For the reasons set out in the preamble, title 40, Chapter I, of the Code of Federal Regulations is proposed to be amended as set forth below:

PART 80—REGULATION OF FUEL AND FUEL ADDITIVES

1. The authority citation for part 80 continues to read as follows:
Authority: 42 U.S.C 7414, 7542, 7545, and 7601.

2. Section 80.2 is amended by revising paragraphs (ccc) and (nnn) and adding paragraph (ttt) to read as follows:

§ 80.2 Definitions.

* * * * *

(ccc) Heating Oil means any #1, #2, or non-petroleum diesel blend that is sold for use in furnaces, boilers, and similar applications and which is commonly or commercially known or sold as heating oil, fuel oil, and similar trade names, and that is not jet fuel, kerosene, or MVNRLM diesel fuel.

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(nnn) Nonroad, locomotive, or marine (NRLM) diesel fuel means any diesel fuel or other distillate fuel that is used, intended for use, or made available for use, as a fuel in any nonroad diesel engines, including locomotive and marine diesel engines, except the following: Distillate fuel with a T90 at or above 700 °F that is used only in Category 2 and 3 marine engines is not NRLM diesel fuel, and ECA marine fuel is not NRLM diesel fuel. Use the distillation test method specified in 40 CFR 1065.1010 to determine the T90 of the fuel. NR diesel fuel and LM diesel fuel are subcategories of NRLM diesel fuel.

(1) Any diesel fuel that is sold for use in stationary engines that are required to meet the requirements of §80.510(a) and/or (b), when such provisions are applicable to nonroad engines, shall be considered NRLM diesel fuel.

(2) [Reserved]

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(ttt) ECA marine fuel is fuel oil that is required for use in Category 3 marine vessels operating within an Emission Control Area (ECA).

3. Subpart I of part 80 is revised to read as follows:

Subpart I—Motor Vehicle, Nonroad, Locomotive, and Marine Diesel Fuel and ECA Marine Fuel

General Information

§ 80.500 What are the implementation dates for the motor vehicle diesel fuel sulfur control program?

* * * * *

§ 80.501 What fuel is subject to the provisions of this subpart?

(a) Included fuel and additives. The provisions of this subpart apply to the following fuels and additives except as specified in paragraph (b) of this section:
  (1) Motor vehicle diesel fuel.
  (2) Nonroad, locomotive, or marine diesel fuel.
  (3) Diesel fuel additives.
  (4) Heating oil.
  (5) ECA marine fuel.
  (6) Other distillate fuels.
  (7) Motor oil that is used as or intended for use as fuel in diesel motor vehicles or nonroad diesel engines or is blended with diesel fuel for use in diesel motor vehicles or nonroad diesel engines, including locomotive and marine diesel engines, at any downstream location.

(b) Excluded fuel. The provisions of this subpart do not apply to distillate fuel that is designated for export outside the United States in accordance with §80.598, identified for export by a transfer document as required under §80.590, and that is exported.

§ 80.502 What definitions apply for purposes of this subpart?

The definitions of §80.2 and the following additional definitions apply to this subpart I:

(a) Entity means any refiner, importer, distributor, retailer or wholesale-purchaser consumer of any distillate fuel.

(b) Facility means any place, or series of places, where an entity produces, imports, or maintains custody of any distillate fuel from the time it is received to the time custody is transferred to another entity, except as described in paragraphs (b)(1) through (b)(4) of this section:
  (1) Where an entity maintains custody of a batch of diesel fuel from one place in the distribution system to another place (e.g., from a pipeline to a terminal), all owned by the same entity, both places combined are considered to be one single aggregated facility, except where an entity chooses to treat components of such an aggregated facility as separate facilities. The choice made to treat these places as separate facilities may not be changed by the entity during any applicable compliance period. Except as specified in paragraph (b)(2) of this section, where compliance requirements depend upon facility-type, the entire facility must comply with the requirements that apply to its components as follows:
    (i) If an aggregated facility includes a refinery, the entire facility must comply with the requirements applicable to refineries.
    (ii) If an aggregated facility includes a truck loading terminal but not a refinery, the entire facility must comply with the requirements applicable to truck loading terminals.
    (iii) Situations where a refinery is aggregated with a truck loading terminal.
      (A) Where a refinery is aggregated with a truck loading terminal, diesel fuel or other product subject to the requirements of this subpart I produced by such refinery and distributed over the truck terminal rack must be included in refinery batches that may be based on shipments to a truck terminal rack tank or on the total volumes delivered to tanker trucks for a period not to exceed 1 calendar month per batch.

(B) Where a refinery is aggregated with a truck loading terminal, diesel fuel or other product subject to the requirements of this subpart I that were imported or produced by another refinery, and that are distributed through the refinery or truck terminal rack, must be treated as previously designated fuel for which the aggregated facility is responsible for all applicable balance and downgrade requirements under §§80.527, 80.598, 80.599 and related recordkeeping and reporting requirements like any other distributor downstream from the refiner or importer.

(2) A refinery or import facility may not be aggregated with facilities that receive fuel from other refineries or import facilities, either directly or indirectly. For example, a refinery may not be aggregated with a terminal that receives any fuel from a common carrier pipeline. However, a refinery may be aggregated with a pipeline and terminal that are owned by the same entity and which receive no fuel from any source other than the refinery. Likewise, a refinery may not be aggregated with a mobile facility that is also carrying another entity's fuel; it may however be aggregated with a mobile facility that does not receive fuel from any source other than the refinery. If a refinery or import facility is aggregated with other facilities, then the aggregated facility is treated as a refinery or import facility.

(3) Retail outlets or wholesale purchaser consumers may not be aggregated with any other facility.

(4) Mobile components and mobile facilities.

(i) Where an entity maintains custody of diesel fuel in one or more mobile components (e.g., rail, barge, shipping, or trucking operations), the mobile components may be aggregated as a single facility. Mobile components may also be aggregated with a facility from which they receive fuel or a facility to which they deliver fuel. However, mobile components may not be aggregated with both a facility from which they receive fuel and a facility to which they deliver fuel.

(ii) When an entity maintains title to, but not custody of, diesel fuel in one or more mobile components, the entity may treat the mobile component(s) as a facility under this paragraph (b), but only for the fuel to which the entity has title. In the event that title changes while a mobile component is in transport (but the fuel physically remains in the same mobile facility), the original entity that had title to the fuel continues to be responsible for the designate and track requirements until custody of the fuel is transferred from the mobile facility.

(5) An individual refinery or contiguous pipeline may not be subdivided into more than one facility. An individual terminal may not be subdivided into more than one facility unless approved by the Administrator.

(c) Truck loading terminal means any facility that dyes NRLM diesel fuel or ECA marine fuel, pays taxes on motor vehicle diesel fuel per IRS code (26 CFR part 48), or adds a fuel marker pursuant to §80.510 to heating oil and delivers diesel fuel or heating oil into trucks for delivery to retail or ultimate consumer locations.

(d) Batch means a quantity of diesel fuel or distillate which is homogeneous with regard to those properties that are specified for MVNRLM diesel fuel or ECA marine fuel under

this subpart I of this part, has the same designation under this subpart I (if applicable), and whose custody is transferred from one facility to another facility.

(1) In the case of aggregated facilities consisting of a refinery and a truck loading terminal, a batch may be defined by one of the following methods:

(i) The sum of the deliveries from the truck loading terminal rack to trucks for periods not to exceed 1 month;

(ii) Each individual truck or truck compartment; or

(iii) For refineries with "certification tanks" where testing is performed and "rack tanks" that feed the truck loading terminal rack, each transfer from the certification tank to the rack tank. If this method of determining a batch is selected, it must be the sole method used and must be performed such that no double-counting or undercounting of volumes occurs.

(2) [Reserved]

(e) Downstream location means any point in the diesel fuel distribution system that is downstream of refineries and import facilities, for example, diesel fuel at facilities of distributors, carriers, retailers, kerosene blenders, and wholesale purchaser-consumers.

(f) Definition of PADD. For the purposes of this subpart only, the following definitions of PADDs apply:

(1) The following States are included in PADD I:

Connecticut
Delaware
District of Columbia
Florida
Georgia
Maine
Maryland
Massachusetts
New Hampshire
New Jersey
New York
North Carolina
Pennsylvania
Rhode Island
South Carolina
Vermont
Virginia
West Virginia

(2) The following States are included in PADD II:

Illinois
Indiana
Iowa
Kansas
Kentucky
Michigan
Minnesota
Missouri

Nebraska
North Dakota
Ohio
Oklahoma
South Dakota
Tennessee
Wisconsin

(3) The following States are included in PADD III:
Alabama
Arkansas
Louisiana
Mississippi
New Mexico
Texas

(4) The following States are included in PADD IV:
Colorado
Idaho
Montana
Utah
Wyoming

(5) The following States are included in PADD V:
Alaska
Arizona
California
Hawaii
Nevada
Oregon
Washington

(6) The following areas are included in PADD VI:
U.S. Virgin Islands
Commonwealth of Puerto Rico

(g) Emission Control Area. An Emission Control Area (ECA), for the purposes of this Part, is defined as the area delineated in section 2 of the document "**CONSIDERATION AND ADOPTION OF AMENDMENTS TO MANDATORY INSTRUMENTS"** submitted by the governments of the United States and Canada to the International Maritime Organization on March 27, 2009, and all internal waters of the United States.

(h) Marine diesel engine. For the purposes of this subpart I only, marine diesel engine means a diesel engine installed on a Category 1 (C1) or Category 2 (C2) marine vessel.

§§ 80.503-80.509 [Reserved]

§ 80.510 What are the standards and marker requirements for NRLM diesel fuel and ECA marine fuel?

(a) Beginning June 1, 2007. Except as otherwise specifically provided in this subpart, all NRLM diesel fuel is subject to the following per-gallon standards:

(1) Sulfur content. 500 parts per million (ppm) maximum.

(2) Cetane index or aromatic content, as follows:
(i) A minimum cetane index of 40; or
(ii) A maximum aromatic content of 35 volume percent.

(b) Beginning June 1, 2010. Except as otherwise specifically provided in this subpart, all NR and LM diesel fuel is subject to the following per-gallon standards:
(1) Sulfur content.
(i) 15 ppm maximum for NR diesel fuel.
(ii) 500 ppm maximum for LM diesel fuel.
(2) Cetane index or aromatic content, as follows:
(i) A minimum cetane index of 40; or
(ii) A maximum aromatic content of 35 volume percent.

(c) Beginning June 1, 2012. Except as otherwise specifically provided in this subpart, all NRLM diesel fuel is subject to the following per-gallon standards:
(1) Sulfur content. 15 ppm maximum.
(2) Cetane index or aromatic content, as follows:
(i) A minimum cetane index of 40; or
(ii) A maximum aromatic content of 35 volume percent.

(d) Marking provisions. From June 1, 2007 through May 31, 2010:
(1) Except as provided for in paragraph (i) of this section, prior to distribution from a truck loading terminal, all heating oil shall contain six milligrams per liter of marker solvent yellow 124.
(2) All motor vehicle and NRLM diesel fuel shall be free of solvent yellow 124.
(3) Any diesel fuel that contains greater than or equal to 0.10 milligrams per liter of marker solvent yellow 124 shall be deemed to be heating oil and shall be prohibited from use in any motor vehicle or nonroad diesel engine (including locomotive, or marine diesel engines).
(4) Except as provided for in paragraph (i) of this section, any diesel fuel, other than jet fuel or kerosene that is downstream of a truck loading terminal, that contains less than 0.10 milligrams per liter of marker solvent yellow 124 shall be considered motor vehicle diesel fuel or NRLM diesel fuel, as appropriate.
(5) Any heating oil that is required to contain marker solvent yellow 124 pursuant to the requirements of this paragraph (d) must also contain visible evidence of dye solvent red 164.

(e) Marking provisions. From June 1, 2010 through May 31, 2012:
(1) Except as provided for in paragraph (i) of this section, prior to distribution from a truck loading terminal, all heating oil and diesel fuel designated as 500 ppm sulfur LM diesel fuel shall contain six milligrams per liter of solvent yellow 124.
(2) All motor vehicle and NR diesel fuel shall be free of marker solvent yellow 124.
(3) Any diesel fuel that contains greater than or equal to 0.10 milligrams per liter of marker solvent yellow 124 shall be deemed to be LM diesel fuel or heating oil, as appropriate, and shall be prohibited from use in any motor vehicle or nonroad diesel engine (except for locomotive or marine diesel engines).
(4) Except as provided for in paragraph (i) of this section, any diesel fuel, other than jet fuel or kerosene that is downstream of a truck loading terminal, that contains less than 0.10 milligrams per liter of marker solvent yellow 124 shall be considered motor vehicle diesel fuel or NR diesel fuel, as appropriate.

(5) Any LM diesel fuel or heating oil that is required to contain marker solvent yellow 124 pursuant to the requirements of this paragraph (e) must also contain visible evidence of dye solvent red 164.

(f) Marking provisions. From June 1, 2012 through May 31, 2014:

(1) Except as provided for in paragraph (i) of this section, prior to distribution from a truck loading terminal, all heating oil shall contain six milligrams per liter of marker solvent yellow 124.

(2) All motor vehicle and NRLM diesel fuel shall be free of marker solvent yellow 124.

(3) Any diesel fuel that contains greater than or equal to 0.10 milligrams per liter of marker solvent yellow 124 shall be deemed to be heating oil and shall be prohibited from use in any motor vehicle or nonroad diesel engine (including locomotive, or marine diesel engines).

(4) Except as provided for in paragraph (i) of this section, any diesel fuel, other than jet fuel or kerosene that is downstream of a truck loading terminal, that contains less than 0.10 milligrams per liter of marker solvent yellow 124 shall be considered motor vehicle diesel fuel or NRLM diesel fuel, as appropriate.

(5) Any heating oil that is required to contain marker solvent yellow 124 pursuant to the requirements of this paragraph (f) must also contain visible evidence of dye solvent red 164.

(6) Marker solvent yellow 124 shall not be used in any MVNRLM or heating oil after May 31, 2014.

(g) Special provisions in this part apply to the following areas:

(1) Northeast/Mid-Atlantic Area which includes the following states and counties, through May 31, 2014: North Carolina, Virginia, Maryland, Delaware, New Jersey, Connecticut, Rhode Island, Massachusetts, Vermont, New Hampshire, Maine, Washington D.C., New York (except for the counties of Chautauqua, Cattaraugus, and Allegany), Pennsylvania (except for the counties of Erie, Warren, Mc Kean, Potter, Cameron, Elk, Jefferson, Clarion, Forest, Venango, Mercer, Crawford, Lawrence, Beaver, Washington, and Greene), and the eight eastern-most counties of West Virginia (Jefferson, Berkeley, Morgan, Hampshire, Mineral, Hardy, Grant, and Pendleton).

(2) Alaska.

(h) Pursuant and subject to the provisions of §80.536, §80.554, §80.560, or §80.561:

(1) Except as provided in paragraph (j) of this section, from June 1, 2007 through May 31, 2010, NRLM diesel fuel produced or imported in full compliance with the requirements of §§80.536, 80.554, 80.560, and 80.561 is exempt from the per-gallon sulfur content standard and cetane or aromatics standard of paragraph (a) of this section.

(2) Except as provided in paragraph (j) of this section, from June 1, 2010 through May 31, 2012 for NR diesel fuel and from June 1, 2012 through May 31, 2014 for NRLM diesel fuel produced or imported in full compliance with the requirements of §§80.536, 80.554, 80.560, and 80.561 is exempt from the per-gallon standards of paragraphs (b) and (c) of this section, but is subject to the per-gallon standards of paragraph (a) of this section.

(i) The marking requirements of paragraphs (d)(1), (d)(4), (e)(1), (e)(4), (f)(1), and (f)(4) of this section do not apply to heating oil, or, for paragraphs (e)(1) and (e)(4) of this section, diesel fuel designated as LM diesel fuel that is distributed from a truck loading terminal located within the areas listed in paragraphs (g)(1) and (g)(2) of this section and is for sale or intended for sale within these areas, or that is distributed from any other truck loading terminal and is for sale or intended for sale within the area listed in (g)(2) of this section.

(j) The provisions of paragraphs (h)(1) and (h)(2) of this section do not apply to diesel fuel sold or intended for sale in the areas listed in paragraph (g)(1) of this section that is produced or imported in full compliance with the requirements of §§80.536 and 80.554 or to diesel fuel sold or intended for sale in the area listed in paragraph (g)(2) of this section that is produced or imported in full compliance with the requirements of §80.536.

(k) Beginning June 1, 2014. Except as otherwise specifically provided in this subpart, all ECA marine fuel is subject to the following per-gallon standards:

(1) Sulfur content. 1,000 ppm maximum.

(2) Any ECA marine fuel with a T90 below 700 °F is also subject to either of the following per-gallon standards:

(i) A minimum cetane index of 40.

(ii) A maximum aromatic content of 35 volume percent.

§ 80.511 What are the per-gallon and marker requirements that apply to NRLM diesel fuel, ECA marine fuel, and heating oil downstream of the refiner or importer?

(a) Applicable dates for marker requirements. Beginning June 1, 2006, all NRLM diesel fuel and ECA marine fuel shall contain less than 0.10 milligrams per liter of the marker solvent yellow 124, except for LM diesel fuel subject to the marking requirements of §80.510(e).

(b) Applicable dates for per-gallon standards.

(1) Beginning June 1, 2006, all NRLM diesel fuel must comply with the per-gallon sulfur standard for the designation or classification stated on its PTD, pump label, or other documentation. Based on the provisions of §80.510(h) and (j), there is no uniform downstream sulfur standard until the downstream dates identified in paragraphs (b)(3) through (b)(8) of this section.

(2) Except as provided in paragraphs (b)(5) and (b)(8) of this section, beginning December 1, 2010, all NRLM diesel fuel must comply with the cetane index or aromatics standard of §80.510.

(3) Except as provided in paragraphs (b)(5) through (b)(8) of this section, the per-gallon sulfur standard of §80.510(a) shall apply to all NRLM diesel fuel beginning August 1, 2010 for all downstream locations other than retail outlets or wholesale purchaser-consumer facilities, shall apply to all NRLM diesel fuel beginning October 1, 2010 for retail outlets and wholesale purchaser-consumer facilities, and shall apply to all NRLM diesel fuel beginning December 1, 2010 for all locations.

(4) Except as provided in paragraphs (b)(5) through (b)(8) of this section, the per-gallon sulfur standard of §80.510(c) shall apply to all NRLM diesel fuel beginning August 1, 2014 for all downstream locations other than retail outlets or

wholesale purchaser-consumer facilities, shall apply to all NRLM diesel fuel beginning October 1, 2014 for retail outlets and wholesale purchaser-consumer facilities, and shall apply to all NRLM diesel fuel beginning December 1, 2014 for all locations.

(5) For all NRLM diesel fuel that is sold or intended for sale in the areas listed in §80.510(g)(1), the per-gallon sulfur standard and the cetane index or aromatics standard of 80.510(a) shall apply to all NRLM diesel fuel beginning August 1, 2007 for all downstream locations other than retail outlets or wholesale purchaser-consumer facilities, shall apply to all NRLM diesel fuel beginning October 1, 2007 for retail outlets and wholesale purchaser-consumer facilities, and shall apply to all NRLM diesel fuel beginning December 1, 2007 for all locations.

(6) For all NR diesel fuel that is sold or intended for sale in the areas listed in §80.510(g)(1), the per-gallon sulfur standard of §80.510(b) shall apply to all NR diesel fuel beginning August 1, 2010 for all downstream locations other than retail outlets or wholesale purchaser-consumer facilities, shall apply to all NR diesel fuel beginning October 1, 2010 for retail outlets and wholesale purchaser-consumer facilities, and shall apply to all NR diesel fuel beginning December 1, 2010 for all locations.

(7) For all NRLM diesel fuel that is sold or intended for sale in the areas listed in §80.510(g)(1), the per-gallon sulfur standard of §80.510(c) shall apply to all NRLM diesel fuel beginning August 1, 2012 for all downstream locations other than retail outlets or wholesale purchaser-consumer facilities, shall apply to all NRLM diesel fuel beginning October 1, 2012 for retail outlets and wholesale purchaser-consumer facilities, and shall apply to all NRLM diesel fuel beginning December 1, 2012 for all locations.

(8) The provisions of paragraphs (b)(5) through (b)(7) of this section shall apply for all NRLM or NR diesel fuel that is sold or intended for sale in the area listed in §80.510(g)(2), except for NRLM or NR diesel fuel that is produced in accordance with a compliance plan approved under §80.554.

(9) The per-gallon sulfur standard of §80.510(k) shall apply to all ECA marine fuel beginning August 1, 2014 for all downstream locations other than retail outlets or wholesale purchaser-consumer facilities, shall apply to all ECA marine fuel beginning October 1, 2014 for retail outlets and wholesale purchaser-consumer facilities, and shall apply to all ECA marine fuel beginning December 1, 2014 for all locations.

(10) For the purposes of this section, distributors that have their own fuel storage tanks and deliver only to ultimate consumers shall be treated the same as retailers and their facilities treated the same as retail outlets.

§ 80.512 May an importer treat diesel fuel as blendstock?

§ 80.513 What provisions apply to transmix processing facilities?

For purposes of this section, transmix means a mixture of finished fuels that no longer meets the specifications for a fuel that can be used or sold without further processing. This section applies to refineries that produce diesel fuel from transmix by distillation or other refining processes but do not produce diesel fuel by processing crude oil. This section only applies to the volume of

diesel fuel produced by such a transmix processor using these processes, and does not apply to any diesel fuel produced by the blending of blendstocks.

(a) From June 1, 2006 through May 31, 2010, motor vehicle diesel fuel produced by a transmix processor is subject to the 500 ppm sulfur standard under §80.520(c).

(b) Beginning June 1, 2010, motor vehicle diesel fuel produced by a transmix processor is subject to the sulfur standard under §80.520(a)(1).

(c) From June 1, 2007 through May 31, 2010, NRLM diesel fuel produced by a transmix processor is exempt from the standards of §80.510(a). This paragraph (c) does not apply to NRLM diesel fuel that is sold or intended for sale in the areas listed in §80.510(g)(1) or (g)(2).

(d) From June 1, 2010 through May 31, 2014, NRLM diesel fuel produced by a transmix processor is subject to the standards under §80.510(a). This paragraph (d) does not apply to NRLM diesel fuel that is sold or intended for sale in the areas listed in §80.510(g)(1) or (g)(2).

(e) From June 1, 2014 and beyond, NRLM diesel fuel produced by a transmix processor is subject to the standards of §80.510(c).

§§ 80.514-80.519 [Reserved]

Motor Vehicle, Nonroad, Locomotive, and Marine Diesel Fuel and ECA Marine Fuel Standards and Requirements

§ 80.520 What are the standards and dye requirements for motor vehicle diesel fuel?

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§ 80.521 What are the standards and identification requirements for diesel fuel additives?

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§ 80.522 May used motor oil be dispensed into diesel motor vehicles or nonroad diesel engines?

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§ 80.523 [Reserved]

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§ 80.524 What sulfur content standard applies to motor vehicle diesel fuel downstream of the refinery or importer?

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§ 80.525 What requirements apply to kerosene blenders?

(a) For purposes of this subpart, a kerosene blender means any refiner who produces NRLM or motor vehicle diesel fuel by adding kerosene to NRLM or motor vehicle diesel fuel downstream of the refinery that produced that fuel or of the import facility where the fuel was imported, without altering the quality or quantity of the fuel in any other manner.

(b) Kerosene blenders are not subject to the requirements of this subpart applicable to refiners of diesel fuel, but are subject to the requirements and prohibitions applicable to downstream parties.

(c) For purposes of compliance with §§80.524(b)(1) and 80.511(b)(1), the product transfer documents must indicate that the fuel to which kerosene is added complies with the 500 ppm sulfur standard for motor vehicle diesel fuel and is for use only in model year 2006 and older diesel motor vehicles, the fuel is properly downgraded pursuant to the provisions of §80.527 to motor vehicle diesel fuel subject to the 500 ppm sulfur standard, or the applicable NRLM standard.

(d) Kerosene that a kerosene blender adds or intends to add to diesel fuel subject to the 15 ppm sulfur content standard must meet the 15 ppm sulfur content standard, and the following requirements:

(1) The product transfer document received by the kerosene blender indicates that the kerosene is diesel fuel that complies with the 15 ppm sulfur content standard; or

(2) The kerosene blender has test results indicating the kerosene complies with the 15 ppm sulfur standard.

§ 80.526 [Reserved]

§ 80.527 Under what conditions may motor vehicle diesel fuel subject to the 15 ppm sulfur standard be downgraded to motor vehicle diesel fuel subject to the 500 ppm sulfur standard?

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§§ 80.528-80.529 [Reserved]

Temporary Compliance Option

§ 80.530 Under what conditions can 500 ppm motor vehicle diesel fuel be produced or imported after May 31, 2006?

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§ 80.531 How are motor vehicle diesel fuel credits generated?

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§ 80.533 How does a refiner or importer apply for a motor vehicle or non-highway baseline for the generation of NRLM credits or the use of the NRLM small refiner compliance options?

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§ 80.534 [Reserved]

§ 80.535 How are NRLM diesel fuel credits generated?

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§ 80.536 How are NRLM diesel fuel credits used and transferred?

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§§ 80.537-80.539 [Reserved]

Geographic Phase-In Provisions

§ 80.540 How may a refiner be approved to produce gasoline under the GPA gasoline sulfur standards in 2007 and 2008?

§§ 80.541-80.549 [Reserved]

Small Refiner Hardship Provisions

§ 80.550 What is the definition of a motor vehicle diesel fuel small refiner or a NRLM diesel fuel small refiner under this subpart?

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§ 80.551 How does a refiner obtain approval as a small refiner under this subpart?

Editorial Note: At 71 FR 25718, May 1, 2006, §80.551 was amended by adding paragraph (f); however, the paragraph already exists in this section. For the convenience of the user, the added text is set forth as follows:

§ 80.551 How does a refiner obtain approval as a small refiner under this subpart?

(f) Approval of small refiner status for refiners who apply under §80.550(e) will be based on all information submitted under paragraph (c) of this section, except as provided in §80.550(e).

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(f) Approval of small refiner status for refiners who apply under §80.550(d) will be based on all information submitted under paragraph (c) of this section, except as provided in §80.550(e).

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§ 80.552 What compliance options are available to motor vehicle diesel fuel small refiners?

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§ 80.553 Under what conditions may the small refiner gasoline sulfur standards be extended for a small refiner of motor vehicle diesel fuel?

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§ 80.554 What compliance options are available to NRLM diesel fuel small refiners?

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§ 80.555 What provisions are available to a large refiner that acquires a small refiner or one or more of its refineries?

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§§ 80.556-80.559 [Reserved]

Other Hardship Provisions

§ 80.560 How can a refiner seek temporary relief from the requirements of this subpart in case of extreme hardship circumstances?

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§ 80.561 How can a refiner or importer seek temporary relief from the requirements of this subpart in case of extreme unforeseen circumstances?

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§§ 80.562-80.569 [Reserved]

Labeling Requirements

§ 80.570 What labeling requirements apply to retailers and wholesale purchaser-consumers of diesel fuel beginning June 1, 2006?

(a) From June 1, 2006 through May 31, 2010, any retailer or wholesale purchaser-consumer who sells, dispenses, or offers for sale or dispensing, motor vehicle diesel fuel subject to the 15 ppm sulfur standard of §80.520(a)(1), must affix the following conspicuous and legible label, in block letters of no less than 24-point bold type, and printed in a color contrasting with the background, to each pump stand:

ULTRA-LOW SULFUR HIGHWAY DIESEL FUEL (15 ppm Sulfur Maximum)
Required for use in all model year 2007 and later highway diesel vehicles and engines.
Recommended for use in all diesel vehicles and engines.

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§ 80.571 What labeling requirements apply to retailers and wholesale purchaser-consumers of NRLM diesel fuel or heating oil beginning June 1, 2007?

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§ 80.572 What labeling requirements apply to retailers and wholesale purchaser-consumers of NR and NRLM diesel fuel and heating oil beginning June 1, 2010?

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§ 80.573 What labeling requirements apply to retailers and wholesale purchaser-consumers of NRLM diesel fuel and heating oil beginning June 1, 2012?

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§ 80.574 What labeling requirements apply to retailers and wholesale purchaser-consumers of NRLM diesel fuel, heating oil, or ECA marine fuel beginning June 1, 2014?

Any retailer or wholesale purchaser-consumer who sells, dispenses, or offers for sale or dispensing nonroad, locomotive or marine (NRLM) diesel fuel (including nonroad (NR) and locomotive or marine (LM)), heating oil, or ECA marine fuel must prominently and conspicuously display in the immediate area of each pump stand from which non-highway diesel fuel is offered for sale or dispensing, one of the following legible labels, as applicable, in block letters of no less than 24-point bold type, printed in a color contrasting with the background:

(a) From June 1, 2014 and beyond, for pumps dispensing NRLM diesel fuel subject to the 15 ppm sulfur standard of §80.510(c):

ULTRA-LOW SULFUR NON-HIGHWAY DIESEL FUEL (15 ppm Sulfur Maximum)
Required for use in all nonroad, locomotive, and marine diesel engines.
WARNING
Federal law prohibits use in highway vehicles or engines.

(b) From June 1, 2014 and beyond, for pumps dispensing ECA marine fuel subject to the 1,000 ppm sulfur standard of §80.510(k):

1,000 ppm SULFUR FUEL (1,000 ppm Sulfur Maximum).
For use in Category 3 (C3) marine vessels only.
WARNING
Federal law prohibits use in any engine that is not installed on a C3 marine vessel; use of fuel oil with a sulfur content greater than 1,000 ppm in the U.S. Emission Control Area and all U.S. internal waters is illegal.

(c) The labels required by paragraphs (a) and (b) of this section must be placed on the vertical surface of each pump housing and on each side that has gallon and price meters. The labels shall be on the upper two-thirds of the pump, in a location where they are clearly visible.

(d) Alternative labels to those specified in paragraphs (a) and (b) of this section may be used as approved by EPA.

(1) For US Mail: U.S. EPA, Attn: Diesel Sulfur Alternative Label Request, 6406J, 1200 Pennsylvania Avenue, NW, Washington, DC 20460.

(2) For overnight or courier services: U.S. EPA, Attn: Diesel Sulfur Alternative Label Request, 6406J, 1310 L Street, NW, 6th floor, Washington, DC 20005. (202) 343-9038.

§§ 80.575-80.579 [Reserved]

Sampling and Testing

§ 80.580 What are the sampling and testing methods for sulfur?

The sulfur content of diesel fuel and diesel fuel additives is to be determined in accordance with this section.

(a) Sampling method. The applicable sampling methodology is provided in §80.330(b).

(b) Test method for sulfur.

(1) For ECA marine fuel subject to the 1,000 ppm sulfur standard of §80.510(k)(1), sulfur content may be determined using ASTM D2622 (incorporated by reference, see paragraph (e) of this section).

(2) For motor vehicle diesel fuel and diesel fuel additives subject to the 500 ppm sulfur standard of §80.520(c), and NRLM diesel fuel subject to the 500 ppm sulfur standard of §80.510(a)(1), sulfur content may be determined using ASTM D2622 (incorporated by reference, see paragraph (e) of this section).

(3) Beginning August 30, 2004, for motor vehicle diesel fuel and diesel fuel additives subject to the 15 ppm sulfur standard of §80.520(a)(1), sulfur content may be determined using any test method approved under §80.585.

(4) Beginning August 30, 2004, for NRLM diesel fuel and diesel fuel additives subject to the 15 ppm standard of §80.510(b), sulfur content may be determined using any test method approved under §80.585.

(c) Alternative test methods for sulfur.

(1) Options for testing sulfur content of 1,000 ppm diesel fuel.

(i) For ECA marine fuel subject to the 1,000 ppm sulfur standard of §80.510(k), sulfur content may be determined using ASTM D4294, ASTM D5453, or ASTM D6920 (all incorporated by reference, see paragraph (e) of this section), provided that the refiner or importer test result is correlated with the appropriate method specified in paragraph (b)(1) of this section; or

(ii) For ECA marine fuel subject to the 1,000 ppm sulfur standard of §80.510(k), sulfur content may be determined using any test method approved under §80.585.

(2) Options for testing sulfur content of 500 ppm diesel fuel.

(i) For motor vehicle diesel fuel and diesel fuel additives subject to the 500 ppm sulfur standard of §80.520(c), and for NRLM diesel fuel subject to the 500 ppm sulfur standard of §80.510(a), sulfur content may be determined using ASTM D4294, ASTM D5453, or ASTM D6920 (all incorporated by reference, see paragraph (e) of this section), provided that the refiner or importer test result is correlated with the appropriate method specified in paragraph (b)(2) of this section; or

(ii) For motor vehicle diesel fuel and diesel fuel additives subject to the 500 ppm sulfur standard of §80.520(c), and for NRLM diesel fuel subject to the 500 ppm sulfur standard of §80.510(a), sulfur content may be determined using any test method approved under §80.585.

(d) Adjustment factor for downstream test results.

(1) Except as specified in paragraph (d)(1)(i) of this section, an adjustment factor of negative two ppm sulfur shall be applied to the test results from any testing of motor vehicle diesel fuel or NRLM diesel fuel downstream of the refinery or import facility, to account for test variability, but only for testing of motor vehicle diesel fuel or NRLM diesel fuel identified as subject to the 15 ppm sulfur standard of §80.510(b) or §80.520(a)(1).

(i) Prior to October 15, 2008 an adjustment factor of negative three ppm sulfur shall be applied to the test results, to account for test variability, but only for testing of motor vehicle diesel fuel or NRLM diesel fuel

identified as subject to the 15 ppm sulfur standard of §80.510(b) or §80.520(a)(1).

(ii) [Reserved]

(2) In addition to the adjustment factor provided in paragraph (d)(1)(i) of this section, prior to September 1, 2006, an adjustment factor of negative 7 ppm shall be applied to the test results from any testing of motor vehicle diesel fuel downstream of the refinery or import facility, to facilitate the transition to ULSD fuel, but only for testing of motor vehicle diesel fuel identified as subject to the 15 ppm sulfur standard of §80.520(a)(1).

(3) In addition to the adjustment factor provided in paragraph (d)(1)(i) of this section, prior to October 15, 2006, an adjustment factor of negative 7 ppm shall be applied to the test results from any testing of motor vehicle diesel fuel at any retail outlet or wholesale purchaser-consumer facility, to facilitate the transition to ULSD fuel, but only for testing of motor vehicle diesel fuel identified as subject to the 15 ppm sulfur standard of §80.520(a)(1).

(e) Materials incorporated by reference. The Director of the Federal Register approved the incorporation by reference of the document listed in this section as prescribed in 5 U.S.C. 552(a) and 1 CFR part 51. Anyone may inspect copies at the U.S. EPA, Air and Radiation Docket and Information Center, 1301 Constitution Ave., NW., Room B102, EPA West Building, Washington, DC 20460, under EPA docket ID Number EPA–HQ–OAR–2008–0558, or at the National Archives and Records Administration (NARA). The telephone number for the Air Docket Public Reading Room is (202) 566–1742. For information on the availability of this material at NARA, call 202–741–6030 or go to: http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html. For further information on these test methods, please contact the Environmental Protection Agency at 734–214–4582.

(1) ASTM material. Anyone may purchase copies of these materials from the American Society for Testing and Materials (ASTM), 100 Barr Harbor Dr., West Conshohocken, PA 19428–2959, or by contacting ASTM customer service at 610–832–9585, or by contacting the e-mail address of service@astm.org from the ASTM Web site of http://www.astm.org.

(i) ASTM standard method D2622–05 (“ASTM D2622”), Standard Test Method for Sulfur in Petroleum Products by Wavelength Dispersive X-Ray Fluorescence Spectrometry, approved November 1, 2005.

(ii) [Reserved]

(iii) ASTM standard method D4294–03 (“ASTM D4294), Standard Test Method for Sulfur in Petroleum and Petroleum Products by Energy Dispersive X-ray Fluorescence Spectrometry, approved November 1, 2003.

(iv) ASTM standard method D5453–08a (“ASTM D5453”), Standard Test Method for Determination of Total Sulfur in Light Hydrocarbons, Spark Ignition Engine Fuel, Diesel Engine Fuel, and Engine Oil by Ultraviolet Fluorescence, approved February 1, 2008.

(v) ASTM standard method D6920–07 (“ASTM D6920”), Standard Test Method for Total Sulfur in Naphthas, Distillates, Reformulated Gasolines,

Diesels, Biodiesels, and Motor Fuels by Oxidative Combustion and Electrochemical Detection, approved December 1, 2007.

(2) [Reserved]

§ 80.581 What are the batch testing and sample retention requirements for motor vehicle diesel fuel, NRLM diesel fuel, and ECA marine fuel?

(a) Beginning on June 1, 2006 or earlier pursuant to §80.531 for motor vehicle diesel fuel, beginning June 1, 2010 or earlier pursuant to §80.535 for NRLM diesel fuel, and beginning June 1, 2014 for ECA marine fuel, each refiner and importer shall collect a representative sample from each batch of motor vehicle or NRLM diesel fuel produced or imported and subject to the 15 ppm sulfur content standard, or ECA marine fuel subject to the 1,000 ppm sulfur content standard. Batch, for the purposes of this section, means batch as defined under §80.2 but without the reference to transfer of custody from one facility to another facility.

(b) Except as provided in paragraph (c) of this section, the refiner or importer shall test each sample collected pursuant to paragraph (a) of this section to determine its sulfur content for compliance with the requirements of this subpart prior to the diesel fuel leaving the refinery or import facility, using an appropriate sampling and testing method as specified in §80.580.

(c)(1) Any refiner who produces motor vehicle, NRLM diesel fuel, or ECA marine fuel using computer-controlled in-line blending equipment, including the use of an on-line analyzer test method that is approved under the provisions of §80.580, and who, subsequent to the production of the diesel fuel batch tests a composited sample of the batch under the provisions of §80.580 for purposes of designation and reporting, is exempt from the requirement of paragraph (b) of this section to obtain the test result required under this section prior to the diesel fuel leaving the refinery, provided that the refiner obtains approval from EPA. The requirement of this paragraph (c)(1) that the in-line blending equipment must include an on-line analyzer test method that is approved under the provisions of §80.580 is effective beginning June 1, 2006.

(2) To obtain an exemption from paragraph (b) of this section, the refiner must submit to EPA all the information required under §80.65(f)(4)(i)(A). A letter signed by the president, chief operating or chief executive officer of the company, or his/her designee, stating that the information contained in the submission is true to the best of his/her belief must accompany any submission under this paragraph (c)(2).

(3) Refiners who seek an exemption under paragraph (c)(2) of this section must comply with any request by EPA for additional information or any other requirements that EPA includes as part of the exemption.

(4) Within 60 days of EPA's receipt of a submission under paragraph (c)(2) of this section, EPA will notify the refiner if the exemption is not approved or of any deficiencies in the refiner's submission, or if any additional information is required or other requirements are included in the exemption pursuant to paragraph (c)(3) of this section. In the absence of such notification from EPA, the effective date of an exemption under this paragraph (c) is 60 days from EPA's receipt of the refiner's submission.

(5) EPA reserves the right to modify the requirements of an exemption under this paragraph (c), in whole or in part, at any time, if EPA determines that the refiner's operation does not effectively or adequately control, monitor or document the sulfur content of the refinery's diesel fuel production, or if EPA determines that any other circumstances exist which merit modification of the requirements of an exemption, such as advancements in the state of the art for in-line blending measurement which allow for additional control or more accurate monitoring or documentation of sulfur content. If EPA finds that a refiner provided false or inaccurate information in any submission required for an exemption under this section, upon notification from EPA, the refiner's exemption will be void ab initio.

(d) All test results under this section shall be retained for five years and must be provided to EPA upon request.

(e) Samples collected under this section must be retained for at least 30 days and provided to EPA upon request.

§ 80.582 What are the sampling and testing methods for the fuel marker?

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§ 80.583 What alternative sampling and testing requirements apply to importers who transport motor vehicle diesel fuel , NRLM diesel fuel, or ECA marine fuel by truck or rail car?

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§ 80.584 What are the precision and accuracy criteria for approval of test methods for determining the sulfur content of motor vehicle diesel fuel, NRLM diesel fuel, and ECA marine fuel?

(a) Precision.

(1) For motor vehicle diesel fuel and diesel fuel additives subject to the 15 ppm sulfur standard of §80.520(a)(1) and NRLM diesel fuel and diesel fuel additives subject to the 15 ppm sulfur standard of §80.510(b) and (c), a standard deviation less than 0.72 ppm, computed from the results of a minimum of 20 repeat tests made over 20 days on samples taken from a single homogeneous commercially available diesel fuel with a sulfur content in the range of 5–15 ppm. The 20 results must be a series of tests with a sequential record of the analyses and no omissions. A laboratory facility may exclude a given sample or test result only if the exclusion is for a valid reason under good laboratory practices and it maintains records regarding the sample and test results and the reason for excluding them.

(2) For motor vehicle diesel fuel subject to the 500 ppm sulfur standard of §80.520(c), and for NRLM diesel fuel subject to the 500 ppm sulfur standard of §80.510(a), of a standard deviation less than 9.68 ppm, computed from the results of a minimum of 20 repeat tests made over 20 days on samples taken from a single homogeneous commercially available diesel fuel with a sulfur content in the range of 200–500 ppm. The 20 results must be a series of tests with a sequential record of the analyses and no omissions. A laboratory facility may exclude a given sample or test result only if the exclusion is for a valid reason

under good laboratory practices and it maintains records regarding the sample and test results and the reason for excluding them.

(3) For ECA marine fuel subject to the 1,000 ppm sulfur standard of §80.510(k), of a standard deviation less than 18.07 ppm, computed from the results of a minimum of 20 repeat tests made over 20 days on samples taken from a single homogeneous commercially available diesel fuel with a sulfur content in the range of 700–1,000 ppm. The 20 results must be a series of tests with a sequential record of the analyses and no omissions. A laboratory facility may exclude a given sample or test result only if the exclusion is for a valid reason under good laboratory practices and it maintains records regarding the sample and test results and the reason for excluding them.

(b) Accuracy.

(1) For motor vehicle diesel fuel and diesel fuel additives subject to the 15 ppm sulfur standard of §80.520(a)(1) and NRLM diesel fuel and diesel fuel additives subject to the 15 ppm sulfur standard of §80.510(b) and (c):

(i) The arithmetic average of a continuous series of at least 10 tests performed on a commercially available gravimetric sulfur standard in the range of 1–10 ppm sulfur shall not differ from the accepted reference value (ARV) of that standard by more than 0.54 ppm sulfur;

(ii) The arithmetic average of a continuous series of at least 10 tests performed on a commercially available gravimetric sulfur standard in the range of 10–20 ppm sulfur shall not differ from the ARV of that standard by more than 0.54 ppm sulfur; and

(iii) In applying the tests of paragraphs (b)(1)(i) and (ii) of this section, individual test results shall be compensated for any known chemical interferences.

(2) For motor vehicle diesel fuel subject to the 500 ppm sulfur standard of §80.520(c), and for NRLM diesel fuel subject to the 500 ppm sulfur standard of §80.510(a):

(i) The arithmetic average of a continuous series of at least 10 tests performed on a commercially available gravimetric sulfur standard in the range of 100–200 ppm sulfur shall not differ from the ARV of that standard by more than 7.26 ppm sulfur;

(ii) The arithmetic average of a continuous series of at least 10 tests performed on a commercially available gravimetric sulfur standard in the range of 400–500 ppm sulfur shall not differ from the ARV of that standard by more than 7.26 ppm sulfur; and

(iii) In applying the tests of paragraphs (b)(2)(i) and (ii) of this section, individual test results shall be compensated for any known chemical interferences.

(3) For ECA marine fuel subject to the 1,000 ppm sulfur standard of §80.510(k):

(i) The arithmetic average of a continuous series of at least 10 tests performed on a commercially available gravimetric sulfur standard in the range of 300–400 ppm sulfur shall not differ from the ARV of that standard by more than 13.55 ppm sulfur;

(ii) The arithmetic average of a continuous series of at least 10 tests performed on a commercially available gravimetric sulfur standard in the range of 900-1,000 ppm sulfur shall not differ from the ARV of that standard by more than 13.55 ppm sulfur; and

(iii) In applying the tests of paragraphs (b)(3)(i) and (ii) of this section, individual test results shall be compensated for any known chemical interferences.

§ 80.585 What is the process for approval of a test method for determining the sulfur content of diesel or ECA marine fuel?

(a) Approval of test methods approved by voluntary consensus-based standards bodies. For such a method to be approved, the following information must be submitted to the Administrator by each test facility for each test method that it wishes to have approved: Any test method approved by a voluntary consensus-based standards body, such as the American Society for Testing and Materials (ASTM) or International Standards Organization (ISO), shall be approved as a test method for determining the sulfur content of diesel fuel if it meets the applicable accuracy and precision criteria under §80.584. The approval of a test method is limited to the single test facility that performed the testing for accuracy and precision. The individual facility must submit the accuracy and precision results for each method, including information on the date and time of each test measurement used to demonstrate precision, following procedures established by the Administrator.

(b) Approval of test methods not approved by a voluntary consensus-based standards body. For such a method to be approved, the following information must be submitted to the Administrator by each test facility for each test method that it wishes to have approved:

(1) Full test method documentation, including a description of the technology and/or instrumentation that makes the method functional.

(2) Information demonstrating that the test method meets the applicable accuracy and precision criteria of §80.584, including information on the date and time of each test measurement used to demonstrate precision.

(3) If requested by the Administrator, test results from use of the method to analyze samples of commercially available fuel provided by EPA.

(4) Any additional information requested by the Administrator and necessary to render a decision as to approval of the test method.

(c) Sample retention. Samples used for precision and accuracy determination must be retained for 90 days.

(d) EPA approval.

(1) Within 90 days of receipt of all materials required to be submitted under paragraph (a) or (b) of this section, the Administrator shall determine whether the test method is approved under this section.

(2) If the Administrator denies approval of the test method, within 90 days of receipt of all materials required to be submitted under paragraph (a) or (b) of this section, the Administrator will notify the applicant of the reasons for not approving the method. If the Administrator does not notify the applicant within 90 days of

receipt of the application, that the test method is not approved, then the test method shall be deemed approved.

(3) If the Administrator finds that an individual test facility has provided false or inaccurate information under this section, upon notice from the Administrator the approval shall be void ab initio.

(4) The approval of any test method under paragraph (b) of this section shall be valid for five years from the date of approval by the Administrator and shall not be extended. If the method is later approved by a voluntary consensus-based standards body, the approval shall remain valid as long as the conditions of paragraph (a) of this section are met.

(e) Quality assurance procedures for sulfur measurement instrumentation. A test shall not be considered a test using an approved test method unless the following quality control procedures are performed separately for each instrument used to make measurements:

(1) Follow all mandatory provisions of ASTM D 6299–02 and construct control charts from the mandatory quality control testing prescribed in paragraph 7.1 of the reference method, following guidelines under A 1.5.1 for individual observation charts and A 1.5.2 for moving range charts. The Director of the Federal Register approved the incorporation by reference of ASTM D 6299–02, Standard Practice for Applying Statistical Quality Assurance Techniques to Evaluate Analytical Measurement System Performance, as prescribed in 5 U.S.C. 552(a) and 1 CFR part 51. Anyone may purchase copies of this standard from the American Society for Testing and Materials, 100 Barr Harbor Dr., West Conshohocken, PA 19428. Anyone may inspect copies at the U.S. EPA, Air and Radiation Docket and Information Center, 1301 Constitution Ave., NW., Room B102, EPA West Building, Washington, DC 20460 or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202–741–6030, or go to: http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.

(2) Follow paragraph 7.3.1 of ASTM D 6299–02 to check standards using a reference material at least monthly or following any major change to the laboratory equipment or test procedure. Any deviation from the accepted reference value of a check standard greater than 1.44 ppm (for diesel fuel subject to the 15 ppm sulfur standard), 19.36 ppm (for diesel fuel subject to the 500 ppm sulfur standard), or 36.14 ppm (for ECA marine fuel subject to the 1,000 ppm sulfur standard) must be investigated.

(3) Samples of tested batches must be retained for 30 days or the period equal to the interval between quality control sample tests, whichever is longer.

(4) Upon discovery of any quality control testing violation of paragraph A 1.5.1.3 or A 1.5.2.1 of ASTM D 6299–02, or any check standard deviation greater than 1.44 ppm (for diesel fuel subject to the 15 ppm sulfur standard), 19.36 ppm (for diesel fuel subject to the 500 ppm sulfur standard), or 36.14 ppm (for ECA marine fuel subject to the 1,000 ppm sulfur standard), conduct an investigation into the cause of such violation or deviation and, after restoring method performance to statistical control, retest retained samples from batches originally tested since the last satisfactory quality control material or check standard testing occasion.

§ 80.586 What are the record retention requirements for test methods approved under this subpart?

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§§ 80.587-80.589 [Reserved]

Recordkeeping and Reporting Requirements

§ 80.590 What are the product transfer document requirements for motor vehicle diesel fuel, NRLM diesel fuel, heating oil, ECA marine fuel, and other distillates?

(a) On each occasion that any person transfers custody or title to MVNRLM diesel fuel, heating oil, or ECA marine fuel (including distillates used or intended to be used as MVNRLM diesel fuel, heating oil, or ECA marine fuel) except when such fuel is dispensed into motor vehicles or nonroad, locomotive, or marine equipment or C3 vessels, the transferor must provide to the transferee documents which include the following information:

(1) The names and addresses of the transferor and transferee.

(2) The volume of diesel fuel or distillate which is being transferred.

(3) The location of the diesel fuel or distillate at the time of the transfer.

(4) The date of the transfer.

(5) For transfers of MVNRLM diesel fuel or, beginning June 1, 2014—ECA marine fuel, the sulfur content standard the transferor represents the fuel to meet.

(6) Beginning June 1, 2006, when an entity transfers custody of a distillate fuel designated under §80.598, the following information must also be included:

(i) The facility registration number of the transferor and transferee, for terminals and all parties upstream, under §80.597, if any.

(ii) An accurate and clear statement of the applicable designation and/or classification under §80.598, for example, 500 ppm sulfur NRLM diesel fuel; and whether the fuel is dyed or undyed, and for heating oil, whether marked or unmarked.

(7) For transfers of title or custody from one facility to another in the distribution system where diesel fuel or distillates are taxed, dyed or marked, and for any subsequent transfers (except when such fuel is dispensed into motor vehicles or nonroad, locomotive, or marine equipment), an accurate statement on the product transfer document of the applicable fuel uses and classifications, as follows (however, in instances where space is constrained, substantially similar language may be used following approval from EPA):

(i) <u>Undyed 15 ppm sulfur diesel fuel.</u> For the period from June 1, 2006 and beyond, "15 ppm sulfur (maximum) Undyed Ultra-Low Sulfur Diesel Fuel. For use in all diesel vehicles and engines." From June 1, 2006 through May 31, 2010, the product transfer document must also state whether the diesel fuel is #1D or #2D, or NP diesel.

(ii) <u>Dyed 15 ppm sulfur diesel fuel.</u> From June 1, 2006 and beyond, "15 ppm sulfur (maximum) Dyed Ultra-Low Sulfur Diesel Fuel. For use in all

nonroad diesel engines. Not for use in highway vehicles or engines except for tax-exempt use in accordance with section 4082 of the Internal Revenue Code."

(iii) Undyed 500 ppm sulfur diesel fuel. From June 1, 2006 through September 30, 2010, "500 ppm sulfur (maximum) Undyed Low Sulfur Diesel Fuel. For use in Model Year 2006 and older diesel highway vehicles and engines. Also for use in nonroad, locomotive, and marine diesel engines. Not for use in model year 2007 and newer highway vehicles or engines."

(iv) Dyed 500 ppm sulfur diesel fuel.

(A) For the period of June 1, 2006 through September 30, 2010, "500 ppm sulfur (maximum) Dyed Low Sulfur Nonroad, Locomotive or Marine Diesel Fuel. Not for use in highway vehicles or engines except for use in Model Year 2006 and older highway diesel vehicles or engines for tax-exempt use in accordance with section 4082 of the Internal Revenue Code."

(B) From June 1, 2010 through September 30, 2014, "500 ppm sulfur (maximum) Dyed Low Sulfur Nonroad Diesel Fuel. For use in model year 2010 and older nonroad diesel engines. May be used in locomotive and marine diesel engines. Not for use in highway vehicles and engines or model year 2011 or later nonroad engines other than locomotive or marine diesel engines. Not for use in the Northeast/Mid-Atlantic Area."

(C) For dyed locomotive and marine diesel fuel beginning June 1, 2010, "500 ppm sulfur (maximum) Dyed Low Sulfur Locomotive and Marine diesel fuel. Not for use in highway or other nonroad vehicles and engines."

(v) Dyed High Sulfur NRLM Fuel. From June 1, 2007 through September 30, 2010, "High Sulfur Dyed Nonroad, Locomotive, or Marine Engine Diesel fuel—sulfur content may exceed 500 ppm sulfur. Not for use in highway vehicles or engines. Not for use in any nonroad engines requiring Ultra-Low Sulfur Diesel Fuel. Not for use in the Northeast/Mid-Atlantic Area."

(vi) Heating oil. For heating oil produced or imported beginning June 1, 2007, "Heating Oil. Not for use in highway vehicles or engines or nonroad, locomotive, or marine engines."

(vii) ECA marine fuel. For ECA marine fuel produced or imported beginning June 1, 2014, "1,000 ppm sulfur (maximum) ECA Marine Fuel. For use in Category 3 marine vessels only. Not for use in engines not installed on C3 marine vessels."

(b) The following may be substituted for the descriptions in paragraph (a) of this section, as appropriate:

(1) "This is high sulfur diesel fuel for use only in Guam, American Samoa, or the Northern Mariana Islands.";

(2) "This diesel fuel is for export use only.";

(3) "This diesel fuel is for research, development, or testing purposes only."; or

(4) "This diesel fuel is for use in diesel highway vehicles or nonroad equipment under an EPA-approved national security exemption only."

(c) If undyed and/or unmarked distillate fuel is dyed and/or marked subsequent to the issuance of a product transfer document, at the time the distillate fuel is dyed and/or marked, a new product transfer document must be prepared with the language under paragraph (a)(7) of this section applicable to the changed fuel and provided to subsequent transferees.

(d) Except for transfers to truck carriers, retailers or wholesale purchaser-consumers, product codes may be used to convey the information required under this section if such codes are clearly understood by each transferee. "15", "500", or "greater than 500" (or ">500") must appear clearly on the product transfer document, and may be contained in the product code. If the designation is included in the code: codes used to convey the statement in paragraphs (a)(7)(i) and (a)(7)(ii) of this section must contain the number "15", codes used to convey the statement in paragraphs (a)(7)(iii) and (a)(7)(iv) of this section must contain the number "500"; codes used to convey the statement in paragraph (a)(7)(v) of this section must contain the statement "greater than 500" or ">500". If another letter, number, or symbol is being used to convey any of the statements in paragraphs (a)(7)(i), (a)(7)(ii), (a)(7)(iii), (a)(7)(iv), and/or (a)(7)(v) of this section, it must be clearly defined and denoted on the product transfer document.

(e) Beginning June 1, 2014. For ECA marine fuel only (except for transfers to truck carriers, retailers or wholesale purchaser-consumers), product codes may be used to convey the information required under this section if such codes are clearly understood by each transferee. "1000" must appear clearly on the product transfer document, and may be contained in the product code. If the designation is included in the code, codes used to convey the statement in paragraph (a)(7)(vii) must contain the number "1000". If another letter, number, or symbol is being used to convey the statement in paragraph (a)(7)(vii) of this section, it must be clearly defined and denoted on the product transfer document.

(f) From June 1, 2001 through May 31, 2005, any transfer subject to this section, which is also subject to the early credit provisions of §80.531(b), must comply with all applicable requirements of this section.

(g) From June 1, 2005 through May 31, 2006, any transfer subject to this section, which is also subject to the early credit requirements of §80.531(c), must comply with all applicable requirements of this section.

(h) Mobile refuelers. The provisions of this section shall also apply to a mobile refueler that dispenses fuel from tanker trucks or other vessels into motor vehicles, nonroad diesel engines or nonroad diesel engine equipment. Each visit by the mobile refueler to a location shall be considered a separate occasion for purposes of paragraph (a) of this section. The tank trucks used by mobile refuelers are not subject to the labeling requirements in §§80.570 through 80.574.

(i) Identifications of fuel designations can be limited to a sub-designation that accurately identifies the fuel and do not need to also include the broader designation. For example, NR diesel fuel does not also need to be designated as NRLM or MVNRLM diesel fuel.

(j) Pipeline Ticketing. For the case where a pipeline delivers a batch of ULSD to another facility that contains slight amounts of another type of fuel from a preceding or following batch, a clear statement must be included on the PTD denoting this. When this occurs, the receiving facility must handle the fuel appropriately (e.g., redesignate or downgrade any amount of fuel in that batch that does not meet the applicable sulfur standard), in accordance with the provisions of §§80.527 and 80.599.

§ 80.591 What are the product transfer document requirements for additives to be used in diesel fuel?

(a) Except as provided in paragraphs (b) and (d) of this section, on each occasion that any person transfers custody or title to a diesel fuel additive that is subject to the provisions of §80.521 to a party in the additive distribution system or in the diesel fuel distribution system for use downstream of the diesel fuel refiner, the transferor must provide to the transferee documents which identify the additive, and—

(1) Identify the name and address of the transferor and transferee; the date of transfer; the location at which the transfer took place; the volume of additive transferred; and

(2) Indicate compliance with the 15 ppm sulfur standard by inclusion of the following statement: "The sulfur content of this diesel fuel additive does not exceed 15 ppm."

(b) On each occasion that any person transfers custody or title to a diesel fuel additive subject to the requirements of §80.521(b), to a party in the additive distribution system or in the diesel fuel distribution system for use in diesel fuel downstream of the diesel fuel refiner, the transferor must provide to the transferee documents which identify the additive, and do each of the following:

(1) Identify the name and address of the transferor and transferee; the date of transfer; the location at which the transfer took place; the volume of additive transferred.

(2) Indicate the high sulfur potential of the additive by inclusion of the following statement:
This diesel fuel additive may exceed the federal 15 ppm sulfur standard. Improper use of this additive may result in non-complying diesel fuel.

(3) If the additive package contains a static dissipater additive and/or red dye having a sulfur content greater than 15 ppm, a statement must be included which accurately describes the contents of the additive package pursuant to one of the following choices:

(i) "This diesel fuel additive contains a static dissipater additive having a sulfur content greater than 15 ppm."

(ii) "This diesel fuel additive contains red dye having a sulfur content greater than 15 ppm."

(iii) "This diesel fuel additive contains a static dissipater additive and red dye having a sulfur content greater than 15 ppm."

(4) Include the following information:

(i) The additive package's maximum sulfur concentration.

(ii) The maximum recommended concentration in volume percent for use of the additive package in diesel fuel.

(iii) The contribution to the sulfur level of the fuel, in ppm, that would result if the additive package is used at the maximum recommended concentration.

(c) Except for transfers of diesel fuel additives to truck carriers, retailers or wholesale purchaser-consumers, product codes may be used to convey the information required under paragraphs (a) and (b) of this section, if such codes are clearly understood by each transferee. Codes used to convey the statement in paragraph (a)(2) of this section must

contain the number "15" and codes used to convey the statement in paragraph (b)(2) of this section must not contain such number.

(d) For those diesel fuel additives which are sold in containers for use by the ultimate consumer of diesel fuel, each transferor must have displayed on the additive container, in a legible and conspicuous manner, either of the following statements, as applicable:

(1) "This diesel fuel additive complies with the federal low sulfur content requirements for use in diesel motor vehicles and nonroad engines."; or

(2) For those additives sold in containers for use by the ultimate consumer, with a sulfur content in excess of 15 ppm the following statement: "This diesel fuel additive does not comply with federal ultra-low sulfur content requirements for use in model year 2007 and newer diesel motor vehicles or model year 2011 and newer diesel nonroad equipment engines."

§ 80.592 What records must be kept by entities in the motor vehicle diesel fuel and diesel fuel additive distribution systems?

(a) Records that must be kept by entities in the motor vehicle diesel fuel and diesel fuel additive distribution systems. Beginning June 1, 2006, or for a refiner or importer, the first compliance period in which the refiner or importer is generating early credits under §80.531(b) or (c), whichever is earlier, any person who produces, imports, sells, offers for sale, dispenses, distributes, supplies, offers for supply, stores, or transports motor vehicle diesel fuel subject to the provisions of this subpart, must keep all the following records:

(1) The applicable product transfer documents required under §§80.590 and 80.591.

(2) For any sampling and testing for sulfur content for a batch of motor vehicle diesel fuel produced or imported and subject to the 15 ppm sulfur standard or any sampling and testing for sulfur content as part of a quality assurance testing program, and any sampling and testing for cetane index, aromatics content, solvent yellow 124 content or dye solvent red 164 content of motor vehicle diesel fuel or motor vehicle diesel fuel additives:

(i) The location, date, time and storage tank or truck identification for each sample collected;

(ii) The name and title of the person who collected the sample and the person who performed the testing; and

(iii) The results of the tests for sulfur content (including, where applicable, the test results with and without application of the adjustment factor under §80.580(d)) and for cetane index or aromatics content (as applicable), and the volume of product in the storage tank or container from which the sample was taken.

(3) The actions the party has taken, if any, to stop the sale or distribution of any motor vehicle diesel fuel found not to be in compliance with the sulfur standards specified in this subpart, and the actions the party has taken, if any, to identify the cause of any noncompliance and prevent future instances of noncompliance.

(b) Additional records to be kept by refiners and importers of motor vehicle diesel fuel subject to hardship standards, small refiner standards and early credit provisions. Beginning June 1, 2006, or for a refiner or importer, the first compliance period in which the refiner or importer is generating early credits under §80.531(b) or (c), any refiner

producing motor vehicle diesel fuel subject to the sulfur standard under §80.520(a)(1), for each of its refineries, and any importer importing such motor vehicle diesel fuel, shall keep records that include the following information for each batch of motor vehicle diesel fuel produced or imported:

(1) The batch volume.

(2) The batch number, assigned under the batch numbering procedures under §80.65(d)(3).

(3) The date of production or import.

(4) A record designating the batch as motor vehicle diesel fuel meeting the 500 ppm sulfur standard or as motor vehicle diesel fuel meeting the 15 ppm sulfur standard.

(5) For foreign refiners, the designations and other records required to be kept under §80.620.

(6) In the case of importers, the designations and other records required under §80.620(o).

(7) Information regarding credits, kept separately for each calendar year compliance period, kept separately for each refinery and in the case of importers, kept separately for imports into each CTA, and designated as motor vehicle diesel fuel credits and kept separately from NRLM credits, as follows:

(i) The number of credits in the refiner's or importer's possession at the beginning of the calendar year;

(ii) The number of credits generated;

(iii) The number of credits used;

(iv) If any were obtained from or transferred to other parties, for each such other party, its name, its EPA refiner or importer registration number consistent with §80.593(d), in the case of credits generated by an importer the port and CTA of import of the diesel fuel that generated the credits, and the number obtained from, or transferred to, the other party;

(v) The number in the refiner's or importer's possession that will carry over into the subsequent calendar year compliance period; and

(vi) Commercial documents that establish each transfer of credits from the transferor to the transferee.

(8) The calculations used to determine compliance with the volume requirements of this subpart.

(9) The calculations used to determine the number of credits generated.

(10) A copy of reports submitted to EPA under §80.593.

(c) Additional records importers must keep. Any importer shall keep records that identify and verify the source of each batch of certified diesel fuel program foreign refiner DFR-Diesel and non-certified DFR-Diesel imported and demonstrate compliance with the requirements under §80.620.

(d) Length of time records must be kept. The records required in this section shall be kept for five years from the date they were created, except that records relating to credit transfers shall be kept by the transferor for 5 years from the date the credits were transferred, and shall be kept by the transferee for 5 years from the date the credits were transferred, used or terminated, whichever is later.

(e) Make records available to EPA. On request by EPA, the records required in this section must be made available to the Administrator or the Administrator's representative. For

records that are electronically generated or maintained, the equipment and software necessary to read the records shall be made available, or if requested by EPA, electronic records shall be converted to paper documents which shall be provided to the Administrator's authorized representative.

(f) Additional records to be kept by aggregated facilities consisting of a refinery and a truck loading terminal. In addition to the records required by paragraph (a) of this section, such aggregated facilities must also keep the following records beginning June 1, 2006:

(1) The following information for each batch of motor vehicle diesel fuel produced by the refinery and sent over the aggregated facility's truck rack:

(i) The batch volume;

(ii) The batch number, assigned under the batch numbering procedures under §§80.65(d)(3) and 80.502(d)(1);

(iii) The date of receipt or import;

(iv) A record designating the batch as motor vehicle diesel fuel meeting the 500 ppm sulfur standard or as motor vehicle diesel fuel meeting the 15 ppm sulfur standard; and,

(v) A record indicating the volumes that were either taxed, dyed, or dyed and marked.

(2) Volume reports for all motor vehicle diesel fuel from external sources (i.e., from another refiner or importer), as described in §80.601(f)(2), sent over the aggregated facility's truck rack.

§ 80.593 What are the reporting requirements for refiners and importers of motor vehicle diesel fuel subject to temporary refiner relief standards?

Beginning with 2006, or the first compliance period during which credits are generated under §80.531(b) or (c), whichever is earlier, any refiner or importer who produces or imports motor vehicle diesel fuel subject to the 500 ppm sulfur standard under §80.520(c), or any refiner or importer who generates, uses, obtains or transfers credits under §§80.530 through 80.532, and continuing for each year thereafter, must submit to EPA annual reports that contain the information required in this section, and such other information as EPA may require:

* * * * *

§ 80.594 What are the pre-compliance reporting requirements for motor vehicle diesel fuel?

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§ 80.595 How does a small or GPA refiner apply for a motor vehicle diesel fuel volume baseline for the purpose of extending their gasoline sulfur standards?

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§ 80.596 How is a refinery motor vehicle diesel fuel volume baseline calculated?

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§ 80.597 What are the registration requirements?

The following registration requirements apply under this subpart:

(a) Registration for motor vehicle diesel fuel. Refiners having any refinery that is subject to a sulfur standard under §80.520(a), and importers importing such diesel fuel, must provide EPA the information under §80.76, if such information has not been provided under the provisions of this part. In addition, for each import facility, the same identifying information as required for each refinery under §80.76(c) must be provided.

(b) Registration for NRLM diesel. Refiners and importers that intend to produce or supply NRLM diesel fuel by June 1, 2007, must provide EPA the information under §80.76 no later than December 31, 2005, if such information has not been provided under the provisions of this part. In addition, for each import facility, the same identifying information as required for each refinery under §80.76(c) must be provided.

(c) Registration for ECA marine fuel. Refiners and importers that intend to produce or supply ECA marine fuel beginning June 1, 2014, must provide EPA the information under §80.76 no later than December 31, 2012, if such information has not been provided under the provisions of this part. In addition, for each import facility, the same identifying information as required for each refinery under §80.76(c) must be provided.

(d) Entity registration.

(1) Except as prescribed in paragraph (d)(6) of this section, each entity as defined in §80.502 that intends to deliver or receive custody of any of the following fuels from June 1, 2006 through May 31, 2010 must register with EPA by December 31, 2005 or six months prior to commencement of producing, importing, or distributing any distillate listed in paragraphs (d)(1)(i) through (d)(1)(iii) of this section:

(i) Fuel designated as 500 ppm sulfur MVNRLM diesel fuel under §80.598 on which taxes have not been assessed pursuant to IRS code (26 CFR part 48).

(ii) Fuel designated as 15 ppm sulfur MVNRLM diesel fuel under §80.598 on which taxes have not been assessed pursuant to IRS code (26 CFR part 48).

(iii) Fuel designated as NRLM diesel fuel under §80.598 that is undyed pursuant to §80.520.

(iv) Fuel designated as California Diesel fuel under §80.598 on which taxes have not been assessed and red dye has not been added (if required) pursuant to IRS code (26 CFR part 48) and that is delivered by pipeline to a terminal outside of the State of California pursuant to the provisions of §80.617(b).

(2) Except as prescribed in paragraph (d)(6) of this section, each entity as defined in §80.502 that intends to deliver or receive custody of any of the following fuels from June 1, 2007 through May 31, 2014 must register with EPA by December 31, 2005 or six months prior to commencement of producing, importing, or distributing any distillate listed in paragraph (d)(1) of this section:

(i) Fuel designated as 500 ppm sulfur MVNRLM diesel fuel under §80.598 on which taxes have not been assessed pursuant to IRS code (26 CFR part 48).

(ii) Fuel designated as NRLM diesel fuel under §80.598 that is undyed pursuant to §80.520.

(iii) Fuel designated as heating oil under §80.598 that is unmarked pursuant to §80.510(d) through (f).

(iv) Fuel designated as LM diesel fuel under §80.598(a)(2)(iii) that is unmarked pursuant to §80.510(e).

(3) Except as prescribed in paragraph (d)(6) of this section, each entity as defined in §80.502 that intends to deliver or receive custody of any of the following fuels beginning June 1, 2014 must register with EPA by December 31, 2012 or six months prior to commencement of producing, importing, or distributing any distillate listed in this paragraph (d):

(i) Fuel designated as 1,000 ppm sulfur ECA marine fuel under §80.598.

(ii) [Reserved]

(4) Registration shall be on forms prescribed by the Administrator, and shall include the name, business address, contact name, telephone number, e-mail address, and type of production, importation, or distribution activity or activities engaged in by the entity.

(5) Registration shall include the information required under paragraph (e) of this section for each facility owned or operated by the entity that delivers or receives custody of a fuel described in paragraphs (d)(1), (d)(2), and (d)(3) of this section.

(6) Exceptions for Excluded Liquids. An entity that would otherwise be required to register pursuant to the requirements of paragraphs (d)(1), (d)(2), and (d)(3) of this section is exempted from the registration requirements under this section provided that:

(i) The only diesel fuel or heating oil that the entity delivers or receives on which taxes have not been assessed or which is not received dyed pursuant to Internal Revenue Service (IRS) code 26 CFR part 48 is an excluded liquid as defined pursuant to IRS code 26 CFR 4081–1(b).

(ii) The entity does not transfer the excluded liquid to a facility which delivers or receives diesel fuel other than an excluded liquid on which taxes have not been assessed pursuant to IRS code (26 CFR part 48).

(e) Facility registration.

(1) List for each separate facility of an entity required to register under paragraph (d) of this section, the facility name, physical location, contact name, telephone number, e-mail address and type of facility. For facilities that are aggregated under §80.502, provide information regarding the nature and location of each of the components. If aggregation is changed for any subsequent compliance period, the entity must provide notice to EPA prior to the beginning of such compliance period.

(2) If facility records are kept off-site, list the off-site storage facility name, physical location, contact name, and telephone number.

(3) Mobile facilities:

(i) A description shall be provided in the registration detailing the types of mobile vessels that will likely be included and the nature of the operations.

(ii) Entities may combine all mobile operations into one facility; or may split the operations by vessel, region, route, waterway, etc. and register separate mobile facilities for each.

(iii) The specific vessels need not be identified in the registration, however information regarding specific vessel contracts shall be maintained by each registered entity for its mobile facilities, pursuant to §80.602(d).

(f) Changes to registration information. Any company or entity shall submit updated registration information to the Administrator within 30 days of any occasion when the registration information previously supplied for an entity, or any of its registered facilities, becomes incomplete or inaccurate.

(g) Issuance of registration numbers. EPA will supply a registration number to each entity and a facility registration number to each of an entity's facilities that is identified, which shall be used in all reports to the Administrator.

§ 80.598 What are the designation requirements for refiners, importers, and distributors?

(a) Designation requirements for refiners and importers.

(1) Any refiner or importer shall accurately and clearly designate all fuel it produces or imports for use in diesel motor vehicles as either motor vehicle diesel fuel meeting the 15 ppm sulfur standard under §80.520(a)(1) or as motor vehicle diesel fuel meeting the 500 ppm sulfur standard under §80.520(c).

(2) Subject to the restrictions in paragraph (a)(4) of this section, beginning June 1, 2006, any refiner or importer shall accurately and clearly designate each batch of diesel fuel or distillate fuel for which they transfer custody to another entity, according to the following categories, including specifying its volume:

(i) Designate the fuel as one of the following fuel types:

(A) Motor vehicle, nonroad, locomotive or marine (MVNRLM) diesel fuel.

(B) Heating oil.

(C) Jet fuel.

(D) Kerosene.

(E) No. 4 fuel.

(F) Distillate fuel for export only.

(G) Exempt distillate fuels such as fuels that are covered by a national security exemption under §80.606, fuels that are used for purposes of research and development pursuant to §80.607, and fuels used in the U.S. Territories pursuant to §80.608 (including additional identifying information).

(ii) From June 1, 2006 through May 31, 2014 any batch designated as MVNRLM diesel fuel must also be designated as one of the following:

(A) Motor vehicle diesel fuel; or

(B) NRLM diesel fuel.

(iii) From June 1, 2010 through May 31, 2012 any batch designated as NRLM must also be designated as one of the following:

(A) NR diesel fuel; or

(B) LM diesel fuel.

(iv) Until June 1, 2014, any batch designated as MVNRLM diesel fuel must also be designated according to one of the following three sulfur level specifications:

(A) 15 ppm if its sulfur content is less than or equal to 15 ppm.
(B) 500 ppm if its sulfur content is less than or equal to 500 ppm.
(C) High Sulfur if its sulfur content is greater than 500 ppm.

(v) From June 1, 2006 through May 31, 2010, any batch designated as motor vehicle diesel fuel must also be designated according to one of the following two distillation classifications that most accurately represents the fuel:
(A) #1D.
(B) #2D.
(C) NP diesel (NP).

(3) Beginning June 1, 2014, the following additional designation may be used: ECA marine fuel. Such fuel will be subject to all the following restrictions:
(i) The fuel may not exceed a sulfur level of 1,000 ppm.
(ii) The fuel may only be produced, distributed, sold, and purchased for use in C3 marine vessels.

(4) The following restrictions and clarifications apply:
(i) Prior to June 1, 2006, any batch of MVNRLM not containing visible evidence of red dye under §80.520(b) must be designated as motor vehicle diesel fuel.
(ii) Any distillate fuel containing visible evidence of dye may not be designated as motor vehicle diesel fuel unless it is further designated as tax exempt motor vehicle diesel fuel.
(iii) Any distillate containing the marker required pursuant to the provisions of §80.510(d) through (f) must be designated as heating oil, except that from June 1, 2010 through May 31, 2012 it may also be designated as LM diesel fuel, pursuant to §80.510(e).
(iv) Prior to June 1, 2009 all 15 ppm sulfur MVNRLM diesel fuel must be designated as motor vehicle diesel fuel. A refiner that has been approved as a NRLM diesel fuel small refiner under §80.551(g) and has elected to use the compliance option specified under §80.554(d) may also designate 15 ppm sulfur MVNRLM fuel as NRLM diesel fuel beginning June 1, 2006.
(v) Beginning June 1, 2010 any distillate fuel having a sulfur content greater than 15 ppm may not be designated as motor vehicle diesel fuel.
(vi) Beginning June 1, 2014, any distillate fuel having a sulfur content greater than 15 ppm may not be designated as MVNRLM diesel fuel.
(vii) Any batch of #1D fuel which is suitable for use as MVNRLM and which is also suitable for use as kerosene or jet fuel (i.e., commonly referred to as dual use kerosene) may be designated as MVNRLM, kerosene, or jet fuel (as applicable).
(viii) Beginning June 1, 2007, any distillate fuel with a sulfur content greater than 500 ppm distributed or intended for distribution in the area specified in §80.510(g)(1), may not be designated as MVNRLM diesel fuel.
(ix) From June 1, 2010 through May 31, 2012, any distillate fuel with a sulfur content greater than 15 ppm distributed or intended for distribution in the area specified in §80.510(g)(1), may not be designated as NR diesel fuel.

(x) From June 1, 2012 through May 31, 2014, any distillate fuel with a sulfur content greater than 15 ppm distributed or intended for distribution in the area specified in §80.510(g)(1), may not be designated as NRLM diesel fuel.

(xi) Beginning June 1, 2007, any distillate fuel with a sulfur content greater than 500 ppm distributed or intended for distribution in the area specified in §80.510(g)(2) may not be designated as NRLM diesel fuel unless EPA has first approved a compliance plan for the refiner for segregating the fuel from all other types of NRLM diesel fuel from the refinery gate to the ultimate consumer, as specified under §80.554(a)(4).

(xii) From June 1, 2010 through May 31, 2012, any distillate fuel with a sulfur content greater than 15 ppm distributed or intended for distribution in the area specified in §80.510(g)(2) may not be designated as NR diesel fuel unless EPA has first approved a compliance plan for the refiner for segregating the fuel from all other types of NRLM diesel fuel from the refinery gate to the ultimate consumer, as specified under §80.554(b)(4).

(xiii) From June 1, 2012 through May 31, 2014, any distillate fuel with a sulfur content greater than 15 ppm distributed or intended for distribution in the area specified in §80.510(g)(2) may not be designated as NRLM diesel fuel unless, EPA has first approved a compliance plan for the refiner for segregating the fuel from all other types of NRLM diesel fuel from the refinery gate to the ultimate consumer, as specified under §80.554(b)(4).

(xiv) Beginning June 1, 2014, any distillate fuel with a sulfur content greater than 15 ppm may not be designated as MVNRLM diesel fuel.

(b) Designation requirements for fuel distributors.

(1) Pursuant to the provisions of paragraphs (b)(2) through (b)(9) of this section, beginning June 1, 2006, any distributor shall accurately and clearly designate each batch of diesel fuel or distillate fuel for which they transfer custody to another facility, including specifying its volume, as specified in this paragraph (b). Distributors must also accurately and clearly classify such diesel fuel and distillate fuel by sulfur content, while it is in their custody between receipt and delivery.

(2) From June 1, 2006 through May 31, 2009, whenever custody of a batch of 15 ppm sulfur motor vehicle diesel fuel is transferred to another facility, the entity transferring custody must accurately and clearly designate the batch as one of the following and specify its volume:

(i) #1D 15 ppm sulfur motor vehicle diesel fuel.

(ii) #2D 15 ppm sulfur motor vehicle diesel fuel.

(iii) Fuel that meets the requirements specified in §80.616 which is transferred by a pipeline facility to a terminal facility outside of the State of California pursuant to §80.617(b) may be designated as California diesel fuel. Such fuel must subsequently be redesignated by the receiving terminal as either #1D or #2D 15 ppm motor vehicle diesel fuel, or segregated for delivery by tank truck to a retail or wholesale purchaser consumer facility inside the State of California pursuant to §80.617(b)(2).

(iv) NP 15 ppm sulfur motor vehicle diesel fuel.

(3) From June 1, 2009 through May 31, 2010, whenever custody of a batch of 15 ppm sulfur MVNRLM diesel fuel is transferred to another facility, the entity transferring custody must accurately and clearly designate the batch as one of the following and specify its volume:
(i) #1D 15 ppm sulfur motor vehicle diesel fuel.
(ii) #2D 15 ppm sulfur motor vehicle diesel fuel.
(iii) 15 ppm sulfur NRLM diesel fuel.
(iv) Fuel that meets the requirements specified in §80.616 that is transferred by a pipeline facility to a terminal facility outside of the State of California pursuant to §80.617(b) may be designated as California diesel fuel. Such fuel must either be redesignated by the receiving terminal as either #1D or #2D 15 ppm motor vehicle diesel fuel as prescribed in paragraph (b)(9)(xvi) of this section, or segregated for delivery by tank truck to a retail or wholesale purchaser consumer facility inside the State of California pursuant to §80.617(b)(2).
(v) NP 15 ppm sulfur motor vehicle diesel fuel.

(4) From June 1, 2006 through May 31, 2010, whenever custody of a batch of undyed, 500 ppm sulfur MVNRLM is transferred to another facility, the entity transferring custody must accurately and clearly designate the batch as one of the following and specify its volume:
(i) #1D 500 ppm sulfur motor vehicle diesel fuel.
(ii) #2D 500 ppm sulfur motor vehicle diesel fuel.
(iii) 500 ppm sulfur NRLM diesel fuel.
(iv) NP 500 ppm sulfur motor vehicle diesel fuel.

(5) From June 1, 2007 through May 31, 2010, whenever custody of a batch of distillate fuel (other than jet fuel, kerosene, No. 4 fuel, or fuel for export) having a sulfur content greater than 500 ppm is transferred to another facility, the entity transferring custody must accurately and clearly designate the batch as one of the following and specify its volume:
(i) High sulfur NRLM diesel fuel (HSNRLM);
(ii) Heating oil; or
(iii) Exempt distillate fuels such as fuels that are covered by a national security exemption under §80.606, fuels that are used for purposes of research and development pursuant to §80.607, and fuels used in the U.S. Territories pursuant to §80.608 (including additional identifying information).

(6) From June 1, 2010 through May 31, 2012, whenever custody of a batch of distillate fuel (other than jet fuel, kerosene, No. 4 fuel, or fuel for export) having a sulfur content greater than 15 ppm is transferred to another facility, the entity transferring custody must accurately and clearly designate the batch as one of the following and specify its volume:
(i) 500 ppm sulfur NR diesel fuel;
(ii) 500 ppm sulfur LM diesel fuel;
(iii) Heating oil; or
(iv) Exempt distillate fuels such as fuels that are covered by a national security exemption under §80.606, fuels that are used for purposes of research and

development pursuant to §80.607, and fuels used in the U.S. Territories pursuant to §80.608 (including additional identifying information).

(7) From June 1, 2012 through May 31, 2014, whenever custody of a batch of distillate fuel (other than jet fuel, kerosene, No. 4 fuel, or fuel for export) having a sulfur content greater than 15 ppm is transferred to another facility, the entity transferring custody must accurately and clearly designate the batch as one of the following and specify its volume:

(i) 500 ppm sulfur NRLM diesel fuel.

(ii) 500 ppm sulfur LM diesel fuel.

(iii) Heating oil.

(iv) Exempt distillate fuels such as fuels that are covered by a national security exemption under §80.606, fuels that are used for purposes of research and development pursuant to §80.607, and fuels used in the U.S. Territories pursuant to §80.608 (including additional identifying information).

(8) Beginning June 1, 2014, whenever custody of a batch of distillate fuel (other than jet fuel, kerosene, No. 4 fuel, or fuel for export) having a sulfur content greater than 15 ppm is transferred to another facility, the entity transferring custody must accurately and clearly designate the batch as one of the following and specify its volume:

(i) ECA marine fuel.

(ii) Heating oil.

(iii) Exempt distillate fuels such as fuels that are covered by a national security exemption under §80.606, fuels that are used for purposes of research and development pursuant to §80.607, and fuels used in the U.S. Territories pursuant to §80.608 (including additional identifying information).

(9) The following restrictions and clarifications apply. Subject to the provisions of this paragraph (b)(9) and subject to the dye and marker provisions of §80.520(b) and §80.510(d) through (f), when custody of a batch of distillate fuel is transferred, the designation provided by the entity transferring custody pursuant to paragraphs (b)(1) through (b)(8) of this section may be different from the designation of the fuel when that same entity received custody.

(i) Any 500 ppm sulfur diesel fuel designated under this paragraph (b) and containing visible evidence of red dye may not be designated as motor vehicle diesel fuel.

(ii) Until June 1, 2014, any distillate fuel containing greater than or equal to 0.10 milligrams per liter of marker solvent yellow 124 required under §80.510(d), (e), or (f) must be designated as heating oil except that from June 1, 2010 through October 1, 2012 it may also be designated as LM diesel fuel as specified under §80.510(e).

(iii) Any batch of #1D fuel which is suitable for use as MVNRLM diesel fuel and which is also suitable for use as kerosene or jet fuel (i.e. , commonly referred to as dual use kerosene) may be designated as either MVNRLM diesel fuel, kerosene, or jet fuel (as applicable).

(iv) Any MVNRLM diesel fuel with a sulfur content of 500 ppm or less in inventory as of June 1, 2007 may be designated as motor vehicle diesel fuel.

(v) Batches or portions of batches of fuel received designated as 15 ppm sulfur #2D motor vehicle diesel fuel may be re-designated as 500 ppm sulfur motor vehicle diesel fuel, but only in accordance with the limitations of §80.527(c).

(vi) Batches or portions of batches received designated as 500 ppm sulfur NRLM diesel fuel may be re-designated as 500 ppm sulfur motor vehicle diesel fuel by a truck loading terminal only if the terminal maintains a neutral or positive balance at the end of each quarterly compliance period on their motor vehicle diesel fuel volume from June 1, 2006 as calculated in §80.599(b)(4).

(vii) Batches or portions of batches received designated as 500 ppm sulfur NRLM diesel fuel may be re-designated as 500 ppm sulfur motor vehicle diesel fuel by a facility other than a truck loading terminal only if the following restrictions are met:

(A) At the end of each annual compliance period, the facility has a neutral or positive balance on its motor vehicle diesel fuel volume from June 1, 2007 as calculated in §80.599(b)(4); and

(B) At the end of each annual compliance period, the facility's balance for motor vehicle diesel fuel volume, from the beginning of the compliance period must be less than two percent of the total volume of motor vehicle diesel fuel received during the compliance period, as calculated in §80.599(b)(5).

(viii) For facilities in areas other than those specified in §80.510(g)(1) and (g)(2), batches or portions of batches of unmarked distillate received designated as heating oil may be re-designated as NRLM or LM diesel fuel only if the following restrictions are met:

(A) From June 1, 2007 through May 31, 2010, for any compliance period, the volume of high sulfur NRLM diesel fuel delivered from a facility cannot be greater than the volume received, unless the volume of heating oil delivered from the facility is also greater than the volume it received by an equal or greater proportion, as calculated in §80.599(c)(2); and

(B) Beginning June 1, 2010, for any compliance period, the volume of fuel designated as heating oil delivered from a facility cannot be less than the volume of fuel designated as heating oil received, as calculated in §80.599(c)(4).

(ix) For facilities in areas other than those specified in §80.510(g)(1) and (g)(2), from June 1, 2010 through May 31, 2012, batches or portions of batches received designated as 500 ppm LM diesel fuel may be redesignated as 500 ppm NR diesel fuel only if for any compliance period the following restrictions are met:

(A) The volume of fuel designated as 500 ppm sulfur NR diesel fuel delivered from the facility cannot be greater than the volume received as calculated in §80.599(d)(2)(i); or

(B) The volume of fuel designated as 500 ppm sulfur NR diesel fuel delivered from the facility in relation to the volume received is not

a greater proportion than the volume of fuel designated as 500 ppm sulfur LM diesel fuel delivered from the facility in relation to the volume received, as calculated in §80.599(d)(2)(ii).

(x) Notwithstanding the provisions of paragraphs (b)(5) and (b)(8) of this section, beginning October 1, 2007:

(A) No distillate fuel with a sulfur content greater than 500 ppm distributed or intended for distribution in the areas specified in §80.510(g)(1) and (g)(2), may be designated as NRLM diesel fuel, including LM diesel fuel except as provided in paragraph (b)(9)(xiii) of this section; and

(B) Distillate fuel with a sulfur content greater than 500 ppm distributed from within the areas specified in §80.510(g)(1) and (g)(2) to areas outside these areas is subject to the provisions of paragraph (b)(5) of this section.

(xi) Notwithstanding the provisions of paragraphs (b)(6) through (b)(8) of this section, beginning October 1, 2010—

(A) No distillate fuel with a sulfur content greater than 15 ppm distributed or intended for distribution in the areas specified in §80.510(g)(1) and (g)(2), may be designated as NR diesel fuel, except as provided in paragraph (b)(9)(xiv) of this section; and

(B) Distillate fuel with a sulfur content greater than 15 ppm distributed from within the areas specified in §80.510(g)(1) and (g)(2) to areas outside these areas is subject to the provisions of paragraphs (b)(6) through (b)(7) of this section.

(xii) Notwithstanding the provisions of paragraphs (b)(7) and (8) of this section, beginning October 1, 2012—

(A) No distillate fuel with a sulfur content greater than 15 ppm distributed or intended for distribution in the areas specified in §80.510(g)(1) and (g)(2), may be designated as NRLM diesel fuel, including LM diesel fuel, except as provided in paragraph (b)(9)(xv) of this section; and

(B) Distillate fuel with a sulfur content greater than 15 ppm distributed from within the areas specified in §80.510(g)(1) and (g)(2) to areas outside these areas is subject to the provisions of paragraphs (b)(7) and (8) of this section.

(xiii) From June 1, 2007 through September 30, 2010, in the area specified in §80.510(g)(2) only segregated batches of distillate fuel received designated as HSNRLM diesel fuel may be distributed designated as HSNRLM diesel fuel and must remain segregated from fuel with any other designations unless otherwise approved by EPA in a refiner compliance plan under §80.554(a)(4).

(xiv) From June 1, 2010 through September 30, 2012, in the area specified in §80.510(g)(2) only segregated batches of distillate fuel received designated as 500 ppm sulfur NR diesel fuel may be distributed designated as 500 ppm sulfur NR diesel fuel and must remain segregated from fuel with any other designations and from any other 500 ppm sulfur NRLM

diesel fuel from any other sources, except as approved by EPA in a refiner compliance plan under §80.554(a)(4).

(xv) From June 1, 2012 through September 30, 2014, in the area specified in §80.510(g)(2) only segregated batches of distillate fuel received designated as 500 ppm sulfur NRLM diesel fuel may be distributed designated as 500 ppm sulfur NRLM diesel fuel and must remain segregated from fuel with any other designations and from any other 500 ppm sulfur NRLM diesel fuel from any other sources, except as approved by EPA in a refiner compliance plan under §80.554(a)(4).

(xvi) Fuel designated as California diesel fuel under paragraph (b)(3)(iv) of this section that is received by a terminal facility pursuant to the provisions of §80.617(b)(1) must be redesignated as either #1D or #2D 15 ppm motor vehicle diesel fuel as prescribed in paragraph (b)(9)(xvi) of this section, or segregated for delivery by tank truck to a retail or wholesale purchaser consumer facility inside the State of California pursuant to §80.617(b)(2).

(c) Notwithstanding the provisions of paragraph (b) of this section, an entity is not required to designate heating oil that is delivered from a facility that only receives heating oil which is marked pursuant to §80.510(d) through (f).

(d) Notwithstanding the provisions of paragraph (b)(4) of this section, an entity is not required to designate 500 ppm sulfur MVNRLM diesel fuel that is delivered from a facility that only receives 500 ppm sulfur MVNRLM diesel fuel on which taxes have been paid or into which red dye has been added pursuant to §80.520(b).

(e) Notwithstanding the provisions of paragraph (b)(6) of this section, an entity is not required to designate 500 ppm sulfur LM diesel fuel that is delivered from a facility that only receives 500 ppm sulfur LM diesel fuel which is marked pursuant to §80.510(e).

(f) Any entity that is both a distributor and a refiner or importer must comply with the provisions of paragraph (a) of this section for all distillate fuel produced or imported, and the provisions of paragraph (b) of this section for all distillate fuel for which it acted as distributor but not refiner or importer.

(g) No refiner, importer, or distributor may use the designation provisions of this section to circumvent the standards or requirements of §80.510, 80.511, or 80.520.

§ 80.599 How do I calculate volume balances for designation purposes?

(a) Quarterly compliance periods. The quarterly compliance periods are shown in the following table:

Beginning date of quarterly compliance period	Ending date of quarterly compliance period
June 1, 2006	September 30, 2006.
October 1, 2006	December 31, 2006.
January 1, 2007	March 31, 2007.
April 1, 2007	May 31, 2007.
June 1, 2007	September 30, 2007.
October 1, 2007	December 31, 2007.
January 1, 2008	March 31, 2008.

April 1, 2008	June 30, 2008.
July 1, 2008	September 30, 2008.
October 1, 2008	December 31, 2008.
January 1, 2009	March 31, 2009.
April 1, 2009	June 30, 2009.
July 1, 2009	September 30, 2009.
October 1, 2009	December 31, 2009.
January 1, 2010	March 31, 2010.
April 1, 2010	May 31, 2010.
June 1, 2010	September 30, 2010.

(1) Annual compliance periods. The annual compliance periods before the period beginning July 1, 2016 are shown in the following table:

Beginning date of annual compliance period	Ending date of annual compliance period
June 1, 2006	May 31, 2007.
June 1, 2007	June 30, 2008.
July 1, 2008	June 30, 2009.
July 1, 2009	May 31, 2010.
June 1, 2010	June 30, 2011.
July 1, 2011	May 31, 2012.
June 1, 2012	June 30, 2013.
July 1, 2013	May 31, 2014.

(2) [Reserved]

(b) Volume balance for motor vehicle diesel fuel.

(1) A facility's motor vehicle diesel fuel volume balance is calculated as follows:

$MVB = MV_I - MV_O - MV_{INVCHG}$

Where:

MVB= the volume balance for motor vehicle diesel fuel for the compliance period.

MV_I= the total volume of all batches of fuel designated as motor vehicle diesel fuel received for the compliance period. Any motor vehicle diesel fuel produced by or imported into the facility shall also be included in this volume.

MV_O= the total volume of all batches of fuel designated as motor vehicle diesel fuel delivered for the compliance period.

MV_{INVCHG}= the total volume of 15 ppm sulfur and 500 ppm sulfur motor vehicle diesel fuel in inventory at the end of the compliance period minus the total volume of 15 ppm sulfur and 500 ppm sulfur motor vehicle diesel fuel in inventory at the beginning of the compliance period, including accounting for any corrections in inventory due to volume swell or shrinkage, difference in measurement calibration between receiving and delivering meters, and similar matters, where corrections that increase inventory are defined as positive.

(2) Calculate the motor vehicle diesel fuel received, as follows:

$MV_I = MV15_I + MV500_I$

Where:

$MV15_I$= the total volume of all the batches of fuel designated as 15 ppm sulfur motor vehicle diesel fuel received for the compliance period. Any motor vehicle diesel fuel produced by or imported into the facility shall also be included in this volume. Any untaxed and undyed California diesel fuel received by a terminal pursuant to §80.617 (b)(1) shall be included in this volume.

$MV500_I$= the total volume of all batches of fuel designated as 500 ppm sulfur motor vehicle diesel fuel received for the compliance period. Any motor vehicle diesel fuel produced by or imported into the facility shall also be included in this volume.

(3) Calculate the motor vehicle diesel fuel delivered, as follows:

$MV_O = MV15_O + MV500_O$

Where:

$MV15_O$= the total volume of all batches of fuel designated as 15 ppm sulfur motor vehicle diesel fuel and delivered during the compliance period.

$MV500_O$= the total volume of all batches of fuel designated as 500 ppm sulfur motor vehicle diesel fuel and delivered during the compliance period.

(4) The neutral or positive volume balance required for purposes of compliance with §80.598(b)(9)(vi) and (b)(9)(vii)(A) means that the net balance of motor vehicle diesel fuel in inventory as of the end of the last day of the compliance period ($MVNB_E$) must be greater than or equal to zero. $MVNB_E$ is defined by the following equation:

$MVNB_E = MV15_{BINV} + MV500_{BINV} + \Sigma MVB$

Where:

$MV15_{BINV}$= the total volume of fuel designated as 15 ppm sulfur motor vehicle diesel fuel in inventory at the beginning of the program on June 1, 2006.

$MV500_{BINV}$= the total volume of fuel designated as 500 ppm sulfur motor vehicle diesel fuel in inventory at the beginning of the program on June 1, 2006. Any #2D 500 ppm sulfur MVNRLM in inventory at the beginning of the program on June 1, 2006 may be designated as motor vehicle diesel fuel.

ΣMVB = the sum of the balances for motor vehicle diesel fuel for the current compliance period and previous compliance periods.

(5) The volume balance required for purposes of compliance with §80.598(b)(9)(vii)(B) means:

$-MVB \leq 0.02 \times MV_I$

(6) Calculations in paragraphs (b)(4) and (b)(5) of this section may be combined for all facilities wholly owned by an entity.

(7) For purposes of calculations in paragraphs (b)(1) through (b)(5) of this section, for batches of fuel received from facilities without an EPA facility ID#, any batches of fuel received on which taxes have been paid pursuant to IRS code (26 CFR part 48) shall be deemed to be MV15Ior MV500Ias appropriate for purposes of this paragraph.

(c) Volume balance for high sulfur NRLM diesel fuel and heating oil.

(1) A facility's high sulfur NRLM balance is calculated as follows:

$HSNRLMB = HSNRLMI_I - HSNRLM_O - HSNRLM_{INVCHG}$

Where:

HSNRLMB = the balance for high sulfur NRLM diesel fuel for the compliance period.

$HSNRLM_I$= the total volume of all batches of fuel designated as high sulfur NRLM received diesel fuel for the compliance period. Any high sulfur NRLM produced by or imported into the facility shall also be included in this volume.

$HSNRLM_O$= the total volume of all batches of fuel designated as high sulfur NRLM diesel fuel delivered for the compliance period.

$HSNRLM_{INVCHG}$= the volume of high sulfur NRLM diesel fuel in inventory at the end of the compliance period minus the volume of high sulfur NRLM diesel fuel in inventory at the beginning of the compliance period, including accounting for any corrections in inventory due to volume swell or shrinkage, difference in measurement calibration between receiving and delivering meters, and similar matters, where corrections that increase inventory are defined as positive.

(2) The volume balance required for purposes of compliance with §80.598(b)(9)(viii)(A) means one of the following:

(i) $HSNRLMB \geq 0$

(ii) $(HSNRLM_O + HSNRLM_{INVCHG}) / HSNRLM_I \leq (HO_O + HO_{INVCHG}) / HO_I$

(3) A facility's heating oil volume balance is calculated as follows:

$HOB = HO_I - HO_O - HO_{INVCHG}$

Where:

HOB = the balance for heating oil for the compliance period.

HO_I= the total volume of all batches of fuel designated as heating oil received for the compliance period. Any heating oil produced by or imported into the facility shall also be included in this volume.

HO_O= the total volume of all batches of fuel designated as heating oil delivered to all downstream entities for the compliance period.

HO_{INVCHG}= the volume of heating oil in inventory at the end of the compliance period minus the volume of heating oil in inventory at the beginning of the compliance period, including accounting for any corrections in inventory due to volume swell or shrinkage, difference in measurement calibration between receiving and delivering meters, and similar matters, where corrections that increase inventory are defined as positive.

(4) The volume balance required for purposes of compliance with §80.598(b)(9)(viii)(B) means:

$HOB \leq 0$

(5) Calculations in paragraphs (c)(3) and (c)(4) of this section may be combined for all facilities wholly owned by an entity.

(6) For purposes of calculations in paragraphs (c)(1) through (c)(4) of this section, for batches of fuel received from facilities without an EPA facility ID#, any batches of fuel received marked pursuant to §80.510(d) or (f) shall be deemed to be HO_I, any batches of fuel received marked pursuant to §80.510(e) shall be deemed to be HO_I or $LM500_I$, any diesel fuel with less than or equal to 500 ppm sulfur that is dyed pursuant to §80.520(b) and not marked pursuant to §80.510(d) or (f) shall be deemed to be NRLM diesel fuel, and any diesel fuel with less than or equal to 500

ppm sulfur which is dyed pursuant to §80.520(b) and not marked pursuant to §80.510(e) shall be deemed to be NR diesel fuel.

(d) Volume balance for NR diesel fuel.

(1) A facility's 500 ppm nonroad diesel fuel balance is calculated as follows:

$NR500B = NR500_I - NR500_O - NR500_{INVCH}G$

Where:

NR500B = the balance for 500 ppm sulfur NR diesel fuel for the compliance period.

$NR500_I$= the total volume of all batches of fuel designated as 500 ppm sulfur NR diesel fuel received for the compliance period. Any 500 ppm sulfur NR diesel fuel produced by or imported into the facility shall also be included in this volume.

$NR500_O$= the total volume of all batches of fuel designated as 500 ppm sulfur NR diesel fuel delivered for the compliance period.

$NR500_{INVCHG}$= the volume of 500 ppm sulfur NR diesel fuel in inventory at the end of the compliance period minus the volume of 500 ppm sulfur NR diesel fuel in inventory at the beginning of the compliance period, and accounting for any corrections in inventory due to volume swell or shrinkage, difference in measurement calibration between receiving and delivering meters, and similar matters, where corrections that increase inventory are defined as positive.

(2) The volume balance required for purposes of compliance with §80.598(b)(9)(ix) means one of the following:

(i) $NR500B \geq 0$

(ii) $(NR500_O + NR500_{INVCHG}) / NR500_I \leq (LM500_O + LM500_{INVCHG}) / LM500_I$.

Where:

$LM500_I$= the total volume of all batches of fuel designated as 500 ppm sulfur LM diesel fuel received for the compliance period. Any 500 ppm sulfur LM diesel fuel produced by or imported into the facility shall also be included in this volume.

$LM500_O$= the total volume of all batches of fuel designated as 500 ppm sulfur LM diesel fuel delivered for the compliance period.

$LM500_{INVCHG}$= the volume of 500 ppm sulfur LM diesel fuel in inventory at the end of the compliance period minus the volume of 500 ppm sulfur LM diesel fuel in inventory at the beginning of the compliance period, and accounting for any corrections in inventory due to volume swell or shrinkage, difference in measurement calibration between receiving and delivering meters, and similar matters, where corrections that increase inventory are defined as positive.

(e) Anti-downgrading for motor vehicle diesel fuel.

(1) A facility must satisfy the provisions in either paragraphs (e)(2), (e)(3), (e)(4), or (e)(5) of this section to comply with the anti-downgrading limitation of paragraph §80.527(c)(1), for the annual compliance periods defined in §80.527(c)(3).

(2) The volume of #2D 15 ppm sulfur motor vehicle delivered must meet the following requirement:

$(\#2MV15_O + \#2MV15_{INVCHG}) \geq 0.8 * \#2MV15_I$

Where:

$\#2MV15_O$= the total volume of fuel delivered during the compliance period that is designated as #2D 15 ppm sulfur motor vehicle diesel fuel.

$\#2MV15_{INVCHG}$= the total volume of diesel fuel designated as #2D 15 ppm sulfur motor vehicle diesel fuel in inventory at the end of the compliance period minus the total volume of #2D 15 ppm sulfur motor vehicle diesel fuel in inventory at the beginning of the compliance period, and accounting for any corrections in inventory due to volume swell or shrinkage, difference in measurement calibration between receiving and delivering meters, and similar matters, where corrections that increase inventory are defined as positive.

$\#2MV15_I$= the total volume of fuel received during the compliance period that is designated as #2D 15 ppm sulfur motor vehicle diesel fuel. Any untaxed and undyed California diesel fuel received by a terminal pursuant to §80.617(b)(1) shall be included in this volume.

(3) The volume of #2D 500 ppm sulfur motor vehicle diesel fuel delivered must meet the following requirement:

$\#2MV500_O \leq \#2MV500_I - \#2MV500_{INVCHG} + 0.2 * \#2MV15_I$

Where:

$\#2MV500_O$= the total volume of fuel delivered during the compliance period that is designated as #2D 500 ppm sulfur motor vehicle diesel fuel.

$\#2MV500_I$= the total volume of fuel received during the compliance period that is designated as #2D 500 ppm sulfur motor vehicle diesel fuel.

$\#2MV500_{INVCHG}$= the total volume of diesel fuel designated as #2D 500 ppm sulfur motor vehicle diesel fuel in inventory at the end of the compliance period minus the total volume of #2D 500 ppm sulfur motor vehicle diesel fuel in inventory at the beginning of the compliance period, and accounting for any corrections in inventory due to volume swell or shrinkage, difference in measurement calibration between receiving and delivering meters, and similar matters, where corrections that increase inventory are defined as positive.

(4) The following calculation may be used to account for wintertime blending of kerosene and the blending of non-petroleum diesel:

$\#2MV500_O <= \#2MV500_I + \#2MV500_P - \#2MV500_{INVCHG} + 0.2 * (\#1MV15_I + \#2MV15_I + NPMV15_I)$

Where:

$\#1MV15_I$ = the total volume of fuel received during the compliance period that is designated as #1D 15 ppm sulfur motor vehicle diesel fuel. Any motor vehicle diesel fuel produced by or imported into the facility shall not be included in this volume.

$NPMV15_I$ = the total volume of fuel received during the compliance period that is designated as NP15 ppm sulfur motor vehicle diesel fuel. Any motor vehicle diesel fuel produced by or imported into the facility shall not be included in this volume.

$\#1MV15_P$ = the total volume of fuel produced by or imported into the facility during the compliance period that was designated as #1D 15 ppm sulfur motor vehicle diesel fuel when it was delivered.

(5) The following calculation may be used to account for wintertime blending of kerosene, the blending of non-petroleum diesel, and/or changes in the facility's volume balance of motor vehicle diesel fuel resulting from a temporary shift of

500 ppm sulfur NRLM diesel fuel to 500 ppm sulfur motor vehicle diesel fuel during the compliance period:

$\#2MV500_O < \#2MV500_I + \#2MV500_P - \#2MV500_{INVCHG} + 0.2 * \#2MV15_I + \#1MV15_B + \#2NRLM500_S + NP_B$

Where:

$\#1MV15_B$ = the total volume of fuel received during the compliance period that is designated as #1D 15 ppm sulfur motor vehicle diesel fuel and that the facility can demonstrate they blended into #2D 500 ppm sulfur motor vehicle diesel fuel. Any motor vehicle diesel fuel produced by or imported into the facility shall not be included in this volume.

$\#2MV500_P$ = the total volume of fuel produced by or imported into the facility during the compliance period that was designated as #2MV 500 ppm sulfur motor vehicle diesel fuel when it was delivered.

$\#2NRLM500_S$ = the total volume of #2D 500 ppm sulfur NRLM diesel fuel that the facility can demonstrate they redesignated as #2D 500 ppm sulfur motor vehicle diesel fuel during the compliance period.

NP_B = the total volume of fuel received during the compliance period that is designated as NP15 ppm sulfur motor vehicle diesel fuel, and/or NP500 ppm sulfur motor vehicle diesel fuel which the facility can demonstrate they blended into #2D 500 ppm sulfur motor vehicle diesel fuel.

(f) Inventory adjustments. Adjustments to inventory under this section must be based on normal business practices for the industry, appropriate physical plant operations and use of good engineering judgments.

(g) Unique circumstances. EPA may, at its discretion, grant a fuel distributor's application to modify its inventory of motor vehicle diesel fuel, NRLM diesel fuel, or heating oil for a given compliance period. EPA may grant an application to address unique circumstances, where appropriate, such as the start up of a new pipeline or pipeline segment.

(h) Additional requirements for aggregated facilities consisting of a refinery and a truck loading terminal. In addition to the volume balance requirements required by paragraphs (a) through (g) of this section, aggregated facilities consisting of a refinery and a truck loading terminal are responsible for balance calculations on the volume difference between the total volume of diesel fuel sold over the truck loading terminal rack and the production volume from the batch reports. Mathematically, the difference will be the volume of fuel received from external sources and passed through to another facility.

§ 80.600 What records must be kept for purposes of the designate and track provisions?

(a) In addition to the requirements of §80.592 and §80.602, the following recordkeeping requirements shall apply to refiners and importers:

(1) Any refiner or importer shall maintain the records specified in paragraphs (a)(6) through (a)(10) of this section for each batch of distillate fuel that it transfers custody of and designates during the time period from June 1, 2006 through May 31, 2010, with the following categories:

(i) #1D 15 ppm sulfur motor vehicle diesel fuel;

(ii) #2D 15 ppm sulfur motor vehicle diesel fuel;

(iii) 15 ppm sulfur NRLM diesel fuel;
(iv) #1D 500 ppm sulfur motor vehicle diesel fuel;
(v) #2D 500 ppm sulfur motor vehicle diesel fuel;
(vi) 500 ppm sulfur NRLM diesel fuel;
(vii) NP 15 ppm sulfur motor vehicle diesel fuel;
(viii) NP 500 ppm sulfur motor vehicle diesel fuel; or,
(ix) Exempt distillate fuels such as fuels that are covered by a national security exemption under §80.606, fuels that are used for purposes of research and development pursuant to §80.607, and fuels used in the U.S. Territories pursuant to §80.608 (including additional identifying information).

(2) Any refiner or importer shall maintain the records specified in paragraphs (a)(6) through (a)(10) of this section for each batch of distillate fuel that it transfers custody of and designates during the time period from June 1, 2007 through May 31, 2010 with the following categories:
(i) High sulfur NRLM diesel fuel; or
(ii) Heating oil.

(3) Any refiner or importer shall maintain the records specified in paragraphs (a)(6) through (a)(10) of this section for each batch of distillate fuel that it transfers custody of and designates during the time period from June 1, 2010 through May 31, 2012 with the following categories:
(i) 500 ppm sulfur NR diesel fuel;
(ii) 500 ppm sulfur LM diesel fuel;
(iii) Heating oil; or
(iv) Exempt distillate fuels such as fuels that are covered by a national security exemption under §80.606, fuels that are used for purposes of research and development pursuant to §80.607, and fuels used in the U.S. Territories pursuant to §80.608 (including additional identifying information).

(4) Any refiner or importer shall maintain the records specified in paragraphs (a)(6) through (a)(10) of this section for each batch of distillate fuel that it transfers custody of and designates during the time period from June 1, 2012 through May 31, 2014 with the following categories:
(i) 500 ppm sulfur NRLM diesel fuel;
(ii) Heating oil; or
(iii) Exempt distillate fuels such as fuels that are covered by a national security exemption under §80.606, fuels that are used for purposes of research and development pursuant to §80.607, and fuels used in the U.S. Territories pursuant to §80.608 (including additional identifying information).

(5) Any refiner or importer shall maintain the records specified in paragraphs (a)(6) through (a)(10) of this section for each batch of distillate fuel that it transfers custody of and designates from June 1, 2014 and later with any of the following categories:
(i) Heating oil.
(ii) ECA marine fuel.

(6) The records for each batch with designations identified in paragraphs (a)(1) through (a)(5) of this section must clearly and accurately identify the batch number (including an indication as to whether the batch was received into the

facility, produced by the facility, imported into the facility, or delivered from the facility), date and time of day (if multiple batches are delivered per day) that custody was transferred, the designation, the volume in gallons of the batch, and the name and the EPA entity and facility registration number of the facility to whom such batch was transferred.

(7) Any refiner or importer shall, for each of its facilities, maintain records that clearly and accurately identify the total volume in gallons of designated fuel identified in paragraphs (a)(1) through (a)(5) of this section transferred over each compliance period. The records shall be maintained separately for each fuel designated in paragraphs (a)(1) through (a)(5) of this section, and for each EPA entity and facility registration number to whom custody of the fuel was transferred.

(8) Notwithstanding the provisions of paragraphs (a)(6) and (a)(7) of this section, records of batches delivered of 500 ppm sulfur motor vehicle diesel fuel on which taxes have been paid per Section 4082 of the Internal Revenue Code (26 U.S.C. 4082) and of 500 ppm sulfur NRLM diesel fuel into which dye has been added per Section 4082 of the Internal Revenue Code (26 U.S.C. 4082), and of 500 ppm sulfur LM diesel fuel which has been properly marked pursuant to §80.510(e) are not required to be maintained separately for each entity and facility to which the fuel was delivered.

(9) Notwithstanding the provisions of paragraphs (a)(6) and (a)(7) of this section, records of heating oil batches delivered that have been properly marked pursuant to §80.510(d) through (f) and records of LM diesel fuel batches delivered that have been properly marked pursuant to §80.510(e) are not required to be maintained separately for each entity and facility to which the fuel was delivered.

(10) Any refiner or importer shall maintain copies of all product transfer documents required under §80.590. If all information required in paragraph (a)(6) of this section is on the product transfer document for a batch, then the provisions of this paragraph (a)(10) shall satisfy the requirements of paragraph (a)(6) of this section for that batch.

(11) Any refiner or importer shall maintain records related to annual compliance calculations performed under §80.599 and to information required to be reported to the Administrator under §80.601.

(12) Records must be maintained that demonstrate compliance with a refiner's compliance plan required under §80.554, for distillate fuel designated as high sulfur NRLM diesel fuel and delivered from June 1, 2007 through May 31, 2010, for distillate fuel designated as 500 ppm sulfur NR diesel fuel and delivered from June 1, 2010 through May 31, 2012, and for distillate fuel designated as 500 ppm sulfur NRLM diesel fuel and delivered from June 1, 2012 through May 31, 2014 in the areas specified in §80.510(g)(2).

(13) Refiners and importers who also receive fuel from another facility must also comply with the requirements of paragraph (b) of this section separately for those volumes.

(b) In addition to the requirements of §80.592 and §80.602, the following recordkeeping requirements shall apply to distributors:

(1) Any distributor shall maintain the records specified in paragraphs (b)(2) through (b)(10) of this section for each batch of distillate fuel with the following designations for which custody is received or delivered as well as any batches produced. Records shall be kept separately for each of its facilities.

(i) For each facility that receives or distributes #2D 15 ppm sulfur motor vehicle diesel fuel or #2D 500 ppm sulfur motor vehicle diesel fuel, records for each batch of diesel fuel with the following designations for which custody is received or delivered during the time period from June 1, 2006 through May 31, 2007:

(A) #1D 15 ppm sulfur motor vehicle diesel fuel;
(B) #2D 15 ppm sulfur motor vehicle diesel fuel;
(C) #1D 500 ppm sulfur motor vehicle diesel fuel;
(D) #2D 500 ppm sulfur motor vehicle diesel fuel;
(E) California diesel fuel as defined in §80.616 which is transferred out of the State of California pursuant to the provisions of §80.617(b);
(F) NP 15 ppm sulfur motor vehicle diesel fuel;
(G) NP 500 ppm sulfur motor vehicle diesel fuel; or
(H) Exempt distillate fuels such as fuels that are covered by a national security exemption under §80.606, fuels that are used for purposes of research and development pursuant to §80.607, and fuels used in the U.S. Territories pursuant to §80.608 (including additional identifying information).

(ii) For each facility, records for each batch of diesel fuel with the following designations for which custody is received or delivered as well as any batches produced during the time period from June 1, 2007 through May 31, 2010:

(A) #1D 15 ppm sulfur motor vehicle diesel fuel;
(B) #2D 15 ppm sulfur motor vehicle diesel fuel;
(C) #1D 500 ppm sulfur motor vehicle diesel fuel;
(D) #2D 500 ppm sulfur motor vehicle diesel fuel;
(E) 500 ppm sulfur NRLM diesel fuel;
(F) 15 ppm sulfur NRLM diesel fuel;
(G) High sulfur NRLM diesel fuel;
(H) Heating oil;
(I) California diesel fuel as defined in §80.616 which is transferred out of the State of California pursuant to the provisions of §80.617(b);
(J) NP 15 ppm sulfur motor vehicle diesel fuel;
(K) NP 500 ppm sulfur motor vehicle diesel fuel; or
(L) Exempt distillate fuels such as fuels that are covered by a national security exemption under §80.606, fuels that are used for purposes of research and development pursuant to §80.607, and fuels used in the U.S. Territories pursuant to §80.608 (including additional identifying information).

(iii) For each facility that receives unmarked fuel designated as NR diesel fuel, LM diesel fuel or heating oil, records for each batch of diesel fuel with the following designations for which custody is received or delivered as well as any batches produced during the time period from June 1, 2010 through May 31, 2012:
  (A) 500 ppm sulfur NR diesel fuel;
  (B) 500 ppm sulfur LM diesel fuel;
  (C) Heating oil; or
  (D) Exempt distillate fuels such as fuels that are covered by a national security exemption under §80.606, fuels that are used for purposes of research and development pursuant to §80.607, and fuels used in the U.S. Territories pursuant to §80.608 (including additional identifying information).

(iv) For each facility that receives unmarked fuel designated as heating oil, records for each batch of diesel fuel with the following designations for which custody is received or delivered as well as any batches produced during the time period from June 1, 2012 through May 31, 2014:
  (A) 500 ppm sulfur NRLM diesel fuel;
  (B) Heating oil; or
  (C) Exempt distillate fuels such as fuels that are covered by a national security exemption under §80.606, fuels that are used for purposes of research and development pursuant to §80.607, and fuels used in the U.S. Territories pursuant to §80.608 (including additional identifying information).

(v) For each facility that receives fuel designated as heating oil, records for each batch of distillate fuel with any of the following designations for which custody is received or delivered as well as any batches produced from June 1, 2014 and beyond:
  (A) 1,000 ppm sulfur ECA marine fuel.
  (B) Heating oil.
  (C) Exempt distillate fuels such as fuels that are covered by a national security exemption under §80.606, fuels that are used for purposes of research and development pursuant to §80.607, and fuels used in the U.S. Territories pursuant to §80.608 (including additional identifying information).

(vi) From June 1, 2007 through May 31, 2010, for those facilities in the areas specified in §80.510(g)(2) that receive unmarked fuel designated as high sulfur NRLM diesel fuel:
  (A) High sulfur NRLM diesel fuel;
  (B) Heating oil; or
  (C) Exempt distillate fuels such as fuels that are covered by a national security exemption under §80.606, fuels that are used for purposes of research and development pursuant to §80.607, and fuels used in the U.S. Territories pursuant to §80.608 (including additional identifying information).

(vii) From June 1, 2010 through May 31, 2012, for those facilities in the areas specified in §80.510(g)(2) that receive unmarked fuel designated as 500 ppm sulfur NR diesel fuel, 500 ppm sulfur LM diesel fuel, or heating oil:
(A) 500 ppm sulfur NR diesel fuel;
(B) 500 ppm sulfur LM diesel fuel;
(C) Heating oil; or
(D) Exempt distillate fuels such as fuels that are covered by a national security exemption under §80.606, fuels that are used for purposes of research and development pursuant to §80.607, and fuels used in the U.S. Territories pursuant to §80.608 (including additional identifying information).

(viii) From June 1, 2012 through May 31, 2014, for those facilities in the areas specified in §80.510(g)(2) that receive unmarked fuel designated as 500 ppm sulfur NRLM diesel fuel or heating oil.
(A) 500 ppm sulfur NRLM diesel fuel;
(B) Heating oil; or
(C) Exempt distillate fuels such as fuels that are covered by a national security exemption under §80.606, fuels that are used for purposes of research and development pursuant to §80.607, and fuels used in the U.S. Territories pursuant to §80.608 (including additional identifying information).

(2) Records that for each batch clearly and accurately identify the batch number (including an indication as to whether the batch was received into the facility, produced by the facility, imported into the facility, or delivered from the facility), date and time of day (if multiple batches are delivered per day) that custody was transferred, the designation, the volume in gallons of each batch of each fuel, and the name and the EPA entity and facility registration number of the facility to whom or from whom such batch was transferred.

(3) Records that clearly and accurately identify the total volume in gallons of each designated fuel identified under paragraph (b)(1) of this section transferred over each of the compliance periods, and over the periods from June 1, 2006 to the end of each compliance period. The records shall be maintained separately for each fuel designated under paragraph (b)(1) of this section, and for each EPA entity and facility registration number from whom the fuel was received or to whom it was delivered. For batches of fuel received from facilities without an EPA facility registration number:

(i) Any batches of fuel received marked pursuant to §80.510(d) or (f) shall be deemed designated as heating oil.

(ii) Any batches of fuel received marked pursuant to §80.510(e) shall be deemed designated as heating oil or LM diesel fuel.

(iii) Any batches of fuel received on which taxes have been paid pursuant to Section 4082 of the Internal Revenue Code (26 U.S.C. 4082) shall be deemed designated as motor vehicle diesel fuel.

(iv) Any 500 ppm sulfur diesel fuel dyed pursuant to §80.520(b) and not marked pursuant to §80.510(d) or (f) shall be deemed designated as NRLM diesel fuel.

(v) Any diesel fuel with less than or equal to 500 ppm sulfur which is dyed pursuant to §80.520(b) and not marked pursuant to §80.510(e) shall be deemed to be NR diesel fuel.

(vi) Beginning June 1, 2014, any batches of unmarked fuel with greater than 500 ppm but less than or equal to 1,000 ppm sulfur shall be deemed to be 1,000 ppm ECA marine fuel.

(4) Notwithstanding the provisions of paragraphs (b)(2) and (b)(3) of this section, for batches of 500 ppm sulfur motor vehicle diesel fuel delivered on which taxes have been paid per Section 4082 of the Internal Revenue Code (26 U.S.C. 4082) and 500 ppm sulfur NRLM diesel fuel into which red dye has been added per Section 4082 of the Internal Revenue Code (26 U.S.C. 4082), records are not required to be maintained separately for each entity or facility to whom fuel was delivered.

(5) Notwithstanding the provisions of paragraphs (b)(2) and (b)(3) of this section, for batches of heating oil delivered that are marked pursuant to §80.510(d) through (f), records do not need to identify the EPA entity or facility registration number to which fuel was delivered.

(6) Notwithstanding the provisions of paragraphs (b)(2) and (b)(3) of this section, for batches of LM diesel fuel delivered that are marked pursuant to §80.510(e), records do not need to identify the EPA entity or facility registration number to which fuel was delivered.

(7) Records that clearly and accurately reflect the beginning and ending inventory volume for each of the fuels for which records must be kept under paragraph (b)(1) of this section. Such records shall be maintained separately by each entity and facility consistent with the compliance periods defined in §§80.598 and 80.599.

(8)(i) If adjustments are made to inventory, the records must include detailed information related to the amount, type of, and reason for such adjustment.

(ii) If adjustments are made because of measurement error or variation, the records must include the adjustment made, the meter or gauge or other reading(s), and the name of the person who took such reading(s) and or applied the adjustment.

(9) For distributors that are required to keep records under paragraphs (b)(1) through (b)(8) of this section for truck loading terminals, records related to quarterly or annual compliance calculations, as applicable, performed under §80.599 and to information required to be reported to the Administrator under §80.601.

(10) For distributors that are required to keep records under paragraphs (b)(1) through (b)(8) of this section for facilities other than truck loading terminals, records related to annual compliance calculations performed under §80.599 and to information required to be reported to the Administrator under §80.601.

(c) Notwithstanding the provisions of paragraph (b) of this section, records of heating oil received are not required to be maintained for facilities that do not receive any heating oil which is unmarked pursuant to §80.510(d) through (f), or LM diesel fuel which is unmarked pursuant to §80.510(e).

(d) Notwithstanding the provisions of paragraph (b) of this section, records of 500 ppm sulfur MVNRLM diesel fuel received are not required to be maintained for facilities that do not receive any motor vehicle diesel fuel for which taxes have not already been paid

pursuant to Section 4082 of the Internal Revenue Code (26 U.S.C. 4082) or NRLM diesel fuel which is undyed pursuant to §80.520(b).

(e) The provisions of paragraphs (b)(1)(iii) and (iv) of this section do not apply to facilities located in the areas specified in §80.510(g)(1) and (g)(2) unless they deliver marked heating oil or LM diesel fuel to areas outside the areas specified in §80.510(g)(1) and (g)(2).

(f) Ultimate consumers that receive any batch of high sulfur NRLM diesel fuel beginning June 1, 2007 in areas listed in §80.510(g)(2) must maintain records of each batch of fuel received for use in NRLM equipment pursuant to the compliance plan provisions of §80.554, unless otherwise allowed by EPA.

(g) Ultimate consumers that receive any batch of 500 ppm sulfur NR diesel fuel beginning June 1, 2010 or NRLM diesel fuel beginning June 1, 2012 in the areas listed in §80.510(g)(2) must maintain records of each batch of fuel received for use in NR or NRLM equipment, as appropriate, pursuant to the compliance plan provisions of §80.554, unless otherwise allowed by EPA.

(h) For purposes of this section, each portion of a shipment of designated distillate fuel under this section that is differently designated from any other portion, even if shipped as fungible product having the same sulfur content, shall be a separate batch.

(i) Additional records that must be kept by mobile facilities. Any registered mobile facility must keep records of all contracts from any contracted components (e.g., tank truck, barge, marine tanker, rail car, etc.) in each of its registered mobile facilities.

(j) The records required in this section must be made available to the Administrator or the Administrator's designated representative upon request.

(k) Notwithstanding the provisions of this section, product transfer documents must be maintained under the provisions of §§80.590, 80.592, and 80.602.

(l) The records required in this section must be kept for five years after they are required to be collected.

(m) Identifications of fuel designations can be limited to a sub-designation that accurately identifies the fuel and do not need to also include the broader designation. For example, NR diesel fuel does not also need to be designated as NRLM or MVNRLM diesel fuel.

(n) Notwithstanding the provisions of paragraphs (b)(2) and (b)(3) of this section, for batches of 15 ppm sulfur motor vehicle diesel fuel or California diesel fuel under §80.617(b) on which taxes have been paid per Section 4082 of the Internal Revenue Code (26 U.S.C. 4082), and 15 ppm sulfur NRLM diesel fuel or California diesel fuel under §80.617(b) into which red dye has been added per Section 4082 of the Internal Revenue Code (26 U.S.C. 4082), records are not required to be maintained separately for each entity or facility to whom fuel was delivered.

(o) In addition to the requirements of §§80.592 and 80.602, the following recordkeeping requirements shall apply to aggregated facilities consisting of a refinery and truck loading terminal:

(1) Any aggregated facility consisting of a refinery and truck loading terminal shall maintain records of all the following information for each batch of distillate fuel produced by the refinery and sent over the aggregated facility's truck loading terminal rack:

(i) The batch volume.

(ii) The batch number, assigned under the batch numbering procedures under §§80.65(d)(3) and 80.502(d)(1).
(iii) The date of production.
(iv) A record designating the batch as distillate fuel meeting either the 500 ppm, 15 ppm, or 1,000 ppm ECA marine sulfur standard.
(v) A record indicating the volumes that were either taxed, dyed, or dyed and marked.

(2) Volume reports for all distillate fuel from external sources (i.e., from another refiner or importer), as described in §80.601(f)(2), sent over the aggregated facility's truck rack.

§ 80.601 What are the reporting requirements for purposes of the designate and track provisions?

(a) Quarterly compliance period reports. Beginning February 28, 2007 and continuing through August 31, 2010, each entity required to register under §80.597 and to maintain records under §80.600 must report the following information separately for each of its facilities to the Administrator as specified in paragraph (d)(1) of this section except as provided in paragraph (e) of this section.

(l) Separately for each fuel designation category specified in paragraphs (a)(1)(i) and (a)(1)(ii) of this section and separately for each transferee facility, the total volume in gallons of distillate fuel designated under §80.598 for which custody was delivered by the reporting facility to any other entity or facility, and the EPA entity and facility registration number(s), as applicable, of the transferee.
(i) Beginning with the first compliance period and continuing up to and including the compliance period that starts April 1, 2007, fuel designated as 15 ppm or 500 ppm motor vehicle diesel fuel, or California diesel fuel as defined in §80.616 which is distributed outside the State of California pursuant to §80.617(b).
(ii) Beginning with the compliance period that starts June 1, 2007 and continuing up to and including the final reporting period, all fuel designation categories.

(2) Separately for each designation category specified in paragraphs (a)(2)(i) and (a)(2)(ii) of this section and separately for each transferor facility, the total volume in gallons of distillate fuel designated under §80.598 for which custody was received by the reporting facility, and the EPA entity and facility registration number(s), as applicable, of the transferor.
(i) Beginning with the first compliance period and continuing up to and including the compliance period that starts April 1, 2007, fuel designated as 15 ppm or 500 ppm motor vehicle diesel fuel, or California diesel fuel as defined in §80.616 which is distributed outside the State of California pursuant to §80.617(b).
(ii) Beginning with the compliance period that starts June 1, 2007 and continuing up to and including the final reporting period, all fuel designation categories.

(3) Any entity that receives custody of distillate fuel from another entity or facility that does not have an EPA facility identification number must report such batches as follows:

(i) Any batch of distillate fuel for which custody is received and which is marked pursuant to §80.510(d) or (f) shall be deemed designated as heating oil, any batch of distillate fuel for which custody is received and which is marked pursuant to §80.510(e) shall be deemed designated as heating oil or LM diesel fuel as applicable, and the report shall include that information under that designation.

(ii) Any batch of distillate fuel for which custody is received and for which taxes have been paid pursuant to Section 4082 of the Internal Revenue Code (26 U.S.C. 4082) shall be deemed designated as motor vehicle diesel fuel and the report shall include it under that designation.

(iii) Any batch of 500 ppm sulfur diesel fuel dyed pursuant to §80.520(b) and not marked pursuant to §80.510(d) and (f), and for which custody is received, shall be deemed designated as NRLM diesel fuel and the report shall include it under that designation.

(iv) Any batch of 500 ppm sulfur diesel fuel dyed pursuant to §80.520(b) and not marked pursuant to §80.510(e), and for which custody is received, shall be deemed designated as NR diesel fuel and the report shall include it under that designation.

(4) In the case of truck loading terminals, the results of all compliance calculations required under §80.599, and including:

(i) The total volumes received of each fuel designation required to be reported in paragraphs (a)(1) through (a)(3) of this section over the quarterly compliance period.

(ii) The total volumes delivered of each fuel designation required to be reported in paragraphs (a)(1) through (a)(3) of this section over the quarterly compliance period.

(iii) The total volumes produced or imported at the facility of each fuel designation required to be reported in paragraphs (a)(1) through (a)(3) of this section over the quarterly compliance period.

(iv) Beginning and ending inventories of each fuel designation required to be reported in paragraphs (a)(1) through(a)(3) of this section over the quarterly compliance period.

(v) The volume balance under §§80.599(b)(4) and 80.598(b)(9)(vi).

(vi) Beginning with the compliance period starting June 1, 2007, the volume balance under §§80.599(c)(2) and 80.598(b)(9)(viii)(A).

(b) Annual reports. Beginning August 31, 2007, all entities required to register under §80.597 and to maintain records for batches of fuel under §80.600 must report the following information separately for each of its facilities to the Administrator on an annual basis, as specified in paragraph (d)(2) of this section except as provided in paragraph (e) of this section.

(1) Separately for each designation category for which records are required to be kept under §80.600 and separately for each transferor facility;

(i) The total volume in gallons of distillate fuel designated under §80.598 for which custody was received by the reporting facility, and the EPA entity and facility registration number(s), as applicable, of the transferor; and

(ii) The total volume in gallons of distillate fuel designated under §80.598 which was produced or imported by the reporting facility.

(2) Separately for each designation category for which records are required to be kept under §80.600 and separately for each transferee facility, the total volume in gallons of distillate fuel designated under §80.598 for which custody was delivered by the reporting facility to any other entity or facility, and the EPA entity and facility registration number(s), as applicable, of the transferee except as provided under §80.600(a)(7), (a)(8), (b)(4), and (b)(5).

(3) The results of all compliance calculations required under §80.599, and including:

(i) The total volumes in gallons received of each fuel designation required to be reported in paragraph (b)(1) of this section over the applicable annual compliance period.

(ii) The total volumes produced or imported at the facility of each fuel designation required to be reported in paragraph (b)(1) of this section over the quarterly compliance period.

(iii) The total volumes in gallons delivered of each fuel designation required to be reported in paragraph (b)(2) of this section over the applicable annual compliance period.

(iv) Beginning and ending inventories of each fuel designation required to be reported in paragraphs (b)(1) and (b)(2) of this section for the annual compliance period.

(v) In the areas specified in §80.510(g)(2), for fuel designated as high sulfur NRLM diesel fuel delivered from June 1, 2007 through May 31, 2010, for fuel designated as 500 ppm NR diesel fuel delivered from June 1, 2010 through May 31, 2012, and for fuel designated as 500 ppm sulfur NRLM diesel fuel from June 1, 2012 through May 31, 2014, the refiner must report all information required under its compliance plan approved pursuant to §80.554(a)(4) and (b)(4) and including the ultimate consumers to whom each batch of fuel was delivered and the total delivered to each ultimate consumer for the compliance period.

(vi) Ending with the report due August 31, 2010, the volume balance under §80.598(b)(9)(vi) and §80.599(b)(4).

(vii) Ending with the report due August 31, 2010, the volume balance under §80.598(b)(9)(vii) and §80.599(b)(5), if applicable.

(viii) Ending with the report due August 31, 2010, the volume balance under §80.598(b)(9)(viii)(A) and §80.599(c)(2).

(ix) Beginning with the report due August 31, 2010, the volume balance under §80.598(b)(8)(viii)(B) and §80.599(c)(4).

(x) Beginning with the report due August 31, 2011 and ending with the report due August 31, 2012, the volume balance under §80.598(b)(9)(ix) and §80.599(d)(2).

(4) In the case of aggregated facilities consisting of a refinery and truck loading terminal, the results of annual compliance calculations under §80.598 for any

distillate fuel received from an external source on which taxes have not been assessed and is not dyed and/or marked that the refinery will be handing off to another party, rather than selling over the truck loading terminal rack.

(c) Additional information. The Administrator may request any additional information necessary to determine compliance with the requirements of §§80.598 and 80.599.

(d) Submission of reports for quarterly and annual compliance periods.

(1) All quarterly reports shall be submitted to the Administrator for the compliance periods defined in §80.599(a)(1) as follows:

(i) The reports for the first and second quarterly compliance periods covering June 1, 2006 to September 30, 2006 and October 1, 2006 to December 31, 2006 respectively shall be submitted by February 28, 2007.

(ii) The reports for the third and fourth quarterly compliance periods covering January 1, 2007 to March 31, 2007 and April 1, 2007 to May 31, 2007 respectively shall be submitted by August 31, 2007.

(iii) The report for the fifth quarterly compliance period covering June 1, 2007 to September 30, 2007 shall be submitted by November 30, 2007.

(iv) The report for the sixth quarterly compliance period covering October 1, 2007 to December 31, 2007 shall be submitted by February 28, 2008.

(v) The reports for the quarterly compliance periods beginning with the first period in 2008 up to and including the first period in 2010 shall be submitted as follows:

(A) The report for the period covering January 1 to March 31 shall be submitted by the following May 31.

(B) The report covering the period covering April 1 to June 30 shall be submitted by the following August 31.

(C) The report for the period from July 1 to September 30 shall be submitted by the following November 30.

(D) The report for the quarterly compliance period from October 1 to December 31 shall be submitted by the following February 28.

(vi) The report for the quarterly compliance period from April 1, 2010 to May 31, 2010 shall be submitted by August 31, 2010.

(vii) The report for the last quarterly compliance period from June 1, 2010 to September 30, 2010 shall be submitted by November 30, 2010.

(2) All annual reports shall be submitted to the Administrator for the compliance periods defined in §80.599(a)(2) by August 31.

(3) All reports shall be submitted on forms and following procedures specified by the Administrator, shall include a statement that volumes reported to the Administrator under this section are in substantial agreement to volumes reported to the Internal Revenue Service (and if these volumes are not in substantial agreement, an explanation must be included) and shall be signed and certified by a responsible corporate officer of the reporting entity.

(e) Exclusions. Notwithstanding the provisions of this section, an entity is not required to report under paragraphs (a) or (b) of this section for facilities whose only recordkeeping requirements under §80.600 are under §80.600 (f) or (g) or to maintain records solely related to calculating compliance with the downgrading limitation under §80.527, §80.599(e) and §80.600(b)(1)(i) and (ii).

(f) Additional requirements for aggregated facilities consisting of a refinery and a truck loading terminal. In addition to the reporting requirements listed by paragraphs (a) through (e) of this section, as applicable, such aggregated facilities are also subject to the following requirements:

(1) Batch reports. Reports containing the requirements detailed in §§80.592(f) and 80.600(m), must be submitted for all distillate produced by the refinery and sent over the truck loading terminal rack.

(2) Quarterly volume reports. Reports detailing the quarterly totals of all designations, including whether the fuel was taxed or contained red dye (or red dye and the yellow marker), that left the truck loading terminal rack must be submitted for all distillate received from an external source or produced by the refinery.

(3) Quarterly hand-off reports.

(i) Reports detailing the quarterly totals of all designations of fuel received from external refiner/importer sources, if any.

(ii) Reports detailing the quarterly totals of all undesignated fuel received from external refiner/importer sources that entered the designate and track system.

§ 80.602 What records must be kept by entities in the NRLM diesel fuel, ECA marine fuel, and diesel fuel additive production, importation, and distribution systems?

(a) Records that must be kept by parties in the NRLM diesel fuel, ECA marine fuel and diesel fuel additive production, importation, and distribution systems. Beginning June 1, 2007, or June 1, 2006, if that is the first period credits are generated under §80.535, any person who produces, imports, sells, offers for sale, dispenses, distributes, supplies, offers for supply, stores, or transports nonroad, locomotive or marine diesel fuel, or ECA marine fuel (beginning June 1, 2014) subject to the provisions of this subpart, must keep all the following records:

(1) The applicable product transfer documents required under §§80.590 and 80.591.

(2) For any sampling and testing for sulfur content for a batch of NRLM diesel fuel produced or imported and subject to the 15 ppm sulfur standard or any sampling and testing for sulfur content as part of a quality assurance testing program, and any sampling and testing for cetane index, aromatics content, marker solvent yellow 124 content or dye solvent red 164 content of NRLM diesel fuel, ECA marine fuel, NRLM diesel fuel additives or heating oil:

(i) The location, date, time and storage tank or truck identification for each sample collected;

(ii) The name and title of the person who collected the sample and the person who performed the testing; and

(iii) The results of the tests for sulfur content (including, where applicable, the test results with and without application of the adjustment factor under §80.580(d)), for cetane index or aromatics content, dye solvent red 164, marker solvent yellow 124 (as applicable), and the volume of product in the storage tank or container from which the sample was taken.

(3) The actions the party has taken, if any, to stop the sale or distribution of any NRLM diesel fuel or ECA marine fuel found not to be in compliance with the sulfur standards specified in this subpart, and the actions the party has taken, if any, to identify the cause of any noncompliance and prevent future instances of noncompliance.

(b) Additional records to be kept by refiners and importers of NRLM diesel fuel and ECA marine fuel. Beginning June 1, 2007, or June 1, 2006, pursuant to the provisions of §80.535 or §80.554(d) (or June 1, 2014, pursuant to the provisions of §80.510(k)), any refiner producing diesel fuel subject to a sulfur standard under §80.510, §80.513, §80.536, §80.554, §80.560, or §80.561, for each of its refineries, and any importer importing such diesel fuel separately for each facility, shall keep records that include the following information for each batch of NRLM diesel fuel, ECA marine fuel, or heating oil produced or imported:

(1) The batch volume.

(2) The batch number, assigned under the batch numbering procedures under §80.65(d)(3).

(3) The date of production or import.

(4) A record designating the batch as one of the following:

(i) NRLM diesel fuel, NR diesel fuel, LM diesel fuel, ECA marine fuel, or heating oil, as applicable.

(ii) Meeting the 500 ppm sulfur standard of §80.510(a), the 15 ppm sulfur standard of §80.510(b) and (c), the 1,000 ppm sulfur standard of §80.510(k), or other applicable standard.

(iii) Dyed or undyed with visible evidence of solvent red 164.

(iv) Marked or unmarked with solvent yellow 124.

(5) For foreign refiners and importers of their fuel, the designations and other records required to be kept under §80.620.

(6) All of the following information regarding credits, kept separately for each compliance period, kept separately for each refinery and for each importer facility, kept separately if converted under §80.535(a) and (b) or §80.535(c) and (d), and kept separately from motor vehicle diesel fuel credits:

(i) The number of credits in the refiner's or importer's possession at the beginning of the calendar year.

(ii) The number of credits generated.

(iii) The number of credits used.

(iv) If any were obtained from or transferred to other parties, for each other party, its name, its EPA refiner or importer registration number consistent with §80.597, and the number obtained from, or transferred to, the other party.

(v) The number in the refiner's or importer's possession that will carry over into the subsequent calendar year compliance period.

(vi) Commercial documents that establish each transfer of credits from the transferor to the transferee.

(7) The calculations used to determine baselines or compliance with the volume requirements and volume percentages, as applicable, under this subpart.

(8) The calculations used to determine the number of credits generated.

(9) A copy of reports submitted to EPA under §80.604.

(c) Additional records importers must keep. Any importer shall keep records that identify and verify the source of each batch of certified DFR-Diesel and non-certified DFR-Diesel imported and demonstrate compliance with the requirements under §80.620.

(d) Additional records that must be kept by mobile facilities. Any registered mobile facility must keep records of all contracts from any contracted components (e.g. tank truck, barge, marine tanker, rail car, etc.) of each of its registered mobile facilities.

(e) Length of time records must be kept. The records required in this section shall be kept for five years from the date they were created, except that records relating to credit transfers shall be kept by the transferor for five years from the date the credits were transferred, and shall be kept by the transferee for five years from the date the credits were transferred, used or terminated, whichever is later.

(f) Make records available to EPA. On request by EPA, the records required in this section must be made available to the Administrator or the Administrator's representative. For records that are electronically generated or maintained, the equipment and software necessary to read the records shall be made available, or if requested by EPA, electronic records shall be converted to paper documents which shall be provided to the Administrator's authorized representative.

(g) Additional records to be kept by aggregated facilities consisting of a refinery and a truck loading terminal. In addition to the applicable records required by paragraphs (a) through (f) of this section, such aggregated facilities must also keep the following records:

(1) The following information for each batch of motor vehicle diesel fuel produced by the refinery and sent over the aggregated facility's truck rack:

(i) The batch volume;

(ii) The batch number, assigned under the batch numbering procedures under §§80.65(d)(3) and 80.502(d)(1);

(iii) The date of production;

(iv) A record designating the batch as one of the following:

(A) NRLM diesel fuel, NR diesel fuel, LM diesel fuel, ECA marine fuel, or heating oil, as applicable.

(B) Meeting the 500 ppm sulfur standard of §80.510(a) or the 15 ppm sulfur standard of §80.510(b) and (c) or other applicable standard.

(C) Dyed or undyed with visible evidence of solvent red 164.

(D) Marked or unmarked with solvent yellow 124.

(2) Hand-off reports for all distillate fuel from external sources (i.e., from another refiner or importer), as described in §80.601(f)(2).

§ 80.603 What are the pre-compliance reporting requirements for NRLM diesel fuel?

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§ 80.604 What are the annual reporting requirements for refiners and importers of NRLM diesel fuel?

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Exemptions

§ 80.605 [Reserved]

§ 80.606 What national security exemption applies to distillate fuel?

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§ 80.607 What are the requirements for obtaining an exemption for diesel fuel or ECA marine fuel used for research, development or testing purposes?

(a) Written request for a research and development exemption. Any person may receive an exemption from the provisions of this subpart for diesel fuel used for research, development, or testing purposes by submitting the information listed in paragraph (c) of this section to:

Director, Transportation and Regional Programs Division (6406J), U.S. Environmental Protection Agency, 1200 Pennsylvania Avenue, NW., Washington, DC 20460 (postal mail); or Director, Transportation and Regional Programs Division, U.S. Environmental Protection Agency, 1310 L Street, NW., 6th floor, Washington, DC 20005 (express mail/courier); and Director, Air Enforcement Division (2242A), U.S. Environmental Protection Agency, Ariel Rios Building, 1200 Pennsylvania Avenue, NW., Washington, DC 20460.

(b) Criteria for a research and development exemption. For a research and development exemption to be granted, the person requesting an exemption must—

(1) Demonstrate a purpose that constitutes an appropriate basis for exemption;

(2) Demonstrate that an exemption is necessary;

(3) Design a research and development program to be reasonable in scope; and

(4) Exercise a degree of control consistent with the purpose of the program and EPA's monitoring requirements.

(c) Information required to be submitted. To demonstrate each of the elements in paragraphs (b)(1) through (4) of this section, the person requesting an exemption must include the following information in the written request required under paragraph (a) of this section:

(1) A concise statement of the purpose of the program demonstrating that the program has an appropriate research and development purpose.

(2) An explanation of why the stated purpose of the program cannot be achieved in a practicable manner without performing one or more of the prohibited acts under this subpart.

(3) To demonstrate the reasonableness of the scope of the program:

(i) An estimate of the program's duration in time and, if appropriate, mileage;

(ii) An estimate of the maximum number of vehicles or engines involved in the program;

(iii) The manner in which the information on vehicles and engines used in the program will be recorded and made available to the Administrator upon request; and

(iv) The quantity of diesel fuel which does not comply with the requirements of §§80.520 and 80.521 for motor vehicle diesel fuel, or §80.510 for NRLM diesel fuel or ECA marine fuel.

(4) With regard to control, a demonstration that the program affords EPA a monitoring capability, including all the following:

(i) The site(s) of the program (including facility name, street address, city, county, state, and zip code).

(ii) The manner in which information on vehicles and engines used in the program will be recorded and made available to the Administrator upon request.

(iii) The manner in which information on the diesel fuel used in the program (including quantity, fuel properties, name, address, telephone number and contact person of the supplier, and the date received from the supplier), will be recorded and made available to the Administrator upon request.

(iv) The manner in which the party will ensure that the research and development fuel will be segregated from motor vehicle diesel fuel or NRLM diesel fuel, as applicable, and how fuel pumps will be labeled to ensure proper use of the research and development diesel fuel.

(v) The name, address, telephone number and title of the person(s) in the organization requesting an exemption from whom further information on the application may be obtained.

(vi) The name, address, telephone number and title of the person(s) in the organization requesting an exemption who is responsible for recording and making available the information specified in this paragraph (c), and the location where such information will be maintained.

(d) Additional requirements.

(1) The product transfer documents associated with research and development motor vehicle diesel fuel must comply with requirements of §80.590(b)(3).

(2) The research and development diesel fuel must be designated by the refiner or supplier, as applicable, as research and development diesel fuel.

(3) The research and development diesel fuel must be kept segregated from non-exempt MVNRLM diesel fuel and ECA marine fuel at all points in the distribution system.

(4) The research and development diesel fuel must not be sold, distributed, offered for sale or distribution, dispensed, supplied, offered for supply, transported to or from, or stored by a diesel fuel retail outlet, or by a wholesale purchaser-consumer facility, unless the wholesale purchaser-consumer facility is associated with the research and development program that uses the diesel fuel.

(5) At the completion of the program, any emission control systems or elements of design which are damaged or rendered inoperative shall be replaced on vehicles remaining in service, or the responsible person will be liable for a violation of the Clean Air Act section 203(a)(3) (42 U.S.C. 7522 (a)(3)) unless sufficient evidence is supplied that the emission controls or elements of design were not damaged.

(e) Mechanism for granting of an exemption. A request for a research and development exemption will be deemed approved by the earlier of 60 days from the date on which EPA receives the request for exemption, (provided that EPA has not notified the applicant of potential disapproval by that time), or the date on which the applicant receives a written approval letter from EPA.

(1) The volume of diesel fuel subject to the approval shall not exceed the estimated amount under paragraph (c)(3)(iv) of this section, unless EPA grants a greater amount in writing.

(2) Any exemption granted under this section will expire at the completion of the test program or three years from the date of approval, whichever occurs first, and may only be extended upon re-application consistent will all requirements of this section.

(3) The passage of 60 days will not signify the acceptance by EPA of the validity of the information in the request for an exemption. EPA may elect at any time to review the information contained in the request, and where appropriate may notify the responsible person of disapproval of the exemption.

(4) In granting an exemption the Administrator may include terms and conditions, including replacement of emission control devices or elements of design, that the Administrator determines are necessary for monitoring the exemption and for assuring that the purposes of this subpart are met.

(5) Any violation of a term or condition of the exemption, or of any requirement of this section, will cause the exemption to be void ab initio.

(6) If any information required under paragraph (c) of this section should change after approval of the exemption, the responsible person must notify EPA in writing immediately. Failure to do so may result in disapproval of the exemption or may make it void ab initio, and may make the party liable for a violation of this subpart.

(f) Effects of exemption. Motor vehicle diesel fuel, NRLM diesel fuel, or ECA marine fuel that is subject to a research and development exemption under this section is exempt from other provisions of this subpart provided that the fuel is used in a manner that complies with the purpose of the program under paragraph (c) of this section and the requirements of this section.

(g) Notification of completion. The party shall notify EPA in writing within 30 days after completion of the research and development program.

§ 80.608 What requirements apply to diesel fuel and ECA marine fuel for use in the Territories?

The sulfur standards of §80.520(a)(1) and (c) related to motor vehicle diesel fuel, of §80.510(a), (b), and (c) related to NRLM diesel fuel, and of §80.510(k) related to ECA marine fuel, do not apply to fuel that is produced, imported, sold, offered for sale, supplied, offered for supply, stored, dispensed, or transported for use in the Territories of Guam, American Samoa or the Commonwealth of the Northern Mariana Islands, provided that such diesel fuel is all the following:

(a) Designated by the refiner or importer as high sulfur diesel fuel only for use in Guam, American Samoa, or the Commonwealth of the Northern Mariana Islands.

(b) Used only in Guam, American Samoa, or the Commonwealth of the Northern Mariana Islands.

(c) Accompanied by documentation that complies with the product transfer document requirements of §80.590(b)(1).

(d) Segregated from non-exempt MVNRLM diesel fuel and/or non-exempt ECA marine fuel at all points in the distribution system from the point the diesel fuel is designated as exempt fuel only for use in Guam, American Samoa, or the Commonwealth of the Northern Mariana Islands, while the exempt fuel is in the United States (or the United States Emission Control Area) but outside these Territories.

§ 80.609 [Reserved]

Violation Provisions

§ 80.610 What acts are prohibited under the diesel fuel sulfur program?

No person shall—

(a) Standard, dye, marker or product violation.

(1) Produce, import, sell, offer for sale, dispense, supply, offer for supply, store or transport motor vehicle diesel fuel, NRLM diesel fuel, ECA marine fuel or heating oil that does not comply with the applicable standards, dye, marking or any other product requirements under this subpart I and 40 CFR part 69.

(2) Beginning June 1, 2007, produce, import, sell, offer for sale, dispense, supply, offer for supply, store or transport any diesel fuel for use in motor vehicle or nonroad engines that contains greater than 0.10 milligrams per liter of solvent yellow 124, except for 500 ppm sulfur diesel fuel produced or imported from June 1, 2010 through September 30, 2012 for use only in locomotive or marine diesel engines that is marked under the provisions of §80.510(e).

(3) Beginning June 1, 2007, produce, import, sell, offer for sale, dispense, supply, offer for supply, store or transport heating oil for use in any nonroad diesel engine, including any locomotive or marine diesel engine.

(4) Beginning June 1, 2014, produce, import, sell, offer for sale, dispense, supply, offer for supply, store or transport ECA marine fuel for use in any diesel engine other than those installed on a Category 3 marine vessel.

(b) Designation and volume balance violation. Produce, import, sell, offer for sale, dispense, supply, offer for supply, store or transport motor vehicle diesel, NRLM diesel fuel, ECA marine fuel, heating oil or other distillate that does not comply with the applicable designation or volume balance requirements under §§80.598 and 80.599.

(c) Additive violation.

(1) Produce, import, sell, offer for sale, dispense, supply, offer for supply, store or transport any motor vehicle diesel fuel additive or NRLM diesel fuel additive for use at a downstream location that does not comply with the applicable requirements of §80.521.

(2) Blend or permit the blending into motor vehicle diesel fuel or NRLM diesel fuel at a downstream location, or use, or permit the use, in motor vehicle diesel fuel or NRLM diesel fuel, of any additive that does not comply with the applicable requirements of §80.521.

(d) Used motor oil violation. Introduce into the fuel system of a model year 2007 or later diesel motor vehicle or model year 2011 or later nonroad diesel engine (except for locomotive or marine engines) or other nonroad diesel engine certified for the use of 15 ppm sulfur content fuel, or permit the introduction into the fuel system of such vehicle or nonroad engine of used motor oil, or used motor oil blended with diesel fuel, that does not comply with the requirements of §80.522.

(e) Improper fuel usage violation.

(1) Introduce, or permit the introduction of, fuel into model year 2007 or later diesel motor vehicles, and beginning December 1, 2010 into any diesel motor vehicle, that does not comply with the standards and dye requirements of §80.520(a) and (b);

(2) Introduce, or permit the introduction of, fuel into any nonroad diesel engine (including any locomotive or marine diesel engine) that does not comply with the applicable standards, dye and marking requirements of §80.510(a), (d), and (e) and §80.520(b) beginning on the following dates:

(i) This prohibition begins December 1, 2007 in the areas specified in §80.510(g)(1) and (g)(2), except as specified in paragraph (e)(2)(ii) of this section.

(ii) This prohibition begins December 1, 2010 in the area specified in §80.510(g)(2) for NRLM diesel fuel that is produced in accordance with a compliance plan approved under §80.554.

(iii) This prohibition begins December 1, 2010 in all other areas.

(3) Introduce, or permit the introduction of, fuel into any nonroad diesel engine (other than locomotive and marine diesel engines) that does not comply with the applicable standards, dye and marking requirements of §80.510(b) and (e) beginning on the following dates:

(i) This prohibition begins December 1, 2010 in the areas specified in §80.510(g)(1) and (g)(2), except as specified paragraph (e)(3)(ii) of this section.

(ii) This prohibition begins December 1, 2014 in the area specified in §80.510(g)(2) for NRLM diesel fuel that is produced in accordance with a compliance plan approved under §80.554.

(iii) This prohibition begins December 1, 2014 in all other areas.

(4) Introduce, or permit the introduction of, fuel into any locomotive and marine diesel engine which does not comply with the applicable standards, dye and marking requirements of §80.510(c) and §80.510(f) in the following areas beginning on the following dates:

(i) This prohibition begins December 1, 2012 in the areas specified in §80.510(g)(1) and (g)(2), except as specified in paragraph (e)(4)(ii) of this section.

(ii) This prohibition does not apply in the area specified in §80.510(g)(2) for NRLM diesel fuel that is produced in accordance with a compliance plan approved under §80.554.

(iii) This prohibition begins December 1, 2014 in all other areas.

(5) Introduce, or permit the introduction of, fuel into any model year 2011 or later nonroad diesel engine certified for use on 15 ppm sulfur content fuel, diesel fuel which does not comply with the applicable standards, dye and marking requirements of §80.510(b) through (f).

(6) Beginning January 1, 2015 introduce, or permit the introduction of, any fuel oil with a sulfur content greater than 1,000 ppm for use in a Category 3 marine vessel within an ECA.

(f) Cause another party to violate. Cause another person to commit an act in violation of paragraphs (a) through (e) of this section.

(g) Cause violating fuel or additive to be in the distribution system. Cause motor vehicle diesel fuel, NRLM diesel fuel, or ECA marine fuel to be in the diesel fuel distribution system which does not comply with the applicable standard, dye or marker requirements or the product segregation requirements of this Subpart I, or cause any diesel fuel additive to be in the diesel fuel additive distribution system which does not comply with the applicable sulfur standards under §80.521.

§ 80.611 What evidence may be used to determine compliance with the prohibitions and requirements of this subpart and liability for violations of this subpart?

* * * * *

§ 80.612 Who is liable for violations of this subpart?

(a) Persons liable for violations of prohibited acts —

(1) Standard, dye, marker, additives, used motor oil, heating oil, fuel introduction, and other product requirement violations.

(i) Any refiner, importer, distributor, reseller, carrier, retailer, wholesale purchaser-consumer who owned, leased, operated, controlled or supervised a facility where a violation of any provision of §80.610(a) through (e) occurred, or any other person who violates any provision of §80.610(a) through (e), is deemed liable for the applicable violation, except that distributors who receive diesel fuel or distillate from the point where it is taxed, dyed or marked, and retailers and wholesale purchaser-consumers are not deemed liable for any violation of §80.610(b).

(ii) Any person who causes another person to violate §80.610(a) through (e) is liable for a violation of §80.610(f).

(iii) Any refiner, importer, distributor, reseller, carrier, retailer, or wholesale purchaser-consumer who produced, imported, sold, offered for sale, dispensed, supplied, offered to supply, stored, transported, or caused the transportation or storage of, diesel fuel or distillate that violates §80.610(a), is deemed in violation of §80.610(f).

(iv) Any person who produced, imported, sold, offered for sale, dispensed, supplied, offered to supply, stored, transported, or caused the transportation or storage of a diesel fuel additive which is used in motor vehicle diesel fuel or NRLM diesel fuel that is found to violate §80.610(a), is deemed in violation of §80.610(f).

(2) Cause violating diesel fuel or additive to be in the distribution system. Any refiner, importer, distributor, reseller, carrier, retailer, or wholesale purchaser-consumer or any other person who owned, leased, operated, controlled or supervised a facility from which distillate fuel or additive was released into the distribution system which does not comply with the applicable standards, marking or dye requirements of this Subpart I is deemed in violation of §80.610(g).

(3) Branded refiner/importer liability. Any refiner or importer whose corporate, trade, or brand name, or whose marketing subsidiary's corporate, trade, or brand name appeared at a facility where a violation of §80.610(a) or (b) occurred, is deemed in violation of §80.610(a) or (b), as applicable.

(4) Carrier causation. In order for a distillate fuel or diesel fuel additive carrier to be liable under paragraph (a)(1)(ii), (a)(1)(iii), or (a)(1)(iv) of this section, as applicable, EPA must demonstrate, by reasonably specific showing by direct or circumstantial evidence, that the carrier caused the violation.

(5) Parent corporation. Any parent corporation is liable for any violations of this subpart that are committed by any subsidiary.

(6) Joint venture. Each partner to a joint venture is jointly and severally liable for any violation of this subpart that occurs at the joint venture facility or is committed by the joint venture operation.

(b) Persons liable for failure to comply with other provisions of this subpart. Any person who:

(1) Fails to comply with the requirements of a provision of this subpart not addressed in paragraph (a) of this section is liable for a violation of that provision; or

(2) Causes another person to fail to comply with the requirements of a provision of this subpart not addressed in paragraph (a) of this section, is liable for causing a violation of that provision.

§ 80.613 What defenses apply to persons deemed liable for a violation of a prohibited act under this subpart?

(a) Presumptive liability defenses.

(1) Any person deemed liable for a violation of a prohibition under §80.612(a)(1)(i), (a)(1)(iii), (a)(2), or (a)(3), will not be deemed in violation if the person demonstrates all of the following, as applicable:

(i) The violation was not caused by the person or the person's employee or agent;

(ii) Product transfer documents account for fuel or additive found to be in violation and indicate that the violating product was in compliance with the applicable requirements when it was under the person's control;

(iii) The person conducted a quality assurance sampling and testing program, as described in paragraph (d) of this section, except for those persons subject to the provisions of paragraph (a)(1)(iv), (a)(1)(v), or (a)(1)(vi) of this section or §80.614. A carrier may rely on the quality assurance program carried out by another party, including the party who owns the diesel fuel in question, provided that the quality assurance program is carried out properly. Retailers, wholesale purchaser-consumers, and ultimate consumers of diesel fuel are not required to conduct quality assurance programs;

(iv) For refiners and importers of diesel fuel subject to the 15 ppm sulfur standard under §80.510(b) or (c) or §80.520(a)(1), the 500 ppm sulfur standard under §80.510(a) or 80.520(c), and/or the 1,000 ppm sulfur standard under §80.510(k), test results that—

(A) Were conducted according to an appropriate test methodology approved or designated under §§80.580 through 80.586, 80.2(w), or 80.2(z), as appropriate; and

(B) Establish that, when it left the party's control, the fuel did not violate the sulfur, cetane or aromatics standard, or the dye or marking provisions of §§80.510 or 80.511, as applicable;

(v) For any truck loading terminal or any other person who delivers heating oil for delivery to the ultimate consumer and is subject to the requirement to mark heating oil or LM diesel fuel under §80.510(d) through (f), data which demonstrates that when it left the truck loading terminal or other facility, the concentration of marker solvent yellow 124 was equal to or greater than six milligrams per liter. In lieu of testing for marker solvent yellow 124 concentration, evidence may be presented of an oversight program, including records of marker inventory, purchase and additization, and records of periodic inspection and calibration of additization equipment that ensures that marker is added to heating oil or LM diesel fuel, as applicable, under §80.510(d) through (f) in the required concentration;

(vi) Except as provided in §80.614, for any person who, at a downstream location, blends a diesel fuel additive subject to the requirements of §80.521(b) into motor vehicle diesel fuel or NRLM diesel fuel subject to the 15 ppm sulfur standard under §80.520(a) or §80.510(b) or (c), except a person who blends additives into fuel tanker trucks at a truck loading rack subject to the provisions of paragraph (d)(2) of this section, test results which are conducted subsequent to the blending of the additive into the fuel, and which comply with the requirements of paragraphs (a)(1)(iv)(A) and (B) of this section; and

(vii) Any person deemed liable for a designation or volume balance provisions violation under §80.610(b) and 80.612(a) will not be deemed in violation if the person demonstrates, through product transfer documents, records, reports and other evidence that the diesel fuel or distillate was properly designated and volume balance requirements were met.

(2) Any person deemed liable for a violation under §80.612(a)(1)(iv), in regard to a diesel fuel additive subject to the requirements of §80.521(a), will not be deemed in violation if the person demonstrates that—

(i) Product transfer document(s) account for the additive in the fuel found to be in violation, which comply with the requirements under §80.591(a), and indicate that the additive was in compliance with the applicable requirements while it was under the party's control; and

(ii) For the additive's manufacturer or importer, test results which accurately establish that, when it left the party's control, the additive in the diesel fuel determined to be in violation did not have a sulfur content greater than or equal to 15 ppm.

(A) Analysis of the additive sulfur content pursuant to this paragraph (a)(2) may be conducted at the time the batch was manufactured or imported, or on a sample of that batch which the manufacturer or importer retains for such purpose for a minimum of two years from the date the batch was manufactured or imported.

(B) After two years from the date the additive batch was manufactured or imported, the additive manufacturer or importer is no longer required to retain samples for the purpose of complying with the testing requirements of this paragraph (a)(2).

(C) The analysis of the sulfur content of the additive must be conducted pursuant to the requirements of §80.580.

(3) Any person who is deemed liable for a violation under §80.612(a)(1)(iv) with regard to a diesel fuel additive subject to the requirements of §80.521(b), will not be deemed in violation if the person demonstrates that—

(i) The violation was not caused by the party or the party's employee or agent;

(ii) Product transfer document(s) which comply with the additive information requirements under §80.591(b), account for the additive in the fuel found to be in violation, and indicate that the additive was in compliance with the applicable requirements while it was under the party's control; and

(iii) For the additive's manufacturer or importer, test results which accurately establish that, when it left the party's control, the additive in the diesel fuel determined to be in violation was in conformity with the information on the additive product transfer document pursuant to the requirements of §80.591(b). The testing procedures applicable under paragraph (a)(2) of this section, also apply under this paragraph (a)(3).

(b) Branded refiner defenses. In the case of a violation found at a facility operating under the corporate, trade or brand name of a refiner or importer, or a refiner's or importer's marketing subsidiary, the refiner or importer must show, in addition to the defense elements required under paragraph (a)(1) of this section, that the violation was caused by:

(1) An act in violation of law (other than the Clean Air Act or this Part 80), or an act of sabotage or vandalism;

(2) The action of any refiner, importer, retailer, distributor, reseller, oxygenate blender, carrier, retailer or wholesale purchaser-consumer in violation of a contractual agreement between the branded refiner or importer and the person designed to prevent such action, and despite periodic sampling and testing by the branded refiner or importer to ensure compliance with such contractual obligation; or

(3) The action of any carrier or other distributor not subject to a contract with the refiner or importer, but engaged for transportation of diesel fuel, despite specifications or inspections of procedures and equipment which are reasonably calculated to prevent such action.

(c) Causation demonstration. Under paragraph (a)(1) of this section for any person to show that a violation was not caused by that person, or under paragraph (b) of this section to show that a violation was caused by any of the specified actions, the person must demonstrate by reasonably specific showing, by direct or circumstantial evidence, that the violation was caused or must have been caused by another person and that the person asserting the defense did not contribute to that other person's causation.

(d) Quality assurance and testing program. To demonstrate an acceptable quality assurance program under paragraph (a)(1)(iii) of this section, a person must present evidence of the following:

(1) A periodic sampling and testing program to ensure the diesel fuel or additive the person sold, dispensed, supplied, stored, or transported, meets the applicable standards and requirements, including the requirements relating to the presence of marker solvent yellow 124.

(2) For those parties who, at a downstream location, blend diesel fuel additives subject to the requirements of §80.521(b) into fuel trucks at a truck loading rack, the periodic sampling and testing program required under this paragraph (d) must ensure, by taking into account the greater risk of noncompliance created through use of a high sulfur additive, that the diesel fuel into which the additive was blended meets the applicable standards subsequent to the blending.

(3) On each occasion when diesel fuel or additive is found not in compliance with the applicable standard:

(i) The person immediately ceases selling, offering for sale, dispensing, supplying, offering for supply, storing or transporting the non-complying product.

(ii) The person promptly remedies the violation and the factors that caused the violation (for example, by removing the non-complying product from the distribution system until the applicable standard is achieved and taking steps to prevent future violations of a similar nature from occurring).

(4) For any carrier who transports diesel fuel or additive in a tank truck, the quality assurance program required under this paragraph (d) need not include its own periodic sampling and testing of the diesel fuel or additive in the tank truck, but in lieu of such tank truck sampling and testing, the carrier shall demonstrate evidence of an oversight program for monitoring compliance with the requirements of this subpart relating to the transport or storage of such product by tank truck, such as appropriate guidance to drivers regarding compliance with the applicable sulfur standard, product segregation and product transfer document requirements, and the periodic review of records received in the ordinary course of business concerning diesel fuel or additive quality and delivery.

§ 80.614 What are the alternative defense requirements in lieu of §80.613(a)(1)(vi)?

* * * * *

§ 80.615 What penalties apply under this subpart?

(a) Any person liable for a violation under §80.612 is subject to civil penalties as specified in section 205 of the Clean Air Act (42 U.S.C. 7524) for every day of each such violation and the amount of economic benefit or savings resulting from each violation.

(b) (1) Any person liable under §80.612(a)(1) for a violation of an applicable standard or requirement under this Subpart I or for causing another party to violate such standard or requirement, is subject to a separate day of violation for each and every day the non-complying diesel fuel remains any place in the distribution system.

(2) Any person liable under §80.612(a)(2) for causing motor vehicle diesel fuel, NRLM diesel fuel, ECA marine fuel, heating oil, or other distillate fuel to be in the distribution system which does not comply with an applicable standard or requirement of this Subpart I is subject to a separate day of violation for each and

every day that the non-complying diesel fuel remains any place in the diesel fuel distribution system.

(3) Any person liable under §80.612(a)(1) for blending into diesel fuel an additive violating the applicable sulfur standard pursuant to the requirements of §80.521(a) or (b), as applicable, or of causing another party to so blend such an additive, is subject to a separate day of violation for each and every day the motor vehicle diesel fuel or NRLM diesel fuel into which the noncomplying additive was blended, remains any place in the fuel distribution system.

(4) For purposes of this paragraph (b):

(i) The length of time the motor vehicle diesel fuel, NRLM diesel fuel, ECA marine fuel, heating oil, or other distillate fuel in question remained in the diesel fuel distribution system is deemed to be 25 days, except as further specified in paragraph (b)(4)(ii) of this section.

(ii) The length of time is deemed not to be 25 days if a person subject to liability (or EPA) demonstrates by reasonably specific showings, by direct or circumstantial evidence, that the non-complying motor vehicle, NR diesel fuel, NRLM diesel fuel, ECA marine fuel, heating oil, or distillate fuel remained in the distribution system for fewer than or more than 25 days.

(c) Any person liable under §80.612(b) for failure to meet, or causing a failure to meet, a provision of this subpart is liable for a separate day of violation for each and every day such provision remains unfulfilled.

§ 80.616 What are the enforcement exemptions for California diesel distributed within the State of California?

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§ 80.617 How may California diesel fuel be distributed or sold outside of the State of California?

* * * * *

§§ 80.618-80.619 [Reserved]

Provisions for Foreign Refiners and Importers for Motor Vehicle Diesel Fuel Subject to a Temporary Compliance Option or Hardship Provision

§ 80.620 What are the additional requirements for diesel fuel or distillates produced by foreign refineries subject to a temporary refiner compliance option, hardship provisions, or motor vehicle or NRLM diesel fuel credit provisions?

* * * * *

Part 85— Control of Air Pollution from Mobile Sources

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

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

Subpart R—[Amended]

5. Section 85.1703 is revised to read as follows:

§85.1703 Definition of motor vehicle~~Application of section 216(2)~~**.**

For the purpose of determining the applicability of section 216(2), a vehicle which is self-propelled and capable of transporting a person or persons or any material or any permanently or temporarily affixed apparatus shall be deemed a motor vehicle, unless any one or more of the criteria set forth below are met, in which case the vehicle shall be deemed not a motor vehicle ~~and excluded from the operation of the Act~~:

(a) The vehicle cannot exceed a maximum speed of 25 miles per hour over level, paved surface.

(b) The vehicle lacks features customarily associated with safe and practical street or highway use, such features including, but not being limited to, a reverse gear (except in the case of motorcycles), a differential, or safety features required by state and/or federal law.

(c) The vehicle exhibits features which render its use on a street or highway unsafe, impractical, or highly unlikely, such features including, but not being limited to, tracked road contact means, an inordinate size, or features ordinarily associated with military combat or tactical vehicles such as armor and/or weaponry.

(d) The vehicle is an aircraft as defined in 40 CFR part 87.

Part 86— Control of Emissions from New and In-use Highway Vehicles and Engines

6. The authority citation for part 86 continues to read as follows:
Authority: 42 U.S.C. 7401-7671q.

Subpart A—[Amended]

7. Subpart A is amended by removing the following sections:
86.000-15
86.000-21
86.000-23
86.000-25
86.001-1
86.087-38
86.090-8
86.091-10
86.094-1
86.094-15
86.094-17
86.094-23
86.094-9
86.096-10
86.096-11
86.096-14
86.096-23
86.096-9
86.098-11
86.098-15
86.098-17
86.098-21
86.098-22
86.098-7
86.098-8
86.099-1
86.099-30

§86.000-28—[Amended]
8. Section 86.000-28 is amended as follows:
a. By removing and reserving the introductory text.
b. By removing and reserving paragraph (a)(3).
c. By removing the text from paragraph (a)(4) introductory text.
d. By removing and reserving paragraphs (a)(4)(i)(A) through (a)(4)(i)(B)(*2*)(*i*).
e. By removing paragraphs (a)(4)(i)(B)(*2*)(*iii*) through (a)(4)(i)(D)(*2*).
f. By removing and reserving paragraph (a)(4)(ii)(B).

g. By removing paragraphs (a)(4)(ii)(C) and (a)(4)(iv) through (v).
h. By removing and reserving paragraphs (a)(5) through (6).
i. By removing the text from paragraph (a)(7) introductory text.
j. By removing and reserving paragraphs (a)(7)(ii) through (b)(4)(i).
k. By removing paragraphs (b)(7) through (h).

1. Section 86.008-10 is amended by revising paragraph (a)(2) to read as follows:

§86.008-10 Emission standards for 2008 and later model year Otto-cycle 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 operating schedule set forth in paragraph (f)(1) of appendix I to this part, and measured and calculated in accordance with the procedures set forth in subpart N or P of this part.:

(i) Perform the test interval set forth in paragraph (f)(1) 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:

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

* * * * *

§86.091-7—[Amended]

9. Section 86.091-7 is amended by removing paragraph (a)(3) and removing and reserving paragraphs (c)(3) and (d)(2)

§86.094-7—[Amended]

10. Section 86.094-7 is amended as follows:

a. By removing the introductory text.
b. By removing the text from paragraph (a) introductory text.
b. By removing and reserving paragraphs (a)(1) through (2), (b) through (c)(2), (c)(4) through (d)(1)(v), (d)(3) through (g), and (h)(1).
c. By removing paragraphs (h)(6) and (i).

§86.094-14—[Amended]

11. Section 86.094-14 is amended as follows:

a. By removing paragraph (c)(7)(i)(C)(*4*).
b. By removing and reserving paragraph (c)(11)(ii)(B)(*1*).
c. By removing paragraphs (c)(11)(ii)(B)(*16*) through (*18*).
d. By removing and reserving paragraphs (c)(11)(ii)(C) and (c)(11)(ii)(D)(*1*) through (*6*)

§86.094-21—[Amended]

12. Section 86.094-21 is amended by removing and reserving paragraph (b)(6).

§86.094-22—[Amended]

13. Section 86.094-22 is amended by removing and reserving paragraph (d)(1).

§86.094-26—[Amended]

14. Section 86.094-26 is amended as follows:

a. By removing and reserving paragraph (a)(2).
b. By removing the text from paragraphs (a)(3) introductory text and (a)(3)(i) introductory text.
c. By removing and reserving paragraphs (a)(3)(i)(A), (a)(3)(i)(C), (a)(3)(ii)(C), and (a)(4)(i)(C).
d. By removing paragraph (a)(6)(iii).
e. By removing and reserving paragraphs (a)(9)(ii) and (b)(2)(i) through (ii).
f. By removing paragraphs (b)(2)(iv) and (b)(4)(i)(C) through (D).
g. By removing and reserving paragraphs (b)(4)(ii), (c), and (d)(2)(ii).

§86.094-28—[Amended]

15. Section 86.094-28 is amended as follows:

a. By removing and reserving paragraphs (a)(1) through (2).
b. By removing the text from paragraphs (a)(4) introductory text and (a)(4)(i) introductory text.
c. By removing and reserving paragraph (a)(4)(i)(B)(*2*)(*ii*).
d. By removing paragraph (a)(4)(i)(C).
e. By removing and reserving paragraph (a)(4)(ii)-(iii).
f. By removing paragraph (a)(4)(v).
g. By removing the text from paragraph (a)(7) introductory text.
h. By removing and reserving paragraphs (a)(7)(i), (b)(1) through (2), and (b)(4)(ii).
i. By removing paragraphs (b)(4)(iii) through (iv), (b)(5) through (8), and (c) through (d).
j. By removing the editorial note at the end of the section.

§86.094-30—[Amended]

16. Section 86.094-30 is amended as follows:

a. By removing and reserving paragraphs (a)(3) and (a)(4)(i) through (ii).
b. By removing the text from paragraph (a)(4)(iv) introductory text.
c. By removing and reserving paragraphs (a)(10) through (11), (a)(13), (b)(1)(ii)(B), (b)(1)(ii)(D), and (b)(2).
d. By removing the text from paragraph (b)(4)(ii) introductory text.
e. By removing and reserving paragraph (b)(4)(ii)(B).
f. By removing paragraphs (b)(4)(iii) through (iv) and (f).

§86.095-14—[Amended]

17. Section 86.095-14 is amended by removing the introductory text and removing and reserving paragraphs (a) through (c)(11)(ii)(B)(*15*) and (c)(11)(ii)(D)(*7*) through (c)(15).

§86.095-23—[Amended]

18. Section 86.095-23 is amended to read as follows:
a. By removing and reserving paragraphs (a) and (b).
b. By removing and reserving paragraph (c)(2).
c. By removing and reserving paragraphs (d) and (e).
d. By removing and reserving paragraphs (h) through (k).

§86.095-26—[Amended]
19. Section 86.095-26 is amended as follows:
a. By removing the introductory text.
b. By removing and reserving paragraphs (a) through (b)(4)(i)(C) and (b)(4)(ii)(C).
c. By removing paragraphs (b)(4)(iii) through (d).

§86.095-30—[Amended]
20. Section 86.095-30 is amended as follows:
a. By removing the introductory text.
b. By removing and reserving paragraphs (a)(1) through (3) and (a)(4)(i) through (iii).
c. By removing paragraphs (a)(4)(iv)(A) through (C).
d. By removing and reserving paragraphs (a)(5) through (12).
e. By removing paragraph (a)(14).
f. By removing and reserving paragraph (b).
g. By removing paragraphs (c) through (f).

§86.095-35—[Amended]
21. Section 86.095-35 is amended as follows:
a. By removing the introductory text.
b. By removing the text from paragraph (a)(2) introductory text.
c. By removing and reserving paragraphs (a)(2)(i) through (ii).
d. By removing the text from paragraph (a)(2)(iii) introductory text.
e. By removing and reserving paragraphs (a)(2)(iii)(A) through (C) and (c).

§86.096-7—[Amended]
22. Section 86.096-7 is amended as follows:
a. By removing the introductory text.
b. By removing and reserving paragraphs (a) through (g) and (h)(1) through (5).
c. By removing the text from paragraph (h)(6) introductory text.
d. By removing and reserving paragraph (h)(6)(i).
e. By removing paragraph (h)(7)(vii).

§86.096-8—[Amended]
23. Section 86.096-8 is amended as follows:
a. By removing paragraph (a)(1)(iii).
b. By removing and reserving paragraph (a)(2).
c. By removing paragraph (a)(3).
d. By removing the text from paragraph (b) introductory text.
e. By removing and reserving paragraphs (b)(1) through (4).

§86.096-21—[Amended]

24. Section 86.096-21 is amended by removing the introductory text and removing and reserving paragraphs (a) through (j).

§86.096-24—[Amended]

25. Section 86.096-24 is amended as follows:

a. By removing and reserving paragraphs (a)(5) through (7), (b)(1)(i) through (ii), and (b)(1)(vii).
b. By removing the text from paragraph (b)(1)(viii) introductory text.
c. By removing and reserving paragraphs (b)(1)(viii)(A), and (f).
d. By removing paragraph (g)(3).

§86.096-26—[Amended]

26. Section 86.096-26 is amended as follows:

a. By removing the introductory text.
b. By removing and reserving paragraphs (a) and (b).
c. By removing and reserving paragraphs (c)(1) through (c)(3).
d. By removing paragraph (d).

§86.096-30—[Amended]

27. Section 86.096-30 is amended as follows:

a. By removing the introductory text.
b. By removing and reserving paragraphs (a)(1) through (14).
c. By removing paragraphs (a)(19) through (24).
d. By removing and reserving paragraph (b).
e. By removing paragraphs (c) through (f).

§86.097-9—[Amended]

28. Section 86.097-9 is amended as follows:

a. By removing paragraph (a)(1)(iv).
b. By removing and reserving paragraph (a)(2).
c. By removing paragraph (a)(3).
d. By removing and reserving paragraphs (b) and (d) through (f).

§86.098-10—[Amended]

29. Section 86.098-10 is amended by removing and reserving paragraph (b).

§86.098-23—[Amended]

30. Section 86.098-23 is amended as follows:

a. By removing the introductory text.
b. By removing and reserving paragraphs (b)(2), (c), and (d)(2).
c. By removing paragraph (d)(3).
d. By removing and reserving paragraphs (f) through (g) and (l).

§86.098-24—[Amended]

31. Section 86.098-24 is amended as follows:

a. By removing the introductory text.

b. By removing the text from paragraph (a) introductory text.
c. By removing and reserving paragraphs (a)(1) through (4).
d. By removing paragraph (a)(8) through (15).
e. By removing the text from paragraphs (b) introductory text and(b)(1) introductory text.
f. By removing and reserving paragraphs (b)(1)(i) through (vi) and (b)(1)(viii)(B).
g. By removing paragraphs (b)(1)(ix) through (xii).
h. By removing and reserving paragraph (b)(2).
i. By removing paragraphs (b)(3) and (c) through (h).

§86.098-25—[Amended]

32. Section 86.098-25 is amended as follows:
a. By removing the introductory text.
b. By removing and reserving paragraph (a).
c. By removing the text from paragraph (b) introductory text.
d. By removing and reserving paragraphs (b)(1) through (2).
e. By removing the text from paragraph (b)(3) introductory text.
f. By removing and reserving paragraphs (b)(3)(i) through (v).
g. By removing the text from paragraph (b)(3)(vi) introductory text.
h. By removing and reserving paragraphs (b)(3)(vi)(A) through (D).
i. By removing paragraphs (b)(3)(vii), (b)(4) through (7), and (c) through (h).

§86.098-26—[Amended]

33. Section 86.098-26 is amended as follows:
a. By removing the introductory text.
b. By removing and reserving paragraphs (a)(1) through (2).
c. By removing the text from paragraphs (a)(3) introductory text and (a)(3)(i) introductory text.
d. By removing and reserving paragraphs (a)(3)(i)(A) through (B).
e. By removing paragraph (a)(3)(i)(D).
f. By removing the text from paragraph (a)(3)(ii) introductory text.
g. By removing and reserving paragraphs (a)(3)(ii)(A) through (B).
h. By removing paragraphs (a)(3)(ii)(D) and (a)(4) through (11).
i. By removing and reserving paragraph (b).
j. By removing paragraphs (c) through (d).

§86.098-28—[Amended]

34. Section 86.098-28 is amended as follows:
a. By removing the introductory text
b. By removing and reserving paragraphs (a)(1) through (3).
c. By removing the text from paragraph (a)(4)(i) introductory text.
d. By removing and reserving paragraphs (a)(4)(i)(A) through (B) and (a)(4)(ii)(A).
e. By removing paragraphs (a)(4)(iii) through (iv).
f. By removing and reserving paragraphs (a)(5) through (6), (a)(7)(i) through (ii), and (b).
g. By removing paragraphs (c) through (h).

§86.098-30—[Amended]

35. Section 86.098-30 is amended as follows:

a. By removing the introductory text.
b. By removing and reserving paragraphs (a)(1) through (18), (b)(1), and (b)(3).
c. By removing the text from paragraph (b)(4) introductory text.
d. By removing and reserving paragraphs (b)(4)(i) and (b)(4)(ii)(A).
e. By removing paragraphs (b)(5) through (6) and (c) through (f).

§86.099-8—[Amended]

36. Section 86.099-8 is amended as follows:
a. By removing the introductory text.
b. By removing the text from paragraph (a)(1) introductory text.
c. By removing and reserving paragraphs (a)(1)(i) through (ii), (b)(5), and (c).
d. By removing paragraphs (e) through (k).

§86.099-9—[Amended]

37. Section 86.099-9 is amended as follows:
a. By removing the introductory text.
b. By removing text from paragraph (a)(1) introductory text.
c. By removing and reserving paragraphs (a)(1)(i) through (iii).
d. By removing paragraph (c) through (k).

Subpart B—[Amended]

38. Section 86.138-96 is amended by revising paragraph (k) to read as follows:

§86.138-96 Hot soak test.

* * * * *

(k) For the supplemental two-diurnal test sequence (see §86.130-96), ~~the~~perform a hot soak test as described in ~~§86.138-90~~this section, except that the test shall be conducted ~~immediately following the hot transient exhaust emission test. This test requires ambient temperatures~~ within seven minutes after completion of the hot start exhaust test and temperatures throughout the hot soak measurement period must be between 68E and 86 EF ~~at all times~~. ~~The equipment and calibration specifications of §§86.107-90 and 86.117-90 may apply for this testing. Enclosures meeting the requirements of §§86.107-96 and 86.117-96 may also be used.~~ This hot soak test is followed by two consecutive diurnal heat builds, described in §86.133-96(p).

* * * * *

Subpart E—[Amended]

39. Section 86.415-78 is amended by revising paragraph (b) to read as follows:

§86.415-78 Production vehicles.

* * * * *

(b) Any manufacturer obtaining certification shall notify the Administrator~~, on a yearly basis,~~ of the number of vehicles of each engine family-engine displacement-emission control system-fuel system-transmission type-inertial mass category combination produced for sale in the United States during the preceding year. This report must be submitted every year within 45 days after the end of the model year.

* * * * *

Subpart G—Selective Enforcement Auditing of New Light-Duty Vehicles, Light-Duty Trucks, and Heavy-Duty Vehicles

40. The heading for subpart G is revised as set forth above.

41. Section 86.601-84 is amended by revising the introductory text to read as follows:

§86.601-84 Applicability.

~~For 1984 and later model year light-duty vehicles, all provisions of this subpart are applicable. The provisions of this subpart are not applicable to 1984 and later model year light-duty trucks.~~ The provisions of this subpart apply to light-duty vehicles, light-duty trucks, and heavy-duty vehicles. References to "light-duty vehicle" or "LDT" in this subpart G shall be deemed to include light-duty trucks and heavy-duty vehicles as appropriate.

* * * * *

42. Subpart K is revised to read as follows:

Subpart K—Selective Enforcement Auditing of New Heavy-Duty Engines

§86.1001 Applicability.

The selective enforcement auditing program described in 40 CFR part 1068, subpart E, applies for all heavy-duty engines. In addition, the provisions of 40 CFR 1068.10 and 1068.20 apply for any selective enforcement audits of these engines.

Subpart N—[Amended]

43. Section 86.1305-2010 is amended by revising paragraph (h)(2) to read as follows:

§86.1305-2010 Introduction; structure of subpart.

* * * * *

(h) * * *

(2) Follow the provisions of 40 CFR 1065.342 to verify the performance of any sample dryers in your system. Correct your measurements according to 40 CFR 1065.659, except use the value of K_w in §86.1342-90(i) as the value of $(1 - x_{H2Oexh})$ in Equation 1065.659-1.

* * * * *

Subpart T --- [Amended]

1. Section 86.1910 is amended by revising paragraph (d) to read as follows:

§86.1910 How must I prepare and test my in-use engines?

* * * * *

(d) You must test the selected engines while they remain installed in the vehicle. Use portable emission sampling equipment and field-testing procedures referenced in § 86.1375. Measure emissions of THC, NMHC (by any method specified in 40 CFR part 1065, subpart J), CO, NO_x, PM (as appropriate), and CO_2. Measure or determine O_2 emissions using good engineering judgment.

* * * * *

Part 1027— Fees for Engine, Vehicle, and Equipment Compliance Programs

44. The authority citation for part 1027 continues to read as follows:
Authority: 42 U.S.C. 7401-7671q.

45. Section 1027.101 is amended by revising paragraphs (a)(2)(iii) and (d) and adding paragraph (a)(4) to read as follows:

§1027.101 To whom do these requirements apply?

(a)* * *

(2) * * *

(iii) Marine compression-ignition engines we regulate under 40 CFR part 94 ~~or 1042~~, or 1042, or 1043.

* * * * *

(4) Portable fuel containers we certify under 40 CFR part 59, subpart F.

* * * * *

(d) Paragraph (a) of this section identifies the parts of the CFR that define emission standards and other requirements for particular types of engines, ~~and~~vehicles, and fuel-system components. This part 1027 refers to each of these other parts generically as the "standard-setting part." For example, 40 CFR part 1051 is always the standard-setting part for recreational vehicles. For some nonroad engines, we allow for certification related to evaporative emissions separate from exhaust emissions. In this case, 40 CFR part 1060 is the standard-setting part for the equipment or fuel system components you produce.

* * * * *

46. Section 1027.105 is amended by paragraph (b)(3) to read as follows:

§1027.105 How much are the fees?

* * * * *

(b) * * *

(3) The following fees apply for nonroad and stationary engines, vehicles, equipment, and components:

Category	Certificate type	Fee
(i) Locomotives and locomotive engines	All	$826
(ii) Marine compression-ignition engines and stationary compression-ignition engines with per-cylinder displacement at or above 10 liters	All, including Annex VI	$826
(iii) Other nonroad compression-ignition engines and stationary compression-ignition engines with per-cylinder displacement below 10 liters	All	$1,822
(iv) Large SI engines	All	$826
(v) Stationary spark-ignition engines above 19 kW	All	$826
(vi) Marine SI engines and Small SI engines	Exhaust only	$826
(vii) Stationary spark-ignition engines at or below 19 kW	Exhaust only	$826
(viii) Recreational vehicles	Exhaust (or combined exhaust and evap)	$826
(ix) Equipment and fuel-system components associated with nonroad and stationary spark-ignition engines, including portable fuel containers.	Evap (where separate certification is required)	$241

* * * * *

47. Section 1027.150 is amended by revising the definition of "Annex VI" to read as follows:

§1027.150 What definitions apply to this subpart?

* * * * *

Annex VI means MARPOL Annex VI, which is an annex to the International Convention on the Prevention of Pollution from Ships, 1973, as modified by the protocol of 1978 relating thereto. ~~This is an international treaty regulating disposal of waste products from marine vessels.~~ Note that 40 CFR part 1043 contains regulations implementing portions of Annex VI, including certain certification provisions.

* * * * *

Part 1033— Control of Emissions from Locomotives

48. The authority citation for part 1033 continues to read as follows:
Authority: 42 U.S.C. 7401-7671q.

Subpart A—[Amended]

49. A new §1033.30 is added to subpart A to read as follows:
§1033.30 Submission of information.
(a) This part includes various requirements to record data or other information. Refer to §1033.925 and 40 CFR 1068.25 regarding recordkeeping requirements. If recordkeeping requirements are not specified, store these records in any format and on any media and keep them readily available for one year after you send an associated application for certification, or one year after you generate the data if they do not support an application for certification. You must promptly send us organized, written records in English if we ask for them. We may review them at any time.
(b) The regulations in §1033.255 and 40 CFR 1068.101 describe your obligation to report truthful and complete information and the consequences of failing to meet this obligation. This includes information not related to certification.
(c) Send all reports and requests for approval to the Designated Compliance Officer (see §1033.901).
(d) Any written information we require you to send to or receive from another company is deemed to be a required record under this section. Such records are also deemed to be submissions to EPA. We may require you to send us these records whether or not you are a certificate holder.

Subpart B—[Amended]

50. Section 1033.120 is amended by revising paragraph (c) to read as follows:
§1033.120 Emission-related warranty requirements.
* * * * *
(c) Components covered. The emission-related warranty covers all components whose failure would increase a locomotive's emissions of any regulated 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 the components you sell even if another company produces the component. Your emission-related warranty does not cover components whose failure would not increase a locomotive's emissions of any regulated pollutant. ~~For remanufactured locomotives, your emission-related warranty does not cover used parts that are not replaced during the remanufacture.~~For remanufactured locomotives, your emission-related warranty is required to cover only those parts that you supply or those parts for which you specify allowable part manufacturers. It does not need to cover used parts that are not replaced during the remanufacture.
* * * * *

51. Section 1033.150 is amended by revising paragraph (a)(4) to read as follows:

§1033.150 Interim provisions.

* * * * *

(a) * * *

(4) Estimate costs as described in this paragraph (a)(4).

(i) The cost limits described in paragraph (a)(1) of this section are specified in terms of 2007 dollars. Adjust these values for future years according to the following equation:

Actual Limit = (2007 Limit) H [(0.6000)H(Commodity Index) + (0.4000)H(Earnings Index)

Where:

2007 Limit = The value specified in paragraph (a)(1) of this section ($250,000 or $125,000).

Commodity Index = The U.S. Bureau of Labor Statistics Producer Price Index for Industrial Commodities Less Fuel (Series WPU03T15M05) for the month prior to the date you submit your application divided by 173.1.

Earnings Index = The U.S. Bureau of Labor Statistics Estimated Average Hourly Earnings of Production Workers for Durable Manufacturing (Series CES3100000008) for the month prior to the date you submit your application divided by 18.26.

(ii) Calculate all costs in current dollars (for the month prior to the date you submit your application). Calculate fuel costs based on a fuel price adjusted by the Association of American Railroads' monthly railroad fuel price index (P), which is available at https://www.aar.~~org/PubCommon/Documents/AboutTheIndustry/Index_MonthlyFuelPrices.pdf~~org/~/media/AAR/RailCostIndexes/Index_MonthlyFuelPrices.ashx. (Use the value for the column in which P equals 539.8 for November 2007.) Calculate a new fuel price using the following equation:

Fuel Price = ($2.76 per gallon) H (P/539.8)

* * * * *

Subpart G—[Amended]

52. Section 1033.625 is amended by revising paragraphs (a)(1), (b), and (c) to read as follows:

§1033.625 Special certification provisions for non-locomotive-specific engines.

* * * * *

(a) * * *

(1) Before being installed in the locomotive, the engines were covered by a certificate of conformity issued under 40 CFR Part 1039 (or part 89) that is effective for the calendar year in which the manufacture or remanufacture occurs. You may use engines certified during the previous years if ~~it is~~ they were subject to the same standards. You may not make any modifications to the engines unless we approve them.

* * * * *

(b) To certify your locomotives by design under this section, submit your application as specified in §1033.205, ~~except i~~, with the following exceptions:

(1) Include the following instead of the locomotive test data otherwise required by §1033.205:

(~~1~~i) A description of the engines to be used, including the name of the engine manufacturer and engine family identifier for the engines.

(~~2~~ii) A brief engineering analysis describing how the engine's emission controls will function when installed in the locomotive throughout the locomotive's useful life.

(~~3~~iii) The emission data submitted under 40 CFR part 1039 (or part 89).
(2) You may separately submit some of the information required by §1033.205, consistent with the provisions of §1033.1(d). For example, this may be an appropriate way to submit detailed information about proprietary engine software. Note that this allowance to separately submit some of the information required by §1033.205 is also available for applications not submitted under this section.
(c) Locomotives certified under this section are subject to all ~~of~~ the ~~same~~ requirements of this part ~~unless~~ except as specified ~~otherwise~~ in paragraph (b) of this section. The engines used in such locomotives are not considered to be included in the otherwise applicable engines family of 40 CFR part 1039 (or part 89).
* * * * *

Subpart J—[Amended]

53. A new §1033.925 is added to subpart J to read as follows:
§1033.925 Reporting and recordkeeping requirements.
Under the Paperwork Reduction Act (44 U.S.C. 3501 et seq), the Office of Management and Budget approves the reporting and recordkeeping specified in the applicable regulations. The following items illustrate the kind of reporting and recordkeeping we require for engines regulated under this part:
(a) We specify the following requirements related to engine certification in this part 1033:
(1) In §1033.150 we state the requirements for interim provisions.
(2) In subpart C of this part we identify a wide range of information required to certify engines.
(3) In §1033.325 we specify certain records related to production-line testing.
(4) In subpart G of this part we identify several reporting and recordkeeping items for making demonstrations and getting approval related to various special compliance provisions.
(5) In §§1033.725, 1033.730, and 1033.735 we specify certain records related to averaging, banking, and trading.
(6) In subpart I of this part we specify certain records related to meeting requirements for remanufactured engines.
(b) We specify the following requirements related to testing in 40 CFR part 1065:
(1) In 40 CFR 1065.2 we give an overview of principles for reporting information.
(2) In 40 CFR 1065.10 and 1065.12 we specify information needs for establishing various changes to published test procedures.
(3) In 40 CFR 1065.25 we establish basic guidelines for storing test information.
(4) In 40 CFR 1065.695 we identify data that may be appropriate for collecting during testing of in-use engines using portable analyzers.
(c) We specify the following requirements related to the general compliance provisions in 40 CFR part 1068:
(1) In 40 CFR 1068.5 we establish a process for evaluating good engineering judgment related to testing and certification.
(2) In 40 CFR 1068.25 we describe general provisions related to sending and keeping information
(3) In 40 CFR 1068.27 we require manufacturers to make engines available for our testing or

inspection if we make such a request.
(4) In 40 CFR 1068.105 we require vessel manufacturers to keep certain records related to duplicate labels from engine manufacturers.
(5) In 40 CFR 1068.120 we specify recordkeeping related to rebuilding engines.
(6) In 40 CFR part 1068, subpart C, we identify several reporting and recordkeeping items for making demonstrations and getting approval related to various exemptions.
(7) In 40 CFR part 1068, subpart D, we identify several reporting and recordkeeping items for making demonstrations and getting approval related to importing engines.
(8) In 40 CFR 1068.450 and 1068.455 we specify certain records related to testing production-line engines in a selective enforcement audit.
(9) In 40 CFR 1068.501 we specify certain records related to investigating and reporting emission-related defects.
(10) In 40 CFR 1068.525 and 1068.530 we specify certain records related to recalling nonconforming engines.

Part 1039—CONTROL OF EMISSIONS FROM NEW AND IN-USE NONROAD COMPRESSION-IGNITION ENGINES

54. The authority citation for part 1039 continues to read as follows:
Authority: 42 U.S.C. 7401-7671q.

Subpart A—[Amended]

55. Section 1039.5 is amended by revising paragraph (b) to read as follows:
§1039.5 Which engines are excluded from this part's requirements?
* * * * *
(a) Locomotive engines. (1) The following locomotive engines are not subject to the provisions of this part 1039:
(i) Engines in locomotives subject to the standards of 40 CFR part 92 or 1033.
(ii) Engines in locomotives that are exempt from the standards of 40 CFR part 1033 pursuant to the provisions of 40 CFR part 1033 or 1068 (except for the provisions of 40 CFR 1033.150(e)).
(iii) Engines in locomotives that are exempt from the standards of 40 CFR part 92 pursuant to the provisions of 40 CFR part 92 (except for the provisions of 40 CFR 92.907). For example, an engine that is exempt under 40 CFR 92.906 because it is in a manufacturer-owned locomotive is not subject to the provisions of this part 1039.
(2) The following locomotive engines are subject to the provisions of this part 1039:
(i) Engines in locomotives exempt from 40 CFR part 92 or 1033 pursuant to the provisions of 40 CFR 92.907 or 1033.150(e).
(ii) Locomotive engines excluded from the definition of locomotive in 40 CFR 1033.901~~92.2~~.
* * * * *

Subpart B—[Amended]

56. Section 1039.125 is amended by adding paragraph (a)(5) to read as follows:
§1039.125 What maintenance instructions must I give to buyers?
* * * * *
(a) * * *
(5)(i) You may ask us to approve a maintenance interval shorter than that specified in paragraphs (a)(2) and (a)(3) of this section under §1039.210, including emission-related components that were not in widespread use with nonroad compression-ignition engines before 2011. In your request you must describe the proposed maintenance step, recommend the maximum feasible interval for this maintenance, include your rationale with supporting evidence to support the need for the maintenance at the recommended interval, and describe how you satisfy the conditions specified in paragraph (a)(1) of this section. In considering your request, we will evaluate the information you provide and any other available information to establish alternate specifications for maintenance intervals, if appropriate.
(ii) If we deny your request for an alternate maintenance interval under this paragraph (a)(5), you may ask for a hearing under §1039.820. In your request for a hearing, you must specify

your objection and provide any supporting data or other information.

* * * * *

Part 1042— Control of Emissions from New and In-use Marine Compression-ignition Engines and Vessels

57. The authority citation for part 1042 continues to read as follows:
Authority: 42 U.S.C. 7401-7671q.

Subpart A—[Amended]

58. Section 1042.1 is revised to read as follows:
§1042.1 Applicability.
Except as provided in §1042.5, the regulations in this part 1042 apply for all new compression-ignition marine engines ~~with per-cylinder displacement below 30.0 liters per cylinder~~(including new engines deemed to be compression-ignition engines under this section) and vessels containing such engines. See §1042.901 for the definitions of engines and vessels considered to be new. This part 1042 applies as follows:
(a) This part 1042 applies for freshly manufactured marine engines starting with the model years noted in the following tables:

Table 1 to §1042.1— Part 1042 Applicability by Model Year

Engine Category	Maximum Engine Power	Displacement (L/cyl) or Application	Model Year
Category 1	kW <75	disp.< 0.9	2009[a]
	75 ≤ kW ≤ 3700	disp.< 0.9	2012
		0.9 ≤ disp. < 1.2	2013
		1.2 ≤ disp. < 2.5	2014
		2.5 ≤ disp. < 3.5	2013
		3.5 ≤ disp.< 7.0	2012
	kW > 3700	~~All~~disp.< 7.0	2014
Category 2	kW ≤ 3700	7.0 ≤ disp. < 15.0	2013
	kW > 3700	7.0 ≤ disp. < 15.0	2014
	All	15 ≤ disp. < 30	2014
Category 3	All	30 < disp.	2011

[a]See Table 1 of §1042.101 for the first model year in which this part 1042 applies for engines with maximum engine power below 75 kW and displacement at or above 0.9 L/cyl.

(b) The requirements of subpart I of this part apply to remanufactured Category 1 and Category 2 engines beginning July 7, 2008.
(c) See 40 CFR part 94 for requirements that apply to engines with maximum engine power at or above 37 kW not yet subject to the requirements of this part 1042. See 40 CFR part 89 for requirements that apply to engines with maximum engine power below 37 kW not yet subject to the requirements of this part 1042.
(d) The provisions of §§1042.620 and 1042.901 apply for new engines used solely for competition beginning January 1, 2009.
(e) ~~Marine engines powered by natural gas with maximum engine power at or above 250 kW are deemed to be compression-ignition engines. These engines are therefore~~The marine engines listed in this paragraph (e) are subject to all the requirements of this part even if they do not meet the definition of "compression-ignition" in §1042.901. The following engines are deemed to be compression-ignition engines for the purposes of this subchapter:

(1) Marine engines powered by natural gas or other gaseous fuels with maximum engine power at or above 250 kW. Note that gaseous-fueled engines with maximum engine power below 250 kW may or may not meet the definition of "compression-ignition" in §1042.901.
(2) Marine gas turbine engines.
(3) Other marine internal combustion engines that do not meet the definition of "spark-

ignition" in §1042.901.
(f) Some of the provisions of this part may apply for other engines as specified in 40 CFR part 1043.

59. Section 1042.5 is amended by revising paragraph (c) to read as follows:

§1042.5 Exclusions.

* * * * *

(c) Recreational gas turbine engines. The requirements and prohibitions of this part do not apply to gas turbine engines installed on recreational vessels, as defined in §1042.901.

60. Section 1042.15 is revised to read as follows:

§1042.15 Do any other regulation parts apply to me?

(a) Part 1043 of this chapter describes requirements related to international pollution prevention that apply for some of the engines subject to this part.

(~~a~~b) The evaporative emission requirements of part 1060 of this chapter apply to vessels that include installed engines fueled with a volatile liquid fuel as specified in §1042.107. (Note: Conventional diesel fuel is not considered to be a volatile liquid fuel.)

(~~b~~c) Part 1065 of this chapter describes procedures and equipment specifications for testing engines to measure exhaust emissions. Subpart F of this part1042 describes how to apply the provisions of part 1065 of this chapter to determine whether engines meet the exhaust emission standards in this part.

(~~c~~d) 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 1042, or vessels containing these engines. Part 1068 of this chapter describes general provisions, including these seven areas:

(1) Prohibited acts and penalties for engine manufacturers, vessel 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.

(~~d~~e) Other parts of this chapter apply if referenced in this part.

61. A new §1042.30 is added to subpart A to read as follows:

§1042.30 Submission of information.

(a) This part includes various requirements to record data or other information. Refer to §1042.925 and 40 CFR 1068.25 regarding recordkeeping requirements. If recordkeeping requirements are not specified, store these records in any format and on any media and keep them readily available for one year after you send an associated application for certification, or one year after you generate the data if they do not support an application for certification. You must promptly send us organized, written records in English if we ask for them. We may review them at any time.

(b) The regulations in §1042.255 and 40 CFR 1068.101 describe your obligation to report truthful and complete information and the consequences of failing to meet this obligation. This includes information not related to certification.

(c) Send all reports and requests for approval to the Designated Compliance Officer (see §1042.901).
(d) Any written information we require you to send to or receive from another company is deemed to be a required record under this section. Such records are also deemed to be submissions to EPA. We may require you to send us these records whether or not you are a certificate holder.

Subpart B—[Amended]

62. Section 1042.101 is amended by revising the section heading, Table 1 in paragraph (a)(3), and paragraph (d)(1)(iii) to read as follows:

§1042.101 Exhaust emission standards for Category 1 engines and Category 2 engines.

(a) * * *

(3) * * *

[Note to editor: please photo the following table.]

Table 1 to §1042.101— Tier 3 Standards for Category 1 Engines Below 3700 kW [a]

Power Density and Application	Displacement (L/cyl)	Maximum Engine Power	Model Year	PM (g/kW-hr)	NOx+HC (g/kW-hr) [b]
all	disp.< 0.9	kW <19	2009+	0.40	7.5
		19 ≤ kW < 75	2009-2013	0.30	7.5
			2014+	0.30	4.7
Commercial engines with kW/L ≤ 35[b]	disp.< 0.9	kW ≥ 75	2012+	0.14	5.4
	0.9 ≤ disp. < 1.2	all	2013+	0.12	5.4
	1.2 ≤ disp. < 2.5	kW < 600	2014-2017	0.11	5.6
			2018+	0.10	5.6
		kW ≥ 600	2014+	0.11	5.6
	2.5 ≤ disp. < 3.5	kW < 600	2013-2017	0.11	5.6
			2018+	0.10	5.6
		kW ≥ 600	2013+	0.11	5.6
	3.5 ≤ disp.< 7.0	kW < 600	2012-2017	0.11	5.8
			2018+	0.10	5.8
		kW ≥ 600	2012+	0.11	5.8
Commercial engines with kW/L > 35 and all recreational engines[b]	disp. < 0.9	kW ≥ 75	2012+	0.15	5.8
	0.9 ≤ disp. < 1.2	all	2013+	0.14	5.8
	1.2 ≤ disp. < 2.5		2014+	0.12	5.8
	2.5 ≤ disp. < 3.5		2013+	0.12	5.8

	3.5 ≤ disp. < 7.0		2012+	0.11	5.8

[a] No Tier 3 standards apply for commercial Category 1 engines at or above 3700 kW. See §1042.1(c) and paragraph (a)(7) of this section for the standards that apply for these engines.
[b] The applicable NOx+HC standards specified for Tier 2 engines in Appendix I of this part continue to apply instead of the values noted in the table for engines at or above 2000 kW. FELs for these engiens may not be higher than the Tier 1 NOx standard specified in Appendix I of this part.

* * * * *

(d) * * *

(1) * * *

(iii) Diesel-fueled and all other engines not described in paragraph (d)(1)(i) or (ii) of this section must comply with Tier 3 HC standards based on THC emissions and with Tier 4 standards based on NMHC emissions.

* * * * *

63. A new §1042.104 is added to subpart B to read as follows:

§1042.104 Exhaust emission standards for Category 3 engines.

(a) Duty-cycle standards. Exhaust emissions from your engines may not exceed emission standards, as follows:

(1) Measure emissions using the test procedures described in subpart F of this part. Note that while no PM standards apply for Category 3 engines, PM emissions must be measured and reported.

(2) NOx standards apply based on the engine's model year and maximum in-use engine speed as shown in the following table:

Table 1 to §1042.104
NOx Emission Standards for Category 3 Engines (g/kW-hr)

Emission Standards	Model Year	Maximum In-Use Engine Speed		
		Less than 130 RPM	130-2000 RPM[a]	Over 2000 RPM
Tier 1	2004-2010[b]	17.0	$45.0An^{(-0.20)}$	9.8
Tier 2	2011-2015	14.4	$44.0An^{(-0.23)}$	7.7
Tier 3	2016 and later	3.4	$9.0An^{(-0.20)}$	2.0

[a] Applicable standards are calculated from n (maximum in-use engine speed, in RPM), rounded to one decimal place.
[b] Tier 1 NOx standards apply as specified in 40 CFR part 94 for engines originally manufactured in model years 2004 through 2010. They are shown here only for reference.

(3) The HC standard for Tier 2 and later engines is 2.0 g/kW-hr. This standard applies as

follows:

(i) Alcohol-fueled engines must comply with HC standards based on THCE emissions.

(ii) Natural gas-fueled engines must comply with HC standards based on NMHC emissions.

(iii) Diesel-fueled and all other engines not described in paragraph (a)(3)(i) or (ii) of this section must comply with HC standards based on THC emissions.

(4) The CO standard for Tier 2 and later engines is 5.0 g/kW-hr.

(b) Averaging, banking, and trading. Category 3 engines are not eligible for participation in the averaging, banking, and trading (ABT) program as described in subpart H of this part.

(c) Mode caps. Measured NOx emissions may not exceed the cap specified in this paragraph (c) for any applicable duty-cycle test modes with power greater than 10 percent maximum engine power. Calculate the mode cap by multiplying the applicable NOx standard by 1.5 and rounding to the nearest 0.1 g/kW-hr. Note that mode caps do not apply for pollutants other than NOx and do not apply for any modes of operation outside of the applicable duty-cycles in §1042.505. Category 3 engines are not subject to not-to-exceed standards.

(d) Useful life. Your engines must meet the exhaust emission standards of this section over their full useful life, expressed as a period in years or hours of engine operation, whichever comes first.

(1) The minimum useful life value is 3 years or 10,000 hours of operation.

(2) 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 indicates a longer design life).

(ii) If your basic mechanical warranty is longer than the minimum useful life.

(e) Applicability for testing. The duty-cycle emission standards in this section apply to all testing performed according to the procedures in §1042.505, including certification, production-line, and in-use testing. See paragraph (g) of this section for standards that apply for certain other test procedures.

(f) Domestic engines. Engines installed on vessels excluded from 40 CFR part 1043 because they operate only domestically may not be certified for use with residual fuels.

(g) At-sea standards. Measured NOx emissions may not exceed the standard specified in this paragraph (g) for test of engines installed on vessels where the duty-cycle test modes must be approximated. Calculate the at-sea standard by multiplying the applicable NOx standard by 1.1 and rounding to the nearest 0.1 g/kW-hr.

64. Section 1042.110 is amended by revising paragraph (a)(2) and adding paragraph (d) to read as follows:

§1042.110 Recording reductant use and other diagnostic functions.

(a) * * *

(2) The onboard computer log must record in nonvolatile computer memory all incidents of engine operation with inadequate reductant injection or reductant quality. Use good engineering judgment to ensure that the operator can readily access the information to submit the report required by §1042.660. For example, you may meet this requirement by documenting the incident in a text file that can be downloaded or printed by the operator.

* * * * *

(d) For Category 3 engines equipped with on-off controls (as allowed by §1042.115(g)), you must also equip your engine to continuously monitor NOx concentrations in the exhaust. Use

good engineering judgment to alert operators if measured NOx concentrations indicate malfunctioning emission controls. Record any such operation in nonvolatile computer memory. You are not required to monitor NOx concentrations during operation for which the emission controls may be disabled under §1042.115(g). For the purpose of this paragraph (d), "malfunctioning emission controls" means any condition in which the measured NOx concentration exceeds the value expected when the engine is in compliance with the at-sea standard of §1042.104(g). Determine these expected values during production-line testing of the engine, using linear interpolation between test points. You may also use additional intermediate test points measured during the production-line test.

65. Section 1042.115 is amended by revising paragraph (d)(2) introductory text and adding paragraphs (f)(4) and (g) to read as follows:

§1042.115 Other requirements.

* * * * *

(d) * * *

(2) Category 2 and Category 3 engines that have adjustable parameters must meet all the requirements of this part for any adjustment in the specified adjustable range. You must specify in your application for certification the adjustable range of each adjustable parameter on a new engine to–

* * * * *

(f) * * *

(4) The engine is a Category 3 engine and the AECD conforms to the requirements of paragraph (g) of this section.

(g) On-off controls for Category 3 engines. Manufacturers may equip Category 3 engines with features that disable Tier 3 emission controls subject to the following provisions:

(1) Features that disable Tier 3 emission controls are considered to be AECDs whether or not they meet the definition of an AECD. For example, manually operated on-off features are AECDs under this paragraph (g). The features must be identified in your application for certification as AECDs.

(2) If IMO has not established an ECA for US waters, you must demonstrate that the AECD will not disable emission controls while operating in areas where emissions could reasonably be expected to adversely affect U.S. air quality. If ECAs have been established for U.S. waters , then you must demonstrate that the AECD will not disable emission control while operating in waters within the outer boundaries of the ECAs. (Note: See the regulations in 40 CFR part 1043 for requirements related to operation in other ECAs.) Compliance with this paragraph will generally require that the AECD operation be based on Global Positioning System (GPS) inputs. We may consider any relevant information to determine whether your AECD conforms to this paragraph (g).

(3) The onboard computer log must record in nonvolatile computer memory all incidents of engine operation with the Tier 3 emission controls disabled.

(4) The engine must comply fully with the Tier 2 standards when the Tier 3 emission controls are disabled.

66. Section 1042.120 is amended by revising paragraphs (b)(2) and (c) to read as follows:

§1042.120 Emission-related warranty requirements.

(b) * * *

(2) ~~[Reserved]~~For Category 3 engines, your emission-related warranty must be valid throughout the engine's full useful life as specified in §1042.104(d).

* * * * *

(c) Components covered. The emission-related warranty covers all components whose failure would increase an engine's emissions of any regulated pollutant, including ~~those~~components listed in 40 CFR part 1068, Appendix I, and ~~those~~components from any other system you develop to control emissions. The emission-related warranty for freshly manufactured marine engines 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 regulated pollutant. ~~For remanufactured engines, your emission-related warranty does not cover used parts that are not replaced during the remanufacture.~~For remanufactured engines, your emission-related warranty is required to cover only those parts that you supply or those parts for which you specify allowable part manufacturers. It does not need to cover used parts that are not replaced during the remanufacture.

* * * * *

67. Section 1042.125 is amended by revising the heading, introductory text, and paragraphs (a)(1)(iii) and (d) to read as follows:

§1042.125 Maintenance instructions ~~for Category 1 and Category 2 engines~~.

Give the ultimate purchaser of each new engine written instructions for properly maintaining and using the engine, including the emission control system, as described in this section. The maintenance instructions also apply to service accumulation on your emission-data engines as described in §1042.245 and in 40 CFR part 1065. ~~This~~The restrictions specified in paragraphs (a) through (e) of this section ~~applies~~related to allowable maintenance apply only to Category 1 and Category 2 engines. Manufacturers may specify any maintenance for Category 3 engines.

(a) * * *

(1) * * *

(iii) You provide the maintenance free of charge and clearly say so in your maintenance instructions ~~for the customer~~.

* * * * *

(d) Noncritical emission-related maintenance. ~~-~~Subject to the provisions of this paragraph (d), you may schedule any amount of emission-related inspection or maintenance that is not covered by paragraph (a) of this section (that is, maintenance that is neither explicitly identified as critical emission-related maintenance, nor that we approve as critical emission-related maintenance). Noncritical emission-related maintenance generally includes maintenance on the components we specify in 40 CFR part 1068, Appendix I that is not covered in paragraph (a) of this section. You must 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.

* * * * *

68. Section 1042.135 is amended by revising paragraphs (c)(5), (c)(8), (c)(9), and (c)(11) and adding paragraph (c)(12) to read as follows:

§1042.135 Labeling.

* * * * *

(c) * * *

(5) State the date of manufacture [DAY (optional), MONTH, and YEAR]~~. H~~; however, you may omit this from the label if you stamp ~~or~~, engrave, or otherwise permanently identify it elsewhere on the engine, in which case you must also describe in your application for certification where you will identify the date on the engine.

* * * * *

(8) State the useful life for your engine family if the applicable useful life is based on the provisions of §1042.101(e)(2) or (3), or §1042.104(d)(2).

(9) Identify the emission control system. Use terms and abbreviations ~~consistent with SAE J1930 (incorporated by reference~~as described in ~~§1042.910)~~40 CFR 1068.45. You may omit this information from the label if there is not enough room for it and you put it in the owners manual instead.

* * * * *

(11) For ~~an~~a Category 1 or Category 2 engine that can be modified to operate on residual fuel, but has not been certified to meet the standards on such a fuel, include the statement: "THIS ENGINE IS CERTIFIED FOR OPERATION ONLY WITH DIESEL FUEL. MODIFYING THE ENGINE TO OPERATE ON RESIDUAL OR INTERMEDIATE FUEL MAY BE A VIOLATION OF FEDERAL LAW SUBJECT TO CIVIL PENALTIES.".

(12) For an engine equipped with on-off emissions controls as allowed by §1042.115, include the statement: "THIS ENGINE IS CERTIFIED WITH ON-OFF EMISSION CONTROLS. OPERATION CONTRARY TO THE CERTIFICATE MAY BE A VIOLATION OF FEDERAL LAW SUBJECT TO CIVIL PENALTIES.".

* * * * *

69. Section 1042.140 is amended by revising the heading and introductory text and adding paragraph (g) to read as follows:

§1042.140 Maximum engine power, displacement, ~~and~~ power density, and maximum in-use engine speed.

This section describes how to determine the maximum engine power, displacement, and power density of an engine for the purposes of this part. Note that maximum engine power may differ from the definition of "maximum test power" in §1042.901. This section also specifies how to determine maximum in-use engine speed for Category 3 engines.

* * * * *

(g) Calculate a maximum test speed for the nominal power curve as specified in 40 CFR 1065.610. This is the maximum in-use engine speed used for calculating the NOx standard in §1042.104 for Category 3 engines. Alternatively, you may use a lower value if engine speed will be limited in actual use to that lower value.

70. Section 1042.145 is amended by revising paragraph (a) and the heading of paragraph (c) introductory text and adding paragraph (h) to read as follows:

§1042.145 Interim provisions.

(a) General. The provisions in this section apply instead of other provisions in this part ~~for Category 1 and Category 2 engines~~. This section describes when these interim provisions expire.

Only the provisions of paragraph (h) of this section apply for Category 3 engines.

* * * * *

(c) Part 1065 test procedures for Category 1 and Category 2 engines. *

*

*

* * * * *

(h) The following interim provisions apply for Category 3 engines:

(1) Applicability of Tier 3 standards to Category 3 engines operating in Alaska, Hawaii, and U.S. Pacific territories.

(i) Category 3 engines are not required to comply with the Tier 3 NOx standard when operating in areas of Guam, American Samoa, or the Commonwealth of the Northern Mariana Islands. Category 3 engines are also not required to comply with the Tier 3 NOx standards when operating in the waters of the smallest Hawaiian islands or in the waters of Alaska west of Kodiak. For the purpose of this paragraph (h)(1), "the smallest Hawaiian islands" includes all Hawaiian islands other than Hawaii, Kahoolawe, Kauai, Lanai, Maui, Molokai, Niihau, and Oahu. Engines must comply fully with the appropriate Tier 2 NOx standard and all other applicable requirements when operating in the areas identified in this paragraph (h)(1).

(ii) The provisions of paragraph (h)(1)(i) of this section do not apply for areas included in an ECA. The Tier 3 standards apply in full for any area included in an ECA.

(2) Part 1065 test procedures. You must generally use the test procedures specified in subpart F of this part for Category 3 engines, including the applicable test procedures in 40 CFR part 1065. You may use a combination of the test procedures specified in this part and the test procedures specified in 40 CFR part 94 before January 1, 2016 without request. After this date, you must use test procedures only as specified in subpart F of this part.

Subpart C—[Amended]

71. Section 1042.201 is amended by revising paragraph (h) to read as follows:

§1042.201 General requirements for obtaining a certificate of conformity.

* * * * *

(h) For engines that become new ~~as a result of substantial modifications or for~~after being placed into service, such as engines installed on imported vessels ~~that become subject to the requirements of this part~~, we may specify alternate certification provisions consistent with the intent of this part. See the definition of "new marine engine" in §1042.901.

72. Section 1042.205 is amended by adding paragraph (b)(12) and revising paragraphs (i), (o), and (s)(5) to read as follows:

§1042.205 Application requirements.

* * * * *

(b) * * *

(12) Include any other information required by this part with respect to AECDs. For example, see §1042.115 for requirements related to on-off technologies.

* * * * *

(i) Include the maintenance and warranty instructions you will give to the ultimate purchaser of each new engine (see §§1042.120 and 1042.125). Describe your plan for meeting warranty obligations under §§1042§1042.120.

* * * * *

(o) Present emission data for HC, NOx, PM, and CO on an emission-data engine to show your engines meet emission standards as specified in §1042§§1042.101 or 1042.104. Note that you must submit PM data for all engines, whether or not a PM standard applies. Show emission figures before and after applying adjustment factors for regeneration and deterioration factors for each pollutant and for each engine. If we specify more than one grade of any fuel type (for example, high-sulfur and low-sulfur diesel fuel), you need to submit test data only for one grade, unless the regulations of this part specify otherwise for your engine. Include emission results for each mode for Category 3 engines or for other engines if you do discrete-mode testing under §1042.505. Note that §§1042.235 and 1042.245 allows you to submit an application in certain cases without new emission data.

* * * * *

(s) * * *

(5) For Category 2 and Category 3 engines, propose a range of adjustment for each adjustable parameter, as described in §1042.115(d). Include information showing why the limits, stops, or other means of inhibiting adjustment are effective in preventing adjustment of parameters on in-use engines to settings outside your proposed adjustable ranges.

* * * * *

73. Section 1042.220 is revised to read as follows:

§1042.220 Amending maintenance instructions.

You may amend your emission-related maintenance instructions after you submit your application for certification, as long as the amended instructions remain consistent with the provisions of §1042.125. You must send the Designated Compliance Officer a written request to amend your application for certification for an engine family if you want to change the emission-related maintenance instructions in a way that could affect emissions. In your request, describe the proposed changes to the maintenance instructions. We will approve your request if we determine that the amended instructions are consistent with maintenance you performed on emission-data engines such that your durability demonstration would remain valid. If operators follow the original maintenance instructions rather than the newly specified maintenance, this does not allow you to disqualify those engines from in-use testing or deny a warranty claim.

(a) If you are decreasing , replacing or eliminating or any specified maintenance, you may distribute the new maintenance instructions to your customers 30 days after we receive your request, unless we disapprove your request. This would generally include replacing one maintenance step with another. We may approve a shorter time or waive this requirement.

(b) If your requested change would not decrease the specified maintenance, you may distribute the new maintenance instructions anytime after you send your request. For example, this paragraph (b) would cover adding instructions to increase the frequency of a maintenance stepfilter changes for engines in severe-duty applications.

(c) You do not need tonot request approval if you are making only minor corrections (such as correcting typographical mistakes), clarifying your maintenance instructions, or changing instructions for maintenance unrelated to emission control. We may ask you to send us copies of

maintenance instructions revised under this paragraph (c).

74. Section 1042.225 is amended by revising paragraphs (b)(2), (e), and (f) to read as follows:

§1042.225 Amending applications for certification.

* * * * *

(b) * * *

(2) Include engineering evaluations or data showing that the amended engine family complies with all applicable requirements. You may do this by showing that the original emission-data engine is still appropriate ~~with respect to~~for showing ~~compliance of~~that the amended family complies with all applicable requirements.

* * * * *

(e) For engine families already covered by a certificate of conformity, you may start producing the new or modified engine configuration anytime after you send us your amended application and before we make a decision under paragraph (d) of this section. However, if we determine that the affected engines do not meet applicable requirements, we will notify you to cease production of the engines and may require you to recall the engines at no expense to the owner. Choosing to produce engines under this paragraph (e) is deemed to be consent to recall all engines that we determine do not meet applicable emission standards or other requirements and to remedy the nonconformity at no expense to the owner. If you do not provide information required under paragraph (c) of this section within 30 days after we request it, you must stop producing the new or modified engines.

(f) You may ask us to approve a change to your FEL in certain cases after the start of production. The changed FEL may not apply to engines you have already introduced into U.S. commerce, except as described in this paragraph (f). If we approve a changed FEL after the start of production, you must include the new FEL on the emission control information label for all engines produced after the change. You may ask us to approve a change to your FEL in the following cases:

(1) You may ask to raise your FEL for your emission family at any time. In your request, you must show that you will still be able to meet the emission standards as specified in subparts B and H of this part. If you amend your application by submitting new test data to include a newly added or modified engine or fuel-system component, as described in paragraph (b)(3) of this section, use the appropriate FELs with corresponding production volumes to calculate ~~your production-weighted average FEL~~emission credits for the model year, as described in subpart H of this part. ~~If you amend your application without submitting new test data~~In all other circumstances, you must use the higher FEL for the entire family to calculate ~~your production-weighted average FEL~~emission credits under subpart H of this part.

(2) You may ask to lower the FEL for your emission family only if you have test data from production engines showing that emissions are below the proposed lower FEL. The lower FEL applies only to engines you produce after we approve the new FEL. Use the appropriate FELs with corresponding production volumes to calculate ~~your production-weighted average FEL~~emission credits for the model year, as described in subpart H of this part.

75. Section 1042.230 is amended by revising paragraphs (a), (d), (f) introductory text, and (g) to read as follows:

§1042.230 Engine families.

(a) For purposes of certification, divide your product line into families of engines that are expected to have similar emission characteristics throughout the useful life as described in this section. You may not group ~~Category 1 and Category 2 engines~~engines in different engine categories in the same family. Your engine family is limited to a single model year.

* * * * *

(d) ~~[Reserved]~~For Category 3 engines, group engines into engine families based on the criteria specified in Section 4.3 of the Annex VI Technical Code (incorporated by reference in §1042.910), except as allowed in paragraphs (e) and (f) of this section.

* * * * *

(f) You may group engines that are not identical with respect to the things listed in paragraph (b), (c), or (~~e~~d) of this section in the same engine family, as follows:

* * * * *

(g) If you combine engines that are subject to different emission standards into a single engine family under paragraph (f) of this section, you must certify the engine family to the more stringent set of standards for that model year. For Category 3 engine families that include a range of maximum in-use engine speeds, use the highest value of maximum in-use engine speed to establish the applicable NOx emission standard.

76. Section 1042.235 is amended by revising the introductory text and paragraphs (a), (b), (c), and (d) introductory text to read as follows:

§1042.235 Emission testing required for a certificate of conformity.

This section describes the emission testing you must perform to show compliance with the emission standards in §1042.101(a) or 1042.104. See §1042.205(p) regarding emission testing related to the NTE standards. See §§1042.240 and 1042.245 and 40 CFR part 1065, subpart E, regarding service accumulation before emission testing. See §1042.655 for special testing provisions available for Category 3 engines subject to Tier 3 standards.

(a) Select an emission-data engine from each engine family for testing. For engines at or above 560 kW, you may use a development engine that is equivalent in design to the engine being certified. For Category 3 engines, you may use a single-cylinder version of the engine. Using good engineering judgment, select the engine configuration most likely to exceed an applicable emission standard over the useful life, considering all exhaust emission constituents and the range of installation options available to vessel manufacturers.

(b) Test your emission-data engines using the procedures and equipment specified in subpart F of this part.

(c) We may measure emissions from any of your ~~test~~emission-data engines or other engines from the engine family, as follows:

(1) We may decide to do the testing at your plant or any other facility. If we do this, you must deliver the ~~test~~ engine to a test facility we designate. The ~~test~~ engine you provide must include appropriate manifolds, aftertreatment devices, electronic control units, and other emission-related components not normally attached directly to the engine block. If we do the testing at your plant, you must schedule it as soon as possible and make available the instruments, personnel, and equipment we need.

(2) If we measure emissions from one of your ~~test~~ engines, the results of that testing become the official emission results for the engine. Unless we later invalidate these data, we may decide not to consider your data in determining if your engine family meets applicable

requirements.

(3) Before we test one of your engines, we may set its adjustable parameters to any point within the specified adjustable ranges (see §1042.115(d)).

(4) Before we test one of your engines, we may calibrate it within normal production tolerances for anything we do not consider an adjustable parameter. For example, this would apply where we determine that an engine parameter is not an adjustable parameter (as defined in §1042.901) but that it is subject to production variability.

(d) You may ask to use carryover emission data from a previous model year instead of doing new tests, but only if all the following are true:

* * * * *

77. Section 1042.240 is amended by revising paragraphs (a), (b), and (c) introductory text and adding paragraph (e) to read as follows:

§1042.240 Demonstrating compliance with exhaust emission standards.

(a) For purposes of certification, your engine family is considered in compliance with the emission standards in §1042.101(a) or §1042.104 if all emission-data engines representing that family have test results showing deteriorated emission levels at or below these standards. This includes all test points over the course of the durability demonstration. Note that your FELs are considered to be the applicable emission standards with which you must comply if you participate in the ABT program in subpart H of this part.

(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 for any pollutant that is above an applicable emission standard ~~for any pollutant~~. This includes all test points over the course of the durability demonstration.

(c) To compare emission levels from the emission-data engine with the applicable emission standards ~~for Category 1 and Category 2 engines~~, apply deterioration factors to the measured emission levels for each pollutant. Section 1042.245 specifies how to test your Category 1 or Category 2 engine to develop deterioration factors that represent the deterioration expected in emissions over your engines' full useful life. See paragraph (e) of this section for determining deterioration factors for Category 3 engines. Your deterioration factors must take into account any available data from in-use testing with similar engines. Small-volume engine manufacturers and post-manufacture marinizers may use assigned deterioration factors that we establish. Apply deterioration factors as follows:

* * * * *

(e) For Category 3 engines, determine a deterioration factor based on an engineering analysis. The engineering analysis must describe how the measured emission levels from the emission-data engine show that engines comply with applicable emission standards throughout the useful life. Include this analysis in your application for certification and add a statement that all data, analyses, evaluations, and other information you used are available for our review upon request.

78. Section 1042.245 is amended by revising the introductory text and paragraph (a) to read as follows:

§1042.245 Deterioration factors.

~~For Category 1 and Category 2 engines, e~~Establish deterioration factors, as described in §1042.240~~,~~ to determine whether your engines will meet emission standards for each pollutant throughout the useful life. This section describes how to determine deterioration factors for

Category 1 and Category 2 engines, either with an engineering analysis, with pre-existing test data, or with new emission measurements. This section does not apply for Category 3 engines.
(a) You may ask us to approve deterioration factors for an engine family with established technology based on engineering analysis instead of testing. Engines certified to a NOx+HC standard or FEL greater than the Tier 3 NOx+HC standard are considered to rely on established technology for control of gaseous ~~emission control~~emissions, except that this does not include any engines that use exhaust-gas recirculation or aftertreatment. In most cases, technologies used to meet the Tier 1 and Tier 2 emission standards would ~~be considered to be~~qualify as established technology. We must approve your plan to establish a deterioration factor under this paragraph (a) before you submit your application for certification.
* * * * *

79. Section 1042.250 is amended by revising paragraphs (a) and (c) and removing paragraph (e) to read as follows:

§1042.250 Recordkeeping and reporting.

(a) ~~If you produce engines under any provisions of this part that are related to production volumes, send~~Send the Designated Compliance Officer information related to ~~a report within 30 days after the end of the model year describing the total number of engines you produced in each engine family. For example, if you use special provisions intended for small-volume engine manufacturers, report~~ your U.S.-directed production volumes ~~to show that you do not exceed the applicable limits~~as described in §1042.345. In addition, within 45 days after the end of the model year, you must send us a report describing information about engines you produced during the model year as follows:

(1) State the total production volume for each engine family that is not subject to reporting under §1042.345.

(2) State the total production volume for any engine family for which you produce engines after completing the reports required in §1042.345.

* * * * *

(c) Keep data from routine emission tests (such as test cell temperatures and relative humidity readings) for one year after we issue the associated certificate of conformity. Keep all other information specified in ~~paragraph (a) of~~ this section for eight years after we issue your certificate.
* * * * *

(e) [Reserved]

80. Section 1042.255 is amended by revising paragraph (b) to read as follows:

§1042.255 EPA decisions.

* * * * *

(b) We may deny your application for certification if we determine that your engine family fails to comply with emission standards or other requirements of this part or the Clean Air Act. We will base ~~O~~our decision ~~may be based~~ on ~~a review of all~~all available information ~~available to us~~. If we deny your application, we will explain why in writing.
* * * * *

Subpart D—[Amended]

81. Section 1042.301 is amended by revising paragraphs (a)(2), (c), (e), and (f) to read as follows:

§1042.301 General provisions.

(a) * * *

(2) We may exempt Category 1 engine families with a projected U.S.-directed production volume below 100 engines from routine testing under this subpart. Request this exemption in your application for certification and include your basis for projecting a production volume below 100 units. We will approve your request if we agree that you have made good-faith estimates of your production volumes. Your exemption is approved when we grant your certificate. You must promptly notify us if your actual production exceeds 100 units during the model year. If you exceed the production limit or if there is evidence of a nonconformity, we may require you to test production-line engines under this subpart, or under 40 CFR part 1068, subpart ~~D~~E, even if we have approved an exemption under this paragraph (a)(2).

* * * * *

(c) ~~Other requirements apply to engines that you produce.~~ Other regulatory provisions authorize us to suspend, revoke, or void your certificate of conformity, or order recalls for engine families, without regard to whether they have passed these production-line testing requirements. The requirements of this subpart do not affect our ability to do selective enforcement audits, as described in 40 CFR part 1068. Individual engines in families that pass these production-line testing requirements must also conform to all applicable regulations of this part and 40 CFR part 1068.

* * * * *

(e) If you certify ~~an~~a Category 1 or Category 2 engine family with carryover emission data, as described in §1042.235(d), and these equivalent engine families consistently pass the production-line testing requirements over the preceding two-year period, you may ask for a reduced testing rate for further production-line testing for that family. The minimum testing rate is one engine per engine family. If we reduce your testing rate, we may limit our approval to any number of model years. In determining whether to approve your request, we may consider the number of engines that have failed the emission tests.

(f) We may ask you to make a reasonable number of production-line engines available for a reasonable time so we can test or inspect them for compliance with the requirements of this part. ~~See 40 CFR 1068.27.~~For Category 3 engines, you are not required to deliver engines to us, but we may inspect and test your engines at any facility at which they are assembled or installed in vessels.

82. A new §1042.302 is added to subpart D to read as follows:

§1042.302 Applicability of this subpart for Category 3 engines.

If you produce Category 3 engines that are subject to the requirements of this part, you must test them as described in this subpart, except as specified in this section.

(a) You must test each engine at the sea trial of the vessel in which it is installed or within the first 300 hours of operation, whichever occurs first. Since you must test each engine, the provisions of §§1042.310 and 1042.315(b) do not apply for Category 3 engines. If we determine that an engine failure under this subpart is caused by defective components or design deficiencies, we may revoke or suspend your certificate for the engine family as described in §1042.340. If we determine that an engine failure under this subpart is caused only by incorrect

assembly, we may suspend your certificate for the engine family as described in §1042.325.
(b) You are only required to measure NOx emissions. You do not need to measure HC, CO or PM emissions under this subpart.
(c) If you are unable to operate the engine at the test points for the specified duty cycle, you may approximate these points consistent with the specifications of section 6 of Appendix 8 to the NOx Technical Code and show compliance with the at-sea standard of §104(g).
(d) You may measure NOx emissions at additional test points for the purposes of the continuous NOx monitoring requirements of §1042.110(d). If you do, you must report these values along with your other test results.
(e) You may ask to measure emissions according to the Direct Measurement and Monitoring method specified in section 6.4 of the NOx Technical Code.

83. Section 1042.305 is amended by revising paragraphs (a), (d) introductory text, (d)(2), (e)(2), and (g) to read as follows:

§1042.305 Preparing and testing production-line engines.

* * * * *

(a) Test procedures. Test your production-line engines using the applicable testing procedures in subpart F of this part to show you meet the duty-cycle emission standards in subpart B of this part. ~~T~~For Category 1 and Category 2 engines, the not-to-exceed standards apply for this testing of Category 1 and Category 2 engines, but you need not do additional testing to show that production-line engines meet the not-to-exceed standards. The mode cap standards apply for the testing of Category 3 engines.

* * * * *

(d) Setting adjustable parameters. Before any test, we may require you to adjust any adjustable parameter on a Category 1 engine to any setting within its physically adjustable range. We may adjust or require you to adjust any adjustable parameter on a Category 2 or Category 3 engine to any setting within its specified adjustable range.

* * * * *

(2) We may specify adjustments within the physically adjustable range or the specified adjustable range by considering their effect on emission levels~~, as well as~~. We may also consider how likely it is that someone will make such an adjustment with in-use engines.

(e) * * *

(2) For Category 2 or Category 3 engines, you may ask us to approve a Green Engine Factor for each regulated pollutant for each engine family. Use the Green Engine Factor to adjust measured emission levels to establish a stabilized low-hour emission level.

* * * * *

(g) Retesting after invalid tests. You may retest an engine if you determine an emission test is invalid under subpart F of this part. Explain in your written report reasons for invalidating any test and the emission results from all tests. If ~~you retest an engine, you may ask us to substitute~~we determine that you improperly invalidated a test, we may require you to ask for our approval for future testing before substituting results of the new tests for ~~the original~~invalid ones. ~~You must ask us within ten days of testing. We will generally answer within ten days after we receive your information.~~

84. Section 1042.310 is amended by revising the heading to read as follows:

§1042.310 Engine selection for Category 1 and Category 2 engines.

* * * * *

85. Section 1042.315 is amended by revising paragraphs (a) and (b) to read as follows:

§1042.315 Determining compliance.

* * * * *

(a) Calculate your test results as follows:

(1) Initial and final test results. Calculate and round the test results for each engine. If you do several tests on an engine, calculate the initial results for each test, then add all the test results~~, then add them~~ together and divide by the number of tests. Round this final calculated value for the final test results on that engine. Include the Green Engine Factor to determine low-hour emission results, if applicable.

(2) Final deteriorated test results. Apply the deterioration factor for the engine family to the final test results (see §1042.240(c)).

(3) Round deteriorated test results. ~~-~~Round the results to the number of decimal places in the emission standard expressed to one more decimal place~~ than the applicable emission~~.

(b) ~~I~~For Category 1 and Category 2 engines, if a production-line engine fails to meet emission standards and you test two additional engines as described in §1042.310, calculate the average emission level for each pollutant for the three engines. If the calculated average emission level for any pollutant exceeds the applicable emission standard, the engine family fails the production-line testing requirements of this subpart. Tell us within ten working days if this happens. You may request to amend the application for certification to raise the FEL of the engine family as described in §1042.225(f).

86. Section 1042.320 is amended by revising paragraph (a)(2) to read as follows:

§1042.320 What happens if one of my production-line engines fails to meet emission standards?

(a) * * *

(2) Include~~ in your written report a description of~~ the test results and describe the remedy for each engine ~~(see~~ in the written report required under §1042.345~~)~~.

* * * * *

87. Section 1042.325 is amended by revising paragraph (e) to read as follows:

§1042.325 What happens if an engine family fails the production-line testing requirements?

* * * * *

(e) You may request to amend the application for certification to raise the FEL of the entire engine family before or after we suspend your certificate as described in §10~~51~~42.225(f). We will approve your request if the failure is not caused by a defect and it is clear that you used good engineering judgment in establishing the original FEL.

88. Section 1042.345 is amended by revising paragraphs (a)(6) and (b) to read as follows:

§1042.345 Reporting.

(a) * * *

(6) Provide the test number; the date, time and duration of testing; test procedure; all initial

test results ~~before and after rounding~~; final test results; and final deteriorated test results for all tests. Provide the emission results for all measured pollutants. Include information for both valid and invalid tests and the reason for any invalidation.

* * * * *

(b) We may ask you to add information to your written report so we can determine whether your new engines conform with the requirements of this subpart. We may also ask you to send less information.

* * * * *

89. Section 1042.350 is amended by revising paragraphs (b), (e), and (f) to read as follows:

§1042.350 Recordkeeping.

* * * * *

(b) Keep paper or electronic records of your production-line testing for eight years after you complete all the testing required for an engine family in a model year. ~~You may use any appropriate storage formats or media.~~

* * * * *

(e) If we ask, you must give us a more detailed description of projected or actual production figures for an engine family. We may ask you to divide your production figures by maximum engine power, displacement, fuel type, or assembly plant (if you produce engines at more than one plant).

(f) Keep ~~a list~~records of the engine identification number~~s~~ for ~~all the~~each engine~~s~~ you produce under each certificate of conformity. You may identify these numbers as a range. Give us ~~this list~~these records within 30 days if we ask for ~~it~~them.

* * * * *

Subpart F—[Amended]

90. Section 1042.501 is amended by revising paragraphs (a) and (c) and adding paragraph (g) to read as follows:

§1042.501 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 ~~Category 1 and Category 2~~ engines meet the duty-cycle emission standards in §1042.101(a) or 1042.104. Measure the emissions of all regulated pollutants as specified in 40 CFR part 1065. Use the applicable duty cycles specified in §1042.505.

* * * * *

(c) Use the fuels and lubricants specified in 40 CFR part 1065, subpart H, for all the testing we require in this part, except as specified in this section and §1042.515.

(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 appropriate diesel fuel specified in 40 CFR part 1065, subpart H, for emission testing. Unless we specify otherwise, the appropriate diesel test fuel for Category 1 and Category 2 engines is the ultra low-sulfur diesel fuel. If we allow you to use a test fuel with higher sulfur levels, identify the test fuel in your application for certification ~~and ensure that the emission control information label is consistent with your selection of the test fuel (see §1042.135(c)(11))~~. Unless we specify otherwise, the appropriate diesel test fuel for Category 3 engines is the high-sulfur diesel fuel. For Category

2 and Category 3 engines, you may ask to use commercially available diesel fuel similar but not necessarily identical to the applicable fuel specified in 40 CFR part 1065, subpart H; we will approve your request if you show us that it does not affect your ability to demonstrate compliance with the applicable emission standards.

(3) For Category 1 and Category 2 engines that are expected to use a type of fuel (or mixed fuel) other than diesel fuel (such as natural gas, methanol, or residual fuel), use a commercially available fuel of that type for emission testing. If ~~an~~a given engine is designed to operate on different fuels, we may (at our discretion) require testing on each fuel. Propose test fuel specifications that take into account the engine design and the properties of commercially available fuels. Describe these test fuel specifications in the application for certification.

~~(4) [Reserved]~~

* * * * *

(g) For Category 3 engines, you may submit test data for NOx, HC, and CO emissions that were collected as specified in the Annex VI Technical Code instead of test data collected as specified in 40 CFR part 1065. We may require you to include a brief engineering analysis showing how these data demonstrate that your engines would meet the applicable emission standards if you had used the test procedures specified in 40 CFR part 1065.

91. Section 1042.505 is amended by revising paragraph (b) introductory text to read as follows:

§1042.505 Testing engines using discrete-mode or ramped-modal duty cycles.

* * * * *

(b) Measure emissions by testing the engine on a dynamometer with one of the following duty cycles (as specified) to determine whether it meets the emission standards in §1042.101(a) or 1042.104:

* * * * *

92. Section 1042.525 is amended by adding paragraph (g) to read as follows:

§1042.525 How do I adjust emission levels to account for infrequently regenerating aftertreatment devices?

* * * * *

(g) Category 3 engines. We may specify an alternate methodology to account for regeneration events from Category 3 engines. If we do not, the provisions of this section apply as specified.

Subpart G—[Amended]

93. Section 1042.601 is amended by revising paragraph (b) and adding paragraph (g) to read as follows:

§1042.601 General compliance provisions for marine engines and vessels.

* * * * *

(b) Subpart I of this part describes how the prohibitions of 40 CFR 1068.101(a)(1) apply for certain remanufactured engines. The provisions of 40 CFR 1068.105 do not allow the installation of a new remanufactured engine in a vessel that is defined as a new vessel unless the remanufactured engine is subject to the same standards as the standards applicable to freshly

manufactured engines of the required model year.
* * * * *
(g) The selective enforcement audit provisions of 40 CFR part 1068 do not apply for Category 3 engines.

94. Section 1042.605 is amended by revising paragraph (a) to read as follows:
§1042.605 Dressing engines already certified to other standards for nonroad or heavy-duty highway engines for marine use.
(a) General provisions. If you are an engine manufacturer (including someone who marinizes a land-based engine), this section allows you to introduce new marine engines into U.S. 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, 1033, 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, 1033, or 1039 for each engine to also be a valid certificate of conformity under this part 1042 for its model year, without a separate application for certification under the requirements of this part 1042. This section does not apply for Category 3 engines.
* * * * *

95. Section 1042.610 is amended by revising the introductory text to read as follows:
§1042.610 Certifying auxiliary marine engines to land-based standards.
This section applies to auxiliary marine engines that are identical to certified land-based engines. See §1042.605 for provisions that apply to propulsion marine engines or auxiliary marine engines that are modified for marine applications. This section does not apply for Category 3 engines.
* * * * *

96. Section 1042.615 is amended by revising the introductory text to read as follows:
§1042.615 Replacement engine exemption.
For Category 1 and Category 2 replacement engines, apply the provisions of 40 CFR 1068.240 as described in this section. New Category 3 engines are not eligible for the replacement-engine exemption.
* * * * *

97. Section 1042.620 is revised to read as follows:
§1042.620 Engines used solely for competition.
The provisions of this section apply for new engines and vessels built on or after January 1, 2009
(a) We may grant you an exemption from the standards and requirements of this part for a new engine on the grounds that it is to be used solely for competition. The requirements of this part, other than those in this section, do not apply to engines that we exempt for use solely for competition. ~~The prohibitions in §1068.101(a)(1) do not apply to engines exempted under this section.~~
(b) We will exempt engines that we determine will be used solely for competition. The basis of our determination is described in paragraphs (c) and (d) of this section. Exemptions granted under this section are good for only one model year and you must request renewal for each subsequent model year. We will not approve your renewal request if we determine the engine

will not be used solely for competition.
(c) Engines meeting all the following criteria are considered to be used solely for competition:
(1) Neither the engine nor any vessels containing the engine may be displayed for sale in any public dealership or otherwise offered for sale to the general public. Note that this does not preclude display of these engines as long as they are not available for sale to the general public.
(2) Sale of the vessel in which the engine is installed must be limited to professional racing teams, professional racers, or other qualified racers. ~~Keep records documenting this, such as a letter requesting an exempted engine.~~For replacement engines, the sale of the engine itself must be limited to professional racing teams, professional racers, other qualified racers, or to the original vessel manufacturer.
(3) The engine and the vessel in which it is installed must have performance characteristics that are substantially superior to noncompetitive models.
(4) The engines are intended for use only as specified in paragraph (e) of this section.
(d) You may ask us to approve an exemption for engines not meeting the ~~applicable~~ criteria listed in paragraph (c) of this section as long as you have clear and convincing evidence that the engines will be used solely for competition.
(e) Engines ~~will not be~~are considered to be used solely for competition ~~if they are ever used for any recreational or other noncompetitive purpose. This means that their use must be~~only if their use is limited to competition events sanctioned by the U.S. Coast Guard or another public organization with authorizing permits for participating competitors. Operation ~~for~~of such engines may include only racing events ~~or~~, trials to qualify for racing events, and practice associated with racing events. Authorized attempts to set speed records ~~(and the associated official trials)~~ are also considered racing events. ~~Any use~~Engines will not be considered to be used solely for competition if they are ever used for any recreational or other noncompetitive purpose. Use of exempt engines in any recreational events, such as poker runs and lobsterboat races, is a violation of 40 CFR 1068.101(b)(4).
(f) You must permanently label engines exempted under this section to clearly indicate that they are to be used only for competition. Failure to properly label an engine will void the exemption for that engine.
(g) If we request it, you must provide us any information we need to determine whether the engines ~~or vessels~~ are used solely for competition. This would include documentation regarding the number of engines and the ultimate purchaser of each engine as well as any documentation showing a vessel manufacturer's request for an exempted engine. Keep these records for five years.

98. Section 1042.625 is amended by adding introductory text to read as follows:

§1042.625 Special provisions for engines used in emergency applications.

This section describes an exemption that is available for certain Category 1 and Category 2 engines. This exemption is not available for Category 3 engines.

* * * * *

99. Section 1042.630 is amended by revising the introductory text to read as follows:

§1042.630 Personal-use exemption.

This section applies to individuals who manufacture vessels for personal use with used engines. If you and your vessel meet all the conditions of this section, the vessel and its engine are

considered to be exempt from the standards and requirements of this part that apply to new engines and new vessels. The prohibitions in §1068.101(a)(1) do not apply to engines exempted under this section. For example, you may install an engine that was not certified as a marine engine.

* * * * *

100. Section 1042.635 is amended by revising paragraph (a) to read as follows:

§1042.635 National security exemption.

* * * * *

(a) An engine is exempt without a request if it will be used or owned by an agency of the federal government responsible for national defense, where the vessel in which it is installed has armor, permanently attached weaponry, specialized electronic warfare systems, unique stealth performance requirements, and/or unique combat maneuverability requirements. This applies to both remanufactured and freshly manufactured marine engines. Gas turbine engines are also exempt without a request if they will be owned by an agency of the federal government responsible for national defense.

* * * * *

101. Section 1042.650 is amended by revising the introductory text to read as follows:

§1042.650 Migratory vessels.

The provisions of this section address concerns for vessel owners related to extended use of vessels with Tier 4 engines outside the United States where ultra low-sulfur diesel fuel is not available. The provisions of this section apply for Category 1 and Category 2 engines, including auxiliary engines installed on vessels with Category 3 propulsion engines. These provisions do not apply for any Category 3 engines.

* * * * *

102. A new §1042.655 is added to subpart G to read as follows:

§1042.655 Special certification provisions for catalyst-equipped Category 3 engines.

This section describes an optional approach for demonstrating for certification that catalyst-equipped engines comply with applicable emission standards.

(a) Eligibility. You may use the provisions of this section without our prior approval to demonstrate that catalyst-equipped Category 3 engines meet the Tier 3 standards . In unusual circumstances, we may also allow you to use this approach to demonstrate that catalyst-equipped Category 2 engines meet the Tier 4 standards. We will generally approve this for Category 2 engines only if the engines are too large to be practically tested in a laboratory with a fully assembled catalyst system. If we approve this approach for a Category 2 engine, interpret references to Tier 3 in this section to mean Tier 4, and interpret references to Tier 2 in this section to mean Tier 3.

(b) Required testing. The emission-data engine must be tested as specified in Subpart F to verify that the engine-out emissions comply with the Tier 2 standards. The catalyst material must be tested under conditions that accurately represent actual engine conditions for the test points. This catalyst testing may be performed on a benchscale.

(c) Engineering analysis. Include with your application a detailed engineering analysis describing how the test data collected for the engine and catalyst material demonstrate that all

engines in the family will meet all applicable emission standards. We may require that you submit this analysis separately from your application, or that you obtain preliminary approval under §1042.210.
(d) Verification. You must verify your design by testing a complete production engine with installed catalysts in the final assembled configuration. Unless we specify otherwise, do this by complying with production-line testing requirements of subpart D of this part.
(e) Other requirements. All other requirements of this part, including the non-testing requirements for certification, apply for these engines.

103. Section 1042.660 is revised to read as follows:

§1042.660 Requirements for vessel manufacturers, owners, and operators.

(a~~) The provisions of 40 CFR part 94, subpart K, apply to manufacturers, owners, and operators of marine vessels that contain Category 3 engines subject to the provisions of 40 CFR part 94, subpart A.~~

(~~b~~) For vessels equipped with emission controls requiring the use of specific fuels, lubricants, or other fluids, owners and operators must comply with the manufacturer/remanufacturer's specifications for such fluids when operating the vessels. Failure to comply with the requirements of this paragraph is a violation of 40 CFR 1068.101(b)(1). For marine vessels containing Category 3 engines that are excluded from the requirements of 40 CFR part 1043 because they operate only domestically, it is also a violation of 40 CFR 1068.101(b)(1) to operate the vessel using residual fuel. Note that 40 CFR part 80 also includes provisions that restrict the use of certain fuels by certain marine engines.

(~~c~~b) For vessels equipped with SCR systems requiring the use of urea or other reductants, owners and operators must report to us within 30 days any operation of such vessels without the appropriate reductant. Failure to comply with the requirements of this paragraph is a violation of 40 CFR 1068.101(a)(2).

(c) The provisions of this paragraph (c) apply for marine vessels containing Category 3 engines.

(1)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 must be perform 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. This includes but is not limited to complying with the maintenance instructions described in §1042.125. Adjustments are limited to the range specified by the engine manufacturer in the approved application for certification.

(2) It is a violation of 40 CFR 1068.101(b)(1) to operate the vessel with the engine adjusted outside of the specified adjustable range. Each two hour period of such operation constitutes a separate offense. A violation lasting less than two hours constitutes a single offense.

(3) The owner and operator of the engine must maintain on board the vessel records of all maintenance, repair, and adjustment that could reasonably affect the emission performance of any engine subject to the provision of this part. Owners and operators must also maintain, on board the vessel, records regarding certification, parameter adjustment, and fuels used. For engines that are automatically adjusted electronically, all adjustments must be logged automatically. Owners and operators must make these records available to EPA upon request. These records must include the following:

(i) The Technical File, Record Book of Engine Parameters, and bunker delivery notes

that are required by the Annex VI Technical Code (incorporated by reference in §1042.910). This file must be transferred to subsequent purchasers in the event of a sale of the engine or vessel.

(ii) Specific descriptions of engine maintenance, repair, adjustment, and alteration (including rebuilding). The descriptions must include at least the date, time, and nature of the maintenance, repair, adjustment, or alteration and the position of the vessel when the maintenance, repair, adjustment, or alteration was made.

(iii) Emission-related maintenance instructions provided by the manufacturer. These instructions must be transferred to subsequent purchasers in the event of a sale of the engine or vessel.

(d) For each marine vessel containing a Category 3 engine, the owner must annually review the vessel's records and submit to EPA a signed statement certifying compliance during the preceding year with the requirements of this part that are applicable to owners and operators of such vessels. Alternately, if review of the vessel's records indicates that there has been one or more violations of the requirements of this part, the owner must submit to EPA a signed statement specifying the noncompliance, including the nature of the noncompliance, the time of the noncompliance, and any efforts made to remedy the noncompliance. The statement of compliance (or noncompliance) required by this paragraph must be signed by the executive with responsibility for marine activities of the owner. If the vessel is operated by a different business entity than the vessel owner, the reporting requirements of this paragraph (e) apply to both the owner and the operator. Compliance with these review and certification requirements by either the vessel owner or the vessel operator with respect to a compliance statement will be considered compliance with these requirements by both of these parties for that compliance statement. The executive(s) may authorize a captain or other primary operator to conduct this review and submit the certification, provided that the certification statement is accompanied by written authorization for that individual to submit such statements. The Administrator may waive the requirements of this paragraph when equivalent assurance of compliance is otherwise available.

(e) Manufacturers, owners and operators must allow emission tests and inspections required by this part to be conducted and must provide reasonable assistance to perform such tests or inspections.

104. A new §1042.670 is added to subpart G to read as follows:

§1042.670 Special provisions for gas turbine engines.

The provisions of this section apply for gas turbine engines.

(a) Special test procedures. Manufacturers seeking certification of gas turbine engines must obtain preliminary approval of the test procedures to be used, consistent with §1042.210 and 40 CFR 1065.10.

(b) Remanufacturing. The requirements of subpart I of this part do not apply for gas turbine engines.

(c) Equivalent displacement. Apply displacement-based provisions of this part by calculating an equivalent displacement from the maximum engine power. The equivalent per-cylinder displacement (in liters) equals the maximum engine power in kW multiplied by 0.00311, except that all gas turbines with maximum engine power above 9,300 kW are considered to have an equivalent per-cylinder displacement of 29.0 liters.

(d) Emission-related components. All components meeting the criteria of 40 CFR

1068.501(a)(1) are considered to be emission-related components with respect to maintenance, warranty, and defect reporting for gas turbine engines.
(e) Engines used for national defense. See §1042.635 for provisions related to exempting gas turbine engines used for national defense.

Subpart H—[Amended]

105. Section 1042.701 is amended by adding introductory text to read as follows:

§1042.701 General provisions.

This subpart describes how you may use emission credits to demonstrate that Category 1 and Category 2 engines comply with emission standards under this part. The provisions of this subpart do not apply for Category 3 engines.

* * * * *

106. Section 1042.705 is amended by revising paragraph (a) before the equation to read as follows:

§1042.705 Generating and calculating emission credits.

* * * * *

(a) For each participating family, calculate positive or negative emission credits relative to the otherwise applicable emission standard. Calculate positive emission credits for a family that has an FEL below the standard. Calculate negative emission credits for a family that has an FEL above the standard. Sum your positive and negative credits for the model year before rounding. Round ~~calculated~~the sum of emission credits to the nearest kilogram (kg)~~,~~ using consistent units throughout the following equation:

* * * * *

107. Section 1042.715 is revised to read as follows:

§1042.715 Banking emission credits.

(a) Banking is the retention of emission credits by the manufacturer generating the emission credits for use in future model years for averaging or trading ~~in future model years~~.
(b) ~~You may use banked emission credits from the previous model year~~You may designate any emission credits you plan to bank in the reports you submit under §1042.730. During the model year and before the due date for the final report, you may designate your reserved emission credits for averaging or trading ~~before we verify them, but~~.
(c) Reserved credits become actual emission credits when you submit your final report. However, we may revoke these emission credits if we are unable to verify them after reviewing your reports or auditing your records.
~~(c) Reserved credits become only when we verify them in reviewing your final report.~~

108. Section 1042.720 is amended by revising paragraph (b) to read as follows:

§1042.720 Trading emission credits.

* * * * *

(b) You may trade actual emission credits as described in this subpart. You may also trade reserved emission credits, but we may revoke these emission credits based on our review of your records or reports or those of the company with which you traded emission credits. You may trade banked credits within an averaging set to any certifying manufacturer.

* * * * *

109. Section 1042.725 is amended by revising paragraph (b)(2) to read as follows:

§1042.725 Information required for the application for certification.

* * * * *

(b) * * *

(2) Detailed calculations of projected emission credits (positive or negative) based on projected production volumes. We may require you to include similar calculations from your other engine families to demonstrate that you will be able to avoid a negative credit balance for the model year. If you project negative emission credits for a family, state the source of positive emission credits you expect to use to offset the negative emission credits.

110. Section 1042.730 is amended by revising paragraphs (b)(3) and (b)(5) to read as follows:

§1042.730 ABT reports.

* * * * *

(b) * * *

(3) The FEL for each pollutant. If you ~~changed an FEL during the model year~~change the FEL after the start of production, identify the date that you started using the new FEL and/or give the engine identification number for the first engine covered by the new FEL. In this case, identify each applicable FEL ~~you used~~ and calculate the positive or negative emission credits under each FEL. ~~Also, describe how the FEL can be identified for each engine you produced. For example, you might keep a list of engine identification numbers that correspond with certain FEL values.~~

* * * * *

(5) Maximum engine power for each engine configuration, and the ~~production-weighted~~ average engine power weighted by U.S.-directed production volumes for the engine family.

* * * * *

111. Section 1042.735 is amended by revising paragraphs (b), (d), and (e) to read as follows:

§1042.735 Recordkeeping.

* * * * *

(b) Keep the records required by this section for at least eight years after the due date for the end-of-year report. You may not use emission credits ~~on~~for any engines if you do not keep all the records required under this section. You must therefore keep these records to continue to bank valid credits. Store these records in any format and on any media~~,~~ as long as you can promptly send us organized, written records in English if we ask for them. You must keep these records readily available. We may review them at any time.

* * * * *

(d) Keep ~~the following additional~~ records of the engine identification number for each engine you produce that generates or uses emission credits under the ABT program. You may identify these numbers as a range. If you change the FEL after the start of production, identify the date you started using each FEL and the range of engine identification numbers associated with each FEL. You must also be able to identify the purchaser and destination for each engine you produce.~~:~~

~~(1) Engine family designation.~~
~~(2) Engine identification number.~~
~~(3) FEL and useful life. If you change the FEL after the start of production, identify the date that you started using the new FEL and give the engine identification number for the first engine covered by the new FEL.~~
~~(4) Maximum engine power.~~
~~(5) Purchaser and destination.~~

(e) We may require you to keep additional records or to send us relevant information not required by this section~~, as allowed under~~ in accordance with the Clean Air Act.

Subpart I—[Amended]

112. Section 1042.801 is amended by revising the introductory text and paragraph (a) to read as follows:

§1042.801 General provisions.

This ~~section~~subpart describes how the provisions of this part 1042 apply for certain remanufactured marine engines.

(a) The requirements of this subpart apply for remanufactured Tier 2 and earlier commercial Category 1 and Category 2 marine engines at or above 600 kW, excluding those engines originally manufactured before 1973. Note that the requirements of this subpart do not apply for engines below 600 kW, Category 3 engines, engines installed on recreational vessels, or Tier 3 and later engines.

* * * * *

113. Section 1042.836 is amended by revising the introductory text and paragraphs (a) introductory text, and (c) to read as follows:

§1042.836 Marine certification of locomotive remanufacturing systems.

If you certify a Tier 0, Tier 1, or Tier 2 remanufacturing system for locomotives under 40 CFR ~~part 92 or~~ part 1033, you may also certify the system under this part 1042, according to the provisions of this section. Note that in certain cases before 2013, locomotives may be certified under 40 CFR part 1033 to the standards of 40 CFR part 92.

(a) Include the following with your application for certification under 40 CFR part ~~92 or~~ 1033 (or as an amendment to your application):

* * * * *

(c) Systems certified ~~under~~ to the standards of 40 CFR part 92 are subject to the following restrictions:

(1) Tier 0 locomotives systems may not be used for any Category 1 engines or Tier 1 or later Category 2 engines.

(2) Where systems certified ~~under~~ to the standards of 40 CFR part 1033 are also available for an engine, you may not use a system certified ~~under~~ to the standards of 40 CFR part 92.

Subpart J—[Amended]

114. Section 1042.901 is amended by revising the definitions for “Carryover”, “Deterioration factor”, “Model year”, “New marine engine”, “Total hydrocarbon”, and “Total hydrocarbon equivalent” and adding new definitions for “Alcohol-fueled engine”

and "Date of manufacture" in alphabetical order to read as follows: [fill]

§1042.901 Definitions.

* * * * *

Alcohol-fueled engine means an engine that is designed to run using an alcohol fuel. For purposes of this definition, alcohol fuels do not include fuels with a nominal alcohol content below 25 percent by volume.

* * * * *

Annex VI means MARPOL Annex VI, which is an annex to the International Convention on the Prevention of Pollution from Ships, 1973, as modified by the protocol of 1978 relating thereto.

Annex VI Technical Code means the "Technical Code on Control of Emission of Nitrogen Oxides from Marine Diesel Engines, 1997," adopted by the International Maritime Organization (incorporated by reference in §1042.910).

* * * * *

Carryover means ~~the process of obtaining a certificate for one model year using the same test data from the preceding model year,~~relating to certification based on emission data generated from an earlier model year as described in §1042.235(d). This generally requires that the ~~locomotives~~engines in the engine family do not differ in any aspect related to emissions.

Category 1 means relating to a marine engine with specific engine displacement below 7.0 liters per cylinder. See §1042.670 to determine equivalent per-cylinder displacement for nonreciprocating marine engines (such as gas turbine engines).

Category 2 means relating to a marine engine with a specific engine displacement at or above 7.0 liters per cylinder but less than 30.0 liters per cylinder. See §1042.670 to determine equivalent per-cylinder displacement for nonreciprocating marine engines (such as gas turbine engines).

Category 3 means relating to a reciprocating marine engine with a specific engine displacement at or above 30.0 liters per cylinder.

* * * * *

Compression-ignition means relating to a type of reciprocating, internal-combustion engine that is not a spark-ignition engine. Note that certain other marine engines (such as those powered by natural gas with maximum engine power at or above 250 kW) are deemed to be compression-ignition engines in §1042.1.

* * * * *

Date of manufacture has the meaning given in 40 CFR 1068.30.

* * * * *

Deterioration factor means the relationship between emissions at the end of useful life and emissions at the low-hour test point (~~or between highest and lowest emission levels, if applicable~~see §§1042.240 and 1042.245), expressed in one of the following ways:

(1) For multiplicative deterioration factors, the ratio of emissions at the end of useful life to emissions at the low-hour test point.

(2) For additive deterioration factors, the difference between emissions at the end of useful life and emissions at the low-hour test point.

* * * * *

Emission control area (ECA) means an area designated by IMO as an Emission Control Area. Note that this designation is made by amendment to MARPOL Annex VI.

* * * * *

Gas turbine engine has the meaning given in 40 CFR 1068.30. In general, this means anything commercially known as a gas turbine engine. It does not include external combustion steam engines.

* * * * *

Green Engine Factor means a factor that is applied to emission measurements from a Category 2 or Category 3 engine that has had little or no service accumulation. The Green Engine Factor adjusts emission measurements to be equivalent to emission measurements from an engine that has had approximately 300 hours of use.

* * * * *

Hydrocarbon (HC) means the hydrocarbon group on which the emission standards are based for each fuel type, as described in §1042.101(d) and §1042.104(a).

* * * * *

Maximum in-use engine speed has the meaning given in §1042.140.

* * * * *

Model year means one of the following things:

(1) For freshly manufactured marine engines (see definition of "new marine engine," paragraph (1)), model year means one of the following:

(i) Calendar year.

(ii) Your annual new model production period if it is different than the calendar year. This must include January 1 of the calendar year for which the model year is named. It may not begin before January 2 of the previous calendar year and it must end by December 31 of the named calendar year. For seasonal production periods not including January 1, model year means the calendar year in which the production occurs, unless you choose to certify the applicable engine family with the following model year. For example, if your production period is June 1, 2010 through November 30, 2010, your model year would be 2010 unless you choose to certify the engine family for model year 2011.

(2) For an engine that is converted to a marine engine after ~~originally~~ being certified and placed into service as a motor vehicle engine, a nonroad engine that is not a marine engine, or a stationary engine, model year means the calendar year in which the engine was ~~converted (see definition of "new marine engine," paragraph (2)).~~originally produced. For an engine that is converted to a marine engine after being placed into service as a motor vehicle engine, a nonroad engine that is not a marine engine, or a stationary engine without having been certified, model year means the calendar year in which the engine ~~was converted~~ becomes a new marine engine. (see definition of "new marine engine," paragraph (2)).

(3) ~~For a marine engine excluded under §1042.5 that is later converted to operate in an application that is not excluded, model year means the calendar year in which the engine was converted (see definition of "new marine engine," paragraph (3)).~~ [Reserved]

(4) For engines that are not freshly manufactured but are installed in new vessels, model year means the calendar year in which the engine is installed in the new vessel (see definition of "new marine engine," paragraph (4)).

(5) For imported engines:

(i) For imported engines described in paragraph (5)(i) of the definition of "new marine engine," model year has the meaning given in paragraphs (1) through (4) of this definition.

(ii) For imported engines described in paragraph (5)(ii) of the definition of "new marine engine," model year means the calendar year in which the engine is modified.

(iii) For imported engines described in paragraph (5)(iii) of the definition of "new marine

engine," model year means the calendar year in which the engine is assembled in its imported configuration, unless specified otherwise in this part or in 40 CFR part 1068. ~~importation occurs.~~

(6) For freshly manufactured vessels, model year means the calendar year in which the keel is laid or the vessel is at a similar stage of construction. For vessels that become new under paragraph (2) of the definition of "new vessel" (as a result of ~~substantial~~ modifications), model year means the calendar year in which the modifications physically begin.

(7) For remanufactured engines, model year means the calendar year in which the remanufacture takes place.

* * * * *

New marine engine means any of the following things:

(1) A freshly manufactured marine engine for which the ultimate purchaser has never received the equitable or legal title. This kind of engine might commonly be thought of as "brand new." In the case of this paragraph (1), the engine is new from the time it is produced until the ultimate purchaser receives the title or the product is placed into service, whichever comes first.

(2) An engine ~~intended to be installed in a vessel that was~~ originally manufactured as a motor vehicle engine, a nonroad engine that is not a marine engine, or a stationary engine that is later used or intended to be used as a marine engine. In this case, the engine is no longer a ~~motor vehicle~~motor vehicle, nonmarine , or stationary engine and becomes a "new marine engine." ~~.~~ The engine is no longer new when it is placed into marine service~~.~~

~~(3) A marine engine that has been previously placed into service in an application~~ as a marine engine. This paragraph (2) applies for engines we exclude under §1042.5, where that engine is later installed as a marine engine in a vessel that is covered by this part 1042. ~~The engine is no longer new when it is placed into marine service covered by this part 1042.~~ For example, this would apply to an engine that is no longer used in a foreign vessel.

(3) [Reserved]

(4) An engine not covered by paragraphs (1) through (3) of this definition that is intended to be installed in a new vessel. This generally includes installation of used engines in new vessels. The engine is no longer new when the ultimate purchaser receives a title for the vessel or it is placed into service, whichever comes first. ~~This generally includes installation of used engines in new vessels.~~

(5) A remanufactured marine engine. An engine becomes new when it is remanufactured (as defined in this section) and ceases to be new when placed back into service.

(6) An imported marine engine, subject to the following provisions:

(i) An imported marine engine covered by a certificate of conformity issued under this part that meets the criteria of one or more of paragraphs (1) through (4) of this definition, where the original engine manufacturer holds the certificate, is new as defined by those applicable paragraphs.

(ii) An imported remanufactured engine that would have been required to be certified if it had been remanufactured in the United States.

(iii) An imported engine that will be covered by a certificate of conformity issued under this part, where someone other than the original engine manufacturer holds the certificate (such as when the engine is modified after its initial assembly), is a new marine engine when it is imported. It is no longer new when the ultimate purchaser receives a title for the engine or it is placed into service, whichever comes first.

(iv) An imported marine engine that is not covered by a certificate of conformity issued

under this part at the time of importation is new, but only if it was produced on or after the dates shown in the following table. This addresses uncertified engines and vessels initially placed into service that someone seeks to import into the United States. Importation of this kind of engine (or vessel containing such an engine) is generally prohibited by 40 CFR part 1068.

Applicability of Emission Standards for Compression-Ignition Marine Engines

Engine category and type	Power (kW)	Per-cylinder displacement (L/cyl)	Initial model year of emission standards
Category 1	$P < 19$	All	2000
Category 1	$19 \leq P < 37$	All	1999
Category 1, Recreational	$P \geq 37$	disp. < 0.9	2007
Category 1, Recreational	All	$0.9 \leq$ disp. < 2.5	2006
Category 1, Recreational	All	disp. ≥ 2.5	2004
Category 1, Commercial	$P \geq 37$	disp. < 0.9	2005
Category 1, Commercial	All	disp. ≥ 0.9	2004
Category 2 and Category 3	All	disp. ≥ 5.0	2004

* * * * *

Residual fuel ~~has the meaning given in 40 CFR 80.2~~means any fuel with a T_{90} greater than 700 EF as measured with the distillation test method specified in 40 CFR 1065.1010. This generally includes all RM grades of marine fuel without regard to whether they are known commercially as residual fuel. For example, fuel marketed as intermediate fuel may be residual fuel.

* * * * *

Small-volume boat builder means a boat manufacturer with fewer than 500 employees and with annual worldwide production of fewer than 100 boats. For manufacturers owned by a parent company, these limits apply to the combined production and number of employees of the parent company and all its subsidiaries. Manufacturers that produce vessels with Category 3 engines are not small-volume boat builders.

Small-volume engine manufacturer means a manufacturer of Category 1 and/or Category 2 engines with annual worldwide production of fewer than 1,000 internal combustion engines (marine and nonmarine). For manufacturers owned by a parent company, the limit applies to the production of the parent company and all its subsidiaries. Manufacturers that certify or produce any Category 3 engines are not small-volume engine manufacturers.

* * * * *

Tier 2 means relating to the Tier 2 emission standards, as shown in §1042.104 and Appendix I.

Tier 3 means relating to the Tier 3 emission standards, as shown in §1042.101 and §1042.104.

* * * * *

Total hydrocarbon has the meaning given in 40 CFR 1065.1001. This generally means

the combined mass of organic compounds measured by the specified procedure for measuring total hydrocarbon, expressed as a hydrocarbon with ~~an atomic~~a hydrogen-to-carbon mass ratio of 1.85:1.

Total hydrocarbon equivalent has the meaning given in 40 CFR 1065.1001. This generally means the sum of the carbon mass contributions of non-oxygenated hydrocarbons, alcohols and aldehydes, or other organic compounds that are measured separately as contained in a gas sample, expressed as exhaust hydrocarbon from petroleum-fueled ~~locomotives~~engines. The hydrogen-to-carbon mass ratio of the equivalent hydrocarbon is 1.85:1.

* * * * *

Useful life means the period during which the engine is designed to properly function in terms of reliability and fuel consumption, without being remanufactured, specified as a number of hours of operation or calendar years, whichever comes first. It is the period during which ~~a new~~an engine is required to comply with all applicable emission standards. See ~~§1042~~§§1042.101(e) and 1042.104(d).

115. Section 1042.905 is amended by adding the acronym "IMO" in alphabetical order to read as follows:

§1042.905 Symbols, acronyms, and abbreviations.

* * * * *

* * * * * * *	
IMO	International Maritime Organization.
* * * * * * *	

116. Section 1042.910 is revised to read as follows:

§1042.910 Reference materials.

Documents listed in this section have been incorporated by reference into this part. The Director of the Federal Register approved the incorporation by reference as prescribed in 5 U.S.C. 552(a) and 1 CFR part 51. Anyone may inspect copies at the U.S. EPA, Air and Radiation Docket and Information Center, 1301 Constitution Ave., NW., Room B102, EPA West Building, Washington, DC 20460 or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.

~~(a) SAE material. Table 1 to this section lists material from the Society of Automotive Engineers that we have incorporated by reference. The first column lists the number and name of the material. The second column lists the sections of this part where we reference it. Anyone may purchase copies of these materials from the Society of Automotive Engineers, 400 Commonwealth Drive, Warrendale, PA 15096 or www.sae.org. Table 1 follows:~~

~~Table 1 to §1042.910—SAE MaterialsDocument number and name Part 1042 referenceSAE J1930, Electrical/Electronic Systems Diagnostic Terms, Definitions, Abbreviations, and Acronyms, revised May 1998.1042.135~~

(~~b~~a) IMO material. Table ~~2~~1 to this section lists material from the International Maritime Organization that we have incorporated by reference. The first column lists the number and name of the material. The second column lists the section of this part where we reference it. Anyone

may purchase copies of these materials from the International Maritime Organization, 4 Albert Embankment, London SE1 7SR, United Kingdom or www.imo.org. Table ~~2~~1 follows:

Table ~~2~~1 to §1042.910—IMO Materials

Document number and name	Part 1042 reference
Resolutions of the 1997 MARPOL Conference: Resolution 2—Technical Code on Control of Emission of Nitrogen Oxides from Marine Diesel Engines, 1997.	1042.901

(b) [Reserved]

117. Appendix I to part 1042 is amended by revising paragraphs (b)(2) introductory text and (b)(3) to read as follows:

Appendix I to Part 1042— Summary of Previous Emission Standards

* * * * *

(b) * * *

(2) Tier 2 primary standards. Exhaust emissions from Category 1 engines at or above 37 kW and all Category 2 engines may not exceed the values shown in the following table:

* * * * *

(3) Tier 2 supplemental standards. ~~N~~The not-to-exceed emission standards ~~apply for Tier 2 engines as~~ specified in 40 CFR 94.8(e) apply for all engines subject to the Tier 2 standards described in paragraph (b)(2) of this appendix.

118. A new part 1043 is added to subchapter U to read as follows:

PART 1043—CONTROL OF NOx, SOx, and PM EMISSIONS FROM MARINE ENGINES AND VESSELS SUBJECT TO THE MARPOL PROTOCOL

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Authority: 33 U.S.C. 1901-1915.

§1043.1 Overview.

The Act to Prevent Pollution from Ships (APPS) requires engine manufacturers, owners and operators of vessels, and other persons to comply with Annex VI of the MARPOL Protocol. This part implements portions of APPS as it relates to Regulations 13, 14 and 18 of Annex VI. These regulations clarify the application of some Annex VI provisions; provide procedures and criteria for the issuance of EIAPP certificates; and specify requirements applicable to ships that are not registered by Parties to Annex VI. Additional regulations may also apply with respect to the MARPOL Protocol, such as those issued by the U.S. Coast Guard in 33 CFR part 151.

(a) The general requirements for non-public U.S.-flagged and other Party vessels are specified in Annex VI, as implemented by 33 U.S.C. 1901-1915. These requirements apply to engine manufacturers, owners and operators of vessels, and other persons.

(b) The provisions of this part specify how Regulations 13, 14 and 18 of Annex VI, as implemented by 33 U.S.C. 1901-1915 will be applied to public vessels and U.S.-flagged vessels that operate only domestically. This Part also describes where the requirements of Regulation 13.5.1 of Annex VI and Regulation 14.4 of Annex VI will apply.

(c) The provisions of this part implements section 1902(e) of APPS by specifying that non-public vessels flagged by a country that is not a party to Annex VI are subject to the substantive requirements of Regulations 13, 14 and 18 of Annex VI as implemented by APPS.

(d) This part 1043 does not limit the requirements specified in Annex VI, as implemented by 33 U.S.C. 1901-1915, except as specified in §1043.10(a)(2). Note that the reproduction of Regulations 13, 14 and 18 of Annex VI in Appendix I to this part 1043 does not affect any new provisions that may apply in the event that a future amendment

to Regulations 13, 14 or 18 of Annex VI enters into force for the United States.

(e) The provisions of this part specify how to obtain EIAPP certificates and certificates for Approved Methods.

§1043.5 Effective dates.
(a) The requirement of APPS for marine vessels to comply with Annex VI of the MARPOL Protocol is in effect.
(b) Annex VI was amended on October 8, 2008 and enters into force July 1, 2010. The requirement of APPS for marine vessels to comply with the amended Annex VI is effective July 1, 2010. .
(c) Compliance with the regulations of this part is required for all persons on or after July 1, 2010. In addition, compliance with §§1043.40 and 1043.41 is required before July 1, 2010 for manufacturers (and other persons) seeking EIAPP certificates prior to July 1, 2010.
(d) The requirements related to operation in ECAs for any portion of U.S. navigable waters or the U.S. exclusive economic zone are effective the date on which an ECA is designated by IMO.

§1043.10 Applicability.
(a) U.S.-flagged vessels. The provisions of this part apply for all U.S.-flagged vessels (including engines installed or intended to be installed on such vessels), except as specified in this paragraph (a).
(1) Public vessels propelled by engines exempt under 40 CFR part 94 or 1042 are excluded from this part.
(2) Vessels that operate only domestically and conform to the requirements of this paragraph (a)(2) are excluded from Regulation 13 of Annex VI. For the purpose of this exclusion, the phrase "operate only domestically" means the vessels do not enter waters subject to the jurisdiction or control of any foreign country. (See §§1043.60 and 1043.70 for provision related to fuel use by such vessels). To be excluded, the vessel must conform to each of the following provisions:
(i) All compression ignition engines on the vessel must conform fully to all applicable provisions of 40 CFR parts 94 and 1042.
(ii) The vessel may not contain any engines with a specific engine displacement at or above 30.0 liters per cylinder.
(b) Foreign-flagged vessels. The provisions of this part apply for all non-public foreign-flagged vessels (including engines installed or intended to be installed on such vessels) as specified in this paragraph (b).
(1) The requirements of this part apply for foreign-flagged vessels operating in U.S. navigable waters or the U.S. EEZ.
(2) For non-public vessels flagged by a country that is not a party to Annex VI, the requirements of this part apply in the same manner as apply for Party vessels, except that engines on non-Party vessels are not required to have EIAPP certificates.
(c) Fuel suppliers. The provisions of §1043.80 apply for all persons supplying fuel to any vessel subject to this part.

§1043.20 Definitions.
The following definitions apply to this part:
Administrator means the Administrator of the Environmental Protection Agency.
Annex VI means Annex VI of the MARPOL Protocol.
Designated Certification Officer means the EPA official to whom the Administrator has delegated authority to issue EIAPP certificates.
Emission control area (ECA) means an area designated by IMO as an Emission Control Area plus all U.S. navigable waters shoreward of the ECA. For example, where an ECA has been designated by IMO to include the Gulf of St. Lawrence (or the Atlantic Ocean surrounding the Gulf of St. Lawrence), the ECA would be deemed to include the U.S. portions of the St. Lawrence River and Great Lakes for the purposes of this part.
EIAPP certificate means a certificate issued to certify initial compliance with Regulation 13 of Annex VI. (Note that EIAPP stands for Engine International Air Pollution Prevention under Annex VI.)
Engine has the meaning given in 40 CFR 1068.30.
EPA means the United States Environmental Protection Agency.
Foreign-flagged vessel means a vessel of foreign registry or a vessel operated under the authority of a country other than the United States.
IMO means the International Maritime Organization.
Major conversion has the meaning given in 2.1 of Appendix I to this part.
MARPOL Protocol has the meaning given in 33 U.S.C. 1901.

Navigable waters has the meaning given in 33 U.S.C. 1901.
NOx Technical Code means the NOx Technical Code of Annex VI
Non-Party vessel means a vessel flagged by a country that is not a party to Annex VI.
Operator has the meaning given in 33 U.S.C. 1901.
Owner has the meaning given in 33 U.S.C. 1901.
Party vessel means a vessel flagged by a country that is a party to Annex VI.
Person has the meaning given in 33 U.S.C. 1901.
Public vessels means warships , naval auxiliary vessels and other vessels owned or operated by a sovereign country when engaged in noncommercial service.
Secretary has the meaning given in 33 U.S.C. 1901.
U.S.-flagged vessel means a vessel of U.S. registry or a vessel operated under the authority of the United States.
We means EPA.

§1043.30 General requirements.

(a) Manufacturers, owners and operators of vessels subject to this part must comply with Regulations 13, 14, and 18 of Annex VI and related provisions of this part. It is the responsibility of such manufacturers, owners and operators to ensure that all employees and other agents operating on their behalf comply with these requirements. Manufacturers of engines subject to this part must comply with all applicable requirements of Regulation 13 of Annex VI and related provisions of this part prior to the engine being installed in the vessel. Note that 33 U.S.C. 1907 also prohibits anyone from violating any provisions of the MARPOL Protocol, whether or not they are a manufacturer, owner or operator.

(b) Engines with power output of more than 130 kW that are listed in this paragraph (b) must be covered by a valid EIAPP certificate unless the engine is excluded under paragraph (c) of this section. An EIAPP certificate is valid for a given engine only if it certifies compliance with the Tier of standards applicable to that engine and the vessel into which it is being installed. Note that none of the requirements of this paragraph (b) are limited to new engines.

(1) Engines meeting any of the following criteria must be covered by a valid EIAPP certificate:

(i) Engines installed (or intended to be installed) on vessels that were constructed on or after January 1, 2000. This includes engines that met the definition of "new marine engine" in 40 CFR 1042.901 at any time on or after January 1, 2000, unless such engines are installed on vessels that were constructed before January 1, 2000.

(ii) Engines that undergo a major conversion on or after January 1, 2000, unless the engine have been exempt from this requirement under paragraph (e) of this section. See section 2.1 of Appendix I to this part for a definition of major conversion.

(2) For such engines intended to be installed on U.S.-flagged vessels, the engine may not be introduced into U.S. commerce before it is covered by a valid EIAPP certificate, unless it has been exempted by EPA under 40 CFR part 1042 or part 1068. Uninstalled engines covered by a valid exemption under 40 CFR part 1042 or part 1068 may be introduced into U.S. commerce without a valid EIAPP certificate; however, this allowance does affect whether the engine must ultimately be covered by an EIAPP certificate. For example, engines allowed to be temporarily distributed in an uncertified configuration under 40 CFR 1068.260 would not be required to be covered by an EIAPP certificate while it is covered by the temporary exemption under 40 CFR 1068.260; however, it would be required to be covered by an EIAPP certificate before being placed into service. All uninstalled marine engines within the United States are presumed to be intended to be installed on a U.S.-flagged vessel, unless there is clear and convincing evidence to the contrary.

(3) For engines installed on Party vessels, the engine may not operate in the U.S. navigable waters or the U.S. exclusive economic zone, or other waters designated by the Administrator under 1902(a)(5) before it is covered by a valid EIAPP certificate. Engines installed on non-Party vessels are not required to have EIAPP certificates, provided the operator can demonstrate that the engines conform to the requirements of Regulation 13 of Annex VI. Evidence of conformity may be issued by either the government of a country that is party to Annex VI or a recognized classification society. For the purposes of this paragraph, "recognized classification society" means a classification society that is a participating member of the International Association of Classification Societies (IACS).

(c) The following engines are excluded from the requirement to have an EIAPP certificate (or equivalent demonstration of compliance in the case of non-Party vessels) or otherwise meet the requirements of Regulation 13 of Annex VI.

(1) Spark-ignition engines.
(2) Non-reciprocating engines.
(3) Engines that do not use liquid fuel.
(4) Engines intended to be used solely for emergencies. This includes engines that power equipment such as pumps that are intended to be used solely for emergencies and engines installed in lifeboats intended to be used solely for emergencies. It does not include engines to be used for both emergency and non-emergency purposes.

(d) The requirements specified in Annex VI (reproduced in Appendix I to this part) apply for vessels subject to this part for operation in U.S. navigable waters or the U.S. EEZ. Vessels operating in waters deemed to be included in an ECA under this part (see §1043.20) must comply with the requirements of Annex VI for operation in an ECA. This means that the requirements of Regulations 13.5 and 14.4 of Annex VI apply both in waters designated by IMO as an ECA and in all shoreward U.S. waters.

(e) A replacement engine may be exempted from Regulation 13 of annex VI by EPA if it is identical to the engine being replaced and that engine was not subject to Regulation 13 of Annex VI. Send requests for such exemptions to the Designated Certification Officer.

(f) Compliance with the provisions of this part 1043 does not affect your responsibilities under 40 CFR part 1042 for engines subject to that part 1042.

§1043.40 EIAPP certificates

(a) Engine manufacturers seeking EIAPP certificates for new engines to be used in U.S.-flagged vessels must apply to EPA for an EIAPP certificate in compliance with the requirements of this section (which references 40 CFR part 1042) and the applicable requirements of Regulation 13 of Annex VI. Note that only the Administrator or the EPA official designated by the Administrator may issue EIAPP certificates on behalf of the United States Government.

(b) Persons other than engine manufacturers may apply for and obtain EIAPP certificates for new engines to be used in U.S.-flagged vessels by complying with the requirements of this section (which references 40 CFR part 1042) and the applicable requirements of Regulation 13 of Annex VI.

(c) In appropriate circumstances, EPA may issue an EIAPP certificate under this section for non-new engines or engines for vessels that will not initially be flagged in the U.S.

(d) The process for obtaining an EIAPP certificate is described in §1043.41. That section references regulations in 40 CFR part 1042, which apply under the Clean Air Act. References in that part to certificates of conformity are deemed to mean EIAPP certificates. References in that part to the Clean Air Act as the applicable statute are deemed to mean 33 U.S.C. 1901-1915.

(e) For engines that undergo a major conversion or for engines installed on imported vessels that become subject to the requirements of this part, we may specify alternate certification provisions consistent with the intent of this part.

§1043.41 EIAPP certification process

This section describes the process for obtaining the EIAPP certificate required by §1043.40.

(a) You must send the Designated Certification Officer (see definition in §1043.20) a separate application for an Engine International Air Pollution Prevention (EIAPP) certificate for each engine family. An EIAPP certificate is valid starting with the indicated effective date and is valid for any production until such time as the design of the engine family changes or more stringent emission standards become applicable, whichever comes first. You may obtain preliminary approval of portions of the application consistent with the provisions of 40 CFR 1042.210.

(b) The application must contain all the information required by this part. It must not include false or incomplete statements or information (see 40 CFR 1042.255). Include the information specified in 40 CFR 1042.205 except as follows:

(i) You must include the dates on which the test engines were built and the locations where the test engines were built.
(ii) Include a copy of documentation required by Annex VI related to maintenance and in-use compliance (such as the Technical File and onboard NOx verification procedures as specified by the NOx Technical Code).
(iii) You are not required to provide information required by 40 CFR 1042.205 about useful life, emission labels, deterioration factors, PM emissions, not-to-exceed standards.
(iv)You must include a copy of your warranty instructions, but are not required to describe how you will meet warranty obligations.

(c) We may ask you to include less information than we specify in this section as long as you maintain all the information required by paragraph (b) of this section.

(d) You must use good engineering judgment for all decisions related to your application (see 40 CFR 1068.5).
(e) An authorized representative of your company must approve and sign the application.
(f) See 40 CFR 1042.255 for provisions describing how we will process your application.
(g) Your application, including the Technical File and onboard NOx verification procedures, is subject to amendment as described in 40 CFR 1042.225.
(h) This paragraph (h) describes the emission testing you must perform.
(1) Select an emission-data engine from each engine family for testing. For engines at or above 560 kW, you may use a development engine that is equivalent in design to the engine being certified. For Category 3 engines, you may use a single-cylinder version of the engine. Using good engineering judgment, select the engine configuration most likely to exceed an applicable emission standard, considering all exhaust emission constituents and the range of installation options available to vessel manufacturers.
(2) Test your emission-data engines using the procedures and equipment specified in the NOx Technical Code or subpart F of part 1042. We may require that your test be witnessed by an EPA official.
(3) We may measure emissions from any of your test engines or other engines from the engine family, as follows:
(i) We may decide to do the testing at your plant or any other facility. You must deliver the test engine to any test facility we designate. The test engine you provide must include appropriate manifolds, aftertreatment devices, electronic control units, and other emission-related components not normally attached directly to the engine block. If we do the testing at your plant, you must schedule it as soon as possible and make available the instruments, personnel, and equipment we need.
(ii) If we measure emissions from one of your test engines, the results of that testing become the official emission results for the engine. Unless we later invalidate these data, we may decide not to consider your data in determining if your engine family meets applicable requirements.
(iii) Before we test one of your engines, we may set its adjustable parameters to any point within the specified adjustable ranges (see 40 CFR 1042.115(d)).
(iv) Before we test one of your engines, we may calibrate it within normal production tolerances for anything we do not consider an adjustable parameter.
(4) We may require you to test a second engine of the same or different configuration in addition to the engine tested under paragraph (b) of this section.
(5) If you use an alternate test procedure under 40 CFR 1065.10 and later testing shows that such testing does not produce results that are equivalent to the procedures otherwise required by this part, we may reject data you generated using the alternate procedure.
(i) Collect emission data using measurements to one more decimal place than the applicable standard. Then round the value to the same number of decimal places as the emission standard. Compare the rounded emission levels to the emission standard for each emission-data engine.
(j) Your engine family is considered in compliance with the emission standards in Regulation 13 of Annex VI if all emission-data engines representing that family have test results showing emission levels at or below these standards. Your engine family is deemed not to comply if any emission-data engine representing that family has test results showing an emission level above an applicable emission standard for any pollutant.
(k) If we determine your application is complete and shows that the engines meet all the requirements of this part, we will issue an EIAPP certificate for your engines. We may make the approval subject to additional conditions.

§1043.50 Approval of methods to meet Tier 1 retrofit NOx standards.
Regulation 13 of Annex VI provides for certification of Approved Methods, which are retrofit procedures that enable Pre-Tier 1 engines to meet the Tier 1 NOx standard of regulation 13 of Annex VI. Any person may request approval of such a method by submitting an application for certification of an Approve Method to the Designated Certification Officer. If we determine that your application conforms to the requirements of Regulation 13 of Annex VI, we will issue a certificate and notify IMO that your Approved Method has been certified.

§1043.60 Operating requirements for engines and vessels subject to this part.
(a) All of the operating requirements and restrictions of Regulations 13, 14, and 18 of Annex VI apply for vessels subject to this part.
(b) Nothing in this part limits the operating requirements and restrictions applicable for engines and vessels subject to 40 CFR part 1042 or the requirements and restrictions applicable for fuels subject to 40 CFR part 80.
(c) Operators of non-Party vessels must comply with the same operating requirements and restrictions as apply to other vessels under this part. This means they must comply with operating requirements and restrictions equivalent to those of Annex VI related to Regulations 13, 14, and 18.

(d) This paragraph (d) applies for vessels that are excluded from Regulation 13 of Annex VI under §1043.10(a) because they operate only domestically. Where the operators of such vessels comply fully with the fuel requirements of 40 CFR part 80, they are deemed to be in full compliance with the fuel use requirements and prohibitions of Regulations 14 and 18 of Annex VI.

§1043.70 General recordkeeping and reporting requirements.

(a) Owners and operators of vessels subject to this part must keep all records required by Regulations 13, 14, and 18 of Annex VI. We may inspect these records as allowed by those Regulations and 33 U.S.C. 1901-1915. As part of our inspection, we may require that the owner submit copies of these records to us.

(b) Nothing in this part limits recordkeeping and reporting the Secretary may require, nor does it preclude the Secretary from providing copies of any records to EPA.

(c) Nothing in this part limits the recordkeeping and reporting requirements applicable with respect to engines and vessels subject to 40 CFR part 1042 or with respect to fuels subject to 40 CFR part 80.

(d) This paragraph (d) applies for vessels that are excluded from Regulation 13 of Annex VI under §1043.10(a) because they operate only domestically. Where the operators of such vessels comply fully with the fuel requirements of 40 CFR part 80, they are deemed to be in full compliance with the fuel recordkeeping requirements and prohibitions of Annex VI.

§1043.80 Recordkeeping and reporting requirements for fuel suppliers.

If you supply any fuel for an engine on any vessel identified in paragraph (a) of this section, you must comply with the requirements of Regulation 18 of Annex VI to provide bunker delivery notes to the vessel operators and to keep copies for your records.

(a) The requirements of this section apply for fuel delivered to any of the following vessels:

(1) Vessels of 400 gross tonnage and above.

(2) Platforms and drilling rigs.

(b) Except as allowed by paragraph (d) of this section, the bunker delivery note must contain the following:

(1) The name and IMO number of receiving vessel.

(2) Port (or other description of the location, if the delivery does not take place at a port).

(3) Date the fuel is delivered to the vessel (or date on which the delivery begins where the delivery begins on one day and ends on a later day).

(4) Name, address, and telephone number of fuel supplier.

(5) Fuel type and designation under 40 CFR part 80.

(6) Quantity in metric tons.

(7) Density at 15°C, in kg/m^3.

(8) Sulfur content in weight percent.

(9) A signed statement by an authorized representative of fuel supplier certifying that the fuel supplied conforms to Regulations 14 and 18 of Annex VI consistent with it designation, intended use, and the date on which it is to be used. For example, with respect to conformity to Regulation 14 of Annex VI, a fuel designated and intended for use in an ECA any time between July 1, 2010 and January 1 2015 may not have a sulfur content above 1.00 weight percent.

(c) Measure density and sulfur content according to the specifications of Annex VI, or other methods we approve as equivalent. Where the density and/or sulfur content of the delivered fuel cannot be measured, we may allow the use of alternate methods to specify the density and/or sulfur content of the fuel. For example, where fuel is supplied from multiple tanks on a supply vessel, we may allow the density and sulfur content of the fuel to be calculated as a weighted average of the measured densities and sulfur contents of the fuel that is supplied from each tank.

§1043.90 Emission Control Areas

[RESERVED.]

APPENDIX 1 TO PART 1043 – TEXT OF REGULATIONS 13, 14, AND 18 OF ANNEX VI

Regulation 13 Nitrogen Oxides (NOx)

Application
1.1 This regulation shall apply to:
1.1.1 each marine diesel engine with a power output of more than 130 kW installed on a ship; and
1.1.2 each marine diesel engine with a power output of more than 130 kW which undergoes a major conversion on or after 1 January 2000 except when demonstrated to the satisfaction of the Administration that such engine is an identical replacement to the engine which it is replacing and is otherwise not covered under paragraph 1.1.1 of this regulation.
1.2 This regulation does not apply to:
1.2.1 a marine diesel engine intended to be used solely for emergencies, or solely to power any device or equipment intended to be used solely for emergencies on the ship on which it is installed, or a marine diesel engine installed in lifeboats intended to be used solely for emergencies; and
1.2.2 a marine diesel engine installed on a ship solely engaged in voyages within waters subject to the sovereignty or jurisdiction of the State the flag of which the ship is entitled to fly, provided that such engine is subject to an alternative NOx control measure established by the Administration.
1.3 Notwithstanding the provisions of subparagraph 1.1 of this paragraph, the Administration may provide an exclusion from the application of this regulation for any marine diesel engine which is installed on a ship constructed, or for any marine diesel engine which undergoes a major conversion, before 19 May 2005, provided that the ship on which the engine is installed is solely engaged in voyages to ports or offshore terminals within the State the flag of which the ship is entitled to fly.

Major Conversion
2.1 For the purpose of this regulation, major conversion means a modification on or fter 1 January 2000 of a marine diesel engine that has not already been certified to the standards set forth in paragraph 3, 4, or 5.1.1 of this regulation where:
2.1.1 the engine is replaced by a marine diesel engine or an additional marine diesel engine is installed, or
2.1.2 any substantial modification, as defined in the revised NOx Technical Code 2008, is made to the engine, or
2.1.3 the maximum continuous rating of the engine is increased by more than 10% compared to the maximum continuous rating of the original certification of the engine.
2.2 For a major conversion involving the replacement of a marine diesel engine with a nonidentical marine diesel engine or the installation of an additional marine diesel engine, the standards in this regulation in force at the time of the replacement or addition of the engine shall apply. On or after 1 January 2016, in the case of replacement engines only, if it is not possible for such a replacement engine to meet the standards set forth in paragraph 5.1.1 of this regulation (Tier III), then that replacement engine shall meet the standards set forth in paragraph 4 of this regulation (Tier II). Guidelines are to be developed by the Organization to set forth the criteria of when it is not possible for a replacement engine to meet the standards in subparagraph 5.1.1 of this regulation.
2.3 A marine diesel engine referred to in paragraph 2.1.2 or 2.1.3 shall meet the following standards:
2.3.1 for ships constructed prior to 1 January 2000, the standards set forth in paragraph 3 of this regulation shall apply; and
2.3.2 for ships constructed on or after 1 January 2000, the standards in force at the time the ship was constructed shall apply.

Tier I
3 Subject to regulation 3 of this Annex, the operation of a marine diesel engine which is installed on a ship constructed on or after 1 January 2000 and prior to 1 January 2011 is prohibited, except when the emission of nitrogen oxides (calculated as the total weighted emission of NO2) from the engine is within the following limits, where n = rated engine speed (crankshaft revolutions per minute):
3.1 17.0 g/kWh when n is less than 130 rpm;
3.2 45 n(-0.2) g/kWh when n is 130 or more but less than 2000 rpm;
3.3 9.8 g/kWh when n is 2000 rpm or more.

Tier II
4 Subject to regulation 3 of this Annex, the operation of a marine diesel engine which is installed on a ship

constructed on or after 1 January 2011 is prohibited, except when the emission of nitrogen oxides (calculated as the total weighted emission of NO2) from the engine is within the following limits, where n = rated engine speed (crankshaft revolutions per minute):
4.1 14.4 g/kWh when n is less than 130 rpm;
4.2 44 n(-0.23) g/kWh when n is 130 or more but less than 2000 rpm;
4.3 7.7 g/kWh when n is 2000 rpm or more.

Tier III
5.1 Subject to regulation 3 of this Annex, the operation of a marine diesel engine which is installed on a ship constructed on or after 1 January 2016:
5.1.1 is prohibited except when the emission of nitrogen oxides (calculated as the total weighted emission of NO2) from the engine is within the following limits, where n = rated engine speed (crankshaft revolutions per minute):
5.1.1.1 3.4 g/kWh when n is less than 130 rpm;
5.1.1.2 9 n(-0.2) g/kWh when n is 130 or more but less than 2000 rpm; and
5.1.1.3 2.0 g/kWh when n is 2000 rpm or more;
5.1.2 is subject to the standards set forth in subparagraph 5.1.1 of this paragraph when the ship is operating in an Emission Control Area designated under paragraph 6 of this regulation; and
5.1.3 is subject to the standards set forth in paragraph 4 of this regulation when the ship is operating outside of an Emission Control Area designated under paragraph 6 of this regulation.
5.2 Subject to the review set forth in paragraph 10 of this regulation, the standards set forth in paragraph 5.1.1 of this regulation shall not apply to:
5.2.1 a marine diesel engine installed on a ship with a length (L), as defined in regulation 1.19 of Annex I to the present Convention, less than 24 metres when it has been specifically designed, and is used solely, for recreational purposes; or
5.2.2 a marine diesel engine installed on a ship with a combined nameplate diesel engine propulsion power of less than 750 kW if it is demonstrated, to the satisfaction of the Administration, that the ship cannot comply with the standards set forth in paragraph 5.1.1 of this regulation because of design or construction limitations of the ship.
Emission Control Area
6 For the purpose of this regulation, an Emission Control Area shall be any sea area, including any port area, designated by the Organization in accordance with the criteria and procedures set forth in appendix III to this Annex.

Marine Diesel Engines Installed on a Ship Constructed Prior to 1 January 2000
7.1 Notwithstanding paragraph 1.1.1 of this regulation, a marine diesel engine with a power output of more than 5,000 kW and a per cylinder displacement at or above 90 litres installed on a ship constructed on or after 1 January 1990 but prior to 1 January 2000 shall comply with the emission limits set forth in subparagraph 7.4 of this paragraph, provided that an Approved Method for that engine has been certified by an Administration of a Party and notification of such certification has been submitted to the Organization by the certifying Administration. Compliance with this paragraph shall be demonstrated through one of the following:
7.1.1 installation of the certified Approved Method, as confirmed by a survey using the verification procedure specified in the Approved Method File, including appropriate notation on the ship‘s International Air Pollution Prevention Certificate of the presence of the Approved Method; or
7.1.2 certification of the engine confirming that it operates within the limits set forth in paragraph 3, 4, or 5.1.1 of this regulation and an appropriate notation of the engine certification on the ship‘s International Air Pollution Prevention Certificate.
7.2 Subparagraph 7.1 shall apply no later than the first renewal survey that occurs 12 months or more after deposit of the notification in subparagraph 7.1. If a shipowner of a ship on which an Approved Method is to be installed can demonstrate to the satisfaction of the Administration that the Approved Method was not commercially available despite best efforts to obtain it, then that Approved Method shall be installed on the ship no later than the next annual survey of that ship which falls after the Approved Method is commercially available.
7.3 With regard to a ship with a marine diesel engine with a power output of more than 5,000 kW and a per cylinder displacement at or above 90 litres installed on a ship constructed on or after 1 January 1990 but prior to 1 January 2000, the International Air Pollution Prevention Certificate shall, for a marine diesel engine to which paragraph 7.1 of this regulation applies, indicate that either an Approved Method has been applied pursuant to paragraph 7.1.1 of this regulation or the engine has been certified pursuant to paragraph 7.1.2 of this regulation or that an Approved Method does not yet exist or is not yet commercially available as described in subparagraph 7.2 of this regulation.

7.4 Subject to regulation 3 of this Annex, the operation of a marine diesel engine described in subparagraph 7.1 is prohibited, except when the emission of nitrogen oxides (calculated as the total weighted emission of NO2) from the engine is within the following limits, where n = rated engine speed (crankshaft revolutions per minute):
7.4.1 17.0 g/kWh when n is less than 130 rpm;
7.4.2 45 n(-0.2) g/kWh when n is 130 or more but less than 2000 rpm; and
7.4.3 9.8 g/kWh when n is 2,000 rpm or more.
7.5 Certification of an Approved Method shall be in accordance with chapter 7 of the revised NOx Technical Code 2008 and shall include verification:
7.5.1 by the designer of the base marine diesel engine to which the Approved Method applies that the calculated effect of the Approved Method will not decrease engine rating by more than 1.0%, increase fuel consumption by more than 2.0% as measured according to the appropriate test cycle set forth in the revised NOx Technical Code 2008, or adversely affect engine durability or reliability, and
7.5.2 that the cost of the Approved Method is not excessive, which is determined by a comparison of the amount of NOx reduced by the Approved Method to achieve the standard set forth in subparagraph 7.4 of this paragraph and the cost of purchasing and installing such Approved Method.

Certification
8 The revised NOx Technical Code 2008 shall be applied in the certification, testing, and measurement procedures for the standards set forth in this regulation.
9 The procedures for determining NOx emissions set out in the revised NOx Technical Code 2008 are intended to be representative of the normal operation of the engine. Defeat devices and irrational emission control strategies undermine this intention and shall not be allowed. This regulation shall not prevent the use of auxiliary control devices that are used to protect the engine and/or its ancillary equipment against operating conditions that could result in damage or failure or that are used to facilitate the starting of the engine.

Review
10 Beginning in 2012 and completed no later than 2013, the Organization shall review the status of the technological developments to implement the standards set forth in paragraph 5.1.1 of this regulation and shall, if proven necessary, adjust the time periods set forth in that subparagraph.

Regulation 14 Sulphur Oxides (SOx) and Particulate Matter

General Requirements
1 The sulphur content of any fuel oil used onboard ships shall not exceed the following limits:
1.1 4.50% m/m prior to 1 January 2012;
1.2 3.50% m/m on and after 1 January 2012; and
1.3 0.50% m/m on and after 1 January 2020.
2 The worldwide average sulphur content of residual fuel oil supplied for use onboard ships shall be monitored taking into account guidelines developed by the Organization.4
Requirements within Emission Control Areas
3 For the purpose of this regulation, Emission Control Areas shall include:
3.1 the Baltic Sea area as defined in regulation 1.11.2 of Annex I, the North Sea as defined in regulation 5(1)(f) of Annex V; and
3.2 any other sea area, including port areas, designated by the Organization in accordance with criteria and procedures set forth in appendix III to this Annex.
4 While ships are operating within an Emission Control Area, the sulphur content of fuel oil used onboard ships shall not exceed the following limits:
4.1 1.50% m/m prior to 1 July 2010;
4.2 1.00% m/m on and after 1 July 2010; and
4.3 0.10% m/m on and after 1 January 2015.
5 The sulphur content of fuel oil referred to in paragraph 1 and paragraph 4 of this regulation shall be documented by its supplier as required by regulation 18 of this Annex.
6 Those ships using separate fuel oils to comply with paragraph 4 of this regulation and entering or leaving an Emission Control Area set forth in paragraph 3 of this regulation shall carry a written procedure showing how the fuel oil change-over is to be done, allowing sufficient time for the fuel oil service system to be fully flushed of all fuel oils exceeding the applicable sulphur content specified in paragraph 4 of this regulation prior to entry into an Emission Control Area. The volume of low sulphur fuel oils in each tank as well as the date, time, and position of the ship when any fuel-oil-change-over operation is completed prior to the entry into an Emission Control Area or commenced after exit from such an area, shall be recorded in such log-book as prescribed by the Administration.
7 During the first twelve months immediately following an amendment designating a specific Emission Control Area under paragraph 3.2 of this regulation, ships operating in that Emission Control Area are exempt from the requirements in paragraphs 4 and 6 of this regulation and from the requirements of paragraph 5 of this regulation insofar as they relate to paragraph 4 of this regulation.

Review Provision
8 A review of the standard set forth in subparagraph 1.3 of this regulation shall be completed by 2018 to determine the availability of fuel oil to comply with the fuel oil standard set forth in that paragraph and shall take into account the following elements:
8.1 the global market supply and demand for fuel oil to comply with paragraph 1.3 of this regulation that exist at the time that the review is conducted;
8.2 an analysis of the trends in fuel oil markets; and
8.3 any other relevant issue.
9 The Organization shall establish a group of experts, comprising of representatives with the appropriate expertise in the fuel oil market and appropriate maritime, environmental, scientific, and legal expertise, to conduct the review referred to in paragraph 8 of this regulation. The group of experts shall develop the appropriate information to inform the decision to be taken by the Parties.

10 The Parties, based on the information developed by the group of experts, may decide whether it is possible for ships to comply with the date in paragraph 1.3 of this regulation. If a decision is taken that it is not possible for ships to comply, then the standard in that subparagraph shall become effective on 1 January 2025.

Regulation 18 Fuel Oil Availability and Quality

Fuel Oil Availability
1 Each Party shall take all reasonable steps to promote the availability of fuel oils which comply with this Annex and inform the Organization of the availability of compliant fuel oils in its ports and terminals.
2.1 If a ship is found by a Party not to be in compliance with the standards for compliant fuel oils set forth in this Annex, the competent authority of the Party is entitled to require the ship to:
2.1.1 present a record of the actions taken to attempt to achieve compliance; and
2.1.2 provide evidence that it attempted to purchase compliant fuel oil in accordance with its voyage plan and, if it was not made available where planned, that attempts were made to locate alternative sources for such fuel oil and that despite best efforts to obtain compliant fuel oil, no such fuel oil was made available for purchase.
2.2 The ship should not be required to deviate from its intended voyage or to delay unduly the voyage in order to achieve compliance.
2.3 If a ship provides the information set forth in subparagraph 2.1 of this paragraph, a Party shall take into account all relevant circumstances and the evidence presented to determine the appropriate action to take, including not taking control measures.
2.4 A ship shall notify its Administration and the competent authority of the relevant port of destination when it cannot purchase compliant fuel oil.
2.5 A Party shall notify the Organization when a ship has presented evidence of the non-availability of compliant fuel oil.

Fuel Oil Quality
3 Fuel oil for combustion purposes delivered to and used onboard ships to which this Annex applies shall meet the following requirements:
3.1 except as provided in subparagraph 3.2:
3.1.1 the fuel oil shall be blends of hydrocarbons derived from petroleum refining. This shall not preclude the incorporation of small amounts of additives intended to improve some aspects of performance;
3.1.2 the fuel oil shall be free from inorganic acid; and
3.1.3 the fuel oil shall not include any added substance or chemical waste which: .1.3.1 jeopardizes the safety of ships or adversely affects the performance
of the machinery, or
3.1.3.2 is harmful to personnel, or
3.1.3.3 contributes overall to additional air pollution.
3.2 fuel oil for combustion purposes derived by methods other than petroleum refining shall not: 3.2.1 exceed the applicable sulphur content set forth in regulation 14 of this Annex;
3.2.2 cause an engine to exceed the applicable NOx emission limit set forth in paragraphs 3, 4, 5.1.1 and 7.4 of regulation 13;
3.2.3 contain inorganic acid; or
3.2.4.1 jeopardize the safety of ships or adversely affect the performance of the machinery, or
3.2.4.2 be harmful to personnel, or
3.2.4.3 contribute overall to additional air pollution.
4 This regulation does not apply to coal in its solid form or nuclear fuels.
5 For each ship subject to regulations 5 and 6 of this Annex, details of fuel oil for combustion purposes delivered to and used onboard shall be recorded by means of a bunker delivery note which shall contain at least the information specified in appendix V to this Annex.
6 The bunker delivery note shall be kept onboard the ship in such a place as to be readily available for inspection at all reasonable times. It shall be retained for a period of three years after the fuel oil has been delivered on board.
7.1 The competent authority of a Party may inspect the bunker delivery notes onboard any ship to which this Annex applies while the ship is in its port or offshore terminal, may make a copy of each delivery note, and may require the master or person in charge of the ship to certify that each copy is a true copy of such bunker delivery note. The competent authority may also verify the contents of each note through consultations with the port where the note was issued.
7.2 The inspection of the bunker delivery notes and the taking of certified copies by the competent authority under this paragraph shall be performed as expeditiously as possible without causing the ship to be unduly delayed.
8.1 The bunker delivery note shall be accompanied by a representative sample of the fuel oil delivered taking into account guidelines developed by the Organization.10 The sample is to be sealed and signed by the supplier‘s

representative and the master or officer in charge of the bunker operation on completion of bunkering operations and retained under the ship‘s control until the fuel oil is substantially consumed, but in any case for a period of not less than 12 months from the time of delivery.
8.2 If an Administration requires the representative sample to be analysed, it shall be done in accordance with the verification procedure set forth in appendix VI to determine whether the fuel oil meets the requirements of this Annex.
9 Parties undertake to ensure that appropriate authorities designated by them:
9.1 maintain a register of local suppliers of fuel oil;
9.2 require local suppliers to provide the bunker delivery note and sample as required by this regulation, certified by the fuel oil supplier that the fuel oil meets the requirements of regulations 14 and 18 of this Annex;
9.3 require local suppliers to retain a copy of the bunker delivery note for at least three years for inspection and verification by the port State as necessary;
9.4 take action as appropriate against fuel oil suppliers that have been found to deliver fuel oil that does not comply with that stated on the bunker delivery note;
9.5 inform the Administration of any ship receiving fuel oil found to be non-compliant with the requirements of regulation 14 or 18 of this Annex; and
9.6 inform the Organization for transmission to Parties and Member States of the Organization of all cases where fuel oil suppliers have failed to meet the requirements specified in regulations 14 or 18 of this Annex.
10 In connection with port State inspections carried out by Parties, the Parties further undertake to:
10.1 inform the Party or non-Party under whose jurisdiction a bunker delivery note was issued of cases of delivery of noncompliant fuel oil, giving all relevant information; and
10.2 ensure that remedial action as appropriate is taken to bring noncompliant fuel oil discovered into compliance.
11 For every ship of 400 gross tonnage and above on scheduled services with frequent and regular port calls, an Administration may decide after application and consultation with affected States that compliance with paragraph 6 of this regulation may be documented in an alternative manner which gives similar certainty of compliance with regulations 14 and 18 of this Annex.

Part 1045— Control of Emissions from Spark-ignition Propulsion Marine Engines and Vessels

119. The authority citation for part 1045 continues to read as follows:
Authority: 42 U.S.C. 7401-7671q.

Subpart B—[Amended]

120. Section 1045.103 is amended by revising paragraph (b) introductory text to read as follows:

§1045.103 What exhaust emission standards must my outboard and personal watercraft engines meet?

* * * * *

(b) Averaging, banking, and trading. You may generate or use emission credits under the averaging, banking, and trading (ABT) program described in subpart H of this part for demonstrating compliance with HC+NOx emission standards. For CO emissions, you may generate or use emission credits for averaging as described in subpart H of this part, but such credits may not ~~for banking~~be banked or ~~trading~~traded. To generate or use emission credits, you must specify a family emission limit for each pollutant you include in the ABT program for each engine family. These family emission limits serve as the emission standards for the engine family with respect to all required testing instead of the standards specified in this section. An engine family meets emission standards even if its family emission limit is higher than the standard, as long as you show that the whole averaging set of applicable engine families meets the emission standards using emission credits and the engines within the family meet the family emission limit. The following FEL caps apply:

* * * * *

121. Section 1045.140 is amended by revising paragraph (a) to read as follows:

§1045.140 What is my engine's maximum engine power?

(a) An engine configuration's maximum engine power is the maximum brake power point on the nominal power curve for the engine configuration, as defined in this section. Round the power value to the nearest whole kilowatt for engines above 30 kW and to the nearest 0.1 kilowatt for engines at or below 30 kW.

* * * * *

122. Section 1045.145 is amended by adding paragraph (o) to read as follows:

§1045.145 Are there interim provisions that apply only for a limited time?

* * * * *

(o) Banking early credits for jet boat engines. Banked emission credits that were originally generated from outboard and personal watercraft engines under 40 CFR part 91 may be used to certify jet boat engines under the provisions §1045.660.

Subpart F—[Amended]

123. Section 1045.515 is amended by revising paragraph (c)(5) introductory text to

read as follows:

§1045.515 What are the test procedures related to not-to-exceed standards?

* * * * *

(c) * * *

(5) For two-stroke engines not equipped with a catalyst, the NTE zone described in paragraph (c)(3) of this section is divided into subzones for testing to determine compliance with the applicable NTE standards. Measure emissions to get an NTE result by collecting emissions at five points as described in this paragraph (c)(5). Calculate a weighted test result for these emission measurements using the weighting factors from Appendix ~~I~~II of this part for the corresponding modal result (similar to discrete-mode testing for certification). Test engines over the following modes corresponding to the certification duty cycle:

* * * * *

Subpart H—[Amended]

124. Section 1045.701 is amended by revising paragraphs (d), (g), (j)(4) and (j)(5) to read as follows:

§1045.701 General provisions.

* * * * *

(d) Sterndrive/inboard engines certified under §1045.660 for jet boats may use HC+NOx and CO exhaust credits generated from outboard and personal watercraft engines, as long as the credit-using engine is the same model as an engine model from an outboard or personal watercraft family. ~~These~~Such emission credits that you generate under this part 1045 may be used for averaging, but not for banking or trading. The FEL caps for such jet boat families are the HC+NOx and CO standard for outboard and personal watercraft engines. U.S.-directed sales from jet boat engines using the provisions of this paragraph (d) may not be greater than the U.S.-directed sales of the same engine model for outboard or personal watercraft engines.

* * * * *

(g) Emission credits may be used for averaging in the model year they are generated ~~(~~or banked for averaging~~) and~~ in future model years ~~(banking)~~, except that CO emission credits for outboard and personal watercraft engines may not be banked or traded.

* * * * *

(j) * * *

(4) Engines or vessels not subject to the requirements of this part, such as those excluded under ~~§1054.5~~§1045.5.

(5) Any other engines or vessels where we indicate elsewhere in this part ~~1054~~1045 that they are not to be included in the calculations of this subpart.

125. Section 1045.705 is amended by revising paragraph (a) to read as follows:

§1045.705 How do I generate and calculate exhaust emission credits?

* * * * *

(a) For each participating family, calculate positive or negative emission credits relative to the otherwise applicable emission standard. Calculate positive emission credits for a family that has an FEL below the standard. Calculate negative emission credits for a family that has an FEL above the standard. Sum your positive and negative credits for the model year before rounding. Round the sum of emission credits to the nearest kilogram (kg) using consistent units throughout

the following equation:

Emission credits (kg) = (STD - FEL) H (Volume) H (Power) H (UL) H (LF) H(10^{-3})

Where:

STD = the emission standard, in g/kW-hr.

FEL = the family emission limit for the family, in g/kW-hr.

Volume = the number of engines eligible to participate in the averaging, banking, and trading program within the given family during the model year, as described in §1045.701(j).

Power = maximum engine power for the family, in kilowatts (see §1045.140).

UL = The useful life for the given family.

LF = load factor. Use 0.207. We may specify a different load factor if we approve the use of special test procedures for an engine family under 40 CFR 1065.10(c)(2), consistent with good engineering judgment.

* * * * *

Subpart I—[Amended]

126. Section 1045.801 is amended by revising paragraphs (2) and (5)(iii) of the definition of "Model year" to read as follows:

§1045.801 What definitions apply to this part?

Model year * * *

(2) For an engine that is converted to a propulsion marine engine after being certified and placed into service as a motor vehicle engine, a nonroad engine that is not a propulsion marine engine, or a stationary engine, model year means the ~~model~~ calendar year in which the engine was originally produced. For an engine that is converted to a ~~nonroad~~ propulsion marine engine after being placed into service as a motor vehicle engine, a nonroad engine that is not a propulsion marine engine, or a stationary engine without having been certified, model year means the calendar year in which the engine becomes a new ~~nonroad~~ propulsion marine engine. (See definition of "new propulsion marine engine," paragraph (2).)

* * * * *

(5) * * *

(iii) For imported engines described in paragraph (5)(iii) of the definition of "new ~~nonroad~~ propulsion marine nonroad engine," model year means the calendar year in which the engine is assembled in its imported configuration, unless specified otherwise in this part or in 40 CFR part 1068.

* * * * *

Part 1048— Control of Emissions from New, Large Nonroad Spark-ignition Engines

127. The authority citation for part 1048 continues to read as follows:
Authority: 42 U.S.C. 7401-7671q.

Subpart B—[Amended]

128. Section 1048.120 is amended by revising paragraph (b) to read as follows:
§1048.120 What emission-related warranty requirements apply to me?
* * * * *

(b) Warranty period. Your emission-related warranty for evaporative emission controls must be valid for at least two years. Your emission-related warranty for exhaust emission controls 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.
* * * * *

Subpart C—[Amended]

129. Section 1048.245 is amended by revising paragraph (e) to read as follows:
§1048.245 How do I demonstrate that my engine family complies with evaporative emission standards?
* * * * *

(e) You may demonstrate that your engine family complies with the evaporative emission standards by demonstrating that you use the following control technologies:

(1) For certification to the standards specified in §1048.105~~(a)(1)~~ (c), with the following technologies:

(i) Use a tethered or self-closing gas cap on a fuel tank that stays sealed up to a positive pressure of 24.5 kPa (3.5 psig); however, they may contain air inlets that open when there is a vacuum pressure inside the tank. Nonmetal fuel tanks must also use one of the qualifying designs for controlling permeation emissions specified in 40 CFR 1060.240.

(ii) [Reserved]

(2) For certification to the standards specified in §1048.105~~(a)(3)~~ (d), demonstrating that you use design features to prevent fuel boiling under all normal operation. If you install engines in equipment, you may do this using fuel temperature data measured during normal operation. Otherwise, you may do this by including appropriate information in your emission-related installation instructions.

(3) We may establish additional options for design-based certification where we find that

new test data demonstrate that a technology will ensure compliance with the emission standards in this section

Subpart F—[Amended]

130. Section 1048.505 is amended by revising the section heading and paragraph (b)(5)(i) to read as follows:

§1048.505 ~~What transient duty cycles apply for laboratory testing?~~How do I test engines using steady-state duty cycles, including ramped-modal testing?

* * * * *

(b) * * *

(5) * * *

(i) The following duty cycle applies for discrete-mode testing:

Table 3 of §1048.505

~~D1~~ Mode Number	Engine Speed	Torque (percent)[1]	Minimum Time in mode (minutes)	Weighting Factors
1	Maximum test	100	3.0	0.50
2	Maximum test	75	3.0	0.50

[1]The percent torque is relative to the maximum torque at maximum test speed.

* * * * *

Part 1051— Control of Emissions from Recreational Engines and Vehicles

131. The authority citation for part 1051 continues to read as follows:
Authority: 42 U.S.C. 7401-7671q.

Subpart A—[Amended]

132. Section 1051.20 is amended by adding paragraph (g) to read as follows:
§1051.20 May I certify a recreational engine instead of the vehicle?
* * * * *
(g) Apply the provisions of 40 CFR part 1068 for engines certified under this section as if they were subject to engine-based standards. For example, you may rely on the provisions of 40 CFR 1068.261 to have vehicle manufacturers install catalysts that you describe in your application for certification.

Subpart B—[Amended]

133. Section 1051.135 is amended by revising paragraph (c)(12) to read as follows:
§1051.135 How must I label and identify the vehicles I produce?
* * * * *
(c) * * *
(12) State: "THIS VEHICLE MEETS U.S. EPA REGULATIONS FOR [MODEL YEAR] [SNOWMOBILES or OFF-ROAD MOTORCYCLES or ATVs or OFFROAD UTILITY VEHICLES].".
* * * * *

Subpart I—[Amended]

134. Section 1051.801 is amended by revising the definition for "Off-road utility vehicle" and revising paragraph (2) of the definition for "All-terrain vehicle" to read as follows:
§1051.801 What definitions apply to this part?
* * * * *
All-terrain vehicle* * *
(2) Other all-terrain vehicles have three or more wheels and one or more seats, are designed for operation over rough terrain, are intended primarily for transportation, and have a maximum vehicle speed ~~of~~higher than 25 miles per hour ~~or higher~~. Golf carts generally do not meet these criteria since they are generally not designed for operation over rough terrain.
* * * * *
Offroad utility vehicle means a nonroad vehicle that has four or more wheels, seating for two or more persons, is designed for operation over rough terrain, and has either a rear payload capacity of 350 pounds or more or seating for six or more passengers. Vehicles intended primarily for recreational purposes that are not capable of transporting six passengers (such as dune buggies) are not offroad utility vehicles. (Note:§1051.1(a) specifies that some offroad

utility vehicles are required to meet the requirements that apply for all-terrain vehicles.) Unless there is significant information to the contrary, we consider vehicles to be intended primarily for recreational purposes if they are marketed for recreational use, have a rear payload capacity no greater than 1,000 pounds, and meet at least five of the following criteria:
(1) Front and rear suspension travel is greater than 18 cm.
(2) The vehicle has no tilt bed.
(3) The vehicle has no mechanical power take-off (PTO) and no permanently installed hydraulic system for operating utility-oriented accessory devices.
(4) The engine has in-use operating speeds at or above 4,000 rpm.
(5) Maximum vehicle speed is greater than 35 miles per hour.
(6) The speed at which the engine produces peak power is above 4,5000 rpm and the engine is equivalent to engines in ATVs that you have certified. For the purpose of this paragraph (6), the engine is considered equivalent if it could be included in the same emission family based on the characteristics specified in §1051.230(b).
(7) Gross Vehicle Weight Rating is no greater than 3,750 pounds. This is the maximum design loaded weight of the vehicle as defined in 40 CFR 86.1803-01, including passengers and cargo.
* * * * *

Part 1054— Control of Emissions from New, Small Nonroad Spark-ignition Engines and Equipment

135. The authority citation for part 1054 continues to read as follows:
Authority: 42 U.S.C. 7401-7671q.

Subpart A—[Amended]

136. Section 1054.1 is amended by revising paragraph (a)(4) to read as follows:
§1054.1 Does this part apply for my engines and equipment?
(a) * * *
(4) This part 1054 applies for other spark-ignition engines as follows:
(i) The provisions of §§1054.620 and 1054.801 apply for new engines used solely for competition beginning January 1, 2010.
(ii) The provisions of §§1054.660 and 1054.801 apply for new engines used in emergency rescue equipment beginning January 1, 2010.
* * * * *

Subpart C—[Amended]

137. Section 1054.205 is amended by revising paragraph (b) to read as follows:
§1054.205 What must I include in my application?
* * * * *
(b) Explain how the emission control systems operate. Describe the evaporative emission controls and show how your design will prevent running loss emissions, if applicable. Also describe in detail all system components for controlling exhaust emissions, including all auxiliary emission control devices (AECDs) and all fuel-system components you will install on any production or test engine. Identify the part number of each component you describe ~~(or the alphanumeric designation for catalysts described in §1054.610, if applicable)~~. For this paragraph (b), treat as separate AECDs any devices that modulate or activate differently from each other. Include sufficient detail to allow us to evaluate whether the AECDs are consistent with the defeat device prohibition of §1054.115. For example, if your engines will routinely experience in-use operation that differs from the specified duty cycle for certification, describe how the fuel-metering system responds to varying speeds and loads not represented by the duty cycle. If you test an emission-data engine by disabling the governor for full-load operation such that the engine operates at an air-fuel ratio significantly different than under full-load operation with an installed governor, explain why these differences are necessary or appropriate. For conventional carbureted engines without electronic fuel controls, it is sufficient to state that there is no significant difference in air-fuel ratios.
* * * * *

Subpart G—[Amended]

138. Section 1054.601 is amended by adding paragraph (c) to read as follows:
§1054.601 What compliance provisions apply to these engines?

* * * * *

(c) The provisions of 40 CFR 1068.215 apply for cases in which the manufacturer takes possession of engines for purposes of recovering components as described in this paragraph (c). Note that this paragraph (c) does not apply for certified engines that still have the emission control information label since such engines do not need an exemption.

(1) You must label the engine as specified in 40 CFR 1068.215(c)(3), except that the label may be removable as specified in 40 CFR 1068.45(b).

(2) You may not resell the engine. For components other than the engine block, you may generate revenue from the sale of the components that you recover, or from the sale of new engines containing these components. You may also use components other than the engine block for engine rebuilds as otherwise allowed under the regulations. You may use the engine block from an engine that is exempted under this paragraph (c) only to make a new engine, and then only where such an engine has a separate identity from the original engine.

(3) Once the engine has reached its final destination, you may stop collecting records describing the engine's final disposition and how you use the engine. This does not affect the requirement to maintain the records you have already collected under 40 CFR 1068.215. This also does not affect the requirement to maintain records for new engines.

139. Section 1054.690 is amended by revising paragraphs (d) and (j) to read as follows:

§1054.690 What bond requirements apply for certified engines?

* * * * *

(d) The minimum value of the bond is $500,000. A higher bond value may apply based on the per-engine bond values shown in Table 1 to this section and on the U.S.-directed production volume from each displacement grouping for the calendar ~~calendar~~model year. For example, if you have projected U.S.-directed production volumes of 10,000 engines with 180 cc displacement and 10,000 engines with 400 cc displacement in 2013, the appropriate bond amount is $750,000. Adjust the value of the bond as follows:

(1) If your estimated or actual U.S.-directed production volume in any later ~~calendar~~ year increases beyond the level appropriate for your current bond payment, you must post additional bond to reflect the increased volume within 90 days after you change your estimate or determine the actual production volume. You may not decrease your bond.

(2) If you sell engines without aftertreatment components under the provisions of §1054.610, you must increase the per-engine bond values for the current year by 20 percent. ~~Round calculated values to the nearest dollar.~~

Table 1 to §1054.690—Per-engine bond values

For engines with displacement falling in the following ranges...	The per-engine bond value is...
Disp. < 225 cc	$25
225 ≤ Disp. < 740 cc	$50
740 ≤ Disp. ≤ 1,000 cc	$100
Disp. > 1,000 cc	$200

* * * * *

(j) The following provisions apply if you import engines for resale when those engines have been certified by someone else (or equipment containing such engines):

(1) You and the certificate holder are each responsible for compliance with the requirements of this part and the Clean Air Act. For example, we may require you to comply with the warranty requirements in ~~the standard-setting part~~§1054.120.

(2) You do not need to post bond if you or the certificate holder complies with the bond requirements of this section. You also do not need to post bond if the certificate holder complies with the asset requirements of this section and the repair-network provisions of §1054.120(f)(4).

Subpart H—[Amended]

140. Section 1054.730 is amended by revising paragraph (b)(4) to read as follows:

§1054.730 What ABT reports must I send to EPA?

* * * * *

(b) * * *

(4) The projected and actual production volumes for the model year with a point of first retail sale in the United States, as described in §1054.701(i). For fuel tanks, state the production volume in terms of surface area and production volume for each fuel tank configuration and state the total surface area for the emission family. If you changed an FEL during the model year, identify the actual production volume associated with each FEL.

* * * * *

Subpart I—[Amended]

141. Section 1054.801 is amended by revising the definitions for "Oxides of nitrogen" and "Total hydrocarbon equivalent" and adding a definition for "Point of first retail sale" in alphabetical order to read as follows:

* * * * *

Oxides of nitrogen has the meaning given in 40 CFR ~~part~~ 1065.1001

* * * * *

Point of first retail sale means the location at which the initial retail sale occurs. This generally means an equipment dealership, but may also include an engine seller or distributor in cases where loose engines are sold to the general public for uses such as replacement engines.

* * * * *

Total hydrocarbon equivalent has the meaning given in 40 CFR 1065.1001. This generally means the sum of the carbon mass contributions of non-oxygenated hydrocarbons, alcohols and aldehydes, or other organic compounds that are measured separately as contained in a gas sample, expressed as exhaust hydrocarbon from petroleum-fueled engines. The hydrogen-to-carbon mass ratio of the equivalent hydrocarbon is 1.85:1.

* * * * *

Part 1060— Control of Evaporative Emissions from New and In-use Nonroad and Stationary Equipment

142. The authority citation for part 1060 continues to read as follows:
Authority: 42 U.S.C. 7401-7671q.

Subpart B—[Amended]

143. Section 1060.103 is amended by revising paragraph (e) to read as follows:
§1060.103 What permeation emission control requirements apply for fuel tanks?
* * * * *

(e) Fuel caps may be certified separately relative to the permeation emission standard in paragraph (b) of this section using the test procedures specified in §1060.521. Fuel caps certified alone do not need to meet the emission standard. Rather, fuel caps would be certified with a Family Emission Limit, which is used for demonstrating that fuel tanks meet the emission standard as described in §1060.520(b)(5). For the purposes of this paragraph (e), gaskets or O-rings that are produced as part of an assembly with the fuel cap are considered part of the fuel cap.
* * * * *

144. Section 1060.135 is amended by revising paragraph (a)(5) to read as follows:
§1060.135 How must I label and identify the engines and equipment I produce?
* * * * *

(a)* * *

(5) Readily visible in the final installation. It may be under a hinged door or other readily opened cover. It may not be hidden by any cover attached with screws or any similar designs. Labels on marine vessels (except personal watercraft) must be visible from the helm.
* * * * *

145. Section 1060.137 is amended by revising paragraphs (a)(4) and (a)(5) to read as follows:
§1060.137 How must I label and identify the fuel-system components I produce?
* * * * *

(a) * * *

(4) Fuel caps, as described in this paragraph (a)(4). Fuel caps must be labeled if they are separately certified under §1060.103 or if the diurnal control system requires that the fuel tank hold pressure. Fuel caps must also be labeled if they are ~~attached directly to~~ mounted directly on the fuel tank, unless the fuel tank is certified based on a worst-case fuel cap.
(5) Replaceable pressure-relief assemblies. This does not apply if the component is integral to the fuel tank or fuel cap. If the assembly is too small to be properly labeled, you may omit the label, provided that you identify the part numbers in your maintenance and installation instructions.
* * * * *

Subpart F—[Amended]

146. Section 1060.515 is amended by revising paragraph (c) to read as follows:

§1060.515 How do I test EPA Nonroad Fuel Lines and EPA Cold-Weather Fuel Lines for permeation emissions?

* * * * *

(c) Measure fuel line permeation emissions using the equipment and procedures for weight-loss testing specified in SAE J30 or SAE J1527 (incorporated by reference in §1060.810). Start the measurement procedure within 8 hours after draining and refilling the fuel line. Perform the emission test over a sampling period of 14 days. Determine your final emission result based on the highest measured valued over the 14-day period.

* * * * *

147. Section 1060.520 is amended as follows:

a. By adding paragraph (a)(4).

b. By removing and reserving paragraph (b)(3).

c. By revising paragraphs (b)(5)(ii)(B), (d)(8), and (d)(10).

§1060.520 How do I test fuel tanks for permeation emissions?

* * * * *

(a) * * *

(4) Perform durability cycles on fuel caps intended for use with handheld equipment by putting the fuel cap on and taking it off 300 times. Tighten the fuel cap each time in a way that represents the typical in-use experience.

(b) * * *

(3) [Reserved]

* * * * *

(5) * * *

(ii) * * *

(B) You may seal the fuel inlet with a nonpermeable covering if you separately ~~measure the permeation~~ account for permeation emissions from the fuel cap. This may involve a separate measurement of permeation emissions from a worst-case fuel cap as described in §1060.521. This may also involve specifying a worst-case Family Emission Limit based on separately certified fuel caps as described in §1060.103(e).

* * * * *

(d) * * *

(8) Measure weight loss daily by retaring the balance using the reference tank and weighing the sealed test tank. Calculate the cumulative weight loss in ~~g/m^2/day~~grams for each measurement. [If result is at or below 0.1, stop testing after ten days. If the result is above 0.1, calculate...] Calculate the coefficient of determination, r^2, based on a linear plot of cumulative weight loss vs. test days as described in 40 CFR 1065.602(k). Continue testing for ten full days or, if r^2 is below 0.95, continue testing until r^2 is at or above 0.95. If r^2 is not at or above 0.95 within 20 days of testing, discontinue the test and precondition the fuel tank further until it has stabilized emission levels, then repeat the testing. The daily measurements must be at approximately the same time each day. You may omit up to two daily measurements in any seven-day period.

* * * * *

(10) Determine your final emission result based on the cumulative weight loss measured on the final day of testing. Round ~~your~~this result to the same number of decimal places as the emission standard.

* * * * *

Subpart G—[Amended]

148. Section 1060.601 is amended by adding paragraph (h) to read as follows:

§1060.601 How do the prohibitions of 40 CFR 1068.101 apply with respect to the requirements of this part?

* * * * *

(h) If equipment manufacturers hold certificates of conformity for their equipment but they use only fuel-system components that have been certified by other companies, they may satisfy their defect-reporting obligations by tracking the information described in 40 CFR 1068.501(b)(1) related to possible defects, reporting this information to the appropriate component manufacturers, and keeping these records for eight years. Such equipment manufacturers will not be considered in violation of 40 CFR 1068.101(b)(6) for failing to perform investigations, make calculations, or submit reports to EPA as specified in 40 CFR 1068.501. See §1060.5(a).

Subpart I—[Amended]

149. Section 1060.801 is amended by revising the definitions for "Detachable fuel line" and "Sealed" and adding definitions for "Installed marine fuel line" and "Portable marine fuel line" to read as follows:

§1060.801 What definitions apply to this part?

* * * * *

Detachable fuel line means a fuel line or fuel line assembly intended to be used with a portable nonroad fuel tank and which is connected by special fittings to the fuel tank and/or engine for easy disassembly. Fuel lines that require a wrench or other tools to disconnect are not considered detachable fuel lines. Fuel lines that are labeled or marketed as USCG Type B1 fuel line as specified in 33 CFR 183.540 are not considered detachable fuel lines if they are sold to the ultimate purchaser without quick-connect fittings or similar hardware.

* * * * *

Installed marine fuel line means a fuel line designed for delivering fuel to a Marine SI engine, excluding portable marine fuel line.

* * * * *

Portable marine fuel line means a detachable fuel line that is used or intended to be used to supply fuel to a marine engine during operation. This also includes any fuel line labeled or marketed at USCG Type B1 fuel line as specified in 33 CFR 183.540, whether or not it includes detachable connecting hardware; this is often called universal fuel line.

* * * * *

Sealed means lacking openings to the atmosphere that would allow a measurable amount of liquid or vapor to leak out under normal operating pressures or other pressures specified in this part. For example, you may generally establish a maximum value for operating pressures based on the highest pressure you would observe from an installed fuel tank during continuous

equipment operation on a sunny day with ambient temperatures of 35°C. A fuel system may be considered to have no measurable leak if it does not release bubbles when held underwater at the identified pressure for 60 seconds. This determination presumes the use of good engineering judgment; for example, it would not be appropriate to test the fuel tank such that small leaks would avoid detection by collecting in a cavity created by holding the tank with a certain orientation. Sealed fuel systems may have openings for emission controls or for fuel lines needed to route fuel to the engine.
* * * * *

PART 1065—ENGINE-TESTING PROCEDURES

150. The authority citation for part 1065 continues to read as follows:
Authority: 42 U.S.C. 7401-7671q.

Subpart A-- [Revised]

151. Section 1065.1 is amended by revising paragraph (d) to read as follows:
§1065.1 Applicability.
* * * * *
(d) Paragraph (a) of this section identifies the parts of the CFR that define emission standards and other requirements for particular types of engines. In this part, we refer to each of these other parts generically as the "standard-setting part." For example, 40 CFR part 1051 is always the standard-setting part for snowmobiles. Note that while 40 CFR part 86 is the standard-setting part for heavy-duty highway engines, this refers specifically to 40 CFR part 86, subpart A, and to certain portions of 40 CFR part 86, subpart N, as described in 40 CFR 86.1301.
* * * * *

152. Section 1065.2 is amended by revising paragraphs (a) and (b) to read as follows:
§1065.2 Submitting information to EPA under this part.
(a) You are responsible for statements and information in your applications for certification, requests for approved procedures, selective enforcement audits, laboratory audits, production-line test reports, field test reports, or any other statements you make to us related to this part 1065. If you provide statements or information to someone for submission to EPA, you are responsible for these statements and information as if you had submitted them to EPA yourself.
(b) In the standard-setting part and in 40 CFR 1068.101, we describe your obligation to report truthful and complete information and the consequences of failing to meet this obligation. See also 18 U.S.C. 1001 and 42 U.S.C. 7413(c)(2). This obligation applies whether you submit this information directly to EPA or through someone else.
* * * * *

153. Section 1065.10 is amended by revising paragraphs (c)(2) and (c)(7) to read as follows:
§1065.10 Other procedures.
* * * * *
(c) * * *

(2) You may request to use special procedures if your engine cannot be tested using the specified procedures. For example, this may apply if your engine cannot operate on the specified duty cycle. In this case, tell us in writing why you cannot satisfactorily test your engine using this part's procedures and ask to use a different approach. We will approve your request if we determine that it would produce emission measurements that represent in-use operation and we determine that it can be used to show compliance with the requirements of the standard-setting part. Where we approve special procedures that differ substantially from the specified procedures, we may preclude you from participating in averaging, banking, and trading with the affected engine families.

* * * * *

(7) You may request to use alternate procedures that are equivalent to the allowed procedures, or procedures that are more accurate or more precise than the allowed procedures. The following provisions apply to requests for alternate procedures:

(i) Applications. Follow the instructions in §1065.12.

(ii) Submission. Submit requests in writing to the Designated Compliance Officer.

(iii) Notification. We may approve your request by telling you directly, or we may issue guidance announcing our approval of a specific alternate procedure, which would make additional requests for approval unnecessary.

* * * * *

154. Section 1065.15 is amended by revising paragraph (c) to read as follows:

§1065.15 Overview of procedures for laboratory and field testing.

* * * * *

(c) We generally set brake-specific emission standards over test intervals and/or duty cycles, as follows:

(1) Engine operation. Testing may involve measuring emissions and work in a laboratory-type environment or in the field, as described in paragraph (f) of this section. For most laboratory testing, the engine is operated over one or more duty cycles specified in the standard-setting part. However, laboratory testing may also include non-duty cycle testing (such as simulation of field testing in a laboratory). For field testing, the engine is operated under normal in-use operation. The standard-setting part specifies how test intervals are defined for field testing. Refer to the definitions of "duty cycle" and "test interval" in §1065.1001. Note that a single duty cycle may have multiple test intervals and require weighting of results from multiple test intervals to calculate a composite brake-specific emissions value to compare to the standard.

(2) Constituent determination. Determine the total mass of each constituent over a test interval by selecting from the following methods:

(i) Continuous sampling. In continuous sampling, measure the constituent's concentration continuously from raw or dilute exhaust. Multiply this concentration by the continuous (raw or dilute) flow rate at the emission sampling location to determine the constituent's flow rate. Sum the constituent's flow rate continuously over the test interval. This sum is the total mass of the emitted constituent.

(ii) Batch sampling. In batch sampling, continuously extract and store a sample of raw or dilute exhaust for later measurement. Extract a sample proportional to the raw or dilute exhaust flow rate. You may extract and store a proportional sample of exhaust in an appropriate container, such as a bag, and then measure HC, CO, and NO_x concentrations in the container after the test interval. You may deposit PM from proportionally extracted exhaust onto an appropriate

substrate, such as a filter. In this case, divide the PM by the amount of filtered exhaust to calculate the PM concentration. Multiply batch sampled concentrations by the total (raw or dilute) flow from which it was extracted during the test interval. This product is the total mass of the emitted constituent.

(iii) Combined sampling. You may use continuous and batch sampling simultaneously during a test interval, as follows:

(A) You may use continuous sampling for some constituents and batch sampling for others.

(B) You may use continuous and batch sampling for a single constituent, with one being a redundant measurement. See §1065.201 for more information on redundant measurements.

(3) Work determination. Determine work over a test interval by one of the following methods:

(i) Speed and torque. Synchronously multiply speed and brake torque to calculate instantaneous values for engine brake power. Sum engine brake power over a test interval to determine total work.

(ii) Fuel consumed and brake-specific fuel consumption. Directly measure fuel consumed or calculate it with chemical balances of the fuel, intake air, and exhaust. To calculate fuel consumed by a chemical balance, you must also measure either intake-air flow rate or exhaust flow rate. Divide the fuel consumed during a test interval by the brake-specific fuel consumption to determine work over the test interval. For laboratory testing, calculate the brake-specific fuel consumption using fuel consumed and speed and torque over a test interval. For field testing, refer to the standard-setting part and §1065.915 for selecting an appropriate value for brake-specific fuel consumption.

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Subpart B--- [Revised]

155. Section 1065.125 is amended by revising paragraphs (c) and (e) to read as follows:

§1065.125 Engine intake air.

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(c) Maintain the temperature of intake air upstream of all engine components within the range of allowable ambient temperatures (or other range specified by the standard-setting part), consistent with the provisions of §1065.10(c)(1).

* * * * *

(e) This paragraph (e) includes provisions for simulating charge-air cooling in the laboratory. This approach is described in paragraph (e)(1) of this section. Limits on using this approach are described in paragraphs (e)(2) and (3) of this section.

(1) Use a charge-air cooling system with a total intake-air capacity that represents production engines' in-use installation. Design any laboratory charge-air cooling system to minimize accumulation of condensate. Drain any accumulated condensate and completely close all drains before starting a duty cycle. Keep the drains closed during the emission test. Maintain coolant conditions as follows:

(i) Maintain a coolant temperature of at least 20 °C at the inlet to the charge-air cooler throughout testing. We recommend maintaining a coolant temperature of 25 ± 5ºC at the inlet of the charge-air cooler.

(ii) At the engine conditions specified by the manufacturer, set the coolant flow rate to achieve an air temperature within ±5 °C of the value specified by the manufacturer after the charge-air cooler's outlet. Measure the air-outlet temperature at the location specified by the manufacturer. Use this coolant flow rate set point throughout testing. If the engine manufacturer does not specify engine conditions or the corresponding charge-air cooler air outlet temperature, set the coolant flow rate at maximum engine power to achieve a charge-air cooler air outlet temperature that represents in-use operation.

(iii) If the engine manufacturer specifies pressure-drop limits across the charge-air cooling system, ensure that the pressure drop across the charge-air cooling system at engine conditions specified by the manufacturer is within the manufacturer's specified limit(s). Measure the pressure drop at the manufacturer's specified locations.

(2) Using a constant flow rate as described in paragraph (e)(1) of this section may result in unrepresentative overcooling of the intake air. The provisions of this paragraph (e)(2) apply instead of the provisions of §1065.10(c)(1) for this simulation. Our allowance to cool intake air as specified in this paragraph (e) does not affect your liability for field testing or for laboratory testing that is done in a way that better represents in-use operation. Where we determine that this allowance adversely affects your ability to demonstrate that your engines would comply with emission standards under in-use conditions, we may require you to use more sophisticated setpoints and controls of charge-air pressure drop, coolant temperature, and flow rate to achieve more representative results.(3) This approach does not apply for field testing. You may not correct measured emission levels from field testing to account for any differences caused by the simulated cooling in the laboratory.

156. Section 1065.140 is amended by revising paragraphs (c)(6), (e) introductory text, and (e)(4) to read as follows:

§1065.140 Dilution for gaseous and PM constituents.

* * * * *

(c) * * *

(6) Aqueous condensation. To ensure that you measure a flow that corresponds to a measured concentration, you may either prevent aqueous condensation throughout the dilution tunnel or you may allow aqueous condensation to occur and then measure humidity at the flow meter inlet. You may heat or insulate the dilution tunnel walls, as well as the bulk stream tubing downstream of the tunnel to prevent aqueous condensation. Calculations in §1065.645 and §1065.650 account for either method of addressing humidity in the diluted exhaust. Note that preventing aqueous condensation involves more than keeping pure water in a vapor phase (see §1065.1001).

* * * * *

(e) Dilution air temperature, dilution ratio, residence time, and temperature control of PM samples. Dilute PM samples at least once upstream of transfer lines. You may dilute PM samples upstream of a transfer line using full-flow dilution, or partial-flow dilution immediately downstream of a PM probe. In the case of partial-flow dilution, you may have up to 26 cm of insulated length between the end of the probe and the dilution stage, but we recommend that the length be as short as practical. The intent of these specifications is to minimize heat transfer to or from the emission sample before the final stage of dilution, other than the heat you may need to add to prevent aqueous condensation. This is accomplished by initially cooling the sample through dilution. Configure dilution systems as follows:

* * * * *

(4) Control sample temperature to a (47 ±5) °C tolerance, as measured anywhere within 20 cm upstream or downstream of the PM storage media (such as a filter). Measure this temperature with a bare-wire junction thermocouple with wires that are (0.500 ±0.025) mm diameter, or with another suitable instrument that has equivalent performance.

157. Section 1065.145 is revised to read as follows:

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

(a) Continuous and batch sampling. Determine the total mass of each constituent with continuous or batch sampling, as described in §1065.15(c)(2). Both types of sampling systems have probes, transfer lines, and other sampling system components that are described in this section.

(b) Options for engines with multiple exhaust stacks. Measure emissions from a test engine as described in this paragraph (b) if it has multiple exhaust stacks. You may choose to use different measurement procedures for different pollutants under this paragraph (b) for a given test. For purposes of this part 1065, the test engine includes all the devices related to converting the chemical energy in the fuel to the engine's mechanical output energy. This may or may not involve vehicle- or equipment-based devices. For example, all of an engine's cylinders are considered to be part of the test engine even if the exhaust is divided into separate exhaust stacks. As another example, all the cylinders of a diesel-electric locomotive are considered to be part of the test engine even if they transmit power through separate output shafts, such as might occur with multiple engine-generator sets working in tandem. Use one of the following procedures to measure emissions with multiple exhaust stacks:

(1) Route the exhaust flow from the multiple stacks into a single flow as described in §1065.130(c)(6). Sample and measure emissions after the exhaust streams are mixed. Calculate the emissions as a single sample from the entire engine. We recommend this as the preferred

option, since it requires only a single measurement and calculation of the exhaust molar flow for the entire engine.
(2) Sample and measure emissions from each stack and calculate emissions separately for each stack. Add the mass (or mass rate) emissions from each stack to calculate the emissions from the entire engine. Testing under this paragraph (b)(2) requires measuring or calculating the exhaust molar flow for each stack separately. If the exhaust molar flow in each stack cannot be calculated from combustion air flow(s), fuel flow(s), and measured gaseous emissions, and it is impractical to measure the exhaust molar flows directly, you may alternatively proportion the engine's calculated total exhaust molar flow rate (where the flow is calculated using combustion air mass flow(s), fuel mass flow(s), and emissions concentrations) based on exhaust molar flow measurements in each stack using a less accurate, non-traceable method. For example, you may use a total pressure probe and static pressure measurement in each stack.
(3) Sample and measure emissions from one stack and repeat the duty cycle as needed to collect emissions from each stack separately. Calculate the emissions from each stack and add the separate measurements to calculate the mass (or mass rate) emissions from the entire engine. Testing under this paragraph (b)(3) requires measuring or calculating the exhaust molar flow for each stack separately. You may alternatively proportion the engine's calculated total exhaust molar flow rate based on calculation and measurement limitations as described in paragraph (b)(2) of this section. Use the average of the engine's total power or work values from the multiple test runs to calculate brake-specific emissions. Divide the total mass (or mass rate) of each emission by the average power (or work). You may alternatively use the engine power or work associated with the corresponding stack during each test run if these values can be determined for each stack separately.
(4) Sample and measure emissions from each stack separately and calculate emissions for the entire engine based on the stack with the highest concentration. Testing under this paragraph (b)(4) requires only a single exhaust flow measurement or calculation for the entire engine. You may determine which stack has the highest concentration by performing multiple test runs, reviewing the results of earlier tests, or using good engineering judgment. Note that the highest concentration of different pollutants may occur in different stacks. Note also that the stack with the highest concentration of a pollutant during a test interval for field testing may be a different stack than the one you identified based on average concentrations over a duty cycle.
(5) Sample emissions from each stack separately and combine the wet sample streams from each stack proportionally to the exhaust molar flows in each stack. Measure the emission concentrations and calculate the emissions for the entire engine based on these weighted concentrations. Testing under this paragraph (b)(5) requires measuring or calculating the exhaust molar flow for each stack separately during the test run to proportion the sample streams from each stack. If it is impractical to measure the exhaust molar flows directly, you may alternatively proportion the wet sample streams based on less accurate, non-traceable flow methods. For example, you may use a total pressure probe and static pressure measurement in each stack. The following restrictions apply for testing under this paragraph (b)(5):
(i) You must use an accurate, traceable measurement or calculation of the engine's total exhaust molar flow rate for calculating the mass of emissions from the entire engine.
(ii) You may dry the single, combined, proportional sample stream; you may not dry the sample streams from each stack separately.
(iii) You must measure and proportion the sample flows from each stack with active flow controls. For PM sampling, you must measure and proportion the diluted sample flows from

each stack with active flow controls that use only smooth walls with no sudden change in cross-sectional area. For example, you may control the dilute exhaust PM sample flows using electrically conductive vinyl tubing and a control device that pinches the tube over a long enough transition length so no flow separation occurs.
(iv) For PM sampling, the transfer lines from each stack must be joined so the angle of the joining flows is 12.5 º or less. Note that the exhaust manifold must meet the same specifications as the transfer line according to paragraph (d) of this section.
(6) Sample emissions from each stack separately and combine the wet sample streams from each stack equally. Measure the emission concentrations and calculate the emissions for the entire engine based on these measured concentrations. Testing under this paragraph (b)(6) assumes that the raw-exhaust and sample flows are the same for each stack. The following restrictions apply for testing under this paragraph (b)(6):
(i) You must measure and demonstrate that the sample flow from each stack is within 5% of the value from the stack with the highest sample flow. You may alternatively ensure that the stacks have equal flow rates without measuring sample flows by designing a passive sampling system that meets the following requirements:
(A) The probes and transfer line branches must be symmetrical, have equal lengths and diameters, have the same number of bends, and have no filters.
(B) If probes are designed such that they are sensitive to stack velocity, the stack velocity must be similar at each probe. For example, a static pressure probe used for gaseous sampling is not sensitive to stack velocity.
(C) The stack static pressure must be the same at each probe. You can meet this requirement by placing probes at the end of stacks that are vented to atmosphere.
(D) For PM sampling, the transfer lines from each stack must be joined so the angle of the joining flows is 12.5 º or less. Note that the exhaust manifold must meet the same specifications as the transfer line according to paragraph (d) of this section.
(ii) You may use the procedure in this paragraph (b)(6) only if you perform an analysis showing that the resulting error due to imbalanced stack flows and concentrations is either at or below 2 %. You may alternatively show that the resulting error does not impact your ability to demonstrate compliance with applicable standards. For example, you may use less accurate, non-traceable measurements of emission concentrations and molar flow in each stack and demonstrate that the imbalances in flows and concentrations cause 2% or less error.
(iii) For a two-stack engine, you may use the procedure in this paragraph (b)(6) only if you can show that the stack with the higher flow has the lower average concentration for each pollutant over the duty cycle.
(iv) You must use an accurate, traceable measurement or calculation of the engine's total exhaust molar flow rate for calculating the mass of emissions from the entire engine.
(v) You may dry the single, equally combined, sample stream; you may not dry the sample streams from each stack separately.
(vi) You may determine your exhaust flow rates with a chemical balance of exhaust gas concentrations and either intake air flow or fuel flow.(c) Gaseous and PM sample probes. A probe is the first fitting in a sampling system. It protrudes into a raw or diluted exhaust stream to extract a sample, such that its inside and outside surfaces are in contact with the exhaust. A sample is transported out of a probe into a transfer line, as described in paragraph (d) of this section. The following provisions apply to sample probes:

(1) Probe design and construction. Use sample probes with inside surfaces of 300 series stainless steel or, for raw exhaust sampling, use any nonreactive material capable of withstanding raw exhaust temperatures. Locate sample probes where constituents are mixed to their mean sample concentration. Take into account the mixing of any crankcase emissions that may be routed into the raw exhaust. Locate each probe to minimize interference with the flow to other probes. We recommend that all probes remain free from influences of boundary layers, wakes, and eddies—especially near the outlet of a raw-exhaust tailpipe where unintended dilution might occur. Make sure that purging or back-flushing of a probe does not influence another probe during testing. You may use a single probe to extract a sample of more than one constituent as long as the probe meets all the specifications for each constituent.
(2) Gaseous sample probes. Use either single-port or multi-port probes for sampling gaseous emissions. You may orient these probes in any direction relative to the raw or diluted exhaust flow. For some probes, you must control sample temperatures, as follows:
(i) For probes that extract NO_x from diluted exhaust, control the probe's wall temperature to prevent aqueous condensation.
(ii) For probes that extract hydrocarbons for THC or NMHC analysis from the diluted exhaust of compression-ignition engines, 2-stroke spark-ignition engines, or 4-stroke spark-ignition engines below 19 kW, we recommend heating the probe to minimize hydrocarbon contamination consistent with good engineering judgment. If you routinely fail the contamination check in the 1065.520 pretest check, we recommend heating the probe section to approximately 190 °C to minimize contamination.
(3) PM sample probes. Use PM probes with a single opening at the end. Orient PM probes to face directly upstream. If you shield a PM probe's opening with a PM pre-classifier such as a hat, you may not use the preclassifier we specify in paragraph (f)(1) of this section. We recommend sizing the inside diameter of PM probes to approximate isokinetic sampling at the expected mean flow rate.
(d) Transfer lines. You may use transfer lines to transport an extracted sample from a probe to an analyzer, storage medium, or dilution system, noting certain restrictions for PM sampling in §1065.140(e). Minimize the length of all transfer lines by locating analyzers, storage media, and dilution systems as close to probes as practical. We recommend that you minimize the number of bends in transfer lines and that you maximize the radius of any unavoidable bend. Avoid using 90 °elbows, tees, and cross-fittings in transfer lines. Where such connections and fittings are necessary, take steps, using good engineering judgment, to ensure that you meet the temperature tolerances in this paragraph (d). This may involve measuring temperature at various locations within transfer lines and fittings. You may use a single transfer line to transport a sample of more than one constituent, as long as the transfer line meets all the specifications for each constituent. The following construction and temperature tolerances apply to transfer lines:
(1) Gaseous samples. Use transfer lines with inside surfaces of 300 series stainless steel, PTFE, Viton™, or any other material that you demonstrate has better properties for emission sampling. For raw exhaust sampling, use a non-reactive material capable of withstanding raw exhaust temperatures. You may use in-line filters if they do not react with exhaust constituents and if the filter and its housing meet the same temperature requirements as the transfer lines, as follows:
(i) For NO_x transfer lines upstream of either an NO_2-to-NO converter that meets the specifications of §1065.378 or a chiller that meets the specifications of §1065.376, maintain a sample temperature that prevents aqueous condensation.

(ii) For THC transfer lines for testing compression-ignition engines, 2-stroke spark-ignition engines, or 4-stroke spark-ignition engines below 19 kW, maintain a wall temperature tolerance throughout the entire line of (191 ±11) °C. If you sample from raw exhaust, you may connect an unheated, insulated transfer line directly to a probe. Design the length and insulation of the transfer line to cool the highest expected raw exhaust temperature to no lower than 191 °C, as measured at the transfer line's outlet. For dilute sampling, you may use a transition zone between the probe and transfer line of up to 92 cm to allow your wall temperature to transition to (191 ±11) °C.

(2) PM samples. We recommend heated transfer lines or a heated enclosure to minimize temperature differences between transfer lines and exhaust constituents. Use transfer lines that are inert with respect to PM and are electrically conductive on the inside surfaces. We recommend using PM transfer lines made of 300 series stainless steel. Electrically ground the inside surface of PM transfer lines.

(e) Optional sample-conditioning components for gaseous sampling. You may use the following sample-conditioning components to prepare gaseous samples for analysis, as long as you do not install or use them in a way that adversely affects your ability to show that your engines comply with all applicable gaseous emission standards.

(1) NO_2-to-NO converter. You may use an NO_2-to-NO converter that meets the efficiency-performance check specified in §1065.378 at any point upstream of a NO_x analyzer, sample bag, or other storage medium.

(2) Sample dryer. You may use either type of sample dryer described in this paragraph (e)(2) to decrease the effects of water on gaseous emission measurements. You may not use a chemical dryer, or use dryers upstream of PM sample filters.

(i) Osmotic-membrane. You may use an osmotic-membrane dryer upstream of any gaseous analyzer or storage medium, as long as it meets the temperature specifications in paragraph (d)(1) of this section. Because osmotic-membrane dryers may deteriorate after prolonged exposure to certain exhaust constituents, consult with the membrane manufacturer regarding your application before incorporating an osmotic-membrane dryer. Monitor the dewpoint, T_{dew}, and absolute pressure, p_{total}, downstream of an osmotic-membrane dryer. You may use continuously recorded values of T_{dew} and p_{total} in the amount of water calculations specified in §1065.645. If you do not continuously record these values, you may use their peak values observed during a test or their alarm setpoints as constant values in the calculations specified in §1065.645. You may also use a nominal p_{total}, which you may estimate as the dryer's lowest absolute pressure expected during testing.

(ii) Thermal chiller. You may use a thermal chiller upstream of some gas analyzers and storage media. You may not use a thermal chiller upstream of a THC measurement system for compression-ignition engines, 2-stroke spark-ignition engines, or 4-stroke spark-ignition engines below 19 kW. If you use a thermal chiller upstream of an NO_2-to-NO converter or in a sampling system without an NO_2-to-NO converter, the chiller must meet the NO_2 loss-performance check specified in §1065.376. Monitor the dewpoint, T_{dew}, and absolute pressure, p_{total}, downstream of a thermal chiller. You may use continuously recorded values of T_{dew} and p_{total} in the emission calculations specified in §1065.650. If you do not continuously record these values, you may use the maximum temperature and minimum pressure values observed during a test or the high alarm temperature setpoint and the low alarm pressure setpoint as constant values in the amount of water calculations specified in §1065.645. You may also use a nominal p_{total}, which you may estimate as the dryer's lowest absolute pressure expected during testing. If it is valid to assume

the degree of saturation in the thermal chiller, you may calculate T_{dew} based on the known chiller performance and continuous monitoring of chiller temperature, $T_{chiller}$. If you do not continuously record values of $T_{chiller}$, you may use its peak value observed during a test, or its alarm setpoint, as a constant value to determine a constant amount of water according to §1065.645. If it is valid to assume that $T_{chiller}$ is equal to T_{dew}, you may use $T_{chiller}$ in lieu of T_{dew} according to §1065.645. If it is valid to assume a constant temperature offset between $T_{chiller}$ and T_{dew}, due to a known and fixed amount of sample reheat between the chiller outlet and the temperature measurement location, you may factor in this assumed temperature offset value into emission calculations. If we ask for it, you must show by engineering analysis or by data the validity of any assumptions allowed by this paragraph (e)(2)(ii).

(3) Sample pumps. You may use sample pumps upstream of an analyzer or storage medium for any gas. Use sample pumps with inside surfaces of 300 series stainless steel, PTFE, or any other material that you demonstrate has better properties for emission sampling. For some sample pumps, you must control temperatures, as follows:

(i) If you use a NO_x sample pump upstream of either an NO_2-to-NO converter that meets §1065.378 or a chiller that meets §1065.376, it must be heated to prevent aqueous condensation.

(ii) For testing compression-ignition engines, 2-stroke spark-ignition engines, or 4-stroke spark-ignition engines below 19 kW, if you use a THC sample pump upstream of a THC analyzer or storage medium, its inner surfaces must be heated to a tolerance of (191 ±11) °C.

(4) Ammonia Scrubber. You may use ammonia scrubbers for any or all gaseous sampling systems to prevent interference with NH_3, poisoning of the NO_2-to-NO converter, and deposits in the sampling system or analyzers. Follow the ammonia scrubber manufacturer's recommendations or use good engineering judgment in applying ammonia scrubbers.

(f) Optional sample-conditioning components for PM sampling. You may use the following sample-conditioning components to prepare PM samples for analysis, as long as you do not install or use them in a way that adversely affects your ability to show that your engines comply with the applicable PM emission standards. You may condition PM samples to minimize positive and negative biases to PM results, as follows:

(1) PM preclassifier. You may use a PM preclassifier to remove large-diameter particles. The PM preclassifier may be either an inertial impactor or a cyclonic separator. It must be constructed of 300 series stainless steel. The preclassifier must be rated to remove at least 50 % of PM at an aerodynamic diameter of 10 μm and no more than 1 % of PM at an aerodynamic diameter of 1 μm over the range of flow rates for which you use it. Follow the preclassifier manufacturer's instructions for any periodic servicing that may be necessary to prevent a buildup of PM. Install the preclassifier in the dilution system downstream of the last dilution stage. Configure the preclassifier outlet with a means of bypassing any PM sample media so the preclassifier flow may be stabilized before starting a test. Locate PM sample media within 75 cm downstream of the preclassifier's exit. You may not use this preclassifier if you use a PM probe that already has a preclassifier. For example, if you use a hat-shaped preclassifier that is located immediately upstream of the probe in such a way that it forces the sample flow to change direction before entering the probe, you may not use any other preclassifier in your PM sampling system.

(2) Other components. You may request to use other PM conditioning components upstream of a PM preclassifier, such as components that condition humidity or remove gaseous-phase hydrocarbons from the diluted exhaust stream. You may use such components only if we approve them under §1065.10.

Subpart C— [Revised]

158. Section 1065.240 is amended by revising paragraph (d) introductory text to read as follows:

§1065.240 Dilution air and diluted exhaust flow meters.

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(d) Exhaust cooling. You may cool diluted exhaust upstream of a dilute-exhaust flow meter, as long as you observe all the following provisions:

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Subpart D—[Revised]

159. Section 1065.303 is revised to read as follows:

§1065.303 Summary of required calibration and verifications

The following table summarizes the required and recommended calibrations and verifications described in this subpart and indicates when these have to be performed:

Table 1 of §1065.303–Summary of required calibration and verifications

Type of calibration or verification	Minimum frequency[a]
§1065.305: Accuracy, repeatability and noise	Accuracy: Not required, but recommended for initial installation. Repeatability: Not required, but recommended for initial installation. Noise: Not required, but recommended for initial installation.
§1065.307: Linearity verification	Speed: Upon initial installation, within 370 days before testing and after major maintenance. Torque: Upon initial installation, within 370 days before testing and after major maintenance. Electrical power: Upon initial installation, within 370 days before testing and after major maintenance. Fuel flow: Upon initial installation, within 370 days before testing, and after major maintenance. Clean gas and diluted exhaust flows: Upon initial installation, within 370 days before testing and after major maintenance, unless flow is verified by propane check or by carbon or oxygen balance. Raw exhaust flow: Upon initial installation, within 185 days before testing and after major maintenance, unless flow is verified by propane check or by carbon or oxygen balance. Gas dividers: Upon initial installation, within 370 days before testing, and after major maintenance. Gas analyzers: Upon initial installation, within 35 days before testing and after major maintenance. PM balance: Upon initial installation, within 370 days before testing and after major maintenance. Stand-alone pressure, temperature, and dewpoint: Upon initial installation, within 370 days before testing and after major maintenance.
§1065.308: Continuous gas analyzer system response and updating-recording verification—for gas analyzers not continuously compensated for other gas species	Upon initial installation or after system modification that would affect response.
§1065.309: Continuous gas analyzer system-response and updating-recording verification—for gas analyzers continuously compensated for other gas species	Upon initial installation or after system modification that would affect response.
§1065.310: Torque	Upon initial installation and after major maintenance.
§1065.315: Pressure, temperature, dewpoint	Upon initial installation and after major maintenance.
§1065.320: Fuel flow	Upon initial installation and after major maintenance.
§1065.325: Intake flow	Upon initial installation and after major maintenance.
§1065.330: Exhaust flow	Upon initial installation and after major maintenance.
§1065.340: Diluted exhaust flow (CVS)	Upon initial installation and after major maintenance.
§1065.341: CVS and batch sampler verification[b]	Upon initial installation, within 35 days before testing, and after major maintenance.
§1065.342 Sample dryer verification	For thermal chillers; upon installation and after major maintenance. For osmotic membranes; upon installation, after major maintenance, and within 35 days of testing.
§1065.345: Vacuum leak	Before each laboratory test according to subpart F of this part and before each field test according to subpart J of this part.
§1065.350: CO_2 NDIR H_2O interference	Upon initial installation and after major maintenance.
§1065.355: CO NDIR CO_2 and H_2O interference	Upon initial installation and after major maintenance.
§1065.360: FID calibration THC FID optimization, and THC FID verification.	Calibrate all FID analyzers: upon initial installation and after major maintenance.

	Optimize and determine CH_4 response for THC FID analyzers: upon initial installation and after major maintenance. Verify CH_4 response for THC FID analyzers: upon initial installation, within 185 days before testing, and after major maintenance.
§1065.362: Raw exhaust FID O_2 interference	For all FID analyzers: upon initial installation, and after major maintenance. For THC FID analyzers: upon initial installation, after major maintenance, and after FID optimization according to §1065.360.
§1065.365: Nonmethane cutter penetration	Upon initial installation, within 185 days before testing, and after major maintenance.
§1065.370: CLD CO_2 and H_2O quench	Upon initial installation and after major maintenance.
§1065.372: NDUV HC and H_2O interference	Upon initial installation and after major maintenance.
§1065.376: Chiller NO_2 penetration	Upon initial installation and after major maintenance.
§1065.378: NO_2-to-NO converter conversion	Upon initial installation, within 35 days before testing, and after major maintenance.
§1065.390: PM balance and weighing	Independent verification: upon initial installation, within 370 days before testing, and after major maintenance. Zero, span, and reference sample verifications: within 12 hours of weighing, and after major maintenance.
§1065.395: Inertial PM balance and weighing	Independent verification: upon initial installation, within 370 days before testing, and after major maintenance. Other verifications: upon initial installation and after major maintenance.

[a]Perform calibrations and verifications more frequently, according to measurement system manufacturer instructions and good engineering judgment.
[b]The CVS verification described in §1065.341 is not required for systems that agree within ± 2% based on a chemical balance of carbon or oxygen of the intake air, fuel, and diluted exhaust.

160. Section 1065.307 is amended by revising paragraphs (c)(6), (d), and (e)(3)(ii) and Table 1 to read as follows:

§1065.307 Linearity verification.

* * * * *

(c) * * *

(6) For all measured quantities, use instrument manufacturer recommendations and good engineering judgment to select reference values, y_{refi}, that cover a range of values that you expect would prevent extrapolation beyond these values during emission testing. We recommend selecting a zero reference signal as one of the reference values of the linearity verification. For stand-alone pressure, temperature, and dewpoint linearity verifications, we recommend at least three reference values. For all other linearity verifications select at least ten reference values.

* * * * *

(d) Reference signals. This paragraph (d) describes recommended methods for generating reference values for the linearity-verification protocol in paragraph (c) of this section. Use reference values that simulate actual values, or introduce an actual value and measure it with a reference-measurement system. In the latter case, the reference value is the value reported by the reference-measurement system. Reference values and reference-measurement systems must be NIST-traceable. We recommend using calibration reference quantities that are NIST-traceable within 0.5 % uncertainty, if not specified otherwise in other sections of this part 1065. Use the following recommended methods to generate reference values or use good engineering judgment to select a different reference:

(1) Speed. Run the engine or dynamometer at a series of steady-state speeds and use a strobe, a photo tachometer, or a laser tachometer to record reference speeds.

(2) Torque. Use a series of calibration weights and a calibration lever arm to simulate engine torque. You may instead use the engine or dynamometer itself to generate a nominal torque that is measured by a reference load cell or proving ring in series with the torque-measurement system. In this case use the reference load cell measurement as the reference value. Refer to §1065.310 for a torque-calibration procedure similar to the linearity verification in this section.
(3) Electrical power. Use a controlled source of current and a watt-hour standard reference meter. Complete calibration systems that contain a current source and a reference watt-hour meter are commonly used in the electrical power distribution industry and are therefore commercially available.
* * * * *
(e) * * *
(3) * * *
(ii) For linearity verification of torque on the engine's primary output shaft, T_{max} refers to the manufacturer's specified engine torque peak value of the lowest torque engine to be tested.
* * * * *

Table 1 of §1065.307–Measurement systems that require linearity verifications

Measurement system	Quantity	Minimum verification frequency	Linearity criteria			
			$\lvert x_{min}(a_1-1)+a_0 \rvert$	a_1	*SEE*	r^2
Speed	f_n	Within 370 days before testing	≤0.05 % f_{nmax}	0.98-1.02	≤2 % · f_{nmax}	≥0.990
Torque	T	Within 370 days before testing	≤1 % · T_{max}	0.98-1.02	≤2 % · T_{max}	≥0.990
Electrical power	P	Within 370 days before testing	≤1 % · P_{max}	0.98-1.02	≤2 % · P_{max}	≥0.990
Fuel flow rate	$\dot{m}_c$	Within 370 days before testing[d]	≤1 % · $\dot{m}_{max}$	0.98-1.02	≤2 % · $\dot{m}_{max}$	≥0.990
Intake-air flow rate	$\dot{m}_{ai}$	Within 370 days before testing	≤1 % · $\dot{m}_{max}$	0.98-1.02	≤2 % · $\dot{m}_{max}$	≥0.990
Dilution air flow rate	$\dot{m}_{dw}$	Within 370 days before testing	≤1 % · $\dot{m}_{max}$	0.98-1.02	≤2 % · $\dot{m}_{max}$	≥0.990
Diluted exhaust flow rate	$\dot{m}_{ed}$	Within 370 days before testing	≤1 % · $\dot{m}_{max}$	0.98-1.02	≤2 % · $\dot{m}_{max}$	≥0.990
Raw exhaust flow rate	$\dot{m}_{ew}$	Within 185 days before testing	≤1 % · $\dot{m}_{max}$	0.98-1.02	≤2 % · $\dot{m}_{max}$	≥0.990
Batch sampler flow rates	$\dot{m}_{sb}$	Within 370 days before testing	≤1 % · $\dot{m}_{max}$	0.98-1.02	≤2 % · $\dot{m}_{max}$	≥0.990
Gas dividers	x/x_{span}	Within 370 days before testing	≤0.5 % · x_{max}	0.98-1.02	≤2 % · x_{max}	≥0.990
Gas analyzers for laboratory testing	x	Within 35 days before testing	≤0.5 % · x_{max}	0.99-1.01	≤1 % · x_{max}	≥0.998
Gas analyzers for field testing	x	Within 35 days before testing	≤1 % · x_{max}	0.99-1.01	≤1 % · x_{max}	≥0.998
PM balance	m	Within 370 days before testing	≤1 % · m_{max}	0.99-1.01	≤1 % · m_{max}	≥0.998
Stand-alone pressures	p	Within 370 days before testing	≤1 % · p_{max}	0.99-1.01	≤1 % · p_{max}	≥0.998
Dewpoint	T_{dew}	Within 370 days before testing	≤1 % · T_{dewmax}	0.99-1.01	≤1 % · T_{dewmax}	≥0.998
Analog-to-digital conversion of stand-alone temperature signals	T	Within 370 days before testing	≤1 % · T_{max}	0.99-1.01	≤1 % · T_{max}	≥0.998

161. Section 1065.309 is amended by revising paragraph (d)(2) to read as follows:

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

* * * * *

(d) * * *

(2) Equipment setup. We recommend using minimal lengths of gas transfer lines between all connections and fast-acting three-way valves (2 inlets, 1 outlet) to control the flow of zero and blended span gases to the sample system's probe inlet or a tee near the outlet of the probe. Normally the gas flow rate is higher than the probe sample flow rate and the excess is overflowed out the inlet of the probe. If the gas flow rate is lower than the probe flow rate, the gas concentrations must be adjusted to account for the dilution from ambient air drawn into the probe. Select span gases for the species being continuously combined, other than H_2O. Select concentrations of compensating species that will yield concentrations of these species at the analyzer inlet that covers the range of concentrations expected during testing. You may use binary or multi-gas span gases. You may use a gas blending or mixing device to blend span gases. A gas blending or mixing device is recommended when blending span gases diluted in N_2 with span gases diluted in air. You may use a multi-gas span gas, such as NO-CO-CO_2-C_3H_8-CH_4, to verify multiple analyzers at the same time. In designing your experimental setup, avoid pressure pulsations due to stopping the flow through the gas blending device. If H_2O correction is applicable, then span gases must be humidified before entering the analyzer; however, you may not humidify NO_2 span gas by passing it through a sealed humidification vessel that contains water. You must humidify NO_2 span gas with another moist gas stream. We recommend humidifying your NO-CO-CO_2-C_3H_8-CH_4, balance N_2 blended gas by flowing the gas mixture through a sealed vessel that humidifies the gas by bubbling it through distilled water and then mixing the gas with dry NO_2 gas, balance purified synthetic air. If your system does not use a sample dryer to remove water from the sample gas, you must humidify your span gas to the highest sample H_2O content that you estimate during emission sampling. If your system uses a sample dryer during testing, it must pass the sample dryer verification check in §1065.342, and you must humidify your span gas to an H_2O content greater than or equal to the level determined in §1065.145(e)(2). If you are humidifying span gases without NO_2, use good engineering judgment to ensure that the wall temperatures in the transfer lines, fittings, and valves from the humidifying system to the probe are above the dewpoint required for the target H_2O content. If you are humidifying span gases with NO_2, use good engineering judgment to ensure that there is no condensation in the transfer lines, fittings, or valves from the point where humidified gas is mixed with NO_2 span gas to the probe. We recommend that you design your setup so that the wall temperatures in the transfer lines, fittings, and valves from the humidifying system to the probe are at least 5 ºC above the local sample gas dewpoint. Operate the measurement and sample handling system as you do for emission testing. Make no modifications to the sample handling system to reduce the risk of condensation. Flow humidified gas through the sampling system before this check to allow stabilization of the measurement system's sampling handling system to occur, as it would for an emission test.

* * * * *

162. Section 1065.342 is amended by revising paragraph (a), (c), (d)(4), and (d)(7) to read as follows:

§1065.342 Sample dryer verification.

(a) Scope and frequency. If you use a sample dryer as allowed in §1065.145(e)(2) to remove water from the sample gas, verify the performance upon installation, after major maintenance, for thermal chiller. For osmotic membrane dryers, verify the performance upon installation, after major maintenance, and within 35 days of testing.
* * * * *
(c) System requirements. The sample dryer must meet the specifications as determined in §1065.145(e)(2) for dewpoint, T_{dew}, and absolute pressure, p_{total}, downstream of the osmotic-membrane dryer or thermal chiller.
(d) * * *
(4) Maintain the sample lines, fittings, and valves from the location where the humidified gas water content is measured to the inlet of the sampling system at a temperature at least 5 ºC above the local humidified gas dewpoint. For dryers used in NO_x sample systems, verify the sample system components used in this verification prevent aqueous condensation as required in §1065.145(d)(1)(i). We recommend that the sample system components be maintained at least 5 ºC above the local humidified gas dewpoint to prevent aqueous condensation.
* * * * *
(7) The sample dryer meets the verification if the dewpoint at the sample dryer pressure as measured in paragraph (d)(6) of this section is less than the dewpoint corresponding to the sample dryer specifications as determined in §1065.145(e)(2) plus 2 °C or if the mole fraction of water as measured in (d)(6) is less than the corresponding sample dryer specifications plus 0.002 mol/mol.
* * * * *

163. Section 1065.345 is amended by revising paragraph (e)(1)(iii) to read as follows:
§1065.345 Vacuum-side leak verification.
* * * * *
(e) * * *
(1) * * *
(iii) Close a leak-tight valve located in the sample transfer line within 92 cm of the probe.
* * * * *

164. Section 1065.350 is amended by revising paragraph (d) to read as follows:
§1065.350 H_2O interference verification for CO_2 NDIR analyzers.
* * * * *
(d) Procedure. Perform the interference verification as follows:
(1) Start, operate, zero, and span the CO_2 NDIR analyzer as you would before an emission test. If the sample is passed through a dryer during emission testing, you may run this verification test with the dryer if it meets the requirements of §1065.342. Operate the dryer at the same conditions as you will for an emission test. You may also run this verification test without the sample dryer.
(2) Create a humidified test gas by bubbling zero gas that meets the specifications in §1065.750 through distilled water in a sealed vessel. If the sample is not passed through a dryer during emission testing, control the vessel temperature to generate an H_2O level at least as high as the maximum expected during emission testing. If the sample is passed through a dryer during emission testing, control the vessel temperature to generate an H_2O level at least as high as the level determined in §1065.145(e)(2) for that dryer.

(3) Introduce the humidified test gas into the sample system. You may introduce it downstream of any sample dryer, if one is used during testing.
(4) If the sample is not passed through a dryer during this verification test, measure the water mole fraction, x_{H2O}, of the humidified test gas, as close as possible to the inlet of the analyzer. For example, measure dewpoint, T_{dew}, and absolute pressure, p_{total}, to calculate x_{H2O}. Verify that the water content meets the requirement in paragraph (d)(2) of this section. If the sample is passed through a dryer during this verification test, you must verify that the water content of the humidified test gas downstream of the vessel meets the requirement in paragraph (d)(2) of this section based on either direct measurement of the water content (e.g., dewpoint and pressure) or an estimate based on the vessel pressure and temperature. Use good engineering judgment to estimate the water content. For example, you may use previous direct measurements of water content to verify the vessel's level of saturation.
(5) If a sample dryer is not used in this verification test, use good engineering judgment to prevent condensation in the transfer lines, fittings, or valves from the point where x_{H2O} is measured to the analyzer. We recommend that you design your system so the wall temperatures in the transfer lines, fittings, and valves from the point where x_{H2O} is measured to the analyzer are at least 5 ºC above the local sample gas dewpoint.
* * * * *

165. Section 1065.355 is amended by revising paragraph (d) to read as follows:

§1065.355 H_2O and CO_2 interference verification for CO NDIR analyzers.

* * * * *

(d) Procedure. Perform the interference verification as follows:
(1) Start, operate, zero, and span the CO NDIR analyzer as you would before an emission test. If the sample is passed through a dryer during emission testing, you may run this verification test with the dryer if it meets the requirements of §1065.342. Operate the dryer at the same conditions as you will for an emission test. You may also run this verification test without the sample dryer.
(2) Create a humidified CO_2 test gas by bubbling a CO_2 span gas that meets the specifications in §1065.750 through distilled water in a sealed vessel. If the sample is not passed through a dryer during emission testing, control the vessel temperature to generate an H_2O level at least as high as the maximum expected during emission testing. If the sample is passed through a dryer during emisison testing, control the vessel temperature to generate an H_2O level at least as high as the level determined in §1065.145(e)(2) for that dryer. Use a CO_2 span gas concentration at least as high as the maximum expected during testing.
(3) Introduce the humidified CO_2 test gas into the sample system. You may introduce it downstream of any sample dryer, if one is used during testing.
(4) If the sample is not passed through a dryer during this verification test, measure the water mole fraction, x_{H2O}, of the humidified CO_2 test gas as close as possible to the inlet of the analyzer. For example, measure dewpoint, T_{dew}, and absolute pressure, p_{total}, to calculate x_{H2O}. Verify that the water content meets the requirement in paragraph (d)(2) of this section. If the sample is passed through a dryer during this verification test, you must verify that the water content of the humidified test gas downstream of the vessel meets the requirement in paragraph (d)(2) of this section based on either direct measurement of the water content (e.g., dewpoint and pressure) or an estimate based on the vessel pressure and temperature. Use good engineering

judgment to estimate the water content. For example, you may use previous direct measurements of water content to verify the vessel's level of saturation.
(5) If a sample dryer is not used in this verification test, use good engineering judgment to prevent condensation in the transfer lines, fittings, or valves from the point where x_{H2O} is measured to the analyzer. We recommend that you design your system so that the wall temperatures in the transfer lines, fittings, and valves from the point where x_{H2O} is measured to the analyzer are at least 5 ºC above the local sample gas dewpoint.
* * * * *

166. Section 1065.370 is amended by revising paragraph (e)(5) to read as follows:
§1065.370 CLD CO_2 and H_2O quench verification.
* * * * *
(e) * * *
(5) Humidify the NO span gas by bubbling it through distilled water in a sealed vessel. If the humidified NO span gas sample does not pass through a sample dryer for this verification test, control the vessel temperature to generate an H_2O level approximately equal to the maximum mole fraction of H_2O expected during emission testing. If the humidified NO span gas sample does not pass through a sample dryer, the quench verification calculations in §1065.675 scale the measured H_2O quench to the highest mole fraction of H_2O expected during emission testing. If the humidified NO span gas sample passes through a dryer for this verification test, control the vessel temperature to generate an H_2O level at least as high as the level determined in §1065.145(e)(2). For this case, the quench verification calculations in §1065.675 do not scale the measured H_2O quench.
* * * * *

Subpart F— [Revised]

167. Section 1065.501 is amended by revising paragraphs (b)(2)(i) and (b)(2)(ii) to read as follows:

§1065.501 Overview.

* * * * *

(b) * * *

(2) * * *

(i) Discrete-mode cycles. Before emission sampling, stabilize an engine at the first discrete mode. Sample emissions and other parameters for that mode in the same manner as a transient cycle, with the exception that reference speed and torque values are constant. Record mean values for that mode, and then stabilize the engine at the next mode. Continue to sample each mode discretely as separate test intervals and calculate weighted emission results according to the standard-setting part.

(ii) Ramped-modal cycles. Perform ramped-modal cycles similar to the way you would perform transient cycles, except that ramped-modal cycles involve mostly steady-state engine operation. Generate a ramped-modal duty cycle as a sequence of second-by-second (1 Hz) reference speed and torque points. Run the ramped-modal duty cycle in the same manner as a transient cycle and use the 1 Hz reference speed and torque values to validate the cycle, even for cycles with % power. Proportionally sample emissions and other parameters during the cycle and use the calculations in subpart G of this part to calculate emissions.

* * * * *

168. Section 1065.510 is amended by revising paragraph (b)(5) to read as follows:

§1065.510 Engine mapping.

* * * * *

(b) * * *

(5) Perform one of the following:

(i) For any engine subject only to steady-state duty cycles (i.e., discrete-mode or ramped-modal), you may perform an engine map by using discrete speeds. Select at least 20 evenly spaced setpoints between warm idle speed and the endpoint. At each setpoint, stabilize speed and allow torque to stabilize. Record the mean speed and torque at each setpoint. We recommend that you stabilize an engine for at least 15 seconds at each setpoint and record the mean feedback speed and torque of the last (4 to 6) seconds. Use linear interpolation to determine intermediate speeds and torques. Use this series of speeds and torques to generate the power map as described in paragraph (e) of this section.

(ii) For any variable-speed engine, you may perform an engine map by using a continuous sweep of speed by continuing to record the mean feedback speed and torque at 1 Hz or more frequently and increasing speed at a constant rate such that it takes (4 to 6) min to sweep from 95 % of warm idle speed to the endpoint. Stop recording after you complete the sweep. From the series of mean speed and maximum torque values, use linear interpolation to determine intermediate values. Use this series of speeds and torques to generate the power map as described in paragraph (e) of this section.

(iii) Determine the endpoint of the map using one of the following methods:

(A) You may use as your endpoint the highest speed above maximum power at which (50±5) % of maximum power occurs.

(B) You may use as your endpoint any speed higher than that specified in paragraph (b)(5)(iii)(A) of this section. If you determine your endpoint for a continuous sweep according to this paragraph (b)(5)(iii)(B), you may base your compliance with the (4 to 6) min specification in paragraph (b)(5)(ii) of this section on the time it takes you to reach the speed specified in paragraph (b)(5)(iii)(A) of this section.
(C) If the speed specified in paragraph (b)(5)(iii)(A) of this section is unsafe (e.g, for ungoverned engines), use good engineering judgment to map up to the maximum safe speed. If the engine is equipped with a governor that prevents the engine from operating at the speeds specified in paragraph (b)(5)(iii)(A) of this section, you may use the highest achievable speed as the endpoint. Note that under §1065.10(c)(1) we may allow you to disregard portions of the map when selecting maximum test speed if the specified procedure would result in a duty cycle that does not represent in-use operation.
* * * * *

169. Section 1065.520 is amended by revising paragraph (b)(1) to read as follows:

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

* * * * *

(b) * * *

(1) Ambient temperature of (20 to 30) °C. However, testing may occur at higher ambient temperatures without EPA approval if it is not practical to achieve an ambient temperature at or below 30 °C. See §1065.125 for requirements related to intake air temperature.

* * * * *

170. Section 1065.530 is amended by revising paragraph (g)(3)(iv) to read as follows:

§1065.530 Emission test sequence.

* * * * *

(g) * * *

(3) * * *

(iv) Analyze non-conventional gaseous batch samples, such as ethanol (NMHCE) as soon as practical using good engineering judgment.

* * * * *

171. Section 1065.545 is amended by revising the section heading and removing paragraph (d) to read as follows:

§1065.545 Validation of proportional flow control for batch sampling.

* * * * *

172. A new §1065.546 is added to subpart F to read as follows:

§1065.546 Validation of minimum dilution ratio for PM batch sampling.

Use continuous flows and/or tracer gas concentrations for transient and ramped modal cycles to validate the minimum dilution ratios for PM batch sampling as specified in §1065.140(e)(2) over the test interval. You may use mode-average values instead of continuous measurements for discrete mode steady-state duty cycles. Determine the minimum primary and minimum overall

dilution ratios using one of the following methods (you may use a different method for each stage of dilution):
(a) Determine minimum dilution ratio based on molar flow data. This involves determination of at least two of the following three quantities: raw exhaust flow (or previously diluted flow), dilution air flow, and dilute exhaust flow. You may determine the raw exhaust flow rate based on the measured intake air molar flow rate and the chemical balance terms in §1065.655. You may alternatively estimate the molar raw exhaust flow rate based on intake air, fuel rate measurements, and fuel properties, consistent with good engineering judgment.
(b) Determine minimum dilution ratio based on tracer gas (e.g., CO_2) concentrations in the raw (or previously diluted) and dilute exhaust corrected for any removed water.
(c) Use good engineering judgment to develop your own method of determining dilution ratios.

173. Section 1065.550 is amended by revising paragraph (b) to read as follows:

§1065.550 Gas analyzer range validation, drift validation, and drift correction.

* * * * *

(b) Drift validation and drift correction. Calculate two sets of brake-specific emission results for each test interval. Calculate one set using the data before drift correction and calculate the other set after correcting all the data for drift according to §1065.672. Use the two sets of brake-specific emission results to validate the duty cycle for drift as follows:
(1) The duty cycle is validated for drift if you satisfy one of the following criteria:
(i) For each test interval of the duty cycle and for each regulated pollutant, the difference between the uncorrected and the corrected brake-specific emission values over the test interval is within ±4 % of the uncorrected value or applicable emission standard, whichever is greater.
(ii) For the entire duty cycle and for each regulated pollutant, the difference between the uncorrected and corrected composite brake-specific emission values over the entire duty cycle is within ±4 % of the uncorrected value or the applicable emission standard, whichever is greater. Note that for purposes of drift validation using composite brake-specific emission values over the entire duty cycle, leave unaltered any negative emission results over a given test interval (i.e., do not set them to zero). A third calculation of composite brake-specific emission values is required for final reporting. This calculation uses drift-corrected mass (or mass rate) values from each test interval and sets any negative mass (or mass rate) values to zero before calculating the composite brake-specific emission values over the entire duty cycle.
(2) For standards consisting of multiple emission mass measurements (such as NMHC+NO_x or separate NO and NO_2 measurements to comply with a NO_x standard), the duty cycle shall be validated for drift if you satisfy one of the following:
(i) For each test interval of the duty cycle and for each individual mass, the difference between the uncorrected and the corrected brake-specific emission values over the test interval is within ±4 % of the uncorrected value; or
(ii) For the entire duty cycle the difference between the combined (e.g. NMHC + NO_x) uncorrected and combined (e.g. NMHC + NO_x) corrected composite brake-specific emissions values over the entire duty cycle is within ±4 % of the uncorrected value or the applicable emissions standard, whichever is greater.(3) If the test is not validated for drift, you may consider the test results for the duty cycle to be valid only if, using good engineering judgment, the observed drift does not affect your ability to demonstrate compliance with the applicable emission standards. For example, if the drift-corrected value is less than the standard by at least

two times the absolute difference between the uncorrected and corrected values, you may consider the data to be valid for demonstrating compliance with the applicable standard.

Subpart G— [Revised]

174. Section 1065.602 is amended by revising paragraphs (e) and (l)(1)(iii)to read as follows:

§1065.602 Statistics.

* * * * *

(e) Accuracy. Determine accuracy as described in this paragraph (e).. Make multiple measurements of a standard quantity to create a set of observed values, y_i, and compare each observed value to the known value of the standard quantity. The standard quantity may have a single known value, such as a gas standard, or a set of known values of negligible range, such as a known applied pressure produced by a calibration device during repeated applications. The known value of the standard quantity is represented by y_{ref_i}. If you use a standard quantity with a single value, y_{ref_i} would be constant. Calculate an accuracy value as follows:

$$accuracy = \left| \frac{1}{N} \sum_{i=1}^{N} \left(y_i - y_{ref_i} \right) \right|$$

Eq. 1065.602-4

Example:

$y_{ref} = 1800.0$

$N = 3$

$y_1 = 1806.4$

$y_2 = 1803.1$

$y_3 = 1798.9$

$$accuracy = \left| \frac{1}{3} \left((1806.4 - 1800.0) + (1803.1 - 1800.0) + (1798.9 - 1800.0) \right) \right|$$

$$accuracy = \left| \frac{1}{3} \left((6.4) + (3.1) + (-1.1) \right) \right|$$

$accuracy = 2.8$

* * * * *

(l) * * *

(1) * * *

(iii) Use your estimated values as described in the following example calculation:

$$\overline{x}_{exp} = \frac{e_{std} \cdot W_{ref}}{M \cdot \dot{n}_{exhmax} \cdot \Delta t_{duty\ cycle} \cdot \left(\frac{\overline{P}_{ref} + \left(\overline{P}_{frict} \cdot P_{max} \right)}{P_{max}} \right)}$$

Eq. 1065.602-13

$$\dot{n}_{exhmax} = \frac{p_{max} \cdot V_{disp} \cdot f_{nmax} \cdot \frac{2}{N_{stroke}} \cdot \eta_V}{R \cdot T_{max}}$$

Eq. 1065.602-14

Example:

$e_{NOx} = 2.5$ g/(kW×hr)

$W_{ref} = 11.883$ kW×hr

M_{NOx} = 46.0055 g/mol = 46.0055 $\times 10^{-6}$ g/µmol
$\Delta t_{dutycycle}$ = 20 min = 1200 s
$\overline{P}_{ref}$ = 35.65 kW
$\overline{P}_{frict}$ = 15 %
P_{max} = 125 kW

p_{max} = 300 kPa = 300000 Pa
V_{disp} = 3.0 L = 0.0030 m^3
f_{nmax} = 2800 rev/min = 46.67 rev/s
N_{stroke} = 4 1/rev
η_V= 0.9
R = 8.314472 J/(mol·K)
T_{max} = 348.15 K

$$\dot{n}_{exhmax} = \frac{300000 \cdot 0.0030 \cdot 46.67 \cdot \frac{2}{4} \cdot 0.9}{8.314472 \cdot 348.15}$$

$\dot{n}_{exhmax}$ = 6.53 mol/s

$$\overline{x}_{exp} = \frac{2.5 \cdot 11.883}{46.0055 \cdot 10^{-6} \cdot 6.53 \cdot 1200 \cdot \left(\frac{35.65 + (0.15 \cdot 125)}{125} \right)}$$

$\overline{x}_{exp}$ = 189.4 µmol/mol

* * * * *

175. Section 1065.610 is amended by revising paragraph (c)(3) introductory text to read as follows:

§1065.610 Duty cycle generation.

* * * * *

(c) * * *

(3) Intermediate speed. If your normalized duty cycle specifies a speed as "intermediate speed," use your torque-versus-speed curve to determine the speed at which maximum torque occurs. This is peak torque speed. If maximum torque occurs in a flat region of the torque-versus-speed curve, your peak torque speed is the midpoint between the lowest and highest speeds at which the trace reaches the flat region. For purposes of this paragraph (c)(3), a flat region is one in which measured torque values are within 2.0 % of the maximum recorded value. Identify your reference intermediate speed as one of the following values:

* * * * *

176. Section 1065.640 is amended by revising paragraph (b)(1) and adding paragraph (c)(3)(iii) to read as follows:

§1065.640 Flow meter calibration calculations.

* * * * *

(b) * * *

(1) PDP volume pumped per revolution, V_{rev} (m^3/rev):

$$V_{rev} = \frac{\overline{\dot{n}}_{ref} \cdot R \cdot \overline{T}_{in}}{\overline{P}_{in} \cdot \overline{f}_{nPDP}}$$

Eq. 1065.640-2

Example:

$\overline{\dot{n}}_{ref}$ = 25.096 mol/s

R = 8.314472 J/(mol·K)

$\overline{T}_{in}$ = 299.5 K

$\overline{P}_{in}$ = 98290 Pa

$\overline{f}_{nPDP}$ = 1205.1 rev/min = 20.085 rev/s

$$V_{rev} = \frac{25.096 \cdot 8.314472 \cdot 299.5}{98290 \cdot 20.085}$$

V_{rev} = 0.03166 m^3/rev

* * * * *

(c) * * *

(3) * * *

(iii) For CFV systems measuring dilute flow only, you may calculate r_{CFV} using Equation 1065.640-13 instead of Equation 1065.640-8.

* * * * *

177. Section 1065.642 is amended by revising paragraph (a) to read as follows:

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

* * * * *

(a) PDP molar flow rate. Based upon the speed at which you operate the PDP for a test interval, select the corresponding slope, a_1, and intercept, a_0, as calculated in §1065.640, to calculate molar flow rate, $\dot{n}$, as follows:

$$\dot{n} = f_{nPDP} \cdot \frac{p_{in} \cdot V_{rev}}{R \cdot T_{in}}$$

Eq. 1065.642-1

Where:

$$V_{rev} = \frac{a_1}{f_{nPDP}} \cdot \sqrt{\frac{p_{out} - p_{in}}{p_{out}}} + a_0$$

Eq. 1065.642-2

Example:

a_1 = 50.43

$\overline{f}_{nPDP}$ = 755.0 rev/min = 12.58 rev/s

p_{out} = 99950 Pa

p_{in} = 98575 Pa

a_0 = 0.056

R = 8.314472 J/(mol·K)
T_{in} = 323.5 K
C_p = 1000 (J/m^3)/kPa
C_t = 60 s/min

$$V_{rev} = \frac{50.43}{12.58} \cdot \sqrt{\frac{99950 - 98575}{99950}} + 0.056$$

V_{rev} = 0.52618 m^3/rev

$$\dot{n} = 12.58 \cdot \frac{98575 \cdot 0.52618}{8.314472 \cdot 323.5}$$

$\dot{n}$ = 242.592 mol/s

* * * * *

178. Section 1065.645 is amended by revising paragraphs (a)(2) and (c) to read as follows:

§1065.645 Amount of water in an ideal gas.

* * * * *

(a) * * *

(2) For humidity measurements over ice at ambient temperatures from (–100 to 0) °C, use the following equation:

$$\log_{10}(p_{sat}) = -9.096853 \cdot \left(\frac{273.16}{T_{sat}} - 1\right) - 3.566506 \cdot \log_{10}\left(\frac{273.16}{T_{sat}}\right) + 0.876812 \cdot \left(1 - \frac{T_{sat}}{273.16}\right) - 0.2138602$$

Eq. 1065.645-2

Example:
T_{ice} = –15.4 °C
T_{ice} = –15.4+ 273.15 = 257.75 K

$$\log_{10}(p_{sat}) = -9.096853 \cdot \left(\frac{273.16}{257.75} - 1\right) - 3.566506 \cdot \log_{10}\left(\frac{273.16}{257.75}\right) +$$

$$0.876812 \cdot \left(1 - \frac{257.75}{273.16}\right) - 0.2138602$$

$\log_{10}(p_{H20})$ =- 0.798207
$p_{H20} = 10^{0.79821}$ = 0.159145 kPa

* * * * *

(c) Relative humidity. If you measure humidity as a relative humidity, *RH* %, determine the amount of water in an ideal gas, x_{H2O}, as follows:

$$x_{H2O} = \frac{RH\,\% \cdot p_{H2O}}{p_{abs}}$$

Eq. 1065.645-4

Where:

x_{H20} = amount of water in an ideal gas.
RH % = relative humidity.
p_{H20} = water vapor pressure at 100 % relative humidity at the location of your relative humidity measurement,, $T_{sat} = T_{amb}$.
p_{abs} = wet static absolute pressure at the location of your relative humidity measurement.

Example:
RH % = 50.77 %
p_{abs} = 99.980 kPa
$T_{sat} = T_{amb}$ = 20 °C
Using Eq. 1065.645-1,
p_{H20} = 2.3371 kPa
x_{H2O} = (50.77 %· 2.3371) / 99.980
x_{H2O} = 0.011868 mol/mol

179. Section 1065.650 is amended by revising paragraphs (a), (b), (c) introductory text, (d) introductory text, (d)(7), (e)(2), (f)(4), and (g) and adding paragraph (h) to read as follows:

§1065.650 Emission calculations.

(a) General. Calculate brake-specific emissions over each applicable duty cycle or test interval. For test intervals with zero work (or power), calculate the emission mass (or mass rate), but not brake-specific emissions. For duty cycles with multiple test intervals, refer to the standard-setting part for calculations you need to determine a composite result, such as a calculation that weights and sums the results of individual test intervals in a duty cycle. If the standard-setting part does not include those calculations, use the equations in paragraph (g) of this section. This section is written based on rectangular integration, where each indexed value (i.e., "$_i$") represents (or approximates) the mean value of the parameter for its respective time interval, delta-t. You may also integrate continuous signals using trapezoidal integration consistent with good engineering judgment.

(b) Brake-specific emissions over a test interval. We specify three alternative ways to calculate brake-specific emissions over a test interval, as follows:

(1) For any testing, you may calculate the total mass of emissions, as described in paragraph (c) of this section, and divide it by the total work generated over the test interval, as described in paragraph (d) of this section, using the following equation:

$$e = \frac{m}{W}$$

Eq. 1065.650-1

Example:
m_{NOx} = 64.975 g
W = 25.783 kW·hr
e_{NOx} = 64.975/25.783
e_{NOx} = 2.520 g/(kW·hr)

(2) For discrete-mode steady-state testing, you may calculate the brake-specific emissions over a test interval using the ratio of emission mass rate to power, as described in paragraph (e) of this section, using the following equation:

$$e = \frac{\overline{\dot{m}}}{\overline{P}}$$

Eq. 1065.650-2

(3) For field testing, you may calculate the ratio of total mass to total work, where these individual values are determined as described in paragraph (f) of this section. You may also use this approach for laboratory testing, consistent with good engineering judgment. Good

engineering judgment dictates that this method not be used if there are any work flow paths described in §1065.210 that cross the system boundary, other than the primary output shaft (crankshaft). This is a special case in which you use a signal linearly proportional to raw exhaust molar flow rate to determine a value proportional to total emissions. You then use the same linearly proportional signal to determine total work using a chemical balance of fuel, intake air, and exhaust as described in §1065.655, plus information about your engine's brake-specific fuel consumption. Under this method, flow meters need not meet accuracy specifications, but they must meet the applicable linearity and repeatability specifications in subpart D or subpart J of this part. The result is a brake-specific emission value calculated as follows:

$$e = \frac{m_{\%}}{W_{\%}}$$

Eq. 1065.650-3

Example:

$m_{\%}$ = 805.5 g

$W_{\%}$ = 52.102 kW·hr

e_{CO} = 805.5/52.102

e_{CO} = 2.520 g/(kW·hr)

(c) Total mass of emissions over a test interval. To calculate the total mass of an emission, multiply a concentration by its respective flow. For all systems, make preliminary calculations as described in paragraph (c)(1) of this section, then use the method in paragraphs (c)(2) through (4) of this section that is appropriate for your system. Calculate the total mass of emissions as follows:

* * * * *

(d) Total work over a test interval. To calculate the total work from the engine over a test interval, add the total work from all the work paths described in §1065.210 that cross the system boundary including electrical energy/work, mechanical shaft work, and fluid pumping work. For all work paths, except the engine's primary output shaft (crankshaft), the total work for the path over the test interval is the integration of the net work flow rate (power) out of the system boundary. When energy/work flows into the system boundary, this work flow rate signal becomes negative; in this case, include these negative work rate values in the integration to calculate total work from that work path. Some work paths may result in a negative total work. Include negative total work values from any work path in the calculated total work from the engine rather than setting the values to zero. The rest of this paragraph (d) describes how to calculate total work from the engine's primary output shaft over a test interval. Before integrating power on the engine's primary output shaft, adjust the speed and torque data for the time alignment used in §1065.514(c). Any advance or delay used on the feedback signals for cycle validation must also be used for calculating work. Account for work of accessories according to §1065.110. Exclude any work during cranking and starting. Exclude work during actual motoring operation (negative feedback torques), unless the engine was connected to one or more energy storage devices. Examples of such energy storage devices include hybrid powertrain batteries and hydraulic accumulators, like the ones illustrated in Figure 1 of §1065.210. Exclude any work during reference zero-load idle periods (0% speed or idle speed with 0 N·m reference torque). Note, that there must be two consecutive reference zero load idle points to establish a period where this applies. Include work during idle points with simulated minimum torque such as Curb Idle Transmissions Torque (CITT) for automatic transmissions in "drive". The work calculation method described in paragraphs (b)(1) though (7) of this section meets these requirements using rectangular integration. You may use other logic that gives

equivalent results. For example, you may use a trapezoidal integration method as described in paragraph (b)(8) of this section.

* * * * *

(7) Integrate the resulting values for power over the test interval. Calculate total work as follows:

$$W = \sum_{i=1}^{N} P_i \cdot \Delta t$$

Eq. 1065.650-10

Where:

W = total work from the primary output shaft

P_i = instantaneous power from the primary output shaft over an interval *i*.

$P_i = f_{ni} \cdot T_i$

Eq. 1065.650-11

Example:

N = 9000

f_{n1} = 1800.2 rev/min

f_{n2} = 1805.8 rev/min

T_1 = 177.23 N·m

T_2 = 175.00 N·m

$C_{rev} = 2 \cdot \pi$ rad/rev

C_{t1} = 60 s/min

C_p = 1000 (N·m·rad/s)/kW

f_{record} = 5 Hz

C_{t2} = 3600 s/hr

$$P_1 = \frac{1800.2 \cdot 177.23 \cdot 2 \cdot 3.14159}{60 \cdot 1000}$$

P_1 = 33.41 kW

P_2 = 33.09 kW

Using Eq. 1065.650-5,

Δt = 1/5 = 0.2 s

$$W = \frac{(33.41 + 33.09 + ... + P_{9000}) \cdot 0.2}{3600}$$

W = 16.875 kW·hr

* * * * *

(e) * * *

(2) To calculate an engine's mean steady-state total power, $\overline{P}$, add the mean steady-state power from all the work paths described in §1065.210 that cross the system boundary including electrical power, mechanical shaft power, and fluid pumping power. For all work paths, except the engine's primary output shaft (crankshaft), the mean steady-state power over the test interval is the integration of the net work flow rate (power) out of the system boundary divided by the period of the test interval. When power flows into the system boundary, the power/work flow rate signal becomes negative; in this case, include these negative power/work rate values in the integration to calculate the mean power from that work path. Some work paths may result in a negative mean power. Include negative mean power values from any work path in the mean total power from the engine rather than setting these values to zero. The rest of this paragraph (e)(2) describes how to calculate the mean power from the engine's primary output shaft.

Calculate $\overline{P}$ using Equation 1065.650-13, noting that $\overline{P}$, $\overline{f}_n$ and $\overline{T}$ refer to mean power, mean rotational shaft frequency, and mean torque from the primary output shaft. Account for the power of simulated accessories according to §1065.110 (reducing the mean primary output shaft power or torque by the accessory power or torque). Set the power to zero during actual motoring operation (negative feedback torques), unless the engine was connected to one or more energy storage devices. Examples of such energy storage devices include hybrid powertrain batteries and hydraulic accumulators, like the ones illustrated in Figure 1 of §1065.210. Set the power to zero for modes with a zero reference load (0 N·m reference torque or 0 kW reference power). Include power during idle modes with simulated minimum torque or power.

$$\overline{P} = \overline{f}_n \cdot \overline{T}$$

Eq. 1065.650-13

* * * * *

(f) * * *

(4) Example. The following example shows how to calculate mass of emissions using proportional values:

N = 3000
f_{record} = 5 Hz
e_{fuel} = 285 g/(kW·hr)
w_{fuel} = 0.869 g/g
M_c = 12.0107 g/mol
$\dot{n}_1$ =3.922 ~mol/s = 14119.2 mol/hr
$x_{Ccombdry1}$ = 91.634 mmol/mol = 0.091634 mol/mol
$x_{H2Oexh1}$ = 27.21 mmol/mol = 0.02721 mol/mol
Using Eq. 1065.650-5,
Δt = 0.2 s

$$\dot{W}_{\%} = \frac{12.0107\left[\frac{3.922 \cdot 0.091634}{1+0.02721} + \frac{\dot{n}_2 \cdot x_{Ccombdry2}}{1+x_{H2Oexh2}} + \ldots + \frac{\dot{n}_{3000} \cdot x_{Ccombdry3000}}{1+x_{H2Oexh3000}}\right] \cdot 0.2}{285 \cdot 0.869}$$

$\dot{W}_{\%}$ =5.09 (kW·hr)

(g) Brake-specific emissions over a duty cycle with multiple test intervals. The standard-setting part may specify a duty cycle with multiple test intervals, such as with discrete-mode steady-state testing. Unless we specify otherwise, calculate composite brake-specific emissions over the duty cycle as described in this paragraph (g). If a measured mass (or mass rate) is negative, set it to zero for calculating composite brake-specific emissions, but leave it unchanged for drift validation. In the case of calculating composite brake-specific emissions relative to a combined emission standard (such as a NO_x + NMHC standard), change any negative mass (or mass rate) values to zero for a particular pollutant before combining the values for the different pollutants.

(1) Use the following equation to calculate composite brake-specific emissions for duty cycles with multiple test intervals all with prescribed durations, such as cold-start and hot-start transient cycles:

$$e_{composite} = \frac{\sum_{i=1}^{N} WF_i \cdot m_i}{\sum_{i=1}^{N} WF_i \cdot W_i}$$

Eq 1065.650-17

Where
i = test interval number.
N = number of test intervals.
WF = weighting factor for the test interval as defined in the standard-setting part.
m = mass of emissions over the test interval as determined in paragraph (c) of this section.
W = total work from the engine over the test interval as determined in paragraph (d) of this section.

Example:
$N = 2$
$WF_1 = 0.1428$
$WF_2 = 0.8572$
$m_1 = 70.125$ g
$m_2 = 64.975$ g
$W_1 = 25.783$ kW·hr
$W_2 = 25.783$ kW·hr

$$e_{\mathrm{NO}_x\mathrm{composite}} = \frac{(0.1428 \cdot 70.125) + (0.8572 \cdot 64.975)}{(0.1428 \cdot 25.783) + (0.8572 \cdot 25.783)}$$

$e_{\mathrm{NOxcomposite}} = 2.548$ g/kW·hr

(2) Calculate composite brake-specific emissions for duty cycles with multiple test intervals that allow use of varying duration, such as discrete-mode steady-state duty cycles, as follows:

(i) Use the following equation if you calculate brake-specific emissions over test intervals based on total mass and total work as described in paragraph (b)(1) of this section:

$$e_{\mathrm{composite}} = \frac{\sum_{i=1}^{N} WF_i \cdot \frac{m_i}{t_i}}{\sum_{i=1}^{N} WF_i \cdot \frac{W_i}{t_i}}$$

Eq 1065.650-18

Where
i = test interval number.
N = number of test intervals.
WF = weighting factor for the test interval as defined in the standard-setting part.
m = mass of emissions over the test interval as determined in paragraph (c) of this section.
W = total work from the engine over the test interval as determined in paragraph (d) of this section.
t = duration of the test interval.

Example:
$N = 2$
$WF_1 = 0.85$
$WF_2 = 0.15$
$m_1 = 1.3753$ g
$m_2 = 0.4135$ g
$t_1 = 120$ s
$t_2 = 200$ s
$W_1 = 2.8375$ kW·hr
$W_2 = 0.0$ kW·hr

$$e_{\mathrm{NO}_x\mathrm{composite}} = \frac{\left(0.85 \cdot \frac{1.3753}{120}\right) + \left(0.15 \cdot \frac{0.4135}{200}\right)}{\left(0.85 \cdot \frac{2.8375}{120}\right) + \left(0.15 \cdot \frac{0.0}{200}\right)}$$

$e_{\mathrm{NOxcomposite}} = 0.5001$ g/kW·hr

(ii) Use the following equation if you calculate brake-specific emissions over test intervals based on the ratio of mass rate to power as described in paragraph (b)(2) of this section:

$$e_{composite} = \frac{\sum_{i=1}^{N} WF_i \cdot \overline{\dot{m}}_i}{\sum_{i=1}^{N} WF_i \cdot \overline{P}_i}$$

Eq 1065.650-19

Where
i = test interval number.
N = number of test intervals.
WF = weighting factor for the test interval as defined in the standard-setting part.
$\overline{\dot{m}}_i$ = mean steady-state mass rate of emissions over the test interval as determined in paragraph (e) of this section.
$\overline{P}$ is the mean steady-state power over the test interval as described in paragraph (e) of this section.

Example:
$N = 2$
$WF_1 = 0.85$
$WF_2 = 0.15$
$\overline{\dot{m}}_1 = 2.25842$ g/hr
$\overline{\dot{m}}_2 = 0.063443$ g/hr
$\overline{P}_1 = 4.5383$ kW
$\overline{P}_2 = 0.0$ kW

$$e_{NO_x composite} = \frac{(0.85 \cdot 2.25842) + (0.15 \cdot 0.063443)}{(0.85 \cdot 4.5383) + (0.15 \cdot 0.0)}$$

$e_{NOxcomposite} = 0.5001$ g/kW·hr

(h) Rounding. Round the final brake-specific emission values to be compared to the applicable standard only after all calculations are complete (including any drift correction, applicable deterioration factors, adjustment factors, and allowances) and the result is in g/(kW·hr) or units equivalent to the units of the standard, such as g/(hp·hr). See the definition of "Round" in §1065.1001.

180. Section 1065.655 is amended by revising paragraphs (c) introductory text, (c)(3), (c)(4), (c)(5), and (d) to read as follows:

§1065.655 Chemical balances of fuel, intake air, and exhaust.

* * * * *

(c) Chemical balance procedure. The calculations for a chemical balance involve a system of equations that require iteration. We recommend using a computer to solve this system of equations. You must guess the initial values of up to three quantities: the amount of water in the measured flow, x_{H2Oexh}, fraction of dilution air in diluted exhaust, $x_{dil/exh}$, and the amount of products on a C_1 basis per dry mole of dry measured flow, $x_{Ccombdry}$. You may use time-weighted mean values of combustion air humidity and dilution air humidity in the chemical balance; as long as your combustion air and dilution air humidities remain within tolerances of ±0.0025 mol/mol of their respective mean values over the test interval. For each emission concentration, x, and amount of water, x_{H2Oexh}, you must determine their completely dry concentrations, x_{dry} and $x_{H2Oexhdry}$. You must also use your fuel's atomic hydrogen-to-carbon ratio, α, oxygen-to-carbon ratio, β, sulfur-to-carbon ratio, γ, and nitrogen-to-carbon ratio, δ. You may measure α,

β, γ, and δ or you may use default values for a given fuel as described in §1065.655(d). Use the following steps to complete a chemical balance:

* * * * *

(3) Use the following symbols and subscripts in the equations for this paragraph (c):

$x_{dil/exh}$ = amount of dilution gas or excess air per mole of exhaust.

x_{H2Oexh} = amount of water in exhaust per mole of exhaust.

$x_{Ccombdry}$ = amount of carbon from fuel in the exhaust per mole of dry exhaust.

x_{H2dry} = amount of H_2 in exhaust per amount of dry exhaust.

K_{H2Ogas} = water-gas reaction equilibrium coefficient. You may use 3.5 or calculate your own value using good engineering judgment.

$x_{H2Oexhdry}$ = amount of water in exhaust per dry mole of dry exhaust.

$x_{prod/intdry}$ = amount of dry stoichiometric products per dry mole of intake air.

$x_{dil/exhdry}$ = amount of dilution gas and/or excess air per mole of dry exhaust.

$x_{int/exhdry}$ = amount of intake air required to produce actual combustion products per mole of dry (raw or diluted) exhaust.

$x_{raw/exhdry}$ = amount of undiluted exhaust, without excess air, per mole of dry (raw or diluted) exhaust.

x_{O2int} = amount of intake air O_2 per mole of intake air.

$x_{CO2intdry}$ = amount of intake air CO_2 per mole of dry intake air. You may use $x_{CO2intdry}$ = 375 µmol/mol, but we recommend measuring the actual concentration in the intake air.

$x_{H2Ointdry}$ = amount of intake air H_2O per mole of dry intake air.

x_{CO2int} = amount of intake air CO_2 per mole of intake air.

x_{CO2dil} = amount of dilution gas CO_2 per mole of dilution gas.

$x_{CO2dildry}$ = amount of dilution gas CO_2 per mole of dry dilution gas. If you use air as diluent, you may use $x_{CO2dildry}$ = 375 µmol/mol, but we recommend measuring the actual concentration in the intake air.

$x_{H2Odildry}$ = amount of dilution gas H_2O per mole of dry dilution gas.

x_{H2Odil} = amount of dilution gas H_2O per mole of dilution gas.

$x_{[emission]meas}$ = amount of measured emission in the sample at the respective gas analyzer.

$x_{[emission]dry}$ = amount of emission per dry mole of dry sample.

$x_{H2O[emission]meas}$ = amount of water in sample at emission-detection location. Measure or estimate these values according to §1065.145(e)(2).

x_{H2Oint} = amount of water in the intake air, based on a humidity measurement of intake air.

α = atomic hydrogen-to-carbon ratio of the mixture of fuel(s) being combusted, weighted by molar consumption.

β = atomic oxygen-to-carbon ratio of the mixture of fuel(s) being combusted, weighted by molar consumption.

γ = atomic sulfur-to-carbon ratio of the mixture of fuel(s) being combusted, weighted by molar consumption.

δ = atomic nitrogen-to-carbon ratio of the mixture of fuel(s) being combusted, weighted by molar consumption.

(4) Use the following equations to iteratively solve for $x_{dil/exh}$, x_{H2Oexh}, and $x_{Ccombdry}$:

$$x_{dil/exh} = 1 - \frac{x_{raw/exhdry}}{1 + x_{H2Oexhdry}}$$

Eq. 1065.655-1

$$x_{H2Oexh} = \frac{x_{H2Oexhdry}}{1 + x_{H2Oexhdry}}$$

Eq. 1065.655-2

$$x_{Ccombdry} = x_{CO2dry} + x_{COdry} + x_{THCdry} - x_{CO2dil} \times x_{dil/exhdry} - x_{CO2int} \times x_{int/exhdry}$$

Eq. 1065.655-3

$$x_{H2dry} = \frac{x_{COdry} \cdot \left(x_{H2Oexhdry} - x_{H2Odil} \cdot x_{dil/exhdry} \right)}{K_{H2O\text{-}gas} \cdot \left(x_{CO2dry} - x_{CO2dil} \cdot x_{dil/exhdry} \right)}$$

Eq. 1065.655-4

$$x_{H2Oexhdry} = \frac{a}{2}\left(x_{Ccombdry} - x_{THCdry} \right) + x_{H2Odil} \times x_{dil/exhdry} + x_{H2Oint} \times x_{int/exhdry} - x_{H2dry}$$

Eq. 1065.655-5

$$x_{dil/exhdry} = \frac{x_{dil/exh}}{1 - x_{H2Oexh}}$$

Eq. 1065.655-6

$$x_{int/exhdry} = \frac{1}{2 \times x_{O2int}} \left(\frac{a}{2} - b + 2 + 2g \left(x_{Ccombdry} - x_{THCdry} \right) - \left(x_{COdry} - x_{NOdry} - 2x_{NO2dry} + x_{H2dry} \right) \right)$$

Eq. 1065.655-7

$$x_{raw/exhdry} = \frac{1}{2} \left(\frac{a}{2} + b + d \left(x_{Ccombdry} - x_{THCdry} \right) + \left(2x_{THCdry} + x_{COdry} - x_{NO2dry} + x_{H2dry} \right) \right) + x_{int/exhdry}$$

Eq. 1065.655-8

$$x_{O2int} = \frac{0.209820 - x_{CO2intdry}}{1 + x_{H2Ointdry}}$$

Eq. 1065.655-9

$$x_{CO2int} = \frac{x_{CO2intdry}}{1 + x_{H2Ointdry}}$$

Eq. 1065.655-10

$$x_{H2Ointdry} = \frac{x_{H2Oint}}{1 - x_{H2Oint}}$$

Eq. 1065.655-11

$$x_{CO2dil} = \frac{x_{CO2dildry}}{1 + x_{H2Odildry}}$$

Eq. 1065.655-12

$$x_{H2Odildry} = \frac{x_{H2Odil}}{1 - x_{H2Odil}}$$

Eq. 1065.655-13

$$x_{COdry} = \frac{x_{COmeas}}{1 - x_{H2OCOmeas}}$$

Eq. 1065.655-14

$$x_{CO2dry} = \frac{x_{CO2meas}}{1 - x_{H2OCO2meas}}$$

Eq. 1065.655-15

$$x_{NOdry} = \frac{x_{NOmeas}}{1 - x_{H2ONOmeas}}$$

Eq. 1065.655-16

$$x_{NO2dry} = \frac{x_{NO2meas}}{1 - x_{H2ONO2meas}}$$

Eq. 1065.655-17

$$x_{THCdry} = \frac{x_{THCmeas}}{1 - x_{H2OTHCmeas}}$$

Eq. 1065.655-18

(5) The following example is a solution for $x_{dil/exh}$, x_{H2Oexh}, and $x_{Ccombdry}$ using the equations in paragraph (c)(4) of this section:

$$x_{dil/exh} = 1 - \frac{0.184}{1 + \frac{35.50}{1000}} = 0.822\, mol/mol$$

$$x_{H2Oexh} = \frac{35.50}{1 + \frac{35.50}{1000}} = 34.29\, mmol/mol$$

$$x_{Ccombdry} = 0.025 + \frac{29.3}{1000000} + \frac{47.6}{1000000} - \frac{0.371}{1000} \times 0.852 - \frac{0.369}{1000} \times 0.172 = 0.0249\, mol/mol$$

$$x_{H2dry} = \frac{29.3 \cdot \left(0.036 - 0.012 \cdot 0.852\right)}{3.5 \cdot \left(\frac{25.2}{1000} - \frac{0.371}{1000} \cdot 0.852\right)} = 8.5\, \mu mol/mol$$

$$x_{H2Oexhdry} = \frac{1.8}{2}\left(0.0247 - \frac{47.6}{1000000}\right) + 0.012 \times 0.852 + 0.017 \times 0.172 - \frac{8.5}{1000000} = 0.036\, mol/mol$$

$$x_{dil/exhdry} = \frac{0.822}{1 - 0.036} = 0.852\, mol/mol$$

$$x_{int/exhdry} = \frac{1}{2 \times 0.206}\left(\frac{1.8}{2} - 0.050 + 2 + 2 \times 0.0003\left(0.0249 - \frac{47.6}{1000000}\right) - \left(\frac{29.3}{1000000} - \frac{50.4}{1000000} - 2 \times \frac{12.1}{1000000} + \frac{8.5}{1000000}\right)\right) = 0.172\, mol/mol$$

$$x_{raw/exhdry} = \frac{1}{2}\left(\frac{1.8}{2} + 0.050 + 0.0001\left(0.0249 - \frac{47.6}{1000000}\right) + \left(2 \times \frac{47.6}{1000000} + \frac{29.3}{1000000} - \frac{12.1}{1000000} + \frac{8.5}{1000000}\right)\right) + 0.172 = 0.184 mol/mol$$

$$x_{O2int} = \frac{0.209820 - 0.000375}{1 + \frac{17.22}{1000}} = 0.206\, mol/mol$$

$$x_{CO2int} = \frac{0.000375 \times 1000}{1 + \frac{17.22}{1000}} = 0.369\, mmol/mol$$

$$x_{H2Ointdry} = \frac{16.93}{1 - \frac{16.93}{1000}} = 17.22\, mmol/mol$$

$$x_{CO2dil} = \frac{0.375}{1 + \frac{12.01}{1000}} = 0.371\, mmol/mol$$

$$x_{H2Odildry} = \frac{11.87}{1 - \frac{11.87}{1000}} = 12.01\, mmol/mol$$

$$x_{COdry} = \frac{29.0}{1 - \frac{8.601}{1000}} = 29.3\, mmol/mol$$

$$x_{CO2dry} = \frac{24.98}{1 - \frac{8.601}{1000}} = 25.2\, mmol/mol$$

$$x_{NOdry} = \frac{50.0}{1 - \frac{8.601}{1000}} = 50.4\, mmol/mol$$

$$x_{NO2dry} = \frac{12.0}{1 - \frac{8.601}{1000}} = 12.1\, mmol/mol$$

$$x_{THCdry} = \frac{46}{1 - \frac{33.98}{1000}} = 47.6\, mmol/mol$$

$\alpha = 1.8$
$\beta = 0.05$
$\gamma = 0.0003$
$\delta = 0.0001$

(d) Carbon mass fraction. Determine carbon mass fraction of fuel, w_c, using one of the following methods:

(1) You may calculate w_c as described in this paragraph (d)(1) based on measured fuel

properties. To do so, you must determine values for α and β in all cases, but you may set γ and δ to zero if the default value listed in Table 1 of this section is zero. Calculate w_c using the following equation:

$$w_C = \frac{1 \cdot M_C}{1 \cdot M_C + \alpha \cdot M_H + \beta \cdot M_O + \gamma \cdot M_S + \delta \cdot M_N}$$

Eq. 1065.655-19

Where:
$w_{C,}$ = carbon mass fraction of fuel.
M_C = molar mass of carbon.
α = atomic hydrogen-to-carbon ratio of the mixture of fuel(s) being combusted, weighted by molar consumption.
M_H = molar mass of hydrogen.
β = atomic oxygen-to-carbon ratio of the mixture of fuel(s) being combusted, weighted by molar consumption.
M_O = molar mass of oxygen.
γ = atomic sulfur-to-carbon ratio of the mixture of fuel(s) being combusted, weighted by molar consumption.
δ = atomic nitrogen-to-carbon ratio of the mixture of fuel(s) being combusted, weighted by molar consumption.

M_S = molar mass of sulfur.
M_N = molar mass of nitrogen.

Example:
α = 1.8
β = 0.05
γ = 0.0003
δ = 0.0001
M_C = 12.0107
M_H = 1.01
M_O = 15.9994
M_S = 32.0655
M_N = 14.0067

$$w_C = \frac{1 \cdot 12.0107}{1 \cdot 12.0107 + 1.8 \cdot 1.01 + 0.05 \cdot 15.9994 + 0.0003 \cdot 32.0655 + 0.0001 \cdot 14.0067}$$

$w_{C,}$ = 0.8205

(2) You may use the default values in the following table to determine w_c for a given fuel:

Table 1 of §1065.655–Default values of α, β, γ, δ, and $w_{C,}$ for various fuels

Fuel	Atomic hydrogen, oxygen, sulfur, and nitrogen-to-carbon ratios $CH_\alpha O_\beta S_\gamma N_\delta$	Carbon mass fraction, w_C g/g
Gasoline	$CH_{1.85}O_0S_0N_0$	0.866
#2 Diesel	$CH_{1.80}O_0S_0N_0$	0.869
#1 Diesel	$CH_{1.93}O_0S_0N_0$	0.861
Liquified Petroleum Gas	$CH_{2.64}O_0S_0N_0$	0.819
Natural gas	$CH_{3.78}O_{0.016}S_0N_0$	0.747
Ethanol	$CH_3O_{0.5}S_0N_0$	0.521
Methanol	$CH_4O_1S_0N_0$	0.375
Residual fuel blends	Must be determined by measured fuel properties as described in paragraph (d)(1) of this section.	

181. Section 1065.670 is amended by revising paragraphs (a) and (b) and adding paragraph (c) to read as follows:

§1065.670 NO_x intake-air humidity and temperature corrections.

* * * * *

(a) For compression-ignition engines, correct for intake-air humidity using the following equation:

$x_{NOxcor} = x_{NOxuncor} \cdot (9.953 \cdot x_{H2O} + 0.832)$

Eq. 1065.670-1

Example:

$x_{NOxuncor} = 700.5$ µmol/mol

$x_{H2O} = 0.022$ mol/mol

$x_{NOxcor} = 700.5 \cdot (9.953 \cdot 0.022 + 0.832)$

$x_{NOxcor} = 736.2$ µmol/mol

(b) For spark-ignition engines, correct for intake-air humidity using the following equation:

$x_{NOxcor} = x_{NOxuncor} \cdot (18.840 \cdot x_{H2O} + 0.68094)$

Eq. 1065.670-2

Example:

$x_{NOxuncor} = 154.7$ µmol/mol

$x_{H2O} = 0.022$ mol/mol

$x_{NOxcor} = 154.7 \cdot (18.840 \cdot 0.022 + 0.68094)$

$x_{NOxcor} = 169.5$ µmol/mol

(c) Develop your own correction, based on good engineering judgment.

182. Section 1065.690 is amended by revising paragraphs (c) and (e) to read as follows:

§1065.690 Buoyancy correction for PM sample media.

* * * * *

(c) Air density. Because a PM balance environment must be tightly controlled to an ambient temperature of (22 ±1) °C and humidity has an insignificant effect on buoyancy correction, air density is primarily a function of atmospheric pressure. We therefore specify a buoyancy correction that is only a function of atmospheric pressure. Using good engineering judgment, you may develop and use your own buoyancy correction that includes the effects of temperature and dewpoint on density in addition to the effect of atmospheric pressure.

* * * * *

(e) Correction calculation. Correct the PM sample media for buoyancy using the following equations:

$$m_{cor} = m_{uncor} \cdot \left[\frac{1 - \frac{\rho_{air}}{\rho_{weight}}}{1 - \frac{\rho_{air}}{\rho_{media}}} \right]$$

Eq. 1065.690-1

Where:

m_{cor} = PM mass corrected for buoyancy.

m_{uncor} = PM mass uncorrected for buoyancy.

ρ_{air} = density of air in balance environment.

ρ_{weight} = density of calibration weight used to span balance.

ρ_{media} = density of PM sample media, such as a filter.

$$\rho_{air} = \frac{p_{abs} \cdot M_{mix}}{R \cdot T_{amb}}$$

Eq. 1065.690-2

Where:
p_{abs} = absolute pressure in balance environment.
M_{mix} = molar mass of air in balance environment.
R = molar gas constant.
T_{amb} = absolute ambient temperature of balance environment.

Example:
p_{abs} = 99.980 kPa
$T_{sat} = T_{dew}$ = 9.5 °C
Using Eq. 1065.645-1,
p_{H20} = 1.1866 kPa
Using Eq. 1065.645-3,
x_{H2O} = 0.011868 mol/mol
Using Eq. 1065.640-9,
M_{mix} = 28.83563 g/mol
R = 8.314472 J/(mol·K)
T_{amb} = 20 °C

$$\rho_{air} = \frac{99.980 \cdot 28.83563}{8.314472 \cdot 293.15}$$

ρ_{air} = 1.18282 kg/m^3
m_{uncorr} = 100.0000 mg
ρ_{weight} = 8000 kg/m^3
ρ_{media} = 920 kg/m^3

$$m_{cor} = 100.0000 \cdot \left[\frac{1 - \frac{1.18282}{8000}}{1 - \frac{1.18282}{920}} \right]$$

m_{cor} = 100.1139 mg

Subpart H— [Revised]

183. Section 1065.701 is amended by revising paragraph (f) to read as follows:

§1065.701 General requirements for test fuels.

* * * * *

(f) Service accumulation and field testing fuels. If we do not specify a service-accumulation or field-testing fuel in the standard-setting part, use an appropriate commercially available fuel such as those meeting minimum specifications from the following table:

Table 1 of §1065.701–Examples of service-accumulation and field-testing fuels.

Fuel category	Subcategory	Reference procedure[1]
Diesel	Light distillate and light blends with residual	ASTM D975-07b
	Middle distillate	ASTM D6985-04a
	Biodiesel (B100)	ASTM D6751-07b
Intermediate and residual fuel	All	See §1065.705
Gasoline	Motor vehicle gasoline	ASTM D4814-07a
	Minor oxygenated gasoline blends	ASTM D4814-07a
Alcohol	Ethanol (Ed75-85)	ASTM D5798-07
	Methanol (M70-M85)	ASTM D5797-07
Aviation fuel	Aviation gasoline	ASTM D910-07
	Gas turbine	ASTM D1655-07e01
	Jet B wide cut	ASTM D6615-06
Gas turbine fuel	General	ASTM D2880-03
[1]ASTM specifications are incorporated by reference in §1065.1010.		

184. Section 1065.703 is amended by revising Table 1 to read as follows:

§1065.703 Distillate diesel fuel.

* * * * *

Table 1 of §1065.703–Test fuel specifications for distillate diesel fuel

Item	Units	Ultra Low Sulfur	Low Sulfur	High Sulfur	Reference Procedure[1]
Cetane Number	—	40 - 50	40 - 50	40 - 50	ASTM D613-05
Distillation range: Initial boiling point 10 pct. point 50 pct. point 90 pct. point Endpoint	°C	 171 - 204 204 - 238 243 - 282 293 - 332 321 - 366	 171 - 204 204 - 238 243 - 282 293 - 332 321 - 366	 171 - 204 204 - 238 243 - 282 293 - 332 321 - 366	ASTM D86-07a
Gravity	°API	32 - 37	32 - 37	32 - 37	ASTM D4052-96e01
Total sulfur, ultra low sulfur	mg/kg	7 – 15			See 40 CFR 80.580
Total sulfur, low and high sulfur	mg/kg		300 - 500	800 - 2500	ASTM D2622-07 or alternates as allowed under 40 CFR 80.580
Aromatics, min. (Remainder shall be paraffins, naphthalenes, and olefins)	g/kg	100	100	100	ASTM D5186-03
Flashpoint, min.	°C	54	54	54	ASTM D93-07
Kinematic Viscosity	cSt	2.0 - 3.2	2.0 - 3.2	2.0 - 3.2	ASTM D445-06
[1]ASTM procedures are incorporated by reference in §1065.1010. See §1065.701(d) for other allowed procedures.					

Subpart K— [Revised]

185. Section 1065.1001 is amended by revising the definitions for "Duty cycle" and "Percent" to read as follows:

§1065.1001 Definitions.

* * * * *

Duty cycle means one of the following:

(1) A series of speed and torque values (or power values) that an engine must follow during a laboratory test. Duty cycles are specified in the standard-setting part. A single duty cycle may consist of one or more test intervals. A series of speed and torque values meeting the definition of this paragraph (1) may also be considered a test cycle. For example, a duty cycle may be a ramped-modal cycle, which has one test interval; a cold-start plus hot-start transient cycle, which has two test intervals; or a discrete-mode cycle, which has one test interval for each mode.

(2) A set of weighting factors and the corresponding speed and torque values, where the weighting factors are used to combine the results of multiple test intervals into a composite result.** * * *

Percent (%) means a representation of exactly 0.01 (with infinite precision). Significant digits for the product of % and another value, or the expression of any other value as a percentage, are defined as follows:

(1) Where we specify some percentage of a total value, the calculated value has the same number of significant digits as the total value. The specified percentage by which the total value is multiplied has infinite precision. Note that not all displayed or recorded digits are significant. For example, 2 % of a span value where the span value is 101.3302 is 2.026604. However, where the span value has limited precision such that only one digit to the right of the decimal is significant (i.e., the actual value is 101.3), 2 % of the span value is 2.026.

(2) In other cases, determine the number of significant digits using the same method as you would use for determining the number of significant digits of any calculated value. For example, a calculated value of 0.321, where all three digits are significant, is equivalent to 32.1 %.

* * * * *

186. Section 1065.1005 is amended by revising paragraph (f)(2) to read as follows:

§1065.1005 Symbols, abbreviations, acronyms, and units of measure.

* * * * *

(f) * * *

(2) This part uses the following molar masses or effective molar masses of chemical species:

Symbol	Quantity	g/mol (10^{-3}·kg·mol^{-1})
M_{air}	molar mass of dry air 1	28.96559
M_{Ar}	molar mass of argon	39.948
M_{C}	molar mass of carbon	12.0107
M_{CO}	molar mass of carbon monoxide	28.0101
M_{CO2}	molar mass of carbon dioxide	44.0095
M_{H}	molar mass of atomic hydrogen	1.00794
M_{H2}	molar mass of molecular hydrogen	2.01588
M_{H2O}	molar mass of water	18.01528
M_{He}	molar mass of helium	4.002602

M_N	molar mass of atomic nitrogen	14.0067
M_{N2}	molar mass of molecular nitrogen	28.0134
M_{NMHC}	effective molar mass of nonmethane hydrocarbon[2]	13.875389
M_{NMHCE}	effective molar mass of nonmethane equivalent hydrocarbon[2]	13.875389
M_{NOx}	effective molar mass of oxides of nitrogen[3]	46.0055
M_O	molar mass of atomic oxygen	15.9994
M_{O2}	molar mass of molecular oxygen	31.9988
M_{C3H8}	molar mass of propane	44.09562
M_S	molar mass of sulfur	32.0655
M_{THC}	effective molar mass of total hydrocarbon[2]	13.875389
M_{THCE}	effective molar mass of total hydrocarbon equivalent[2]	13.875389

[1]See paragraph (f)(1) of this section for the composition of dry air.

[2]The effective molar masses of THC, THCE, NMHC, and NMHCE are defined by an atomic hydrogen-to-carbon ratio, α, of 1.85.

[3]The effective molar mass of NOx is defined by the molar mass of nitrogen dioxide, NO_2.

* * * * *

Part 1068— General Compliance Provisions for ~~Nonroad~~Engine Programs

187. The heading for part 1068 is revised as set forth above.

188. The authority citation for part 1068 continues to read as follows:

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

Subpart A—[Amended]

189. Section 1068.25 is amended by adding paragraph (c) to read as follows:

§1068.25 What information must I give to EPA?

* * * * *

(c) You are responsible for statements and information in your applications for certification or any other requests or reports. If you provide statements or information to someone for submission to EPA, you are responsible for these statements and information as if you had submitted them to EPA yourself. For example, knowingly submitting false information to someone else for inclusion in an application for certification would be deemed to be a submission of false information to the U.S. government in violation of 18 U.S.C. 1001.

190. Section 1068.30 is amended by revising the introductory text for the definition of "Engine", revising the definition of "Ultimate purchaser", and adding a definition of "Gas turbine engine in alphabetical order to read as follows:

§1068.30 What definitions apply to this part?

* * * * *

Engine means an engine block with an installed crankshaft, or a gas turbine engine. The term engine does not include engine blocks without an installed crankshaft, nor does it include any assembly of reciprocating engine components that does not include the engine block. (Note: For purposes of this definition, any component that is the primary means of converting an engine's energy into usable work is considered a crankshaft, whether or not it is known commercially as a crankshaft.) This includes complete and partially complete engines as follows:

* * * * *

Gas turbine engine means anything commercially known as a gas turbine engine or any collection of assembled engine components that is substantially similar to engines commercially known as gas turbine engines. For example, a jet engine is a gas turbine engine. Gas turbine engines may be complete or partially complete. Turbines that rely on external combustion such as steam engines are not gas turbine engines.

* * * * *

Ultimate purchaser means the first person who in good faith purchases a new ~~nonroad~~engine or new piece of equipment for purposes other than resale.

* * * * *

191. Section 1068.31 is amended by revising paragraph (d) to read as follows:

§1068.31 What provisions apply to nonroad or stationary engines that change their status?

* * * * *

(d) Changing the status of a nonroad engine to be a new stationary engine as described in

paragraph (e) of this section is a violation of §1068.101(a)(1) unless the engine complies with all the requirements of this chapter for new stationary engines of the same type (for example, a compression-ignition engine rated at 40 kW) and model year. For a new stationary engine that is required to be certified under 40 CFR part 60, the engine must have been certified to be compliant with all the requirements that apply to new stationary engines of the same type and model year, and must be in its certified configuration. Note that the definitions of "model year" in the standard-setting part generally identifies the engine's original date of manufacture as the basis for determining which standards apply if it becomes a stationary engine after it is no longer new. For example, see 40 CFR 60.4219 and 60.4248.

* * * * *

192. Section 1068.45 is amended by revising paragraph (c) introductory text to read as follows:

§1068.45 General labeling provisions.

* * * * *

(c) Labels on packaging. ~~This part or the standard-setting part may in certain cases allow you to label the packaging if you ship engines/equipment packaged together instead of applying a removable label to engines/equipment individually.~~ Unless we specify otherwise, where we require engine/equipment labels that may be removable, you may instead label the packaging if the engines/equipment are packaged together as described in this paragraph (c). For example, this may involve packaging engines together by attaching them to a rack, binding them together on a pallet, or enclosing them in a box. The provisions of this paragraph (c) also apply for engines/equipment boxed individually where you do not apply labels directly to the engines/equipment. The following provisions apply if you label the packaging instead of labeling engines/equipment individually:

* * * * *

193. Section 1068.101 is revised to read as follows:

§1068.101 What general actions does this regulation prohibit?

This section specifies actions that are prohibited and the maximum civil penalties that we can assess for each violation in accordance with 42 U.S.C. 7522 and 7524. The maximum penalty values listed in paragraphs (a) and (b) of this section ~~are shown for calendar year~~apply as of January 12, 2004~~9~~. As described in paragraph ~~(c)~~(h) of this section, these maximum penalty limits ~~for later years~~are different for earlier violations and they may be adjusted as ~~are~~ set forth in 40 CFR part 19.

(a) The following prohibitions and requirements apply to manufacturers of new engines, manufacturers of equipment containing these engines, and manufacturers of new equipment, except as described in subparts C and D of this part:

(1) Introduction into commerce. You may not sell, offer for sale, or introduce or deliver into commerce in the United States or import into the United States any new engine/equipment after emission standards take effect for the engine/equipment, unless it is covered by a valid certificate of conformity for its model year and has the required label or tag. You also may not take any of the actions listed in the previous sentence with respect to any equipment containing an engine subject to this part's provisions unless the engine is covered by a valid certificate of conformity for its model year and has the required engine label or tag. We may assess a civil penalty up to $3~~2~~7,500 for each engine or piece of equipment in violation.

(i) For purposes of this paragraph (a)(1), a valid certificate of conformity is one that applies for the same model year as the model year of the equipment (except as allowed by §1068.105(a)), covers the appropriate category of engines/equipment (such as locomotive or Marine SI), and conforms to all requirements specified for equipment in the standard-setting part. Engines/equipment are considered not covered by a certificate unless they are in a configuration described in the application for certification.

(ii) The requirements of this paragraph (a)(1) also cover new engines you produce to replace an older engine in a piece of equipment, unless the engine qualifies for the replacement-engine exemption in §1068.240.

(iii) For engines used in equipment subject to equipment-based standards, you may not sell, offer for sale, or introduce or deliver into commerce in the United States or import into the United States any new engine unless it is covered by a valid certificate of conformity for its model year and has the required label or tag. See the standard-setting part for more information about how this prohibition applies.

(2) Reporting and recordkeeping. This chapter requires you to record certain types of information to show that you meet our standards. You must comply with these requirements to make and maintain required records (including those described in §1068.501). You may not deny us access to your records or the ability to copy your records if we have the authority to see or copy them. Also, you must give us complete and accurate reports and information without delay as required under this chapter. Failure to comply with the requirements of this paragraph is prohibited. We may assess a civil penalty up to $3~~2~~7,500 for each day you are in violation. In addition, knowingly submitting false information is a violation of 18 U.S.C. 1001, which may involve criminal penalties and up to five years imprisonment.

(3) Testing and access to facilities. You may not keep us from entering your facility to test engines/equipment or inspect if we are authorized to do so. Also, you must perform the tests we require (or have the tests done for you). Failure to perform this testing is prohibited. We may assess a civil penalty up to $3~~2~~7,500 for each day you are in violation.

(b) The following prohibitions apply to everyone with respect to the engines and equipment to which this part applies:

(1) Tampering. You may not remove or render inoperative any device or element of design installed on or in engines/equipment in compliance with the regulations prior to its sale and delivery to the ultimate purchaser. You also may not knowingly remove or render inoperative any such device or element of design after such sale and delivery to the ultimate purchaser. This includes, for example, operating an engine without a supply of appropriate quality urea if the emissions control system relies on urea to reduce NOx emissions or the use of incorrect fuel or engine oil that renders the emissions control system inoperative. Section 1068.120 describes how this applies to rebuilding engines. See the standard-setting part, which may include additional provisions regarding actions prohibited by this requirement. For a manufacturer or dealer, we may assess a civil penalty up to $3~~2~~7,500 for each engine or piece of equipment in violation. For anyone else, we may assess a civil penalty up to $~~2~~3,750 for each day an engine or piece of equipment is operated in violation. This prohibition does not apply in any of the following situations:

(i) You need to repair the engine/equipment and you restore it to proper functioning when the repair is complete.

(ii) You need to modify the engine/equipment to respond to a temporary emergency and you restore it to proper functioning as soon as possible.

(iii) You modify new engines/equipment that another manufacturer has already certified to meet emission standards and recertify them under your own family. In this case you must tell the original manufacturer not to include the modified engines/equipment in the original family.

(2) Defeat devices. You may not knowingly manufacture, sell, offer to sell, or install, any part that bypasses, impairs, defeats, or disables the control of emissions of any regulated pollutant, except as explicitly allowed by the standard-setting part. We may assess a civil penalty up to $~~2~~3,750 for each part in violation.

(3) Stationary engines. For an engine that is excluded from any requirements of this chapter because it is a stationary engine, you may not move it or install it in any mobile equipment except as allowed by the provisions of this chapter. You may not circumvent or attempt to circumvent the residence-time requirements of paragraph (2)(iii) of the nonroad engine definition in §1068.30. Anyone violating this paragraph (b)(3) is deemed to be a manufacturer in violation of paragraph (a)(1) of this section. We may assess a civil penalty up to $3~~2~~7,500 for each day you are in violation.

(4) Competition engines/equipment. For uncertified engines/equipment that are excluded or exempted from any requirements of this chapter because they are to be used solely for competition, you may not use any of them in a manner that is inconsistent with use solely for competition. Anyone violating this paragraph (b)(4) is deemed to be a manufacturer in violation of paragraph (a)(1) of this section. We may assess a civil penalty up to $3~~2~~7,500 for each day you are in violation.

(5) Importation. You may not import an uncertified engine or piece of equipment if it is defined to be new in the standard-setting part with a model year for which emission standards applied. Anyone violating this paragraph (b)(5) is deemed to be a manufacturer in violation of paragraph (a)(1) of this section. We may assess a civil penalty up to $3~~2~~7,500 for each day you are in violation. Note the following:

(i) The definition of new is broad for imported engines/equipment; uncertified engines and equipment (including used engines and equipment) are generally considered to be new when imported.

(ii) Used engines/equipment that were originally manufactured before applicable EPA standards were in effect are generally not subject to emission standards.

(6) Warranty, recall, and maintenance instructions. You must meet your obligation to honor your emission-related warranty under §1068.115, including any commitments you identify in your application for certification. You must also fulfill all applicable requirements under subpart F of this part related to emission-related defects and recalls. You must also provide emission-related installation and maintenance instructions as described in the standard-setting part. Failure to meet these obligations is prohibited. Also, except as specifically provided by regulation, you are prohibited from directly or indirectly communicating to the ultimate purchaser or a later purchaser that the emission-related warranty is valid only if the owner has service performed at authorized facilities or only if the owner uses authorized parts, components, or systems. We may assess a civil penalty up to $3~~2~~7,500 for each engine or piece of equipment in violation.

(7) Labeling. (i) You may not remove or alter an emission control information label or other required permanent label except as specified in this paragraph (b)(7) or otherwise allowed by this chapter. Removing or altering an emission control information label is a violation of paragraph (b)(1) of this section. However, it is not a violation to remove a label in the

following circumstances:

(A) The engine is destroyed, is permanently disassembled, or otherwise loses its identity such that the original title to the engine is no longer valid.

(B) The regulations specifically direct you to remove the label. For example, see §1068.235.

(C) The part on which the label is mounted needs to be replaced. In this case, you must have a replacement part with a duplicate of the original label installed by the certifying manufacturer or an authorized agent, except that the replacement label may omit the date of manufacture if applicable. We generally require labels to be permanently attached to parts that will not normally be replaced, but this provision allows for replacements in unusual circumstances, such as damage in a collision or other accident.

(D) The original label is incorrect, provided that it is replaced with the correct label from the certifying manufacturer or an authorized agent. This allowance to replace incorrect labels does not affect whether the application of an incorrect original label is a violation.

(ii) Removing or altering a temporary or removable label contrary to the provisions of this paragraph (b)(7)(ii) is a violation of paragraph (b)(1) of this section.

(A) For labels identifying temporary exemptions, you may not remove or alter the label while the engine/equipment is in an exempt status. The exemption is automatically revoked for each engine/equipment for which the label has been removed.

(B) For temporary or removable consumer information labels, only the ultimate purchaser may remove the label.

(iii) You may not apply a false emission control information label. You also may not manufacture, sell, or offer to sell false labels. The application, manufacture, sale, or offer for sale of false labels is a violation of this section (such as paragraph (a)(1) or (b)(2) of this section). Note that applying an otherwise valid emission control information label to the wrong engine is considered to be applying a false label.

(c) If you cause someone to commit a prohibited act in paragraph (a) or (b) of this section, you are in violation of that prohibition.

(d) Exemptions from these prohibitions are described in subparts C and D of this part and in the standard-setting part.

(e) The standard-setting parts describe more requirements and prohibitions that apply to manufacturers (including importers) and others under this chapter.

(f) The specification of prohibitions and penalties in this part does not limit the prohibitions and penalties described in the Clean Air Act. Additionally, a single act may trigger multiple violations under this section and the Act. We may pursue all available administrative, civil, or criminal remedies for those violations even if the regulation references only a single prohibited act in this section.

(g) [Reserved]

(h) The maximum penalty values listed in paragraphs (a) and (b) of this section ~~are shown for calendar year~~apply as of January 12, 2004~~9~~. Maximum penalty values for earlier violations are published in 40 CFR part 19. Maximum penalty limits ~~for later years~~ may be adjusted after January 12, 2009 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. The following table is shown here for informational purposes:

Table 1 of §1068.101—Legal Citation for Specific Prohibitions for Determining Maximum Penalty Amounts

Part 1068 Regulatory Citation of Prohibited Action	General Description of Prohibition	U.S. Code Citation for Clean Air Act Authority (42 U.S.C. 7524)
§1068.101 (a)(1)	Introduction into U.S. commerce of an uncertified source.	42 U.S.C. 7522(a)(1) and (a)(4)
§1068.101(a)(2)	Failure to provide information.	42 U.S.C. 7522(a)(2)
§1068.101(a)(3)	Denying access to facilities.	42 U.S.C. 7522(a)(2)
§1068.101(b)(1)	Tampering with emission controls by a manufacturer or dealer.	42 U.S.C. 7522(a)(3)
	Tampering with emission controls by someone other than a manufacturer or dealer.	
§1068.101(b)(2)	Sale or use of a defeat device.	42 U.S.C. 7522(a)(3)
§1068.101(b)(3)	Mobile use of a stationary engine.	42 U.S.C. 7522(a)(1) and (a)(4)
§1068.101(b)(4)	Noncompetitive use of uncertified engines/equipment that is exempted for competition.	42 U.S.C. 7522(a)(1) and (a)(4)
§1068.101(b)(5)	Importation of an uncertified source.	42 U.S.C. 7522(a)(1) and (a)(4)
§1068.101(b)(6)	Recall and warranty	42 U.S.C. 7522(a)(4)
§1068.101(b)(7)	Removing labels	42 U.S.C. 7522(a)(3)

194. Section 1068.103 is amended by revising paragraph (a) to read as follows:

§1068.103 What are the provisions related to the duration and applicability of certificates of conformity?

(a) Engines/equipment covered by a certificate of conformity are limited to those that are produced during the period specified in the certificate and conform to the specifications described in the certificate and the associated application for certification. For the purposes of this paragraph (a), specifications includes any conditions or limitations identified by the manufacturer or EPA, but does not include any information provided in the application that is not relevant to a demonstration of compliance with applicable regulations. For example, if the application for certification specifies certain engine ~~models or production~~

~~facilities~~configurations, the certificate does not cover any ~~models~~configurations that are not specified. ~~and it does not cover engines/equipment produced at production facilities that are not specified.~~ However, your certificate would not be conditioned upon your actual U.S.-directed production volumes matching the volumes you projected in your application.

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195. Section 1068.105 is amended by revising paragraph (a) to read as follows:

§1068.105 What other provisions apply to me specifically if I manufacture equipment needing certified engines?

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(a) Transitioning to new engine-based standards. If new engine-based emission standards apply in a given model year, your equipment in that calendar year must have engines that are certified to the new standards, except that you may continue to use up your normal inventory of earlier engines that were built before the date of the new or changed standards. (Note: this paragraph (a) does not apply in the case of new remanufacturing standards.) For example, if your normal inventory practice is to keep on hand a one-month supply of engines based on your upcoming production schedules, and a new tier of standards starts to apply for the 2015 model year, you may order engines consistent with your normal inventory requirements late in the engine manufacturer's 2014 model year and install those engines in your equipment, regardless of the date of installation. Also, if your model year starts before the end of the calendar year preceding new standards, you may use engines from the previous model year for those units you produce before January 1 of the year that new standards apply. If emission standards for the engine do not change in a given model year, you may continue to install engines from the previous model year without restriction (or any earlier model year for which the same standards apply). You may not circumvent the provisions of §1068.101(a)(1) by stockpiling engines that were built before new or changed standards take effect. Note that this allowance does not apply for equipment subject to equipment-based standards. See 40 CFR 1060.601 for similar provisions that apply for equipment subject to evaporative emission standards.

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196. Section 1068.120 is amended by revising paragraph (e) to read as follows:

§1068.120 What requirements must I follow to rebuild engines?

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(e) If the rebuilt engine remains installed or is reinstalled in the same piece of equipment, you must rebuild it to the original configuration ~~or another~~, except as allowed by this paragraph (e). You may rebuild it to a different certified configuration of the same or later model year. You may also rebuild it to a certified configuration from an earlier model year as long as the earlier configuration is as clean or cleaner than the original configuration. For purposes of this paragraph (e), "as clean or cleaner" means one of the following:

(1) For engines not certified with a Family Emission Limit for calculating credits for a particular pollutant, this means that the same emission standard applied for both model years. This includes supplemental standards such as Not-to-Exceed standards.

(2) For engines certified with a Family Emission Limit for a particular pollutant, this means that the configuration to which the engine is being rebuilt has a Family Emission Limit for that pollutant that is at or below the standard that applied to the engine originally, and is at or below the original Family Emission Limit.

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197. Section 1068.125 is amended by revising paragraph (b) introductory text to read as follows:

§1068.125 What happens if I violate the regulations?

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(b) Administrative penalties. Instead of bringing a civil action, we may assess administrative penalties if the total is less than ~~$270,000~~ $295,000 against you individually. This maximum penalty may be greater if the Administrator and the Attorney General jointly determine that a greater administrative penalty assessment is appropriate, or if the limit is adjusted under 40 CFR part 19. No court may review this determination. Before we assess an administrative penalty, you may ask for a hearing (subject to 40 CFR part 22). The Administrator may compromise or remit, with or without conditions, any administrative penalty that may be imposed under this section.

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Subpart C—[Amended]

198. Section 1068.215 is amended by revising paragraphs (a) and (b) to read as follows:

§1068.215 What are the provisions for exempting manufacturer-owned engines/equipment?

(a) You are eligible for the exemption for manufacturer-owned engines/equipment only if you are a certificate holder. Any engine for which you meet all applicable requirements under this section is exempt without request.

(b) Engines/equipment may be exempt ~~without a request~~ if they are nonconforming engines/equipment under your ownership, possession, and control and you do not operate them for purposes other than to develop products, assess production methods, ~~or~~ promote your engines/equipment in the marketplace, or other purposes we approve. You may not loan, lease, sell, or use the engine/equipment to generate revenue, either by itself or for an engine installed in a piece of equipment, except as allowed by §1068.201(i). Note that this paragraph (b) does not prevent the sale or shipment of a partially complete engine to a secondary engine manufacturer that will meet the requirements of this paragraph (b). See §1068.262 for provisions related to shipping partially complete engines to secondary engine manufacturers.

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199. Section 1068.240 is amended by revising paragraphs (b)(6), (c) introductory text, (d), (e), and (g)(2) to read as follows:

§1068.240 What are the provisions for exempting new replacement engines?

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(b)* * *

(6)You add a permanent label, consistent with §1068.45, with your corporate name and trademark and the following additional information:

(i) Add the following statement if the engine being replaced was not subject to any emission standards under this chapter:

THIS ENGINE DOES NOT COMPLY WITH U.S. EPA ~~NONROAD~~EMISSION

REQUIREMENTS. SELLING OR INSTALLING THIS ENGINE FOR ANY PURPOSE OTHER THAN TO REPLACE AN ~~NONROAD~~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.

(ii) Add the following statement if the engine being replaced was subject to emission standards:

THIS ENGINE COMPLIES WITH U.S. EPA ~~NONROAD~~EMISSION REQUIREMENTS FOR [Identify the appropriate emission standards (by model year, tier, or emission levels) for the replaced engine] ENGINES UNDER 40 CFR 1068.240. SELLING OR INSTALLING THIS ENGINE FOR ANY PURPOSE OTHER THAN TO REPLACE A [Identify the appropriate emission standards for the replaced engine, by model year(s), tier(s), or emission levels)] ENGINE MAY BE A VIOLATION OF FEDERAL LAW SUBJECT TO CIVIL PENALTY.

(c) Previous-tier replacement engines without tracking. You may produce a limited number of new replacement engines that are not from a currently certified engine family under the provisions of this paragraph (c). If you produce new engines under this paragraph (c) to replace engines subject to emission standards, the new replacement engine must be in a configuration identical in all material respects to the old engine and meet the requirements of §1068.265. This would apply, for example, for engine configurations that were certified in an earlier model year but are no longer covered by a certificate of conformity. You must comply with the requirements of paragraph (b) of this section for any number of replacement engines you produce in excess of what we allow under this paragraph (c). The following provisions apply to engines exempted under this paragraph (c):

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(d) ~~Current-tier~~Partially complete engines. The following requirements apply if you ship a partially complete replacement ~~engines for engine-based standards. You may introduce into U.S. commerce short blocks or other~~engine under paragraph (b) or (c) of this section:

(1) Include installation instructions specifying how to complete the engine assembly such that the resulting engine conforms to the applicable certificate of conformity or the specifications of §1068.265. Where a partially complete ~~engines from a currently certified engine family as replacement components for in-use equipment powered by engines you originally produced. You~~engine can be built into multiple different configurations, you must be able to identify all the engine models and model years for which the partially complete engine may properly be used for replacement purposes. Your installation instructions must make clear how the final assembler can determine which configurations are appropriate for the engine they receive.

(2) You must label the engine as follows:

(~~1~~i) If you have a reasonable basis to believe that the fully assembled engine will include the original emission control information label, you may add a removable label to the engine with your corporate name and trademark and the statement: "This replacement engine is exempt under 40 CFR 1068.240(~~d~~b) [or 40 CFR 1068.240(c) if appropriate]." This would generally apply if all the engine models that are compatible with the replacement engine were covered by a certificate of conformity and they were labeled in a position on the engine or equipment that is not included as part of the partially complete engine being shipped for replacement purposes. Removable labels must meet the

requirements specified in §1068.45.

(2ii) If you do not qualify for using a removable label in paragraph (d)(1) of this section, you must add a permanent label in a readily visible location, though it may be obscured after installation in a piece of equipment. Include on the permanent label your corporate name and trademark, the engine's part number (or other identifying information), and the statement: "This replacement engine is exempt under 40 CFR 1068.240(db) [or 40 CFR 1068.240(c) if appropriate]." If there is not enough space for this statement, you may alternatively add: "REPLACEMENT" or "SERVICE ENGINE". For purposes of this paragraph (d)(2), engine part numbers permanently stamped or engraved on the engine are considered to be included on the label.

(e) Current-tierPartially complete current-tier replacement engines for. The provisions of paragraph (d) of this section apply for partially complete engines you produce from a current line of certified engines or vehicles, except that the appropriate regulatory cite on the label is 40 CFR 1068.240(e). This applies for engine-based and equipment-based standards. In the case of equipment subject to as follows:

(1) Where engine-based standards apply, you may introduce into U.S. commerce short blocks or other partially complete engines from a currently certified engine family as replacement components for in-use equipment powered by engines you originally produced. You must be able to identify all the engine models and model years for which the partially complete engine may properly be used for replacement purposes.

(2) Where equipment-based standards apply, you may introduce into U.S. commerce engines that are identical to engines covered by a current certificate of conformity by demonstrating compliance with currently applicable standards where the engines will be installed as replacement engines. These engines might be fully assembled, but we would consider them to be partially complete engines because they are not yet installed in the equipment. You must be able to identify all the engine and equipment models and model years for which such an engine may properly be used for replacement purposes. Add a permanent or removable label to these engines as described in paragraph (d) of this section, except that the appropriate regulatory cite is 40 CFR 1068.240(e).

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(g) * * *

(2) Anyone installing or completing assembly of an exempted new replacement engine is deemed to be a manufacturer of a new engine with respect to the prohibitions of §1068.101(a)(1). This applies to all engines exempted under this section.

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§1068.261—[Amended]

200. Section 1068.261 is amended by removing and reserving paragraph (c)(5).

Subpart D—[Amended]

201. Section 1068.325 is amended by revising paragraph (g) to read as follows:

§1068.325 What are the temporary exemptions for imported engines/equipment?

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(g) You may import an engine if another company already has a certificate of conformity and will be modifying the engine to be in its final certified configuration or a final exempt

configuration under the provisions of §1068.262. You may also import a partially complete engine by shipping it from one of your facilities to another under the provisions of §1068.260(c). If you are importing a used engine that becomes new as a result of importation, you must meet all the requirements that apply to original engine manufacturers under §1068.262.
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Subpart E—[Amended]

202. Section 1068.415 is amended by revising paragraph (c) to read as follows:

§1068.415 How do I test my engines/equipment?
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(c) Test at least two engines/equipment in each 24-hour period (including void tests). However, if your projected ~~U.S. nonroad sales within the family are~~ U.S.-directed production volume is less than 7,500 engines/equipment for the year, you may test a minimum of one per 24-hour period. If you request and justify it, we may approve a lower testing rate.
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