rails are not locomotives.

(2) Specialized railroad equipment for maintenance, construction, post accident recovery of equipment, and repairs; and other similar equipment, are not locomotives.

(3) Vehicles propelled by engines with total rated horsepower of less than 750 kW (1006 hp) are not locomotives (see 40 CFR parts 86 and 89 for this equipment), unless the owner (including manufacturers) chooses to

have the equipment certified under the requirements of this part. Where equipment is certified as a locomotive pursuant to this paragraph (3), it shall be subject to the requirements of this part for the remainder of its service life. For locomotives propelled by two or more engines, the total rated horsepower is the sum of the rated horsepower of each engine.

* * * * *

New locomotive or new locomotive engine means: * * *

(5) Notwithstanding paragraphs (1) through (3) of this definition, locomotives and locomotive engines which are owned by a small railroad and which have never been manufactured or remanufactured into a certified configuration are not new.

* * * * *

Repower means replacement of the engine in a previously used locomotive with a freshly manufactured locomotive engine. Replacing a locomotive engine with a freshly manufactured locomotive engine in a locomotive that has a refurbished or reconditioned chassis such that less than 25 percent of the parts of the locomotive were previously used (as weighted by dollar value) is not repowering.

* * * * *

United States means the States, the District of Columbia, the Commonwealth of Puerto Rico, the Commonwealth of the Northern Mariana Islands, Guam, American Samoa, and the U.S. Virgin Islands.

* * * * *

■ 142. Section 92.8 is amended by revising paragraph (b) to read as follows:

§ 92.8 Emission standards.

* * * * *

(b) No crankcase emissions shall be discharged directly into the ambient atmosphere from any new locomotive or new locomotive engine, except as allowed by paragraph (1) of this paragraph (b).

(1) Discharge of crankcase emissions into the engine exhaust complies with this prohibition, provided crankcase emissions are measured and included with exhaust emissions. Other discharge of crankcase emissions complies with this prohibition, provided crankcase emissions are measured in all certification, production-line, and in-use tests and the masses are added mathematically to the exhaust emissions.

(2) Compliance with this standard is required throughout the entire service life of the locomotive or locomotive engine.

* * * * *

■ 143. Section 92.12 is amended by adding paragraphs (g) and (h) to read as follows:

§ 92.12 Interim provisions.

* * * * *

(g) *Tier 0 locomotive labels.*

Remanufacturers may use identical labels for locomotives and engines for Tier 0 locomotives, provided the remanufacturer demonstrates to EPA that they will supply two labels (one for the locomotive and one for the engine) only with those remanufacturing systems being applied to locomotives that have not been previously labeled (i.e., locomotives that have not been previously certified). For other locomotives, the remanufacturer may only supply one label.

(h) *Labels for calendar year 2005.*

During calendar year 2005, manufacturers and remanufacturers may comply with the labeling requirements that were applicable during calendar year 2004, instead of the labeling requirements specified in § 92.212(c)(2)(v).

■ 144. Section 92.104 is amended by revising paragraph (b)(1)(i) to read as follows:

§ 92.104 Locomotive and engine testing; overview.

* * * * *

(b) * * *

(1) * * *

(i) Engine speed setpoints for each mode shall be within 2 percent of the speed of the engine when it is operated in the locomotive. Engine load setpoints for each mode shall be within 2 percent (or 3.0 horsepower, whichever is greater) of the load of the engine when it is operated in the locomotive.

* * * * *

■ 145. Section 92.105 is amended by revising paragraph (d) to read as follows:

§ 92.105 General equipment specifications.

* * * * *

(d) *Electrical measurements.*

Instruments used to measure engine power output shall comply with the requirements of § 92.106.

* * * * *

■ 146. Section 92.106 is amended by revising paragraph (b)(1)(ii) to read as follows:

§ 92.106 Equipment for loading the engine.

* * * * *

(b) * * *

(1) * * *

(ii) Engine flywheel torque readout shall be accurate to within ±2 percent of the NIST “true” value torque at all power settings above 10 percent of full-

scale, and accurate to within ±5 percent of the NIST “true” value torque at power settings at or below 10 percent of full-scale.

■ 147. Section 92.109 is amended by revising paragraph (c)(3) to read as follows:

§ 92.109 Analyzer specifications.

* * * * *

(c) * * *

(3) *Alcohols and Aldehydes.* The sampling and analysis procedures for alcohols and aldehydes, where applicable, shall be approved by the Administrator prior to the start of testing. Procedures are allowed if they are consistent with the general requirements of 40 CFR part 1065, subpart I, for sampling and analysis of alcohols and aldehydes, and with good engineering practice.

* * * * *

■ 148. Section 92.114 is amended by revising paragraphs (a)(2)(ii), (d)(2) introductory text and (e)(1) to read as follows:

§ 92.114 Exhaust gas and particulate sampling and analytical system.

* * * * *

(a) * * *

(2) * * *

(ii) For locomotive testing where the locomotive has multiple exhaust stacks, proportional samples may be collected from each exhaust outlet instead of

ducting the exhaust stacks together, provided that the CO₂ concentrations in each exhaust stream are shown (either prior to testing or during testing) to be within 5 percent of each other at notch 8.

* * * * *

(d) * * *

(2) For engine testing, either a locomotive-type or a facility-type exhaust system (or a combination system) may be used. The exhaust backpressure for engine testing shall be set between 90 and 100 percent of the maximum backpressure that will result with the exhaust systems of the locomotives in which the engine will be used. Backpressure less than 90 percent of the maximum value is also allowed, provided the backpressure is within 0.07 psi of the maximum value. The facility-type exhaust system shall meet the following requirements:

* * * * *

(e) * * *

(1) Dilution of the exhaust prior to sampling is allowed for gaseous emissions. The equipment and methods used for dilution, sampling and analysis shall comply with the requirements of 40 CFR part 1065, with the following exceptions and additional requirements:

- (i) Proportional sampling and heat exchangers are not required;
- (ii) Larger minimum dimensions for the dilution tunnel(s) shall be specified by the Administrator;

(iii) Other modifications may be made with written approval from the Administrator.

* * * * *

■ 149. Section 92.123 is amended by revising paragraph (a)(2) to read as follows:

§ 92.123 Test procedure; general requirements.

(a) * * *

(2) For locomotives with multiple exhaust stacks, smoke testing is required for only one of the exhaust stacks provided the following conditions are met:

(i) The stack that is not tested is not visibly smokier than the stack that is tested, and

(ii) None of the measured opacity values for the stack tested are greater than three-quarters of the level allowed by any of the applicable smoke standards.

* * * * *

■ 150. Section 92.124 is amended by revising paragraph (f) to read as follows:

§ 92.124 Test sequence; general requirements.

* * * * *

(f) The required test sequence is described in Table B124–1 of this section, as follows:

TABLE B124–1

Test sequence for locomotives and locomotive engines

Mode No.	Notch setting	Time in notch	Emissions measured ²	Power, and fuel consumption measured
Warmup	Notch 8	5 ± 1 min	None	None
Warmup	Lowest Idle	15 min maximum (after engine speed reaches lowest idle speed).	None	None
1a	Low Idle ¹	6 min minimum	All	Both
1	Normal Idle	6 min minimum	All	Both
2	Dynamic Brake ¹	6 min minimum	All	Both
3	Notch 1	6 min minimum	All	Both
4	Notch 2	6 min minimum	All	Both
5	Notch 3	6 min minimum	All	Both
6	Notch 4	6 min minimum	All	Both
7	Notch 5	6 min minimum	All	Both
8	Notch 6	6 min minimum	All	Both
9	Notch 7	6 min minimum	All	Both
10	Notch 8	15 min minimum	All	Both

¹Omit if not so equipped.

²The EPA test sequence for locomotives and locomotive engines may be performed once, with gaseous, particulate and smoke measurements performed simultaneously, or it may be performed twice with gaseous, and particulate measurements performed during one test sequence and smoke measurements performed during the other test sequence. The minimum time in notch is three minutes for test sequences in which only smoke is measured.

■ 151. Section 92.126 is amended by revising paragraph (b)(3) to read as follows:

§ 92.126 Test run.

* * * * *

(b) * * *

(3) Fuel flow rate shall be measured continuously. The value reported for the fuel flow rate shall be a one-minute average of the instantaneous fuel flow

measurements taken during the last minute of the minimum sampling period listed in Table B124-1 in § 92.124; except for testing during idle modes, where it shall be a three-minute average of the instantaneous fuel flow measurements taken during the last three minutes of the minimum sampling period listed in Table B124-1 in § 92.124. Sampling periods greater than one minute are allowed, consistent with good engineering practice. Fuel flow averaging periods should generally match the emission sampling periods as closely as is practicable.

* * * * *

■ 152. Section 92.131 is amended by revising paragraph (b)(3) to read as follows:

§ 92.131 Smoke, data analysis.

* * * * *

(b) * * *

(3) The “steady-state” value is either:

(i) The highest reading occurring more than two minutes after the notch change (excluding peaks lasting less than 5 seconds, caused by such random events as the cycling of an air compressor) if opacity measurements are recorded graphically; or

(ii) The average of the second by second values between 120 and 180 seconds after the notch change if opacity measurements are recorded digitally.

* * * * *

■ 153. Section 92.132 is amended by revising paragraphs (b)(3)(iii)(D)(2) and (d) to read as follows:

§ 92.132 Calculations.

* * * * *

(b) * * *

(3) * * *

(iii) * * *

(D) * * *

(2) If a CO instrument that meets the criteria specified in 40 CFR part 1065, subpart C, is used without a sample dryer according to 40 CFR 1065.145, CO_{em} must be substituted directly for CO_e and CO_{dm} must be substituted directly for CO_d.

* * * * *

(d) *NO_x correction factor.* (1) NO_x emission rates (M_{NO_x mode}) shall be adjusted to account for the effects of humidity and temperature by multiplying each emission rate by K_{NO_x}, which is calculated from the following equations:

$$K_{NOx} = (K)(1 + (0.25(\log K)^2)^{1/2})$$

$$K = (K_H)(K_T)$$

$$K_H = [C_1 + C_2 \exp((-0.0143)(10.714))] / [C_1 + C_2 \exp((-0.0143)(1000H))]$$

$$C_1 = -8.7 + 164.5 \exp(-0.0218(A/F)_{wet})$$

$$C_2 = 130.7 + 3941 \exp(-0.0248(A/F)_{wet})$$

Where:

(A/F)_{wet} = Mass of moist air intake divided by mass of fuel intake.

K_T = 1/[1 - 0.0107(T₃₀ - T_A)] for tests conducted at ambient temperatures below 30 °C.

K_T = 1.00 for tests conducted at ambient temperatures at or above 30 °C.

T₃₀ = The measured intake manifold air temperature in the locomotive when operated at 30 °C (or 100 °C, where intake manifold air temperature is not available).

T_A = The measured intake manifold air temperature in the locomotive as tested (or the ambient temperature (°C), where intake manifold air temperature is not available).

* * * * *

■ 154. Section 92.203 is amended by revising paragraph (d)(1)(i) to read as follows:

§ 92.203 Application for certification.

* * * * *

(d) *Required content.* Each application must include the following information:(1)(i) A description of the basic engine design including, but not limited to, the engine family specifications, the provisions of which are contained in § 92.204;

* * * * *

■ 155. Section 92.204 is amended by revising paragraph (a) to read as follows:

§ 92.204 Designation of engine families.

* * * * *

(a) Manufacturers and remanufacturers shall divide their locomotives and locomotive engines into groupings of locomotives and locomotive engines which are expected to have similar emission characteristics throughout their useful life. Each group shall be defined as a separate engine family. Freshly manufactured locomotives may not be included in the same engine family as remanufactured locomotives. Freshly manufactured engines may be included in the same engine family as remanufactured locomotives, provided such engines are used as replacement engines for locomotive models included in the engine family.

* * * * *

■ 156. Section 92.205 is amended by revising paragraph (a) introductory text to read as follows:

§ 92.205 Prohibited controls, adjustable parameters.

(a) Any system installed on, or incorporated in, a new locomotive or new locomotive engine to enable such locomotive or locomotive engine to

conform to standards contained in this part:

* * * * *

■ 157. Section 92.208 is amended by revising paragraphs (a) and (b) to read as follows:

§ 92.208 Certification.

(a) Paragraph (a) of this section applies to manufacturers of new locomotives and new locomotive engines. If, after a review of the application for certification, test reports and data acquired from a freshly manufactured locomotive or locomotive engine or from a development data engine, and any other information required or obtained by EPA, the Administrator determines that the application is complete and that the engine family meets the requirements of the Act and this part, he/she will issue a certificate of conformity with respect to such engine family except as provided by paragraph (c)(3) of this section. The certificate of conformity is valid for each engine family from the date of issuance by EPA until 31 December of the model year or calendar year for which it is issued and upon such terms and conditions as the Administrator deems necessary or appropriate to assure that the production locomotives or engines covered by the certificate will meet the requirements of the Act and of this part.

(b) This paragraph (b) applies to remanufacturers of locomotives and locomotive engines. If, after a review of the application for certification, test reports and data acquired from a remanufactured locomotive or locomotive engine or from a development data engine, and any other information required or obtained by EPA, the Administrator determines that the engine family meets the requirements of the Act and of this subpart, he/she will issue a certificate of conformity with respect to such engine family except as provided by paragraph (c)(3) of this section. The certificate of conformity is valid for each engine family from the date of issuance by EPA until 31 December of the model year or calendar year for which it is issued and upon such terms and conditions as the Administrator deems necessary or appropriate to assure that the production locomotives or engines covered by the certificate will meet the requirements of the Act and of this part.

* * * * *

■ 158. Section 92.210 is amended by revising paragraphs (b)(1), (b)(2), (d)(2), and (d)(3) to read as follows:

§ 92.210 Amending the application and certificate of conformity.

* * * * *

(b) * * *

(1) A full description of the change to be made in production, or of the locomotives or engines to be added;

(2) Engineering evaluations or data showing that the locomotives or engines as modified or added will comply with all applicable emission standards; and

* * * * *

(d) * * *

(2) If the Administrator determines that the change or new locomotive(s) or engine(s) meets the requirements of this part and the Act, the appropriate certificate of conformity shall be amended.

(3) If the Administrator determines that the changed or new locomotive(s) or engine(s) does not meet the requirements of this part and the Act, the certificate of conformity will not be amended. The Administrator shall provide a written explanation to the manufacturer or remanufacturer of the decision not to amend the certificate. The manufacturer or remanufacturer may request a hearing on a denial.

* * * * *

■ 159. Section 92.212 is amended by revising paragraphs (b)(2)(ii), (b)(2)(v)(A), (b)(2)(v)(G), (c)(2)(v)(A), and (c)(2)(v)(D)(2) to read as follows:

§ 92.212 Labeling.

* * * * *

(b) * * *

(2) * * *

(ii) The label shall be attached to a locomotive chassis part necessary for normal operation and not normally requiring replacement during the service life of the locomotive. This label may not be attached to the engine.

* * * * *

(v) * * *

(A) The label heading: Original Locomotive Emission Control Information. Manufacturers and remanufacturers may add a subheading to distinguish this label from the engine label described in paragraph (c) of this section.

* * * * *

(G) The standards and/or FELs to which the locomotive was certified.

* * * * *

(c) * * *

(2) * * *

(v) * * *

(A) The label heading: Engine Emission Control Information. Manufacturers and remanufacturers may add a subheading to distinguish this label from the locomotive label

described in paragraph (b) of this section.

* * * * *

(D) * * *

(2) This locomotive and locomotive engine conform to U.S. EPA regulations applicable to locomotives and locomotive engines originally manufactured on or after January 1, 2002 and before January 1, 2005; or

* * * * *

■ 160. Section 92.215 is amended by revising paragraphs (a)(2)(i)(A) and (b) to read as follows:

§ 92.215 Maintenance of records; submittal of information; right of entry.

(a) * * *

(2) * * *

(i) * * *

(A) In the case where a current production engine is modified for use as a certification engine or in a certification locomotive, a description of the process by which the engine was selected and of the modifications made. In the case where the certification locomotive or the engine for a certification locomotive is not derived from a current production engine, a general description of the buildup of the engine (e.g., whether experimental heads were cast and machined according to supplied drawings). In the cases in the previous two sentences, a description of the origin and selection process for fuel system components, ignition system components, intake-air pressurization and cooling-system components, cylinders, pistons and piston rings, exhaust smoke control system components, and exhaust aftertreatment devices as applicable, shall be included. The required descriptions shall specify the steps taken to assure that the certification locomotive or certification locomotive engine, with respect to its engine, drivetrain, fuel system, emission-control system components, exhaust aftertreatment devices, exhaust smoke control system components or any other devices or components as applicable, that can reasonably be expected to influence exhaust emissions will be representative of production locomotives or locomotive engines and that either: All components and/or locomotive or engine, construction processes, component inspection and selection techniques, and assembly techniques employed in constructing such locomotives or engines are reasonably likely to be implemented for production locomotives or engines; or that they are as close as practicable to planned construction and assembly process.

* * * * *

(b) The manufacturer or remanufacturer of any locomotive or locomotive engine subject to any of the standards prescribed in this part shall submit to the Administrator, at the time of issuance by the manufacturer or remanufacturer, copies of all instructions or explanations regarding the use, repair, adjustment, maintenance, or testing of such locomotive or engine, relevant to the control of crankcase, or exhaust emissions issued by the manufacturer or remanufacturer, for use by other manufacturers or remanufacturers, assembly plants, distributors, dealers, owners and operators. Any material not translated into the English language need not be submitted unless specifically requested by the Administrator.

* * * * *

■ 161. Section 92.216 is amended by removing by removing and reserving paragraph (a)(2).

§ 92.216 [Amended]

■ 162. Section 92.403 is amended by revising paragraph (b) to read as follows:

§ 92.403 Emission defect information report.

* * * * *

(b) Defect information reports required under paragraph (a) of this section must be submitted not more than 15 working days after the same emission-related defect is found to affect 10 or more locomotives or locomotive engines. Information required by paragraph (c) of this section that is either not available within 15 working days or is significantly revised must be submitted as it becomes available.

* * * * *

■ 163. Section 92.508 is amended by revising paragraph (e) introductory text to read as follows:

§ 92.508 Calculation and reporting of test results.

* * * * *

(e) Within 45 calendar days of the end of each quarter, each manufacturer or remanufacturer must submit to the Administrator a report which includes the following information:

* * * * *

■ 164. Section 92.511 is amended by revising paragraph (g) introductory text to read as follows:

§ 92.511 Remanufactured locomotives: installation audit requirements.

* * * * *

(g) Within 45 calendar days of the end of each quarter, each remanufacturer must submit to the Administrator a

report which includes the following information:

* * * * *

■ 165. Section 92.512 is amended by revising paragraph (e) to read as follows:

§ 92.512 Suspension and revocation of certificates of conformity.

* * * * *

(e) The Administrator shall notify the manufacturer or remanufacturer in writing of any suspension or revocation of a certificate of conformity in whole or in part; a suspension or revocation is effective upon receipt of such notification or thirty days from the time an engine family is deemed to be in noncompliance under §§ 92.508(d), 92.510(a), 92.510(b) or 92.511(f), whichever is earlier, except that the certificate is immediately suspended with respect to any failed locomotives or locomotive engines as provided for in paragraph (a) of this section.

* * * * *

■ 166. A new § 92.806 is added to read as follows:

§ 92.806 Importation of partially complete engines.

The provisions of 40 CFR 1068.330 apply for importation of partially complete engines, or engines that will be modified for applications other than those covered by this part 92.

■ 167. Section 92.906 is amended by revising paragraph (a) introductory text to read as follows:

§ 92.906 Manufacturer-owned, remanufacturer-owned exemption and display exemption.

(a) Any manufacturer-owned or remanufacturer-owned locomotive or locomotive engine is exempt from § 92.1103, without application, if the manufacturer complies with the following terms and conditions:

* * * * *

■ 168. Section 92.907 is amended by revising paragraphs (a)(3) and (b)(3) to read as follows:

§ 92.907 Non-locomotive-specific engine exemption.

(a) * * *

(3) The number of such engines exempted under this paragraph (a) does not exceed:

- (i) 50 per manufacturer in any calendar year, where EPA determines that the use of the non-locomotive-specific engines will result in a significantly greater degree of emission control over the lifetime of the locomotive than using remanufactured engines certified under this part 92; or
- (ii) 25 per manufacturer in any calendar year, where EPA has not

determined that the use of the non-locomotive-specific engines will result in a significantly greater degree of emission control over the lifetime of the locomotive than using remanufactured engines certified under this part 92;

* * * * *

(b) * * *

(3) The number of such locomotives sold or leased by the locomotive manufacturer within any three-year period, and exempted under this paragraph (b) does not exceed 30; and

* * * * *

■ 169. A new § 92.912 is added to subpart J to read as follows:

§ 92.912 Staged-assembly exemption.

You may ask us to provide a temporary exemption to allow you to complete production of your engines at different facilities, as long as you maintain control of the engines until they are in their certified configuration. We may require you to take specific steps to ensure that such engines are in their certified configuration before reaching the ultimate purchaser. You may request an exemption under this section in your application for certification, or in a separate submission.

■ 170. Section 92.1106 is amended by revising paragraphs (a)(1), (a)(2), (a)(5), and (c)(1) and adding paragraph (a)(6) to read as follows:

§ 92.1106 Penalties.

(a) * * *

(1) A person who violates § 92.1103 (a)(1), (a)(4), or (a)(5), or a manufacturer, remanufacturer, dealer or railroad who violates § 92.1103(a)(3)(i) or (iii) is subject to a civil penalty of not more than \$32,500 for each violation.

(2) A person other than a manufacturer, remanufacturer, dealer, or railroad who violates § 92.1103(a)(3)(i) or any person who violates § 92.1103(a)(3)(ii) is subject to a civil penalty of not more than \$2,750 for each violation.

* * * * *

(5) A person who violates § 92.1103(a)(2) is subject to a civil penalty of not more than \$32,500 per day of violation.

(6) The maximum penalty values listed in this section are shown for calendar year 2004. Maximum penalty limits for later years may be adjusted based on the Consumer Price Index. The specific regulatory provisions for changing the maximum penalties, published in 40 CFR part 19, reference the applicable U.S. Code citation on which the prohibited action is based.

* * * * *

(c) * * *

(1) *Administrative penalty authority.* In lieu of commencing a civil action under paragraph (b) of this section, the Administrator may assess any civil penalty prescribed in paragraph (a) of this section, except that the maximum amount of penalty sought against each violator in a penalty assessment proceeding shall not exceed \$270,000, unless the Administrator and the Attorney General jointly determine that a matter involving a larger penalty amount is appropriate for administrative penalty assessment. Any such determination by the Administrator and the Attorney General is not subject to judicial review. Assessment of a civil penalty shall be by an order made on the record after opportunity for a hearing held in accordance with the procedures found at part 22 of this chapter. The Administrator may compromise, or remit, with or without conditions, any administrative penalty which may be imposed under this section.

* * * * *

■ 171. Appendix IV to part 92 is amended by revising paragraph (d)(1) to read as follows:

Appendix IV to Part 92—Guidelines for Determining Equivalency Between Emission Measurement Systems

* * * * *

(d) * * *

(1) Four locomotive or locomotive engine tests, conducted in accordance with the provisions of subpart B of this part; or

* * * * *

PART 94—CONTROL OF AIR POLLUTION FROM MARINE COMPRESSION-IGNITION ENGINES

■ 172. The authority citation for part 94 is revised to read as follows:

Authority: 42 U.S.C. 7401–7671q.

■ 173. Section 94.2 is amended in paragraph (b) by removing the definitions of *Auxiliary engine* and *Propulsion engine*, revising the definitions of *Marine engine*, *Marine vessel*, and *United States*, and adding a definition of *Amphibious vehicle* in alphabetical order to read as follows:

§ 94.2 Definitions.

* * * * *

Amphibious vehicle means a vehicle with wheels or tracks that is designed primarily for operation on land and secondarily for operation in water.

* * * * *

Marine engine means a nonroad engine that is installed or intended to be

installed on a marine vessel. This includes a portable auxiliary marine engine only if its fueling, cooling, or exhaust system is an integral part of the vessel. There are two kinds of marine engines:

(1) Propulsion marine engine means a marine engine that moves a vessel through the water or directs the vessel's movement.

(2) Auxiliary marine engine means a marine engine not used for propulsion.

Marine vessel has the meaning given in 1 U.S.C. 3, except that it does not include amphibious vehicles. The definition in 1 U.S.C. 3 very broadly includes every craft capable of being used as a means of transportation on water.

* * * * *

United States means the States, the District of Columbia, the Commonwealth of Puerto Rico, the Commonwealth of the Northern Mariana Islands, Guam, American Samoa, and the U.S. Virgin Islands.

* * * * *

■ 174. Section 94.9 is amended by revising paragraph (a)(3) to read as follows:

§ 94.9 Compliance with emission standards.

(a) * * *

(3) Manufacturers may request in the application for certification that we approve a shorter useful life for an engine family. We may approve a shorter useful life, in hours of engine operation but not in years, if we determine that these engines will rarely operate longer than the shorter useful life. If engines identical to those in the engine family have already been produced and are in use, the demonstration must include documentation from such in-use engines. In other cases, the demonstration must include an engineering analysis of information equivalent to such in-use data, such as data from research engines or similar engine models that are already in production. The demonstration must also include recommended overhaul intervals, any mechanical warranty offered for the engine or its components, and any relevant customer design specifications. The demonstration may include any other relevant information. The useful life value may not be shorter than any of the following:

- (i) 1,000 hours of operation.
- (ii) The recommended overhaul interval.
- (iii) The mechanical warranty for the engine.

* * * * *

■ 175. Section 94.12 is amended by revising paragraph (h) to read as follows:

§ 94.12 Interim provisions.

* * * * *

(h) Flexibility for small-volume boat builders. Notwithstanding the other provisions of this part, manufacturers may sell uncertified recreational engines to small-volume boat builders during the first five years for which the emission standards in § 94.8 apply, subject to the following provisions:

(1) The U.S.-directed production volume of boats from any small-volume boat builder using uncertified engines during the total five-year period may not exceed 80 percent of the manufacturer's average annual production for the three years prior to the general applicability of the recreational engine standards in § 94.8, except as allowed in paragraph (h)(2) of this section.

(2) Small-volume boat builders may exceed the production limits in paragraph (h)(1) of this section, provided they do not exceed 20 boats during the five-year period or 10 boats in any single calendar year. This does not apply to boats powered by engines with displacement greater than 2.5 liters per cylinder.

(3) Small-volume boat builders must keep records of all the boats and engines produced under this paragraph (h), including boat and engine model numbers, serial numbers, and dates of manufacture. Records must also include information verifying compliance with the limits in paragraph (h)(1) or (2) of this section. Keep these records until at least two full years after you no longer use the provisions in this paragraph (h).

(4) Manufacturers must add a permanent, legible label, written in block letters in English, to a readily visible part of each engine exempted under this paragraph (h).

This label must include at least the following items:

- (i) The label heading "EMISSION CONTROL INFORMATION".
- (ii) Your corporate name and trademark.
- (iii) Engine displacement (in liters), rated power, and model year of the engine or whom to contact for further information.
- (iv) The statement "THIS ENGINE IS EXEMPT UNDER 40 CFR 94.12(h) FROM EMISSION STANDARDS AND RELATED REQUIREMENTS."

■ 176. Section 94.105 is amended by revising paragraph (b) before the table to read as follows:

§ 94.105 Duty cycles.

* * * * *

(b) General cycle. Propulsion engines that are used with (or intended to be

used with) fixed-pitch propellers, propeller-law auxiliary engines, and any other engines for which the other duty cycles of this section do not apply, shall be tested using the duty cycle described in the following Table B-1:

* * * * *

■ 177. Section 94.106 is amended by revising paragraph (b)(3)(i) to read as follows:

§ 94.106 Supplemental test procedures for Category 1 and Category 2 marine engines.

* * * * *

- (b) * * *
- (3) * * *

(i) The Not to Exceed zone is the region above the curve power = 0.85SPD⁴, excluding all operation below 25% of maximum power at rated speed and excluding all operation below 63% of maximum test.

* * * * *

■ 178. Section 94.107 is amended by revising paragraph (b) to read as follows:

§ 94.107 Determination of maximum test speed.

* * * * *

(b) Generation of lug curve. Prior to beginning emission testing, generate maximum measured brakepower versus engine speed data points using the applicable method specified in 40 CFR 1065.510. These data points form the lug curve. It is not necessary to generate the entire lug curve. For the portion of the curve where power increases with increasing speed, it is not necessary to generate points with power less than 90 percent of the maximum power value. For the portion of the curve where power decreases with increasing speed, it is not necessary to generate points with power less than 75 percent of the maximum power value.

* * * * *

■ 179. Section 94.109 is amended by revising paragraph (b) to read as follows:

§ 94.109 Test procedures for Category 3 marine engines.

* * * * *

(b) Analyzers meeting the specifications of either 40 CFR part 1065, subpart C, or ISO 8178-1 (incorporated by reference in § 94.5) shall be used to measure THC and CO.

* * * * *

■ 180. Section 94.211 is amended by revising paragraph (k) to read as follows:

§ 94.211 Emission-related maintenance instructions for purchasers.

* * * * *

(k) For Category 3 engines, the manufacturer must provide the ultimate purchaser with a Technical File meeting the specifications of section 2.4 of the

Annex VI Technical Code (incorporated by reference in § 94.5). The maintenance instructions required by this part to be provided by manufacturer may be included in this Technical File. The manufacturer must provide a copy of this Technical File to EPA upon request.

* * * * *

■ 181. Section 94.212 is amended by revising paragraph (b)(6) and (b)(7) to read as follows:

§ 94.212 Labeling.

* * * * *

(b) * * *

(6) A prominent unconditional statement of compliance with U.S. Environmental Protection Agency regulations that apply to marine compression-ignition engines.

(7) The useful life of the engine, unless the applicable useful life is based on the provisions of § 94.9(a)(1).

* * * * *

■ 182. A new § 94.806 is added to read as follows:

§ 94.806 Importation of partially complete engines.

The provisions of 40 CFR 1068.330 apply for importation of partially complete engines, or engines that will be modified for applications other than those covered by this part 94.

■ 183. Section 94.904 is amended by revising paragraph (a) and adding a new paragraph (c) to read as follows:

§ 94.904 Exemptions.

(a) Except as specified otherwise in this subpart, the provisions of §§ 94.904 through 94.913 exempt certain new engines from the standards, other requirements, and prohibitions of this part, except for the requirements of this subpart and the requirements of § 94.1104. Additional requirements may apply for imported engines; these are described in subpart I of this part.

* * * * *

(c) If you want to take an action with respect to an exempted or excluded engine that is prohibited by the exemption or exclusion, such as selling it, you need to certify the engine. We will issue a certificate of conformity if you send us an application for certification showing that you meet all the applicable requirements from this part 94 and pay the appropriate fee. Also, in some cases, we may allow manufacturers to modify the engine as needed to make it identical to engines already covered by a certificate. We would base such an approval on our review of any appropriate documentation. These engines must have emission control information

labels that accurately describe their status.

■ 184. Section 94.907 is revised to read as follows:

§ 94.907 Engine dressing exemption.

(a) *General provisions.* If you are an engine manufacturer, this section allows you to introduce new marine engines into commerce if they are already certified to the requirements that apply to compression-ignition engines under 40 CFR parts 85 and 86 or 40 CFR part 89, 92 or 1039 for the appropriate model year. If you comply with all the provisions of this section, we consider the certificate issued under 40 CFR part 86, 89, 92, or 1039 for each engine to also be a valid certificate of conformity under this part 94 for its model year, without a separate application for certification under the requirements of this part 94.

(b) *Boat-builder provisions.* If you are not an engine manufacturer, you may install an engine certified for the appropriate model year under 40 CFR part 86, 89, 92, or 1039 in a marine vessel as long as you do not make any of the changes described in paragraph (d)(3) of this section and you meet the requirements of paragraph (e) of this section. If you modify the non-marine engine in any of the ways described in paragraph (d)(3) of this section, we will consider you a manufacturer of a new marine engine. Such engine modifications prevent you from using the provisions of this section.

(c) *Liability.* Engines for which you meet the requirements of this section are exempt from all the requirements and prohibitions of this part, except for those specified in this section. Engines exempted under this section must meet all the applicable requirements from 40 CFR parts 85 and 86 or 40 CFR part 89, 92, or 1039. This paragraph (c) applies to engine manufacturers, boat builders who use such an engine, and all other persons as if the engine were used in its originally intended application. The prohibited acts of § 94.1103(a)(1) apply to these new engines and vessels; however, we consider the certificate issued under 40 CFR part 86, 89, 92, or 1039 for each engine to also be a valid certificate of conformity under this part 94 for its model year. If we make a determination that these engines do not conform to the regulations during their useful life, we may require you to recall them under this part 94 or under 40 CFR part 85, 89, 92, or 1039.

(d) *Specific requirements.* If you are an engine manufacturer and meet all the following criteria and requirements regarding your new marine engine, the

engine is eligible for an exemption under this section:

(1) You must produce it by marinizing an engine covered by a valid certificate of conformity from one of the following programs:

(i) Heavy-duty highway engines (40 CFR part 86).

(ii) Land-based nonroad diesel engines (40 CFR part 89 or 1039).

(iii) Locomotive engines (40 CFR part 92).

(2) The engine must have the label required under 40 CFR part 86, 89, 92, or 1039.

(3) You must not make any changes to the certified engine that could reasonably be expected to increase its emissions. For example, if you make any of the following changes to one of these engines, you do not qualify for the engine dressing exemption:

(i) Change any fuel system parameters from the certified configuration, or change, remove, or fail to properly install any other component, element of design, or calibration specified in the engine manufacturer's application for certification. This includes aftertreatment devices and all related components.

(ii) Replacing an original turbocharger, except that small-volume manufacturers of recreational engines may replace an original turbocharger with one that matches the performance of the original turbocharger.

(iii) Modify or design the marine engine cooling or aftercooling system so that temperatures or heat rejection rates are outside the original engine manufacturer's specified ranges.

(4) You must show that fewer than 50 percent of the engine family's total sales in the United States are used in marine applications. This includes engines used in any application, without regard to which company manufactures the vessel orequipment. Show this as follows:

(i) If you are the original manufacturer of the engine, base this showing on your sales information.

(ii) In all other cases, you must get the original manufacturer of the engine to confirm this based on its sales information.

(e) If you are an engine manufacturer or boat builder using this exemption, you must do all of the following:

(1) Make sure the original engine label will remain clearly visible after installation in the vessel.

(2) Add a permanent supplemental label to the engine in a position where it will remain clearly visible after installation in the vessel. In your engine label, do the following:

(i) Include the heading: "Marine Engine Emission Control Information".

(ii) Include your full corporate name and trademark.

(iii) State: "This engine was marinized without affecting its emission controls."

(iv) State the date you finished marinizing the engine (month and year).

(3) Send a signed letter to the Designated Officer by the end of each calendar year (or less often if we tell you) with all the following information:

(i) Identify your full corporate name, address, and telephone number.

(ii) List the engine models for which you expect to use this exemption in the coming year and describe your basis for meeting the sales restrictions of paragraph (d)(4) of this section.

(iii) State: "We prepare each listed engine model for marine application without making any changes that could increase its certified emission levels, as described in 40 CFR 94.907."

(f) *Engine inventories.* In general you may use up your inventory of engines that are not certified to new marine emission standards if they were originally manufactured before the date of the new standards. However, stockpiling these engines is a violation of § 94.1103(a)(1)(i)(A).

(g) *Failure to comply.* If your engines do not meet the criteria listed in paragraph (d) of this section, they will be subject to the standards, requirements, and prohibitions of this part 94 and the certificate issued under 40 CFR part 86, 89, 92, or 1039 will not be deemed to also be a certificate issued under this part 94. Introducing these engines into commerce without a valid exemption or certificate of conformity under this part violates the prohibitions in 40 CFR 94.1103(a)(1).

(h) *Data submission.* (1) If you are the original manufacturer and marinizer of an exempted engine, you must send us emission test data on the appropriate marine duty cycles. You can include the data in your application for certification or in the letter described in paragraph (e)(3) of this section.

(2) If you are the original manufacturer of an exempted engine that is marinized by a post-manufacture marinizer, you may be required to send us emission test data on the appropriate marine duty cycles. If such data are requested you will be allowed a reasonable amount of time to collect the data.

(i) *Participation in averaging, banking and trading.* Engines adapted for marine use under this section may not generate or use emission credits under this part 94. These engines may generate credits under the ABT provisions in 40 CFR part 86, 89, 92, or 1039, as applicable. These engines must use emission credits

under 40 CFR part 86, 89, 92, or 1039 as applicable if they are certified to an FEL that exceeds an applicable standard.

(j) *Operator requirements.* The requirements for vessel manufacturers, owners, and operators in subpart K of this part apply to these engines whether they are certified under this part 94 or another part as allowed by this section.

■ 185. A new § 94.912 is added to subpart J to read as follows:

§ 94.912 Optional certification to land-based standards for auxiliary marine engines.

This section applies to auxiliary marine engines that are identical to certified land-based engines. See § 94.907 for provisions that apply to propulsion marine engines or auxiliary marine engines that are modified for marine applications.

(a) *General provisions.* If you are an engine manufacturer, this section allows you to introduce new marine engines into commerce if they are already certified to the requirements that apply to compression-ignition engines under 40 CFR part 89 or 1039 for the appropriate model year. If you comply with all the provisions of this section, we consider the certificate issued under 40 CFR part 86 or 1039 for each engine to also be a valid certificate of conformity under this part 94 for its model year, without a separate application for certification under the requirements of this part 94.

(b) *Boat builder provisions.* If you are not an engine manufacturer, you may install an engine certified for land-based applications in a marine vessel as long as you meet all the qualifying criteria and requirements specified in paragraphs (d) and (e) of this section. If you modify the non-marine engine, we will consider you a manufacturer of a new marine engine. Such engine modifications prevent you from using the provisions of this section.

(c) *Liability.* Engines for which you meet the requirements of this section are exempt from all the requirements and prohibitions of this part, except for those specified in this section. Engines exempted under this section must meet all the applicable requirements from 40 CFR part 89 or 1039. This paragraph (c) applies to engine manufacturers, boat builders who use such an engine, and all other persons as if the engine were used in its originally intended application. The prohibited acts of § 94.1103(a)(1) apply to these new engines and vessels; however, we consider the certificate issued under 40 CFR part 89 or 1039 for each engine to also be a valid certificate of conformity

under this part 94 for its model year. If we make a determination that these engines do not conform to the regulations during their useful life, we may require you to recall them under this part 94 or under 40 CFR part 89 or 1068.

(d) *Qualifying criteria.* If you are an engine manufacturer and meet all the following criteria and requirements regarding your new marine engine, the engine is eligible for an exemption under this section:

(1) The marine engine must be identical in all material respects to a land-based engine covered by a valid certificate of conformity for the appropriate model year showing that it meets emission standards for engines of that power rating under 40 CFR part 89 or 1039.

(2) The engines may not be used as propulsion marine engines.

(3) You must show that the number of auxiliary marine engines from the engine family must be smaller than the number of land-based engines from the engine family sold in the United States, as follows:

(i) If you are the original manufacturer of the engine, base this showing on your sales information.

(ii) In all other cases, you must get the original manufacturer of the engine to confirm this based on its sales information.

(e) *Specific requirements.* If you are an engine manufacturer or boat builder using this exemption, you must do all of the following:

(1) Make sure the original engine label will remain clearly visible after installation in the vessel. This label or a supplemental label must identify that the original certification is valid for marine auxiliary applications.

(2) Send a signed letter to the Designated Officer by the end of each calendar year (or less often if we tell you) with all the following information:

(i) Identify your full corporate name, address, and telephone number.

(ii) List the engine models you expect to produce under this exemption in the coming year.

(iii) State: "We produce each listed engine model for marine application without making any changes that could increase its certified emission levels, as described in 40 CFR 94.907."

(3) If you are the certificate holder, you must describe in your application for certification how you plan to produce engines for both land-based and auxiliary marine applications, including projected sales of auxiliary marine engines to the extent this can be determined. If the projected marine sales are substantial, we may ask for the

year-end report of production volumes to include actual auxiliary marine engine sales.

(f) *Failure to comply.* If your engines do not meet the criteria listed in paragraph (d) of this section, they will be subject to the standards, requirements, and prohibitions of this part 94 and the certificate issued under 40 CFR part 89 or 1039 will not be deemed to also be a certificate issued under this part 94. Introducing these engines into commerce without a valid exemption or certificate of conformity under this part violates the prohibitions in 40 CFR 94.1103(a)(1).

(g) *Participation in averaging, banking and trading.* Engines using this exemption may not generate or use emission credits under this part 94. These engines may generate credits under the ABT provisions in 40 CFR part 89 or 1039, as applicable. These engines must use emission credits under 40 CFR part 89 or 1039 as applicable if they are certified to an FEL that exceeds an applicable standard.

(h) *Operator requirements.* The requirements for vessel manufacturers, owners, and operators in subpart K of this part apply to these engines whether they are certified under this part 94 or another part as allowed by this section.

■ 186. A new § 94.913 is added to subpart J to read as follows:

§ 94.913 Staged-assembly exemption.

You may ask us to provide a temporary exemption to allow you to complete production of your engines at different facilities, as long as you maintain control of the engines until they are in their certified configuration. We may require you to take specific steps to ensure that such engines are in their certified configuration before reaching the ultimate purchaser. You may request an exemption under this section in your application for certification, or in a separate submission to the Designated Officer.

■ 187. Section 94.1004 is amended by revising paragraphs (b) and (c) introductory text to read as follows:

§ 94.1004 Maintenance, repair, adjustment, and recordkeeping.

* * * * *

(b) Unless otherwise approved by the Administrator, all maintenance, repair, adjustment, and alteration of Category 3 engines subject to the provisions of this part performed by any owner, operator or other maintenance provider that is not covered by paragraph (a) of this section shall be performed, using good engineering judgment, in such a manner that the engine continues (after the maintenance, repair, adjustment or

alteration) to meet the emission standards it was certified as meeting prior to the need for service. Adjustments are limited to the range specified by the engine manufacturer in the approved application for certification.

(c) A Category 3 engine may not be adjusted or altered contrary to the requirements of § 94.11 or paragraph (b) of this section, except as allowed by § 94.1103(b)(2). If such an adjustment or alteration occurs, the engine must be returned to a configuration allowed by this part within two hours of operation. Each two-hour period during which there is noncompliance is a separate violation. The following provisions apply to adjustments or alterations made under § 94.1103(b)(2):

* * * * *

■ 188. Section 94.1103 is amended by revising paragraph (b)(3) and adding paragraphs (a)(8) and (b)(4) to read as follows:

§ 94.1103 Prohibited acts.

(a) * * *

(8) For an owner or operator of a vessel installing a replacement engine under the provisions of paragraph (b)(4) of this section to make modifications to significantly increase the value of the vessel within six months after installing the replacement engine.

(b) * * *

(3) Where the Administrator determines that no engine that is certified to the requirements of this part is produced by any manufacturer with the appropriate physical or performance characteristics to repower a vessel, the Administrator may allow an engine manufacturer to introduce into commerce a replacement engine without complying with all of the otherwise applicable requirements of this part. Such engine shall not be subject to the prohibitions of paragraph (a)(1) of this section, subject to all the following provisions:

(i) The engine requiring replacement is not certified or is certified to emission standards that are less stringent than those in effect when the replacement engine is built.

(ii) The engine manufacturer or its agent takes ownership and possession of the engine being replaced or confirms that the engine has been destroyed.

(iii) If the engine being replaced was not certified to any emission standards under this part, the replacement engine must have a permanent label with your corporate name and trademark and the following language, or similar alternate language approved by the Administrator:

THIS ENGINE DOES NOT COMPLY WITH U.S. EPA MARINE EMISSION REQUIREMENTS. SELLING OR INSTALLING THIS ENGINE FOR ANY PURPOSE OTHER THAN TO REPLACE A MARINE ENGINE BUILT BEFORE JANUARY 1, [Insert appropriate year reflecting when the earliest tier of standards began to apply to engines of that size and type] MAY BE A VIOLATION OF FEDERAL LAW SUBJECT TO CIVIL PENALTY.

(iv) If the engine being replaced was certified to emission standards less stringent than those in effect when you produce the replacement engine, the replacement engine must have a permanent label with your corporate name and trademark and the following language, or similar alternate language approved by the Administrator:

THIS ENGINE COMPLIES WITH U.S. EPA MARINE EMISSION REQUIREMENTS FOR [Insert appropriate year reflecting when the Tier 1 or Tier 2 standards for the replaced engine began to apply] ENGINES UNDER 40 CFR 94.1103(b)(3). SELLING OR INSTALLING THIS ENGINE FOR ANY PURPOSE OTHER THAN TO REPLACE A MARINE ENGINE BUILT BEFORE JANUARY 1, [Insert appropriate year reflecting when the next tier of emission standards began to apply] MAY BE A VIOLATION OF FEDERAL LAW SUBJECT TO CIVIL PENALTY.

(v) Where the replacement engine is intended to replace an engine that is certified to emission standards that are less stringent than those in effect when the replacement engine is built, the replacement engine shall be identical in all material respects to a certified configuration of the same or later model year as the engine being replaced.

(vi) Engines sold pursuant to the provisions of this paragraph will neither generate nor use emission credits and will not be part of any accounting under the averaging, banking and trading program.

(vii) In cases where an engine is to be imported for replacement purposes under the provisions of this paragraph (b)(3) of this section, the term "engine manufacturer" shall not apply to an individual or other entity that does not possess a current Certificate of Conformity issued by EPA under this part; and

(viii) The provisions of this section may not be used to circumvent emission standards that apply to new engines under this part.

(4) An engine manufacturer may make the determination related to replacement engines described in paragraph (b)(3) of this section instead

of the Administrator, if the new engine is needed to replace an engine that has experienced catastrophic failure. The engine manufacturer must consider whether certified engines are available from its own product lineup or that of the manufacturer of the engine being replaced (if different). The engine manufacturer must keep records explaining why a certified engine was not available and make these records available upon request.

■ 189. Section 94.1106 is amended by revising the introductory text and paragraphs (a)(1), (a)(2), (c)(1), and (d) to read as follows:

§ 94.1106 Penalties.

This section specifies actions that are prohibited and the maximum civil penalties that we can assess for each violation. The maximum penalty values listed in paragraphs (a) and (c) of this section are shown for calendar year 2004. As described in paragraph (d) of this section, maximum penalty limits for later years are set forth in 40 CFR part 19.

(a) * * *

(1) A person who violates § 94.1103(a)(1), (a)(4), (a)(5), (a)(6), or (a)(7)(iv) or a manufacturer or dealer who violates § 94.1103(a)(3)(i) or (iii) or § 94.1103(a)(7) is subject to a civil penalty of not more than \$32,500 for each violation.

(2) A person other than a manufacturer or dealer who violates § 94.1103(a)(3)(i) or (iii) or § 94.1103(a)(7)(i), (ii), or (iii) or any person who violates § 94.1103(a)(3)(ii) is subject to a civil penalty of not more than \$2,750 for each violation.

* * * * *

(c) * * *

(1) Administrative penalty authority. Subject to 42 U.S.C. 7524(c), in lieu of commencing a civil action under paragraph (b) of this section, the Administrator may assess any civil penalty prescribed in paragraph (a) of this section, except that the maximum amount of penalty sought against each violator in a penalty assessment proceeding shall not exceed \$270,000, unless the Administrator and the Attorney General jointly determine that a matter involving a larger penalty amount is appropriate for administrative penalty assessment. Any such determination by the Administrator and the Attorney General is not subject to judicial review. Assessment of a civil penalty shall be by an order made on the record after opportunity for a hearing held in accordance with the procedures found at part 22 of this chapter. The Administrator may compromise, or remit, with or without

conditions, any administrative penalty which may be imposed under this section.

* * * * *

(d) The maximum penalty values listed in paragraphs (a) and (c) of this section are shown for calendar year 2004. Maximum penalty limits for later years may be adjusted based on the Consumer Price Index. The specific regulatory provisions for changing the maximum penalties, published in 40 CFR part 19, reference the applicable U.S. Code citation on which the prohibited action is based.

PART 1039—CONTROL OF EMISSIONS FROM NEW AND IN-USE NONROAD COMPRESSION-IGNITION ENGINES

■ 190. The authority citation for part 1039 is revised to read as follows:

Authority: 42 U.S.C. 7401–7671q.

■ 191. Section 1039.1 is amended by revising paragraph (c) to read as follows:

§ 1039.1 Does this part apply for my engines?

* * * * *

(c) The definition of nonroad engine in 40 CFR 1068.30 excludes certain engines used in stationary applications. These engines are not required to comply with this part, except for the requirements in § 1039.20. In addition, if these engines are uncertified, the prohibitions in 40 CFR 1068.101 restrict their use as nonroad engines.

* * * * *

■ 192. Section 1039.5 is amended by revising paragraphs (b)(1)(iii) and (b)(2) to read as follows:

§ 1039.5 Which engines are excluded from this part's requirements?

* * * * *

(b) * * *

(1) * * *

(iii) Engines that are exempt from the standards of 40 CFR part 94 pursuant to the provisions of 40 CFR part 94 (except for the provisions of 40 CFR 94.907 or 94.912). For example, an engine that is exempt under 40 CFR 94.906 because it is a manufacturer-owned engine is not subject to the provisions of this part 1039.

* * * * *

(2) Marine engines are subject to the provisions of this part 1039 if they are exempt from 40 CFR part 94 based on the engine-dressing provisions of 40 CFR 94.907 or the common-family provisions of 40 CFR 94.912.

* * * * *

■ 193. Section 1039.10 is amended by revising the introductory text to read as follows:

§ 1039.10 How is this part organized?

The regulations in this part 1039 contain provisions that affect both engine manufacturers and others. However, the requirements of this part are generally addressed to the engine manufacturer. The term “you” generally means the engine manufacturer, as defined in § 1039.801. This part 1039 is divided into the following subparts:

* * * * *

■ 194. Section 1039.101 is amended by revising paragraph (g)(2) to read as follows:

§ 1039.101 What exhaust emission standards must my engines meet after the 2014 model year?

* * * * *

(g) * * *

(2) You may request in your application for certification that we approve a shorter useful life for an engine family. We may approve a shorter useful life, in hours of engine operation but not in years, if we determine that these engines will rarely operate longer than the shorter useful life. If engines identical to those in the engine family have already been produced and are in use, your demonstration must include documentation from such in-use engines. In other cases, your demonstration must include an engineering analysis of information equivalent to such in-use data, such as data from research engines or similar engine models that are already in production. Your demonstration must also include any overhaul interval that you recommend, any mechanical warranty that you offer for the engine or its components, and any relevant customer design specifications. Your demonstration may include any other relevant information. The useful life value may not be shorter than any of the following:

(i) 1,000 hours of operation.

(ii) Your recommended overhaul interval.

(iii) Your mechanical warranty for the engine.

* * * * *

■ 195. Section 1039.104 is amended by revising paragraph (a)(4)(iii) to read as follows:

§ 1039.104 Are there interim provisions that apply only for a limited time?

* * * * *

(a) * * *

(4) * * *

(iii) All other offset-using engines must meet the standards and other provisions that apply in model year 2011 for engines in the 19–130 kW power categories, in model year 2010 for

engines in the 130–560 kW power category, or in model year 2014 for engines above 560 kW. Show that engines meet these emission standards by meeting all the requirements of § 1068.265. You must meet the labeling requirements in § 1039.135, but add the following statement instead of the compliance statement in § 1039.135(c)(12): “THIS ENGINE MEETS U.S. EPA EMISSION STANDARDS UNDER 40 CFR 1039.104(a).” For power categories with a percentage phase-in, these engines should be treated as phase-in engines for purposes of determining compliance with phase-in requirements.

* * * * *

■ 196. Section 1039.120 is amended by revising paragraph (b) before the table to read as follows:

§ 1039.120 What emission-related warranty requirements apply to me?

* * * * *

(b) *Warranty period.* Your emission-related warranty must be valid for at least as long as the minimum warranty periods listed in this paragraph (b) in hours of operation and years, whichever comes first. You may offer an emission-related warranty more generous than we require. The emission-related warranty for the engine may not be shorter than any published warranty you offer without charge for the engine. Similarly, the emission-related warranty for any component may not be shorter than any published warranty you offer without charge for that component. If an engine has no hour meter, we base the warranty periods in this paragraph (b) only on the engine's age (in years). The warranty period begins when the engine is placed into service. The minimum warranty periods are shown in the following table:

* * * * *

■ 197. Section 1039.125 is amended by revising paragraph (g) introductory text to read as follows:

§ 1039.125 What maintenance instructions must I give to buyers?

* * * * *

(g) *Payment for scheduled maintenance.* Owners are responsible for properly maintaining their engines. This generally includes paying for scheduled maintenance. However, manufacturers must pay for scheduled maintenance during the useful life if it meets all the following criteria:

* * * * *

■ 198. Section 1039.130 is amended by revising paragraph (b)(3) to read as follows:

§ 1039.130 What installation instructions must I give to equipment manufacturers?

* * * * *

(b) * * *

(3) Describe the instructions needed to properly install the exhaust system and any other components. Include instructions consistent with the requirements of § 1039.205(u).

* * * * *

■ 199. Section 1039.225 is amended by revising the section heading and adding paragraphs (a)(3) and (f) to read as follows:

§ 1039.225 How do I amend my application for certification to include new or modified engines or to change an FEL?

* * * * *

(a) * * *

(3) Modify an FEL for an engine family, as described in paragraph (f) of this section.

* * * * *

(f) You may ask to change your FEL in the following cases:

(1) You may ask to raise your FEL after the start of production. You may not apply the higher FEL to engines you have already introduced into commerce. Use the appropriate FELs with corresponding sales volumes to calculate your average emission level, as described in subpart H of this part. In your request, you must demonstrate that you will still be able to comply with the applicable average emission standards as specified in subparts B and H of this part.

(2) You may ask to lower the FEL for your engine family after the start of production only when you have test data from production engines indicating that your engines comply with the lower FEL. You may create a separate subfamily with the lower FEL. Otherwise, you must use the higher FEL for the family to calculate your average emission level under subpart H of this part.

(3) If you change the FEL during production, you must include the new FEL on the emission control information label for all engines produced after the change.

■ 200. Section 1039.240 is amended by revising paragraphs (a) and (b) to read as follows:

§ 1039.240 How do I demonstrate that my engine family complies with exhaust emission standards?

(a) For purposes of certification, your engine family is considered in compliance with the applicable numerical emission standards in § 1039.101(a) and (b), § 1039.102(a) and (b), § 1039.104, and § 1039.105 if all emission-data engines representing that

family have test results showing deteriorated emission levels at or below these standards. (Note: if you participate in the ABT program in subpart H of this part, your FELs are considered to be the applicable emission standards with which you must comply.)

(b) Your engine family is deemed not to comply if any emission-data engine representing that family has test results showing a deteriorated emission level above an applicable FEL or emission standard from § 1039.101, § 1039.102, § 1039.104, or § 1039.105 for any pollutant.

* * * * *

§ 1039.260 [Removed]

■ 201. Section 1039.260 is removed.
 ■ 202. Section 1039.501 is amended by revising paragraph (a) to read as follows:

§ 1039.501 How do I run a valid emission test?

(a) Use the equipment and procedures for compression-ignition engines in 40 CFR part 1065 to determine whether engines meet the duty-cycle emission standards in § 1039.101(a) and (b). Measure the emissions of all the pollutants we regulate in § 1039.101 as specified in 40 CFR part 1065. Use the applicable duty cycles specified in §§ 1039.505 and 1039.510.

* * * * *

§ 1039.510 [Amended]

■ 203. Section 1039.510 is amended by removing paragraphs (c) and (d).
 ■ 204. Section 1039.605 is amended by revising the section heading and adding paragraph (g) to read as follows:

§ 1039.605 What provisions apply to engines certified under the motor-vehicle program?

* * * * *

(g) *Participation in averaging, banking and trading.* Engines adapted for nonroad use under this section may not generate or use emission credits under this part 1039. These engines may generate credits under the ABT provisions in 40 CFR part 86. These engines must use emission credits under 40 CFR part 86 if they are certified to an FEL that exceeds an applicable standard under 40 CFR part 86.
 ■ 205. Section 1039.610 is amended by revising the section heading and adding paragraph (g) to read as follows:

§ 1039.610 What provisions apply to vehicles certified under the motor-vehicle program?

* * * * *

(g) *Participation in averaging, banking and trading.* Vehicles adapted for nonroad use under this section may not generate or use emission credits under

this part 1039. These vehicles may generate credits under the ABT provisions in 40 CFR part 86. These vehicles must be included in the calculation of the applicable fleet average in 40 CFR part 86.

■ 206. Section 1039.625 is amended by revising the last entry in Table 1 and paragraph (j) to read as follows:

§ 1039.625 What requirements apply under the program for equipment-manufacturer flexibility?

- * * * * *
- (a) * * *
- (1) * * *

TABLE 1 OF § 1039.625.—GENERAL AVAILABILITY OF ALLOWANCES

	Power category	Calendar years
kW > 560	* * * * *	2011–2017

(j) *Provisions for engine manufacturers.* As an engine manufacturer, you may produce exempted engines as needed under this section. You do not have to request this exemption for your engines, but you must have written assurance from equipment manufacturers that they need a certain number of exempted engines under this section. Send us an annual report of the engines you produce under this section, as described in § 1039.250(a). For engines produced under the provisions of paragraph (a)(2) of this section, you must certify the engines under this part 1039. For all other exempt engines, the engines must meet the emission standards in paragraph (e) of this section and you must meet all the requirements of 40 CFR 1068.265. If you show under 40 CFR 1068.265(c) that the engines are identical in all material respects to engines that you have previously certified to one or more FELs above the standards specified in paragraph (e) of this section, you must supply sufficient credits for these engines. Calculate these credits under subpart H of this part using the previously certified FELs and the alternate standards. You must meet the labeling requirements in 40 CFR 89.110, but add the following statement instead of the compliance statement in 40 CFR 89.110(b)(10):

THIS ENGINE MEETS U.S. EPA EMISSION STANDARDS UNDER 40 CFR 1039.625. SELLING OR INSTALLING THIS ENGINE FOR ANY PURPOSE OTHER THAN FOR THE EQUIPMENT FLEXIBILITY PROVISIONS OF 40 CFR 1039.625 MAY BE A VIOLATION OF FEDERAL LAW SUBJECT TO CIVIL PENALTY.

* * * * *

■ 207. Section 1039.655 is amended by revising paragraph (a)(3) to read as follows:

§ 1039.655 What special provisions apply to engines sold in Guam, American Samoa, or the Commonwealth of the Northern Mariana Islands?

- (a) * * *
- (3) You meet all the requirements of 40 CFR 1068.265.

■ 208. Section 1039.740 amended by adding paragraph (b)(4) to read as follows:

§ 1039.740 What restrictions apply for using emission credits?

- (b) * * *
- (4) If the maximum power of an engine generating credits under the Tier 2 standards in 40 CFR part 89 is at or above 37 kW and below 75 kW, you may use those credits for certifying engines under the Option #1 standards in § 1039.102.

■ 209. Section 1039.801 is amended by revising the definitions for *Aftertreatment*, *Brake power*, *Constant-speed operation*, *Exempted*, *Good engineering judgment*, *Marine engine*, *Marine vessel*, *Maximum test speed*, *Motor vehicle*, *Revoke*, *Suspend*, *United States*, and *Void* and adding a definition for *Amphibious vehicle* to read as follows:

§ 1039.801 What definitions apply to this part?

Aftertreatment means relating to a catalytic converter, particulate filter, or any other system, component, or technology mounted downstream of the exhaust valve (or exhaust port) whose design function is to decrease emissions in the engine exhaust before it is exhausted to the environment. Exhaust-gas recirculation (EGR) and turbochargers are not aftertreatment.

Amphibious vehicle means a vehicle with wheels or tracks that is designed

primarily for operation on land and secondarily for operation in water.

Brake power means the usable power output of the engine, not including power required to fuel, lubricate, or heat the engine, circulate coolant to the engine, or to operate aftertreatment devices.

Constant-speed operation means engine operation with a governor that controls the operator input to maintain an engine at a reference speed, even under changing load. For example, an isochronous governor changes reference speed temporarily during a load change, then returns the engine to its original reference speed after the engine stabilizes. Isochronous governors typically allow speed changes up to 1.0%. Another example is a speed-droop governor, which has a fixed reference speed at zero load and allows the reference speed to decrease as load increases. With speed-droop governors, speed typically decreases (3 to 10)% below the reference speed at zero load, such that the minimum reference speed occurs near the engine's point of maximum power.

Exempted has the meaning we give in 40 CFR 1068.30.

Good engineering judgment has the meaning we give in 40 CFR 1068.30. See 40 CFR 1068.5 for the administrative process we use to evaluate good engineering judgment.

Marine engine means a nonroad engine that is installed or intended to be installed on a marine vessel. This includes a portable auxiliary marine engine only if its fueling, cooling, or exhaust system is an integral part of the vessel. There are two kinds of marine engines:

- (1) Propulsion marine engine means a marine engine that moves a vessel

through the water or directs the vessel's movement.

(2) Auxiliary marine engine means a marine engine not used for propulsion.

Marine vessel has the meaning given in 1 U.S.C. 3, except that it does not include amphibious vehicles. The definition in 1 U.S.C. 3 very broadly includes every craft capable of being used as a means of transportation on water.

* * * * *

Maximum test speed has the meaning we give in 40 CFR 1065.1001.

* * * * *

Motor vehicle has the meaning we give in 40 CFR 85.1703(a).

* * * * *

Revoke has the meaning we give in 40 CFR 1068.30.

* * * * *

Suspend has the meaning we give in 40 CFR 1068.30.

* * * * *

United States has the meaning we give in 40 CFR 1068.30.

* * * * *

Void has the meaning we give in 40 CFR 1068.30.

* * * * *

■ 210. Appendix VI to part 1039 is amended in the table by adding a footnote to read as follows:

Appendix VI to Part 1039—Nonroad Compression-Ignition Composite Transient Cycle

Time(s)	Normalized speed (percent)	Normalized torque (percent) ¹
*	*	*

¹ The percent torque is relative to maximum torque at the commanded engine speed.

PART 1048—CONTROL OF EMISSIONS FROM NEW, LARGE NONROAD SPARK-IGNITION ENGINES

■ 211. The authority citation for part 1048 is revised to read as follows:

Authority: 42 U.S.C. 7401—7671q.

■ 212. The heading for subpart A is revised to read as follows:

Subpart A—Overview and Applicability

■ 213. Section 1048.1 is revised to read as follows:

§ 1048.1 Does this part apply to me?

(a) The regulations in this part 1048 apply for all new, spark-ignition nonroad engines (defined in § 1048.801) with maximum engine power above 19 kW, except as provided in § 1048.5.

(b) This part 1048 applies for engines built on or after January 1, 2004. You need not follow this part for engines you produce before January 1, 2004. *See* §§ 1048.101 through 1048.115, § 1048.145, and the definition of model year in § 1048.801 for more information about the timing of new requirements.

(c) The definition of nonroad engine in 40 CFR 1068.30 excludes certain engines used in stationary applications. These engines are not required to comply with this part, except for the requirements in § 1048.20. In addition, if these engines are uncertified, the prohibitions in 40 CFR 1068.101 restrict their use as nonroad engines.

(d) In certain cases, the regulations in this part 1048 apply to engines with maximum engine power at or below 19 kW that would otherwise be covered by 40 CFR part 90. *See* 40 CFR 90.913 for provisions related to this allowance.

■ 214. Section 1048.5 is revised to read as follows:

§ 1048.5 Which engines are excluded from this part's requirements?

This part does not apply to the following nonroad engines:

(a) Engines that are certified to meet the requirements of 40 CFR part 1051, or are otherwise subject to 40 CFR part 1051 (for example, engines used in snowmobiles and all-terrain vehicles).

(b) *Propulsion marine engines.* *See* 40 CFR part 91. This part applies with respect to auxiliary marine engines.

■ 215. Section 1048.10 is revised to read as follows:

§ 1048.10 How is this part organized?

The regulations in this part 1048 contain provisions that affect both engine manufacturers and others. However, the requirements of this part are generally addressed to the engine manufacturer. The term “you” generally means the engine manufacturer, as defined in § 1048.801. This part 1048 is divided into the following subparts:

(a) Subpart A of this part defines the applicability of part 1048 and gives an overview of regulatory requirements.

(b) Subpart B of this part describes the emission standards and other requirements that must be met to certify engines under this part. Note that § 1048.145 discusses certain interim requirements and compliance provisions that apply only for a limited time.

(c) Subpart C of this part describes how to apply for a certificate of conformity.

(d) Subpart D of this part describes general provisions for testing production-line engines.

(e) Subpart E of this part describes general provisions for testing in-use engines.

(f) Subpart F of this part describes how to test your engines (including

references to other parts of the Code of Federal Regulations).

(g) Subpart G of this part and 40 CFR part 1068 describe requirements, prohibitions, and other provisions that apply to engine manufacturers, equipment manufacturers, owners, operators, rebuilders, and all others.

(h) [Reserved]

(i) Subpart I of this part contains definitions and other reference information.

■ 216. Section 1048.15 is revised to read as follows:

§ 1048.15 Do any other regulation parts affect me?

(a) Part 1065 of this chapter describes procedures and equipment specifications for testing engines. Subpart F of this part 1048 describes how to apply the provisions of part 1065 of this chapter to determine whether engines meet the emission standards in this part.

(b) The requirements and prohibitions of part 1068 of this chapter apply to everyone, including anyone who manufactures, imports, installs, owns, operates, or rebuilds any of the engines subject to this part 1048, or equipment containing these engines. Part 1068 of this chapter describes general provisions, including these seven areas:

(1) Prohibited acts and penalties for engine manufacturers, equipment manufacturers, and others.

(2) Rebuilding and other aftermarket changes.

(3) Exclusions and exemptions for certain engines.

(4) Importing engines.

(5) Selective enforcement audits of your production.

(6) Defect reporting and recall.

(7) Procedures for hearings.

(c) Other parts of this chapter apply if referenced in this part.

■ 217. Section 1048.20 is revised to read as follows:

§ 1048.20 What requirements from this part apply to excluded stationary engines?

(a) You must add a permanent label or tag to each new engine you produce or import that is excluded under § 1048.1(c) as a stationary engine. To meet labeling requirements, you must do the following things:

- (1) Attach the label or tag in one piece so no one can remove it without destroying or defacing it.
- (2) Secure it to a part of the engine needed for normal operation and not normally requiring replacement.
- (3) Make sure it is durable and readable for the engine's entire life.
- (4) Write it in English.
- (5) Follow the requirements in § 1048.135(g) regarding duplicate labels if the engine label is obscured in the final installation.

(b) Engine labels or tags required under this section must have the following information:

(1) Include the heading "EMISSION CONTROL INFORMATION".

(2) Include your full corporate name and trademark. You may instead include the full corporate name and trademark of another company you choose to designate.

(3) State the engine displacement (in liters) and maximum engine power.

(4) State: "THIS ENGINE IS EXCLUDED FROM THE REQUIREMENTS OF 40 CFR PART 1048 AS A "STATIONARY ENGINE." INSTALLING OR USING THIS ENGINE IN ANY OTHER APPLICATION MAY

BE A VIOLATION OF FEDERAL LAW SUBJECT TO CIVIL PENALTY."

■ 218. Section 1048.101 is amended by revising the introductory text and paragraphs (a), (b), (c), (e), (g), and (h) to read as follows:

§ 1048.101 What exhaust emission standards must my engines meet?

The exhaust emission standards of this section apply by model year. You may certify engines earlier than we require. The Tier 1 standards apply only to steady-state testing, as described in paragraph (b) of this section. The Tier 2 standards apply to steady-state, transient, and field testing, as described in paragraphs (a), (b), and (c) of this section.

(a) *Emission standards for transient testing.* Starting in the 2007 model year, transient exhaust emissions from your engines may not exceed the Tier 2 emission standards, as follows:

(1) Measure emissions using the applicable transient test procedures described in subpart F of this part.

(2) The Tier 2 HC+NO_x standard is 2.7 g/kW-hr and the Tier 2 CO standard is 4.4 g/kW-hr. For severe-duty engines, the Tier 2 HC+NO_x standard is 2.7 g/kW-hr and the Tier 2 CO standard is 130.0 g/kW-hr. The following engines are not subject to the transient standards in this paragraph (a):

- (i) High-load engines.
- (ii) Engines with maximum engine power above 560 kW.
- (iii) Engines with maximum test speed above 3400 rpm.

(3) You may optionally certify your engines according to the following

formula instead of the standards in paragraph (a)(1) of this section: $(HC+NO_x) \times CO^{0.784} \leq 8.57$. The HC+NO_x and CO emission levels you select to satisfy this formula, rounded to the nearest 0.1 g/kW-hr, become the emission standards that apply for those engines. You may not select an HC+NO_x emission standard higher than 2.7 g/kW-hr or a CO emission standard higher than 20.6 g/kW-hr. The following table illustrates a range of possible values under this paragraph (a)(3):

TABLE 1 OF § 1048.101.—EXAMPLES OF POSSIBLE TIER 2 DUTY-CYCLE EMISSION STANDARDS

HC+NO _x (g/kW-hr)	CO (g/kW-hr)
2.7	4.4
2.2	5.6
1.7	7.9
1.3	11.1
1.0	15.5
0.8	20.6

(b) *Standards for steady-state testing.* Except as we allow in paragraph (d) of this section, steady-state exhaust emissions from your engines may not exceed emission standards, as follows:

(1) Measure emissions using the applicable steady-state test procedures described in subpart F of this part:

(2) The following table shows the Tier 1 exhaust emission standards that apply to engines from 2004 through 2006 model years:

TABLE 2 OF § 1048.101.—TIER 1 EMISSION STANDARDS (G/KW-HR)

Testing	General emission standards		Alternate emission standards for severe-duty engines	
	HC+NO _x	CO	HC+NO _x	CO
Certification and production-line testing	4.0	50.0	4.0	130.0
In-use testing	5.4	50.0	5.4	130.0

(3) Starting in the 2007 model year, steady-state exhaust emissions from your engines may not exceed the numerical emission standards in paragraph (a) of this section. See paragraph (d) of this section for alternate standards that apply for certain engines.

(c) *Standards for field testing.* Starting in 2007, exhaust emissions may not exceed field-testing standards, as follows:

(1) Measure emissions using the field-testing procedures in subpart F of this part:

(2) The HC+NO_x standard is 3.8 g/kW-hr and the CO standard is 6.5 g/kW-hr. For severe-duty engines, the HC+NO_x standard is 3.8 g/kW-hr and the CO standard is 200.0 g/kW-hr. For natural gas-fueled engines, you are not required to measure nonmethane hydrocarbon emissions or total hydrocarbon emissions for testing to show that the engine meets the emission standards of this paragraph (c); that is, you may assume HC emissions are equal to zero.

(3) You may apply the following formula to determine alternate emission

standards that apply to your engines instead of the standards in paragraph (c)(1) of this section: $(HC+NO_x) \times CO^{0.791} \leq 16.78$. HC+NO_x emission levels may not exceed 3.8 g/kW-hr and CO emission levels may not exceed 31.0 g/kW-hr. The following table illustrates a range of possible values under this paragraph (c)(2):

TABLE 3 OF § 1048.101.—EXAMPLES OF POSSIBLE TIER 2 FIELD-TESTING EMISSION STANDARDS

HC+NO _x (g/kW-hr)	CO (g/kW-hr)
3.8	6.5
3.1	8.5
2.4	11.7
1.8	16.8
1.4	23.1
1.1	31.0

* * * * *

(e) *Fuel types.* The exhaust emission standards in this section apply for engines using each type of fuel specified in 40 CFR part 1065, subpart H, on which the engines in the engine family are designed to operate, except for engines certified under § 1048.625. For engines certified under § 1048.625, the standards of this section apply to emissions measured using the specified test fuel. You must meet the numerical emission standards for hydrocarbons in this section based on the following types of hydrocarbon emissions for engines powered by the following fuels:

- (1) Gasoline- and LPG-fueled engines: THC emissions.
- (2) Natural gas-fueled engines: NMHC emissions.
- (3) Alcohol-fueled engines: THCE emissions.

* * * * *

(g) *Useful life.* Your engines must meet the exhaust emission standards in paragraphs (a) through (c) of this section over their full useful life. For severe-duty engines, the minimum useful life is 1,500 hours of operation or seven years, whichever comes first. For all other engines, the minimum useful life is 5,000 hours of operation or seven years, whichever comes first.

(1) Specify a longer useful life in hours for an engine family under either of two conditions:

(i) If you design, advertise, or market your engine to operate longer than the minimum useful life (your recommended hours until rebuild may indicate a longer design life).

(ii) If your basic mechanical warranty is longer than the minimum useful life.

(2) You may request in your application for certification that we approve a shorter useful life for an engine family. We may approve a shorter useful life, in hours of engine operation but not in years, if we determine that these engines will rarely operate longer than the shorter useful life. If engines identical to those in the engine family have already been produced and are in use, your demonstration must include

documentation from such in-use engines. In other cases, your demonstration must include an engineering analysis of information equivalent to such in-use data, such as data from research engines or similar engine models that are already in production. Your demonstration must also include any overhaul interval that you recommend, any mechanical warranty that you offer for the engine or its components, and any relevant customer design specifications. Your demonstration may include any other relevant information. The useful life value may not be shorter than any of the following:

- (i) 1,000 hours of operation.
- (ii) Your recommended overhaul interval.
- (iii) Your mechanical warranty for the engine.

(h) *Applicability for testing.* The emission standards in this subpart apply to all testing, including certification, production-line, and in-use testing. For production-line testing, you must perform duty-cycle testing as specified in §§ 1048.505 and 1048.510. The field-testing standards of this section apply for those tests. You need not do additional testing of production-line engines to show that your engines meet the field-testing standards.

■ 219. Section 1048.105 is amended by revising the section heading and adding introductory text to read as follows:

§ 1048.105 What evaporative emission standards and requirements apply?

The requirements of this section apply to all engines that are subject to this part, except auxiliary marine engines.

* * * * *

■ 220. Section 1048.115 is amended by removing and reserving paragraph (d) and revising the introductory text and paragraphs (a), (b), (e), and (g) to read as follows:

§ 1048.115 What other requirements must my engines meet?

Engines subject to this part must meet the following requirements:

(a) *Crankcase emissions.* Crankcase emissions may not be discharged directly into the ambient atmosphere from any engine throughout its useful life, except as follows:

(1) Engines may discharge crankcase emissions to the ambient atmosphere if the emissions are added to the exhaust emissions (either physically or mathematically) during all emission testing. If you take advantage of this exception, you must do the following things:

- (i) Manufacture the engines so that all crankcase emissions can be routed into

the applicable sampling systems specified in 40 CFR part 1065.

(ii) Account for deterioration in crankcase emissions when determining exhaust deterioration factors.

(2) For purposes of this paragraph (a), crankcase emissions that are routed to the exhaust upstream of exhaust aftertreatment during all operation are not considered to be discharged directly into the ambient atmosphere.

(b) *Torque broadcasting.* Electronically controlled engines must broadcast their speed and output shaft torque (in newton-meters). Engines may alternatively broadcast a surrogate value for determining torque. Engines must broadcast engine parameters such that they can be read with a remote device, or broadcast them directly to their controller area networks. This information is necessary for testing engines in the field (see § 1048.515). This requirement applies beginning in the 2007 model year. Small-volume engine manufacturers may omit this requirement.

* * * * *

(e) *Adjustable parameters.* Engines that have adjustable parameters must meet all the requirements of this part for any adjustment in the physically adjustable range. An operating parameter is not considered adjustable if you permanently seal it or if it is not normally accessible using ordinary tools. We may require that you set adjustable parameters to any specification within the adjustable range during any testing, including certification testing, selective enforcement auditing, or in-use testing.

* * * * *

(g) *Defeat devices.* You may not equip your engines with a defeat device. A defeat device is an auxiliary emission-control device that reduces the effectiveness of emission controls under conditions that the engine may reasonably be expected to encounter during normal operation and use. This does not apply to auxiliary-emission control devices you identify in your certification application if any of the following is true:

(1) The conditions of concern were substantially included in the applicable test procedures described in subpart F of this part.

(2) You show your design is necessary to prevent engine (or equipment) damage or accidents.

(3) The reduced effectiveness applies only to starting the engine.

■ 221. Section 1048.120 is revised to read as follows:

§ 1048.120 What emission-related warranty requirements apply to me?

(a) *General requirements.* You must warrant to the ultimate purchaser and each subsequent purchaser that the new nonroad engine, including all parts of its emission-control system, meets two conditions:

(1) It is designed, built, and equipped so it conforms at the time of sale to the ultimate purchaser with the requirements of this part.

(2) It is free from defects in materials and workmanship that may keep it from meeting these requirements.

(b) *Warranty period.* Your emission-related warranty must be valid for at least 50 percent of the engine's useful life in hours of operation or at least three years, whichever comes first. In the case of a high-cost warranted part, the warranty must be valid for at least 70 percent of the engine's useful life in hours of operation or at least five years, whichever comes first. You may offer an emission-related warranty more generous than we require. The emission-related warranty for the engine may not be shorter than any published warranty you offer without charge for the engine. Similarly, the emission-related warranty for any component may not be shorter than any published warranty you offer without charge for that component. If an engine has no hour meter, we base the warranty periods in this paragraph (b) only on the engine's age (in years). The warranty period begins when the engine is placed into service.

(c) *Components covered.* The emission-related warranty covers all components whose failure would increase an engine's emissions of any pollutant. This includes components listed in 40 CFR part 1068, Appendix I, and components from any other system you develop to control emissions. The emission-related warranty covers these components even if another company produces the component. Your emission-related warranty does not cover components whose failure would not increase an engine's emissions of any pollutant.

(d) *Limited applicability.* You may deny warranty claims under this section if the operator caused the problem through improper maintenance or use, as described in 40 CFR 1068.115.

(e) *Owners manual.* Describe in the owners manual the emission-related warranty provisions from this section that apply to the engine.

■ 222. Section 1048.125 is revised to read as follows:

§ 1048.125 What maintenance instructions must I give to buyers?

Give the ultimate purchaser of each new nonroad engine written instructions for properly maintaining and using the engine, including the emission-control system. The maintenance instructions also apply to service accumulation on your emission-data engines, as described in 40 CFR part 1065.

(a) *Critical emission-related maintenance.* Critical emission-related maintenance includes any adjustment, cleaning, repair, or replacement of critical emission-related components. This may also include additional emission-related maintenance that you determine is critical if we approve it in advance. You may schedule critical emission-related maintenance on these components if you meet the following conditions:

(1) You demonstrate that the maintenance is reasonably likely to be done at the recommended intervals on in-use engines. We will accept scheduled maintenance as reasonably likely to occur if you satisfy any of the following conditions:

(i) You present data showing that, if a lack of maintenance increases emissions, it also unacceptably degrades the engine's performance.

(ii) You present survey data showing that at least 80 percent of engines in the field get the maintenance you specify at the recommended intervals.

(iii) You provide the maintenance free of charge and clearly say so in maintenance instructions for the customer.

(iv) You otherwise show us that the maintenance is reasonably likely to be done at the recommended intervals.

(2) You may not schedule critical emission-related maintenance more frequently than the following minimum intervals, except as specified in paragraphs (a)(3),

(b) and (c) of this section:

(i) For catalysts, fuel injectors, electronic control units, superchargers, and turbochargers: The useful life of the engine family.

(ii) For gaseous fuel-system components (cleaning without disassembly only) and oxygen sensors: 2,500 hours.

(3) If your engine family has an alternate useful life under § 1048.101(g) that is shorter than the period specified in paragraph (a)(2)(ii) of this section, you may not schedule critical emission-related maintenance more frequently than the alternate useful life, except as specified in paragraph (c) of this section.

(b) *Recommended additional maintenance.* You may recommend any additional amount of maintenance on the components listed in paragraph (a) of this section, as long as you state clearly that these maintenance steps are not necessary to keep the emission-related warranty valid. If operators do the maintenance specified in paragraph (a) of this section, but not the recommended additional maintenance, this does not allow you to disqualify those engines from in-use testing or deny a warranty claim. Do not take these maintenance steps during service accumulation on your emission-data engines.

(c) *Special maintenance.* You may specify more frequent maintenance to address problems related to special situations, such as substandard fuel or atypical engine operation. For example, you may specify more frequent cleaning of fuel system components for engines you have reason to believe will be using fuel that causes substantially more engine performance problems than commercial fuels of the same type that are generally available across the United States. You must clearly state that this additional maintenance is associated with the special situation you are addressing.

(d) *Noncritical emission-related maintenance.* You may schedule any amount of emission-related inspection or maintenance that is not covered by paragraph (a) of this section, as long as you state in the owners manual that these steps are not necessary to keep the emission-related warranty valid. If operators fail to do this maintenance, this does not allow you to disqualify those engines from in-use testing or deny a warranty claim. Do not take these inspection or maintenance steps during service accumulation on your emission-data engines.

(e) *Maintenance that is not emission-related.* For maintenance unrelated to emission controls, you may schedule any amount of inspection or maintenance. You may also take these inspection or maintenance steps during service accumulation on your emission-data engines, as long as they are reasonable and technologically necessary. This might include adding engine oil, changing air, fuel, or oil filters, servicing engine-cooling systems, and adjusting idle speed, governor, engine bolt torque, valve lash, or injector lash. You may perform this nonemission-related maintenance on emission-data engines at the least frequent intervals that you recommend to the ultimate purchaser (but not the intervals recommended for severe service).