

Florida Gas Transmission Company  
Gadsden Compressor Station No. 14  
Facility ID No.: 0390029  
Gadsden County

## Title V Air Operation Permit Revision

DRAFT Permit No.: 0390029-013-AV  
Revision to Title V Air Operation Permit No.: 0390029-010-AV

Permitting and Compliance Authority:  
Florida Department of Environmental Protection  
Northwest District Air Program  
160 W. Government Street, Suite 308  
Pensacola FL 32502-5740

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# Title V Air Operation Permit Revision

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Permittee: DRAFT Permit No.: 0390029-013-AV  
Florida Gas Transmission Company Facility ID No.: 0390029  
Gadsden Compressor Station No. 14 SIC No(s): 49, 4922  
Project: Title V Air Operation Permit Revision

This permit revision is being issued for the purpose of incorporating the terms and conditions of construction permit No. 0390029-011-AC, and a revision to permit 0390029-011-AC, by construction permit 0390084-012-AC, in combined processing with this revision permit. This existing facility is located at 3690 Hosford Highway, Quincy, Gadsden County; UTM Coordinates: Zone 16, 719.97 km East and 3377.39 km North; and, Latitude: 30° 30' 38" North and Longitude: 84° 42' 28" West.

This Title V Air Operation Permit Revision is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and Florida Administrative Code (F.A.C.) Chapters 62-4, 62-210 and 62-213. The above named Permittee is hereby authorized to operate the facility shown on the application and approved drawing(s), plans, and other documents, attached hereto or on file with the permitting authority, in accordance with the terms and conditions of this permit.

**Referenced attachments made a part of this permit:**

Appendix I-1, List of Insignificant Emissions Units and/or Activities  
Appendix SS-1, STACK SAMPLING FACILITIES version dated 10/07/96  
Appendix TV-6, TITLE V CONDITIONS version dated 6/23/06  
Appendix 40CFR60 GG  
Appendix 40CFR60 JJJJ  
Appendix 40CFR60 KKKK  
Appendix 40CFR63 YYYYY  
Appendix 40CFR63 ZZZZ  
TABLE 297.310-1, CALIBRATION SCHEDULE version dated 10/07/96  
Attachment 1, Turbine Performance Curves (Solar Mars 90T, No. 1407)  
Attachment 2, Turbine Performance Curves (Pignone 10B, No. 1408)

**Initial Effective Date:** June 24, 2008  
**Revision Effective Date:** [ARMS Day 55+1]  
**Renewal Application Due Date:** November 11, 2012  
**Expiration Date:** June 24, 2013

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**Rick Bradburn**  
**Air Program Administrator**

RB/tp/c

## **Section I. Facility Information**

This is a revision to Title V renewal permit 0390029-010-AV, effective June 24, 2008 to incorporate permit 0390029-011-AC, effective April 22, 2009 and permit 0390084-012-AC, in combined processing with this permit revision.

Permit 0390029-011-AC allowed the construction of a new gas combustion turbine engine, two 454 bhp emergency generators and one 500 gallon oily water tank. Permit 0390029-012-AC allows increasing the new turbine's maximum allowable heat input rate from 158 to 165 MMBtu per hour to increase the power output from 19,465 to 20,500 bhp (ISO) and increases the new turbine's maximum allowable emissions of carbon monoxide, nitrogen oxides, particulate matter and PM10, sulfur dioxide, and volatile organic compounds to 39.4, 38.9, 4.77, 19.9, and 2.29 tons per year, respectively. The new generators' engines become subject to 40 CFR 60 Sp JJJJ and 40 CFR 63 Sp ZZZZ because they were manufactured after January 1, 2009 and are put into a new emissions unit (012) with those requirements.

### **Subsection A. Facility Description**

The existing facility is part of a natural gas transmission pipeline system and contains six natural gas fired internal combustion reciprocating engines and three natural gas-fired gas combustion turbines. The engines provide power for compressors to move the gas along the pipeline.

Emissions units 001 through 003 and 005 (FGT Engines Nos.1401, 1402, 1403, and 1405) are reciprocating internal combustion (IC) engines, manufactured by Worthington, model SEHG-8. The engines are fired by pipeline natural gas (NG) and each is rated at 2,000 BHP with a maximum heat input rating of 15 MMBtu/hr. The engines are naturally aspirated and operate at near stoichiometric air-to-fuel ratio. NOx and carbon monoxide (CO) are emitted uncontrolled through raised stacks. Engines 1401-1403 were originally placed in service in 1958, while engine 1405 was originally placed in service in 1968.

Emissions unit 004 (FGT Engine No. 1404) is a reciprocating IC engine, manufactured by Worthington, model SEHG-8. This engine is fired by pipeline natural gas and is rated at 2,000 BHP with a maximum heat input rating of 16.5 MMBtu/hr. This engine was initially placed in service in 1966 and was modified by permit 0390029-003-AC allowing an improved turbocharger providing more air at higher pressures to reduce NOx emissions and offset other emission increases (up-rating of 1407 and construction of 1408). In addition, this engine has a catalytic converter to reduce CO emissions.

Emissions unit 006 (FGT Engine No. 1406) is a reciprocating IC engine, manufactured by Cooper-Bessemer, model GMVR-12C. This engine is fired by pipeline natural gas and rated at 2,700 BHP with a maximum heat input rating of 21.69 MMBtu/hr. This engine was initially placed in service in 1991. This engine incorporates "lean burn" technology to minimize NOx emissions. This engine is subject to a Best Available Control Technology (BACT) determination of 2 g/BHP-hr NOx (equivalent of 10.6 lbs/hr and 46.3 TPY) incorporated into permit AC20-189438 (PSD-FL-159) and established in accordance with Rule 62-212.400, F.A.C., Prevention of Significant Deterioration (PSD).

Emissions unit 008 (FGT Engine No. 1407) is a gas combustion turbine manufactured by Solar, model Mars 90 T13002S. This gas combustion turbine is fired by pipeline natural gas and rated at 13,000 BHP at ISO conditions with a maximum heat input of 112.8 MMBtu/hr at ISO

conditions. Heat input rate will vary depending upon gas turbine characteristics, load, and ambient conditions. This gas combustion turbine was initially placed in service in 2001 and subsequently was up-rated by permit 0390029-003-AC. This turbine incorporates an efficiently operated dry low-NOx combustion system to minimize NOx emissions. The initial construction, permit 0390029-002-AC, of this unit avoided PSD requirements. However, Engine No. 1404 was simultaneously modified at the time of up-rating of Engine No. 1407 and the installation of gas combustion turbine engine No. 1408 (the Pignone PGT-10B) to provide an emission offset for PSD/NSR review avoidance (permit 0390029-003-AC).

Emissions unit 010 (FGT Engine No. 1408) is a gas combustion turbine manufactured by Nuovo Pignone, model PGT-10B. This gas combustion turbine is fired by pipeline natural gas and rated at 15,700 BHP at ISO conditions with a maximum heat input of 134.8 MMBtu/hr at ISO conditions. Heat input rate will vary depending upon gas turbine characteristics, load, and ambient conditions. This gas combustion turbine was initially placed in service in 2002. This turbine incorporates dry low-NOx combustion technology to minimize NOx emissions. FGT Engine No. 1404 was modified to offset emissions increases due to the up-rating of the Solar turbine (FGT Engine No. 1407) and the construction of this compressor engine (FGT Engine No. 1408) as authorized in permit 0390029-003-AC.

Permit 0390029-011-AC, effective April 22, 2009 added emissions unit 011, compressor Engine (FGT Engine No.1409), a Solar Titan Model No. 130-20502S gas combustion turbine. The combustion turbine fires approximately 151,800 cubic feet per hour of pipeline natural gas (SCC No 2-02-002-54) at maximum permitted capacity. At 165 MMBtu per hour of heat input, the combustion turbine produces approximately 20,500 bhp. Natural gas contains little or no ash, sulfur, or other contaminants, which minimizes emissions of particulate matter and sulfur dioxide. The efficient combustion of natural gas at high temperatures results in lower emissions of carbon monoxide and volatile organic compounds. Lean premix combustion technology minimizes the formation of nitrogen oxides. When operating at capacity, exhaust gases exit a 55 feet tall stack that is 7.5 feet x 8 feet in diameter with a flow rate of approximately 232,782 acfm at 944° F.

Internal combustion engines (Nos. 1401 - 1406) and combustion turbines (Nos. 1407 and 1408) are subject to (MACT) 40 CFR 63 Subpart ZZZZ - NESHAP for Stationary Reciprocating Internal Combustion Engines and Subpart YYYY - NESHAP for Stationary Combustion Turbines, respectively. However, based on rules 40 CFR 63.6090(b)(4) and 63.6590(b)(3) the units do not have to meet the requirements of the Subparts or Subpart A. In addition, no initial notification is required. Be aware that any future reconstruction (defined in 40 CFR 63.2) may result in this equipment becoming subject to these rules. Compressor Engine (FGT Engine No.1409) is subject to 40 CFR 60 Subpart KKKK - NSPS for Stationary Combustion Turbines and 40 CFR 63 Subpart YYYY - NESHAP for Stationary Combustion Turbines. The two 454 Hp engines for the new emergency generators are subject to the limits from table 1, and the certification, maintenance and recordkeeping requirements of 40 CFR 60 Subpart JJJJ - Stationary Spark Ignition Internal Combustion Engines. By meeting the applicable requirements of 40 CFR 60 Subpart JJJJ, the two 454 Hp engines for the new emergency generators also meet applicable requirements in 40 CFR 63, NESHAP Subparts A and ZZZZ - Reciprocating Internal Combustion Engines.

Also included in this permit are miscellaneous insignificant emissions units and/or activities. Based on the Title V Air Operation Permit Revision application received June 2, 2011, this facility is a major source of hazardous air pollutants (HAP).

**Subsection B. Summary of Emissions Unit ID No(s). and Brief Description**

| <b><u>EU I.D.</u></b> | <b><u>Brief Description</u></b>                           |
|-----------------------|---|
| 001-003 & 005         | Internal Combustion Engine No. 1401, 1402, 1403, 1405     |
| 004                   | Internal Combustion Engine No. 1404                       |
| 006                   | Internal Combustion Engine No. 1406                       |
| 008                   | 13,000 BHP Solar Mars Combustion Turbine Unit No. 1407    |
| 009                   | Emergency Generator: FGTC GEN03 & Miscellaneous Equipment |
| 010                   | Nuovo Pignone PGT10B Combustion Turbine No. 1408          |
| 011                   | Solar Titan 130-20502S Combustion Turbine No. 1409        |
| 012                   | Emergency Generators: FGTC GEN04 and FGTC GEN05           |

*Please reference the Permit No., Facility ID No., and appropriate Emissions Unit(s) ID No(s). on all correspondence, test report submittals, applications, etc.*

**Subsection C. Relevant Documents**

The documents listed below are not a part of this permit; however, they are specifically related to this permitting action.

These documents are provided to the permittee for information purposes only:

Appendix A-1: Abbreviations, Acronyms, Citations, and Identification Numbers  
Statement of Basis

These documents are on file with the permitting authority:

Appendix H-1: Permit History  
Application for a Title V Air Operation Permit Revision received June 2, 2011. Application was complete.

## Section II. Facility-wide Conditions

### The following conditions apply facility-wide:

1. APPENDIX TV-6, TITLE V CONDITIONS, is a part of this permit.
  2. General Pollutant Emission Limiting Standards - Objectionable Odor Prohibited. No person shall cause, suffer, allow, or permit the discharge of air pollutants which cause or contribute to an objectionable odor. [Rule 62-296.320(2), F.A.C., and permit 0390039-003-AC]
  3. General Particulate Emission Limiting Standards - General Visible Emissions Standard  
Except for emissions units that are subject to a particulate matter or opacity limit set forth or established by rule and reflected by conditions in this permit, no person shall cause, let, permit, suffer or allow to be discharged into the atmosphere the emissions of air pollutants from any activity, the density of which is equal to or greater than that designated as Number 1 on the Ringelmann Chart (20 percent opacity). EPA Method 9 is the method of compliance pursuant to Chapter 62-297, F.A.C. [Rules 62-296.320(4)(b)1. & 4., F.A.C.]
  4. Prevention of Accidental Releases (Section 112(r) of CAA).
    - a. Permittee shall submit its Risk Management Plan (RMP) to the Chemical Emergency Preparedness and Prevention Office (CEPPO) RMP Reporting Center when, and if, such requirement becomes applicable. Any Risk Management Plans, original submittals, revisions or updates to submittals, should be sent to:

RMP Reporting Center  
Post Office Box 10162  
Fairfax, VA 22038  
Telephone: 703/227-7650
- and,
- b. Permittee shall submit to the permitting authority Title V certification forms or a compliance schedule in accordance with Rule 62-213.440(2), F.A.C.  
[40 CFR 68]
5. General Pollutant Emission Limiting Standards. Volatile Organic Compounds (VOC) Emissions or Organic Solvents (OS) Emissions. Permittee shall allow no person to store, pump, handle, process, load, unload or use in any process or installation, volatile organic compounds (VOC) or organic solvents (OS) without applying known and existing vapor emission control devices or systems deemed necessary and ordered by the Department. Nothing was deemed necessary and ordered at this time. [Rule 62-296.320(1), F.A.C., and permit 0390029-003-AC]
6. Emissions of Unconfined Particulate Matter. Pursuant to Rule 62-296.320(4)(c), F.A.C., and the application, this facility has no emissions of unconfined particulate matter (see Condition 57 of APPENDIX TV-6, TITLE V CONDITIONS). [Rule 62-296.320(4)(c), F.A.C., and permit 0390029-003-AC]
7. When appropriate, any recording, monitoring, or reporting requirements that are time-specific shall be in accordance with the effective date of the permit, which defines day one. [Rule 62-213.440, F.A.C.]
8. Statement of Compliance. The annual statement of compliance pursuant to Rule 62-213.440(3)(a)2., F.A.C., shall be submitted to the Department and EPA within 60 days after the

end of the calendar year using DEP Form No. 62-213.900(7), F.A.C. [Rules 62-213.440(3), and 62-213.900, F.A.C.]

*{Permitting Note: This condition implements the requirements of Rules 62-213.440(3)(a)2. & 3., F.A.C. (see Condition 51 of APPENDIX TV-6, TITLE V CONDITIONS)}*

**9.** Permittee shall submit all compliance related notifications and reports required of this permit to the Department's Northwest District Office.

Department of Environmental Protection  
Northwest District Air Program  
160 W. Government Street, Suite 308  
Pensacola, Florida 32502-5740  
Telephone: 850/595-8300; Fax: 850/595-8096

Notification of compliance testing may be submitted by electronic mail to [nwdair@dep.state.fl.us](mailto:nwdair@dep.state.fl.us). A copy of all compliance related notifications shall be sent to the Northwest District Branch Office in Tallahassee at 2815 Remington Green Circle, #A, Tallahassee FL 32308.

**10.** Any reports, data, notifications, certifications, and requests required to be sent to the United States Environmental Protection Agency, Region 4, should be sent to:

United States Environmental Protection Agency  
Region 4  
Air, Pesticides & Toxics Management Division  
Air and EPCRA Enforcement Branch  
Air Enforcement Section  
61 Forsyth Street  
Atlanta, Georgia 30303-8960  
Telephone: 404/562-9155; Fax: 404/562-9163

**11. Certification by Responsible Official (RO):** In addition to the professional engineering certification required for applications by Rule 62-4.050(3), F.A.C., any application form, report, compliance statement, compliance plan and compliance schedule submitted pursuant to Chapter 62-213, F.A.C., shall contain a certification signed by a responsible official that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. Any responsible official who fails to submit any required information or who has submitted incorrect information shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary information or correct information. [Rule 62-213.420(4), F.A.C.]

**12.** Internal combustion engines (FGT Nos. 1401 - 1406), and combustion turbines (FGT Nos. 1407 and 1408), are subject to (MACT) 40 CFR 63 Subpart ZZZZ - NESHAP for Stationary Reciprocating Internal Combustion Engines, and Subpart YYYY - NESHAP for Stationary Combustion Turbines, respectively. However, based on rules 40 CFR 63.6090(b)(4) and 63.6590(b)(3) the units do not have to meet the requirements of the Subparts or Subpart A. In addition, no initial notification is required. Be aware that any future reconstruction (defined in 40 CFR 63.2) or installation of new equipment (IC engines or turbines) may result in the equipment becoming subject to one these rules. [Rule 62-204.800(11), F.A.C., 40 CFR 63 Subpart ZZZZ, and 40 CFR 63 Subpart YYYY]

**13. Source Obligation**

(a) At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by virtue of a relaxation in any enforceable limitation which was established after August 7, 1980, on the capacity of the source or modification otherwise to emit a pollutant, such as a restriction on hours of operation, then the requirements of subsections 62-212.400(4) through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification.

(b) At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by exceeding its projected actual emissions, then the requirements of subsections 62-212.400(4) through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification.

[Rule 62-212.400(12), F.A.C.]

**14. Actual Emissions Reporting:** This permit is based on an analysis that compared baseline actual emissions with projected actual emissions and avoided the requirements of subsection 62-212.400(4) through (12), F.A.C. for several pollutants. Therefore, pursuant to Rule 62-212.300(1)(e), F.A.C., the permittee is subject to the following monitoring, reporting and recordkeeping provisions.

- a. The permittee shall monitor the emissions of any PSD pollutant that the Department identifies could increase as a result of the construction or modification and that is emitted by any emissions unit that could be affected; and, using the most reliable information available, calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of ten years following resumption of regular operations after the change. Emissions shall be computed in accordance with the provisions in Rule 62-210.370, F.A.C., which are provided in Appendix C of this permit.
- b. The permittee shall report to the Department within 60 days after the end of each calendar year during the ten-year period setting out the unit's annual emissions during the calendar year that preceded submission of the report. The report shall contain the following:
  - 1) The name, address and telephone number of the owner or operator of the major stationary source;
  - 2) The annual emissions as calculated pursuant to the provisions of 62-210.370, F.A.C., which are provided in Appendix C of this permit;
  - 3) If the emissions differ from the preconstruction projection, an explanation as to why there is a difference; and
  - 4) Any other information that the owner or operator wishes to include in the report.

For this project, the Department requires the annual reporting of actual nitrogen oxide emissions for the following units:

011 Solar Titan 130-20502S Gas Combustion Turbine No. 1409

012 Emergency Generators: FGTC GEN04 and FGTC GEN05

[Applications 0390029-011 & 012- AC; Rules 62-212.300(1)(e) and 62-210.370, F.A.C.]

### **Section III. Emissions Unit(s) and Conditions**

#### **Subsection A. This section addresses the following emissions units**

| <b><u>E.U. ID No.</u></b> | <b><u>Brief Description</u></b>                              |
|---------------------------|--|
| 001-003 &<br>005          | Internal Combustion Engine Nos. 1401, 1402, 1403 and<br>1405 |

Engine Nos. 1401-1403 and 1405 are natural gas fired reciprocating IC engines manufactured by Worthington (Model SEHG-8) and installed in 1958 (engine Nos. 1401-1403) and 1968 (engine No. 1405). These engines are rated at 2,000 BHP with a heat input of 15 MMBtu/hr. The engines are naturally aspirated and operate at near stoichiometric air-to-fuel ratio. NO<sub>x</sub> and CO are emitted uncontrolled through raised stacks.

This emissions unit is subject to 40 CFR 63 Subpart ZZZZ - NESHAP for Stationary Reciprocating Internal Combustion Engines, adopted and incorporated by reference in Rule 62-204.800(11), F.A.C.

#### **Essential Potential to Emit (PTE) Parameters**

**A.1. Heat Input:** The maximum heat input shall not exceed 131,400 MMBtu per rolling 12-month period for each engine (Nos. 1401, 1402, 1403 and 1405). Rolling 12-month totals shall be maintained and made available on site for a minimum of five years for Department inspection. For compliance testing purposes, the maximum heat input rate shall not exceed 15 million Btu per hour for each engine. [Rules 62-4.160(2) and 62-210.200(243), F.A.C.]

*{Permitting Note: The hourly heat input limitation has been included to identify the capacity of each unit, to establish a compliance testing operating rate and to aid in determining future rule applicability. The hourly heat input is not to be construed as an operating limit during normal operation.}*

**A.2. Hours of Operation:** This emissions unit is allowed to operate continuously, i.e., 8,760 hours per year. [Rules 62-4.160(2) and 62-210.200(243), F.A.C.]

*{Permitting Note: This emission unit is also subject to 40 CFR 63 Subpart ZZZZ - NESHAP for Stationary Reciprocating Internal Combustion Engines. See Facility-Wide Condition 14 for applicable requirements.}*

#### **Record Keeping and Reporting**

**A.3. Monitoring, reporting and recordkeeping of actual emissions shall be done as required in Common Conditions I.1., I.2., and I 3. in Subsection I.**

**Subsection B. This section addresses the following emissions unit**

| <u>E.U. ID No.</u> | <u>Brief Description</u>            |
|--------------------|-------------------------------------|
| 004                | Internal Combustion Engine No. 1404 |

Engine No. 1404 is a natural gas fired reciprocating IC engine manufactured by Worthington (Model SEHG-8) and installed in 1966. This engine is rated at 2,000 BHP with a heat input of 16.5 MMBtu/hr.

Permit 0390029-003-AC, issued August 14, 2001, required the installation of an improved turbocharger to provide more air at increased pressure to reduce NOx emissions, and a catalytic converter to reduce CO emissions. These modifications offset potential emission increases resulting from the up-rating and construction of other compressor engines (Nos. 1407 & 1408). The permit included specific emission limits for CO (0.8 gm/BHP-hr), NOx (9.2 gm/BHP-hr), SO<sub>2</sub> (10grains sulfur/100SCF), and opacity (10%).

Since these engines were modified to reduce and offset emissions to avoid PSD/NSR, the basis for the applicable requirements is pursuant to Rule 62-212.400, F.A.C. This emission unit is subject to 40 CFR 63 Subpart ZZZZ - NESHAP for Stationary Reciprocating Internal Combustion Engines, adopted and incorporated by reference in Rule 62-204.800(11), F.A.C.

**The following specific conditions apply to the emissions unit listed above:**

**Essential Potential to Emit (PTE) Parameters**

**B.1. Permitted Capacity:** The maximum heat input rate to each engine shall not exceed 16.5 MMBtu per hour while producing approximately 2,000 BHP, based on a higher heating value (HHV) of 1,040 Btu per hour SCF for natural gas. [Rules 62-4.160(2) and 62-210.200 (243), F.A.C., and permit 0390029-003-AC]

*{Permitting Note: The maximum heat input rates are based on the manufacturer's equipment specifications for each reciprocating engine. They are included to identify the capacity of each emissions unit for purposes of confirming that tests are conducted within 90% to 100% of the emission unit's rated capacity (or to limit future operation to 105% of the test load, if applicable), to establish appropriate emissions limits, and to aid in determining future rule applicability.}*

**B.2. Authorized Fuel:** This modified reciprocating compressor engine shall fire only pipeline quality natural gas with a maximum of 10 grains sulfur per 100 standard cubic feet of natural gas. [Rule 62-213.410, F.A.C., and permit 0390029-003-AC]

**B.3. Hours of Operation:** This emissions unit is allowed to operate continuously, i.e., 8,760 hours per year. [Rule 62-210.200(243), F.A.C., and permit 0390029-003-AC]

**Emission Limitations and Standards**

**B.4.** Emissions from this modified reciprocating compressor engine shall not exceed the following limits:

| POLLUTANT                  | STANDARDS                | EQUIVALENT (lb/hr) | EQUIVALENT (tons/year) |
|----------------------------|--------------------------|--------------------|------------------------|
| Nitrogen Oxides            | 9.2 gram/BHP-hour        | 40.6               | 177.83                 |
| Carbon Monoxide            | 0.8 gram/BHP-hour        | 3.5                | 15.33                  |
| Sulfur Dioxide             | 10 grains S/100 scf      | 0.5                | 2.19                   |
| Opacity                    | 10% opacity - 6-min ave. | Not Applicable     | Not Applicable         |
| Particulate Matter         | Good combustion          | 0.2                | 0.88                   |
| Volatile Organic Compounds | Good combustion          | 0.4                | 1.75                   |

- a. The CO standard is based on a 3-hour test average as determined by EPA Method 10.
- b. The NOx standard is based on a 3-hour test average as determined EPA Method 7E.
- c. The fuel sulfur specification is based on the maximum limit specified by Federal Energy Regulatory Commission (FERC) and effectively limits the potential SO<sub>2</sub> emissions. Expected fuel sulfur levels are less than 1 grain per 100 scf of natural gas from the pipeline (compliance by record keeping).
- d. The opacity standard is based on a 6-minute average, as determined by EPA Method 9.
- e. For both PM and VOC, the efficient combustion of clean fuels is indicated by compliance with opacity and CO standards. Equivalent maximum PM emissions are based on data in Table 3.2-2 of AP-42 (factor: 0.00999 lb/MMBtu). Equivalent maximum VOC emissions are based on test data (factor: 0.1 g/BHP-hr). No testing required.
- f. Equivalent maximum emissions are based on the maximum expected emissions (or the emissions standard) at permitted capacity and 8,760 hours of operation per year.
- g. The emissions standards of this permit ensure that the project does not trigger the PSD preconstruction review requirements of Rule 62-212.400, F.A.C.  
[Avoid Rule 62-212.400, F.A.C., and permit 0390029-003-AC]

**Excess Emissions**

*{Permitting Note: The Excess Emissions Rule at Rule 62-210.700, F.A.C., can not vary any requirement of a NSPS or NESHAP provision.}*

**B.5. Excess Emissions:**

- (1) Excess emissions resulting from startup, shutdown or malfunction of any emissions unit shall be permitted providing best operational practices to minimize emissions are adhered to and the duration of excess emissions shall be minimized but in no case exceed two hours in any 24-hour period unless specifically authorized by the Department for longer duration.
- (2) Excess emissions that are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure that may reasonably be prevented during startup, shutdown, or malfunction shall be prohibited.
- (3) Considering operational variations in types of industrial equipment operations affected by this rule, the Department may adjust maximum and minimum factors to provide reasonable and practical regulatory controls consistent with the public interest.
- (4) In case of excess emissions resulting from malfunctions, each owner or operator shall notify the Department in accordance with Rule 62-4.130, F.A.C. A full written report on the malfunctions shall be submitted in a quarterly report, if requested by the Department.

**Test Methods and Procedures**

*{Permitting Note: Unless otherwise specified, the averaging times are based on the specified averaging time of the applicable test method.}*

**B.6.** Emissions tests are required to show continuing compliance with the standards of the Department. The test results must provide reasonable assurance that the source is capable of compliance at the permitted maximum operating rate. Tests shall be conducted once during each federal fiscal year (October 1 to September 30) unless otherwise noted in specific conditions. Results shall be submitted to the Department within 45 days after testing. For each test run, the report shall also indicate the natural gas firing rate (cubic feet per hour), heat input rate (MMBtu per hour), and the power output (BHP). The Department shall be notified at least 15 days prior to testing to allow witnessing. [Rule 62-297.310, F.A.C.]

Testing of emissions shall be conducted with the emissions unit operating at permitted capacity, which is defined as 90 to 100 percent of the maximum operation rate allowed by the permit. If it is impracticable to test at permitted capacity, an emissions unit may be tested at less than the minimum permitted capacity (i.e., at less than 90 percent of the maximum operation rate allowed by the permit); in this case, subsequent emissions unit operation is limited to 110 percent of the test load until a new test is conducted, provided however, operations do not exceed 100 percent of the maximum operation rate allowed by the permit. Once the emissions unit is so limited, operation at higher capacities is allowed for no more than 15 consecutive days for the purpose of additional compliance testing to regain the authority to operate at the permitted capacity. [Rules 62-297.310(2) & (2)(b), F.A.C.]

**B.7. Nitrogen Oxides:** The test method for nitrogen oxides shall be EPA Method 7E, incorporated and adopted by reference in Chapter 62-297, F.A.C. [Rule 62-297.401, F.A.C., and permit 0390029-003-AC]

**B.8. Carbon Monoxide:** The test method for carbon monoxide shall be EPA Method 10, incorporated and adopted by reference in Chapter 62-297, F.A.C. CO performance testing shall be conducted once, concurrently with NOx testing, within the 12-month period prior to expiration of this permit (once every five years). [Rule 62-297.401, F.A.C., and permit 0390029-003-AC]

**B.9. Sulfur Dioxide:** Emissions shall be calculated based on fuel flow and vendor analysis of fuel sulfur content. Compliance with the SO<sub>2</sub> emissions limit can be determined by calculations based on fuel analysis using ASTM D4084-82, D3246-81, D5504-98, or an approved alternative method for sulfur content of gaseous fuels. [Rules 62-297.401, 62-297.440, F.A.C., and permit 0390029-003-AC]

**B.10. Visible Emissions:** The test method for visible emissions shall be EPA Method 9, incorporated and adopted by reference in Chapter 62-297, F.A.C. [Rule 62-297.401, F.A.C., and permit 0390029-003-AC]

*{Permitting Note: Compliance verification for PM and VOC emissions are denoted in Specific Condition B.4's notes.}*

### **Record Keeping and Reporting**

**B.11.** Permittee shall adequately monitor the fuel consumption rate and hours of operation for use in submittal of the required Annual Operating Report (AOR). [Rule 62-4.070(3), F.A.C., and permit 0390029-003-AC]

**B.12.** During each complete engine analysis performed according to the facility Standard Operating Procedure (SOP) H.12; a trained technician shall adjust engine performance as necessary. Engine operation shall not exceed 1440 hours between analyses except under those

circumstances outlined in the SOP. These analyses shall be recorded in a permanent log and made available for inspection upon request of the Department. [Rule 62-4.070(3), F.A.C., and permit 0390029-003-AC]

**B.13.** Monitoring, reporting and recordkeeping of actual emissions shall be done as required in Common Conditions I.1., I.2., and I.3. in Subsection I.

### **Other Requirements**

**B.14. Special Compliance Tests:** When the Department, after investigation, has good reason (such as complaints, increased visible emissions or questionable maintenance of control equipment) to believe that any applicable emission standard contained in a Department rule or in a permit issued pursuant to those rules is being violated, it may require the owner or operator of the emissions unit to conduct compliance tests which identify the nature and quantity of pollutant emissions from the emissions unit and to provide a report on the results of said tests to the Department. [Rule 62-297.310(7)(b), F.A.C.]

*{Permitting Note: This emission unit is also subject to 40 CFR 63 Subpart ZZZZ - NESHAP for Stationary Reciprocating Internal Combustion Engines. See Facility-Wide Condition 14 for applicable requirements.}*

**Subsection C. This section addresses the following emissions unit**

| <b><u>EU I.D.</u></b> | <b><u>Brief Description</u></b>     |
|-----------------------|-------------------------------------|
| 006                   | Internal Combustion Engine No. 1406 |

Engine No. 1406 is a natural gas fired reciprocating IC engines manufactured by Cooper-Bessemer (model GMVR-12C) and was placed in service in 1991. This engine incorporates “lean burn” technology to minimize NOx emissions.

Permit AC20-189438 (PSD-FL-159) was issued May 8, 1991, and included a BACT determination for NOx of 2.0 g/BHP-hr, which was modified, along with other pollutant factors, on September 17, 1993, to 1.78 g/BHP-hr. This permit included limits of NOx, 10.6 lbs/hr; CO, 1.11 lbs/hr; VOC, 2.6 lbs/hr; PM (TSP and PM<sub>10</sub>), 0.08 lbs/hr; and SO<sub>2</sub>, 0.46 lbs/hr. Visible emissions are limited to 10% opacity.

Subsequent to issuance of the construction permit, the PM emission factor has increased, resulting in increased calculated emissions associated with this engine. The PM limit in the permit was based on an assumed emission factor with no regulatory basis, and actual emissions have not changed. Permit 0390029-006-AC, issued simultaneously with Title V permit renewal 0390029-010-AV, supersedes the PM emission standards of permit AC20-189438 (PSD-FL-159) and replaces them with the requirement that PM emissions be minimized by good combustion design with the exclusive firing of natural gas.

This emission unit is subject to 40 CFR 63 Subpart ZZZZ - NESHAP for Stationary Reciprocating Internal Combustion Engines, adopted and incorporated by reference in Rule 62-204.800(7), F.A.C

**The following specific conditions apply to the emissions unit listed above:**

**Essential Potential to Emit (PTE) Parameters**

**C.1. Capacity:** The maximum allowable operating rate (rated capacity) is 2,700 BHP (full speed, full load, 100°F ambient site temperature). Fluctuations in measured BHP, plus or minus ten percent ( $\pm 10\%$ ) may occur as a result of natural uncontrolled fluctuations in ambient temperature, ambient pressure, fuel temperature, and a pulsation phenomenon inherent to the operation of reciprocating compressor engines. [Rules 62-4.160(2), and 62-210.200 (243), F.A.C, and permit AC20-189438, issued May 9, 1991 and modified September 17, 1993]

**C.2. Heat Input:** The maximum heat input rate shall not exceed 21.69 million Btu per hour. [Rules 62-4.160(2), and 62-210.200 (243), F.A.C., and permit AC20-189438 issued May 9, 1991 and modified September 17, 1993]

*{Permitting Note: Based on an assumed heat value of 1,040 Btu/scf of gas. The maximum heat input rates are based on the manufacturer’s equipment specifications for each reciprocating engine. They are included to identify the capacity of each emissions unit for purposes of confirming that tests are conducted within 90% to 100% of the emission unit’s rated capacity (or to limit future operation to 105% of the test load, if applicable), to establish appropriate emissions limits, and to aid in determining future rule applicability.}*

**C.3. Hours of Operation:** This emissions unit is allowed to operate continuously, i.e., 8,760 hours per year. [Rules 62-4.160(2), and 62-210.200(243), F.A.C., and permit AC20-189438, issued May 9, 1991]

**C.4. Fuel Consumption:** The maximum natural gas consumption shall not exceed 20,856 scf per hour. Records shall be kept of monthly natural gas consumption and shall be averaged to determine hourly consumption. These records shall be maintained on site for a period of five years and shall be made available for Department inspection as necessary.

*{Permitting Note: Based on an assumed heat value of 1,040 Btu/scf of gas.}*

[Rule 62-210.200(243), F.A.C., and permit AC20-189438, issued May 9, 1991 and modified September 17, 1993]

**Emission Limitations and Standards**

**C.5.** The maximum allowable emission rate shall not exceed the emission rates as follows:

| <b>POLLUTANT</b>                         | <b>Emission Rate (lb/hr)</b>  | <b>Emission Rate (tons/year)</b> |
|--|-------------------------------|----------------------------------|
| Nitrogen Oxides                          | 10.6                          | 46.4                             |
| Carbon Monoxide                          | 11.1                          | 48.7                             |
| Volatile Organic Compounds               | 2.6                           | 11.5                             |
| Particulate Matter (TPS) *               | Good Combustion - natural gas | Good Combustion - natural gas    |
| Particulate Matter (PM <sub>10</sub> ) * | Good Combustion - natural gas | Good Combustion - natural gas    |
| Sulfur Dioxide                           | 0.46                          | 2.0                              |
| Visible Emissions                        | 10% opacity                   | 10% opacity                      |

*(\*Note: new standards for PM/PM<sub>10</sub> are due to changes made by permit 0390029-006-AC, issued simultaneously with this Title V permit renewal. Previous PM/PM<sub>10</sub> limits were 0.08 tons/hr and 0.4 tons/yr.)*

[permit AC20-189438, PSD-FL-159]

**Excess Emissions**

*{Permitting Note: The Excess Emissions Rule at Rule 62-210.700, F.A.C., cannot vary any requirement of a NSPS or NESHAP provision.}*

**C.6. Excess Emissions:**

(1) Excess emissions resulting from startup, shutdown or malfunction of any emissions unit shall be permitted providing;

- (1) best operational practices to minimize emissions are adhered to and
- (2) The duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the Department for longer duration.

(2) Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during startup, shutdown, or malfunction shall be prohibited.

(3) Considering operational variations in types of industrial equipment operations affected by this rule, the Department may adjust maximum and minimum factors to provide reasonable and practical regulatory controls consistent with the public interest.

(4) In case of excess emissions resulting from malfunctions, each owner or operator shall notify the Department or the appropriate Local Program in accordance with Rule 62-4.130, F.A.C. A full written report on the malfunctions shall be submitted in a quarterly report, if requested by the Department. [Rule 62-210.700, F.A.C.]

### **Test Methods and Procedures**

*{Permitting Note: Unless otherwise specified, the averaging time is based on the specified averaging time of the applicable test method.}*

**C.7.** Emissions tests are required to show continuing compliance with the standards of the Department. The test results must provide reasonable assurance that the source is capable of compliance at the permitted maximum operating rate. Tests shall be conducted once during each federal fiscal year (Oct. 1 - Sept. 30) unless otherwise noted in specific conditions. Results shall be submitted to the Department within 45 days after testing. The Department shall be notified at least 15 days prior to testing to allow witnessing. [Rule 62-297.310, F.A.C.]

Testing of emissions shall be conducted with the emissions unit operating at permitted capacity, which is defined as 90 to 100 percent of the maximum operation rate allowed by the permit. If it is impracticable to test at permitted capacity, an emissions unit may be tested at less than the minimum permitted capacity (i.e., at less than 90 percent of the maximum operation rate allowed by the permit); in this case, subsequent emissions unit operation is limited to 110 percent of the test load until a new test is conducted, provided however, operations do not exceed 100 percent of the maximum operation rate allowed by the permit. Once the emissions unit is so limited, operation at higher capacities is allowed for no more than 15 consecutive days for the purpose of additional compliance testing to regain the authority to operate at the permitted capacity. [Rules 62-297.310(2) & (2)(b), F.A.C.]

**C.8. Nitrogen Oxides:** The test method for nitrogen oxides shall be EPA Method 7E, incorporated and adopted by reference in Chapter 62-297, F.A.C. [Rule 62-297.401, F.A.C., and permit 0390029-003-AC]

**C.9. Carbon Monoxide:** The test method for carbon monoxide shall be EPA Method 10, incorporated and adopted by reference in Chapter 62-297, F.A.C. [Rule 62-297.401, F.A.C., and permit 0390029-003-AC]

**C.10. Volatile Organic Compounds:** The test method for volatile organic compounds shall be EPA Method 25A, incorporated and adopted by reference in Chapter 62-297, F.A.C. VOC emissions limits will be assumed provided the CO allowable emission rate is achieved. [Rule 62-297.401, F.A.C., and permit 0390029-003-AC]

**C.11. Opacity:** The test method for opacity shall be EPA Method 9, incorporated and adopted by reference in Chapter 62-297, F.A.C. [Rule 62-297.401, F.A.C., and permit 0390029-003-AC]

**C.12. Sulfur Dioxide:** The test method for SO<sub>2</sub> shall be EPA Method 6, incorporated and adopted by reference in Chapter 62-297, F.A.C. Compliance with the SO<sub>2</sub> emissions limit can be determined by calculations based on fuel analysis using ASTM D1072-80, D3031-81, D4084-82, D3246-81, D5504-98, or approved alternative method for sulfur content of gaseous fuels. [Rules 62-297.401, and 62-297.440 F.A.C.]

### **Record Keeping and Reporting**

**C.13.** Monitoring, reporting and recordkeeping of actual emissions shall be done as required in Common Conditions I.1., I.2., and I.3. in Subsection I.

### **Other Requirements**

**C.14. Special Compliance Tests:** When the Department, after investigation, has good reason (such as complaints, increased visible emissions or questionable maintenance of control equipment) to believe that any applicable emission standard contained in a Department rule or in a permit issued pursuant to those rules is being violated, it may require the owner or operator of the emissions unit to conduct compliance tests which identify the nature and quantity of pollutant emissions from the emissions unit and to provide a report on the results of said tests to the Department. [Rule 62-297.310(7)(b), F.A.C.]

*{Permitting Note: This emission unit is also subject to 40 CFR 63 Subpart ZZZZ - NESHAP for Stationary Reciprocating Internal Combustion Engines. See Facility-Wide Condition 14 for applicable requirements.}*

**Subsection D. This section addresses the following emissions unit**

**EU I.D.**

**Brief Description**

008

Solar Mars Turbine Compressor Unit (FGT No. 1407)

Engine No. 1407 is a natural gas fired 13,000 BHP (ISO) Solar Mars 90 gas turbine. This engine incorporates dry low-NOx combustion technology to minimize exhaust NOx emissions. This engine was initially put in service in 2001 (permit 0390029-002-AC), and was modified in late 2001 (permit 0390029-003-AC).

Permit 0390029-002-AC, issued April 21, 2000, includes limits for NOx emissions of 25 ppmvd at 15% O<sub>2</sub> (equivalent emissions of 8.8 lbs/hr and 38.6 TPY ISO conditions), and CO of 50 ppmvd at 15% O<sub>2</sub>. Sulfur content is limited to pipeline quality natural gas not exceeding 10 grains S per 100 scf, and VE was limited to 10% opacity.

Permit 0390029-003-AC, issued August 15, 2001, “up-rated” this turbine compressor from 10,350 BHP to 13,000 BHP with similar limits for NOx, CO, SO<sub>2</sub> and opacity. Equivalent NOx emissions increase to 10.2 lbs/hr and 44.68 tons/year. Engine No. 1404 was simultaneously modified to provide emissions offsets to avoid NSR/PSD review, resulting from the up-rating of this turbine compressor (FGT No. 1407) and construction of turbine compressor No. 1408. This turbine was tested on January 14, 2003 and determined to be in compliance with permit 0390029-003-AC at the “up-rated” capacity. Permit 00390039-009-AV is considered the initial Title V operation permit for this emissions unit at the “up-rated” capacity. Based on DARM’s review/technical evaluation and FGT’s October 14, 2004 request letter, component replacement language, designed to facilitate prompt gas turbine component repair and return to original specification service, has been incorporated into this emissions unit.

This emissions unit is subject to 40 CFR 60 Subpart GG - Standards of Performance for Stationary Gas Turbines and 40 CFR 63 Subpart YYYYY - NESHAP for Stationary Combustion Turbines, adopted and incorporated by reference in Rule 62-204.800(11), F.A.C.

**The following specific conditions apply to the emissions unit listed above:**

**Essential Potential to Emit (PTE) Parameters**

**D.1. Capacity:** The maximum heat input rate shall not exceed 112.8 MMBtu/hr while producing approximately 13,078 BHP based on a compressor inlet air temperature of 59° F, 100% load, and a higher heating value (HHV) of 1,040 Btu per scf for natural gas. Heat input rates will vary depending upon gas turbine characteristics, load, and ambient conditions. Performance data shall be adjusted for the appropriate site conditions in accordance with performance curves (Attachment 2) and/or equations on file with the Department. [Rules 62-4.160(2), and 62-210.200(243), F.A.C., and permit 0390029-003-AC]

*{Permitting Note: The maximum heat input rates are based on the manufacturer’s equipment specifications for each gas turbine. They are included to identify the capacity of each emissions unit for purposes of confirming that tests are conducted within 90% to 100% of the emission unit’s rated capacity (or to limit future operation to 105% of the test load, if applicable), to establish appropriate emissions limits, and to aid in determining future rule applicability.}*

**D.2. Authorized Fuel:** This turbine compressor shall fire only pipeline quality natural gas with a maximum of 10 grains sulfur (S) per 100 standard cubic feet of natural gas. Compliance

demonstration for the fuel sulfur limit shall be verified with a current, valid purchase contract, tariff sheet or transportation contract for the gaseous fuel. [Rule 62-213.410, F.A.C., 40 CFR 60.334(h), and permit 0390029-003-AC]

**D.3. Hours of Operation:** This emissions unit is allowed to operate continuously, i.e., 8,760 hours per year. Except for startup and shutdown, operation below 50% base load is prohibited. [Rules 62-4.160(2), and 62-210.200(243), F.A.C., and permit 0390029-003-AC]

**Emission Limitations and Standards**

**D.4.** Emissions from the gas turbine shall not exceed the following limits:

| <b>POLLUTANT</b>           | <b>Standards</b>              | <b>Equivalent (lb/hr)</b> | <b>Equivalent (tons/year)</b> |
|----------------------------|-------------------------------|---------------------------|-------------------------------|
| Nitrogen Oxides            | 25.0 ppmvd@15% O <sub>2</sub> | 10.2                      | 44.68                         |
| Carbon Monoxide            | 50.0 ppmvd@15% O <sub>2</sub> | 12.4                      | 54.31                         |
| Sulfur Dioxide             | 10 grains S/100 scf           | 3.1                       | 13.58                         |
| Opacity                    | 10% opacity - 6 min ave.      | Not Applicable            | Not Applicable                |
| Particulate Matter         | Good Combustion               | 0.7                       | 3.3                           |
| Volatile Organic Compounds | Good Combustion               | 0.4                       | 1.75                          |

- a. The CO standard is based on a 3-hour test average as determined by EPA Method 10.
- b. The NOx standards is based a 3-hour test average as determined EPA Method 20.
- c. The fuel sulfur specification is based on the maximum limit specified by Federal Energy Regulatory Commission (FERC) and effectively limits the potential SO<sub>2</sub> emissions. Expected fuel sulfur levels are less than 1 grain per 100 scf of natural gas from the pipeline.
- d. The opacity standard is based on a 6-minute average, as determined by EPA Method 9.
- e. For both PM and VOC, the efficient combustion of clean fuels is indicated by compliance with opacity and CO standards. Equivalent maximum PM emissions are based on vendor data. Equivalent maximum VOC emissions were conservatively assumed to be 10% of the vendor’s data for total unburned hydrocarbon. No testing required.
- f. Equivalent maximum emissions are based on the maximum expected emissions, permitted capacity, a compressor inlet air temperature of 59° F, and 8,760 hours of operation per year. For comparison purposes, Permittee shall provide a reference table with the initial compliance test report of mass emission rates versus the compressor inlet temperatures. Each test report shall include measured mass emission rates for CO, NOx and SO<sub>2</sub>. Mass emission rates for SO<sub>2</sub> shall be calculated based on sulfur content and fuel flow rate. For tests conducted at 59° F or greater, measured mass emission rates shall be compared to the equivalent maximum emissions above. For tests conducted below 59° F, measured mass emission rates shall be compared to the tabled mass emission rates provided by the manufacturer based on compressor inlet temperatures.
- g. The emissions standards of this permit ensure that the project does not trigger the PSD preconstruction review requirements of Rule 62-212.400, F.A.C.  
[Avoid Rule 62-212.400, F.A.C., and permits 0390029-002-AC, and 0390029-003-AC]

**Test Requirements, Methods and Procedures**

**D.5.** Emissions tests are required to show continuing compliance with the standards of the Department. The test results must provide reasonable assurance that the source is capable of compliance at the permitted maximum operating rate. Tests shall be conducted once during each federal fiscal year (October 1 to September 30) unless otherwise noted in specific conditions. CO and NOx performance testing shall be conducted concurrently at the permitted capacity.

Results shall be submitted to the Department within 45 days after testing. For each run, the test report shall also indicate the natural gas firing rate (cubic feet per hour), heat input (MMBtu per hour), the power output (BHP), percent base load, and the inlet compressor temperature. The Department shall be notified at least 15 days prior to testing to allow witnessing. [Rule 62-297.310, F.A.C.]

**D.6.** Testing shall be conducted at capacity. Capacity is defined as 90-100% of the maximum heat input allowed by this permit achievable for the average ambient temperature during the test. If it is impractical to test at capacity, the emissions unit may be tested at less than capacity. In such cases, subsequent operation is limited by adjusting downward the entire heat input vs. inlet temperature curve by the increment equal to the difference between the permitted maximum heat input value and 110 percent of the value reached during the test. Once the emissions unit is so limited, operation at higher capacities is allowed for no more than 15 consecutive days for the purpose of additional compliance testing to regain the authority to operate at the permitted capacity. Data, curves and calculations necessary to demonstrate the heat input rate correction at both design and test conditions shall be submitted to the Department with the compliance test report. The test reports shall comply with applicable portions of F.A.C. Rule 62-297.310, Test Reports. The attached operating curves (Attachment 1) showing NO<sub>x</sub> emissions as a function of inlet air temperature shall be used with the test results to demonstrate compliance. [Rules 62-297.310(2), and 62-4.070, F.A.C., 40 CFR 60.335(b), and permit 0390029-003-AC]

**D.7. Nitrogen Oxides:** The test method for nitrogen oxides shall be EPA Method 20, incorporated and adopted by reference in Chapter 62-297, F.A.C. NO<sub>x</sub> emissions shall be corrected to ISO ambient atmospheric conditions and compared to the NSPS Subpart GG standard identified in Appendix GG of this permit for each required test. [Rule 62-297.401, F.A.C., and permit 0390029-003-AC]

**D.8. Carbon Monoxide:** The test method for carbon monoxide shall be EPA Method 10, incorporated and adopted by reference in Chapter 62-297, F.A.C. CO and NO<sub>x</sub> performance testing shall be conducted concurrently at the permitted capacity. [Rule 62-297.401, F.A.C., and permit 0390029-003-AC]

**D.9. Sulfur Dioxide:** Emissions shall be calculated based on fuel flow and vendor analysis of fuel sulfur content. Compliance with the SO<sub>2</sub> emissions limit can be determined by calculations based on fuel analysis using ASTM D4084-82, 94, D5504-01, D6228-98, or Gas Processors Association Standard 2377-86, or an approved alternative method. [Rules 62-297.401, 62-297.440, F.A.C., 40 CFR 60.334(h), and permit 0390029-003-AC]

**D.10. Visible Emissions:** The test method for visible emissions shall be EPA Method 9, incorporated and adopted by reference in Chapter 62-297, F.A.C. [Rule 62-297.401, F.A.C., and permit 0390029-003-AC]

*{Permitting Note: Compliance verification for PM and VOC emissions are denoted in Specific Condition D.4's notes.}*

### **Monitoring of Operations**

**D.11.** Using the automated gas turbine control system, Permittee shall monitor and record heat input (MMBtu), power output (BHP), and hours of operation for the gas turbine. Within the

10 days of a request by the Department or the Compliance Authority, Permittee shall be able to summarize the following information for a given day: heat input (MMBtu per hour, daily average); power output (BHP, daily average); and total hours of gas turbine operation. This information shall also be used for submittal of the required Annual Operating Report. [Rule 62-4.070, F.A.C., 40 CFR 60.332, and permit 0390029-003-AC]

### **Record Keeping and Reporting**

**D.12.** Monitoring, reporting and recordkeeping of actual emissions shall be done as required in Common Conditions I.1., I.2., and I 3. in Subsection I.

### **Other Requirements**

**D.13. Special Compliance Tests:** When the Department, after investigation, has good reason (such as complaints, increased visible emissions or questionable maintenance of control equipment) to believe that any applicable emission standard contained in a Department rule or in a permit issued pursuant to those rules is being violated, it may require the owner or operator of the emissions unit to conduct compliance tests which identify the nature and quantity of pollutant emissions from the emissions unit and to provide a report on the results of said tests to the Department. [Rule 62-297.310(7)(b), F.A.C.]

**D.14. Component Replacement:** For the replacement of gas turbine components to facilitate prompt repair and return the unit to its original specifications, Permittee shall comply with the following notification and testing requirements.

- a. Components shall only be replaced with functionally equivalent “like-kind” equipment. Replacement components may consist of improved or newer equipment, but such components shall not change operation or increase the capacity (heat input and power output rates) of the gas turbine. Replacement components that affect emissions shall be designed to achieve the emissions standards specified in all valid air permits and shall achieve these standards or better. After a component replacement, the gas turbine compressor engine remains subject to the standards of all valid air permits.
- b. Permittee shall notify the Compliance Authority within seven days after beginning any replacement of the gas generator component of the compressor engine. Within seven days of first fire on a replacement gas generator, Permittee shall submit the following information to the Compliance Authority: date of first fire and certification from the vendor that the replacement gas generator is a functionally equivalent “like-kind” component. The vendor certification shall also identify the make, model number, maximum heat input rate (MMBtu/hour), power output (BHP) at ISO conditions, and that the permitted emission rates are achievable with the replacement component. This notification may be made by letter, fax, or email. A copy of the information shall be kept on site at the compressor station. Within 60 days of restarting the unit after a gas generator replacement, the permittee shall conduct stack tests to demonstrate compliance with the applicable emission standards. Permittee shall notify the Compliance Authority in writing at least 15 days prior to conducting these tests. Permittee shall comply with all permit requirements for test notification, test methods, test procedures, and reporting.

[Rules 62-4.130, 62-4.160(2), (6), and (15), and 62-297.310(7)(b), F.A.C.]

- c. After investigation and for good cause, the Department may require special compliance tests pursuant to Rule 62-297.310(7)(b), F.A.C.

*{Permitting Note: This emission unit is also subject to 40 CFR 63 Subpart YYYYY - NESHAP for Stationary Combustion Turbines. See Facility-Wide Condition 14 for applicable requirements.}*

### **NSPS Conditions**

**D.15.** Applicable portions of 40 CFR 60 Subpart A - General Provisions Requirements and Subpart GG - Standards of Performance for Stationary Gas Turbines, are incorporated and included by reference as conditions of this permit. This includes but is not limited to the following:

- a. 40 CFR 60.7 - Notification and record keeping;
- b. 40 CFR 60.8 - Performance tests;
- c. 40 CFR 60.11 - Compliance with standards and maintenance requirements
- d. 40 CFR 60.12 - Circumvention
- e. 40 CFR 60.13 - Monitoring requirements
- f. 40 CFR 60.14 - Modification
- g. 40 CFR 60.17 - Incorporations by reference

[Rule 62-204.800, F.A.C., 40 CFR 60 Subpart A, and permit 0390029-002-AC]

**Subsection E. This section addresses the following emissions unit**

**EU I.D.**

**Brief Description**

010

Nuovo Pignone PGT10B Gas Turbine No. 1408

Engine No. 1408 is a natural gas fired 15,700 bhp Pignone model No. PGT-10B gas turbine. This engine incorporates dry low-NO<sub>x</sub> combustion technology to minimize exhaust NO<sub>x</sub> emissions.

Permit 0390029-003-AC, issued August 14, 2001, and includes limits of 25 ppmvd at 15% O<sub>2</sub> for nitrogen oxides (equivalent emissions of 14.1 lbs/hr and 61.8 TPY ISO conditions), and 15, 30, and 75 ppmvd at 15% O<sub>2</sub> for carbon monoxide at 90 - 100% loading, 60 - 90% loading, and 50 - 60% loading, respectively. Sulfur content is limited to pipeline quality natural gas not exceeding 10 grains S per 100 scf, and VE is limited to 10% opacity. PM and VOC standards are identified as "Good combustion practices". Engine No. 1404 was modified to offset potential emission increases to avoid PSD/NSR review, which resulted from the "up-rating" of turbine compressor No. 1407 and construction of this turbine compressor (No. 1408). Permit 0030029-008-AC, issued on July 27, 2004, revised the CO emission rates and removed certain operating restrictions in the low and middle load ranges, which were required by permit 0030029-003-AC. The changes did not cause any increases in annual emissions of CO, although an incidental increase in VOC emissions may have occurred as a result (only) of the load limitation removal. Based on DARM's review/technical evaluation and FGT's October 14, 2004 request letter, component replacement language, designed to facilitate prompt gas turbine component repair and return to original specification service, has been incorporated into this emissions unit.

This emissions unit is subject to 40 CFR 60 Subpart GG - Standards of Performance for Stationary Gas Turbines and 40 CFR 63 Subpart YYYYY - NESHAP for Stationary Combustion Turbines, adopted and incorporated by reference in Rule 62-204.800(11), F.A.C.

**The following specific conditions apply to the emissions unit listed above:**

**Essential Potential to Emit (PTE) Parameters**

**E.1. Capacity:** The maximum heat input rate shall not exceed 134.8 MMBtu/hr while producing approximately 15,700 bhp based on a compressor inlet air temperature of 59° F, 100% load, and a higher heating value (HHV) of 1,040 Btu per scf for natural gas. Heat input rates will vary depending upon gas turbine characteristics, load, and ambient conditions. Performance data shall be adjusted for the appropriate site conditions in accordance with performance curves (Attachment 2) and/or equations on file with the Department. [Rules 62-4.160(2), and 62-210.200(243), F.A.C., and permit 0390029-003-AC]

*{Permitting Note: The maximum heat input rates are based on the manufacturer's equipment specifications for each gas turbine. They are included to identify the capacity of each emissions unit for purposes of confirming that tests are conducted within 90% to 100% of the emission unit's rated capacity (or to limit future operation to 105% of the test load, if applicable), to establish appropriate emissions limits, and to aid in determining future rule applicability.}*

**E.2. Authorized Fuel:** This turbine compressor shall fire only pipeline quality natural gas with a maximum of 10 grains sulfur (S) per 100 standard cubic feet of natural gas. Compliance demonstration for the fuel sulfur limit shall be verified with a current, valid purchase contract,

tariff sheet or transportation contract for the gaseous fuel. [Rule 62-213.410, F.A.C., 40 CFR 60.334(h), and permit 0390029-003-AC]

**E.3. Hours of Operation:** The total hours of operation for this gas turbine are not limited (8,760 hours per year). Except for startup and shutdown, operation below 50% base load is prohibited. [Rules 62-4.160(2) and 62-210.200(243), F.A.C., and permits 0390029-003-AC, and 0390029-008-AC]

**Emission Limitations and Standards**

**E.4.** Emissions from the gas turbine shall not exceed the following limits:

| <b>POLLUTANT</b>           | <b>Standards</b>              | <b>Equivalent (lb/hr)</b> | <b>Equivalent (tons/year)</b> |
|----------------------------|-------------------------------|---------------------------|-------------------------------|
| Nitrogen Oxides            | 25.0 ppmvd@15% O <sub>2</sub> | 14.1                      | 61.76                         |
| Carbon Monoxide            | 21.0 ppmvd@15% O <sub>2</sub> | 8.67                      | 37.97                         |
| Sulfur Dioxide             | 10 grains S/100 scf           | 3.7                       | 16.21                         |
| Opacity                    | 10% opacity - 6 min ave.      | Not Applicable            | Not Applicable                |
| Particulate Matter         | Good Combustion               | 0.9                       | 3.94                          |
| Volatile Organic Compounds | Good Combustion               | 1.5                       | 6.57                          |

- a. The CO standards are based on 3-hour test average as determined by EPA Method 10.
- b. The NO<sub>x</sub> standards are based 3-hour test average as determined EPA Method 20.
- c. The fuel sulfur specification is based on the maximum limit specified by Federal Energy Regulatory Commission (FERC) and effectively limits the potential SO<sub>2</sub> emissions. Expected fuel sulfur (S) levels are less than 1 grain per 100 scf of natural gas from the pipeline.
- d. The opacity standard is based on a 6-minute average, as determined by EPA Method 9.
- e. For both PM and VOC, the efficient combustion of clean fuels is indicated by compliance with opacity and CO standards. Equivalent maximum PM emissions are based on data in Table 3.1-2a in AP-42. Equivalent maximum VOC emissions are based on vendor data. Annual VOC emissions were based on the vendor data. No testing required.
- f. Equivalent maximum hourly emissions are the maximum expected emissions based on permitted capacity and a compressor inlet air temperature of 59° F. For comparison purposes, Permittee shall provide a reference table with the initial compliance test report of mass emission rates versus the compressor inlet temperatures. Each test report shall include measured mass emission rates for CO, NO<sub>x</sub> and SO<sub>2</sub>. Mass emission rates for SO<sub>2</sub> shall be calculated based on sulfur content and fuel flow rate. For tests conducted at 59° F or greater, measured mass emission rates shall be compared to the equivalent maximum emissions above. For tests conducted below 59° F, measured mass emission rates shall be compared to the tabled mass emission rates provided by the manufacturer based on compressor inlet temperatures.
- g. Equivalent maximum annual emissions are based on 8,760 hours of operation per year.
- h. The emissions standards of this permit ensure that the project does not trigger the PSD preconstruction review requirements of Rule 62-212.400, F.A.C.  
[Avoid Rule 62-212.400, F.A.C., and permits 0390029-003-AC, and 0390029-008-AC]

### **Test Requirements, Methods and Procedures**

*{Permitting Note: Unless otherwise specified, the averaging time for Specific Condition E.4 is based on the specified averaging time of the applicable test method.}*

**E.5.** Emissions tests are required to show continuing compliance with the standards of the Department. The test results must provide reasonable assurance that the source is capable of compliance at the permitted maximum operating rate. Tests shall be conducted once during each federal fiscal year (October 1 to September 30) unless otherwise noted in specific conditions. CO and NO<sub>x</sub> performance testing shall be conducted concurrently at the permitted capacity. Results shall be submitted to the Department within 45 days after testing. For each run, the test report shall also indicate the natural gas firing rate (cubic feet per hour), heat input (MMBtu per hour), the power output (BHP), percent base load, and the inlet compressor temperature. The Department shall be notified at least 15 days prior to testing to allow witnessing. [Rule 62-297.310, F.A.C.]

**E.6.** Testing shall be conducted at capacity. Capacity is defined as 90-100% of the maximum heat input allowed by this permit achievable for the average ambient temperature during the test. If it is impractical to test at capacity, the emissions unit may be tested at less than capacity. In such cases, subsequent operation is limited by adjusting downward the entire heat input vs. inlet temperature curve by the increment equal to the difference between the permitted maximum heat input value and 110 percent of the value reached during the test. Once the emissions unit is so limited, operation at higher capacities is allowed for no more than 15 consecutive days for the purpose of additional compliance testing to regain the authority to operate at the permitted capacity. Data, curves and calculations necessary to demonstrate the heat input rate correction at both design and test conditions shall be submitted to the Department with the compliance test report. The test reports shall comply with applicable portions of F.A.C. Rule 62-297.310, Test Reports. The attached operating curve (Attachment 2) showing NO<sub>x</sub> emissions as a function of inlet air temperature shall be used with the test results to demonstrate compliance. [Rules 62-297.310(2), and 62-4.070, F.A.C., 40 CFR 60.335(b), and permits 0390029-003-AC, and 0030029-008-AC]

**E.7. Nitrogen Oxides:** The test method for nitrogen oxides shall be EPA Method 20, incorporated and adopted by reference in Chapter 62-297, F.A.C. NO<sub>x</sub> emissions shall be corrected to ISO ambient atmospheric conditions and compared to the NSPS Subpart GG standard identified in Appendix GG of this permit for each required test. [Rule 62-297.401, F.A.C., and permit 0390029-003-AC]

**E.8. Carbon Monoxide:** The test method for carbon monoxide shall be EPA Method 10, incorporated and adopted by reference in Chapter 62-297, F.A.C. CO and NO<sub>x</sub> performance testing shall be conducted concurrently at capacity. [Rule 62-297.401, F.A.C., and permit 0390029-003-AC]

**E.9. Sulfur Dioxide:** Emissions shall be calculated based on fuel flow and vendor analysis of fuel sulfur content. Compliance with the SO<sub>2</sub> emissions limit can be determined by calculations based on fuel analysis using ASTM D4084-82, 94, D5504-01, D6228-98, or Gas Processors Association Standard 2377-86, or an approved alternative method. [Rules 62-297.401 and 62-297.440 F.A.C., 40 CFR 60.334(h), and permit 0390029-003-AC]

**E.10. Visible Emissions:** The test method for visible emissions shall be EPA Method 9, incorporated and adopted by reference in Chapter 62-297, F.A.C. [Rule 62-297.401, F.A.C.]

*{Permitting Note: Compliance verification for PM and VOC emissions are denoted in Specific Condition E.4's notes.}*

### **Monitoring of Operations**

**E.11.** Using the automated gas turbine control system, Permittee shall monitor and record heat input (MMBtu), power output (bhp), and hours of operation for the gas turbine. Within the 10 days of a request by the Department or the Compliance Authority, Permittee shall be able to summarize the following information for a given day: heat input (MMBtu per hour, daily average); power output (bhp, daily average); and total hours of gas turbine operation. This information shall also be used for submittal of the required Annual Operating Report. [Rule 62-4.070, F.A.C., and permits 0390029-003-AC, and 0390029-008-AC]

### **Record Keeping and Reporting**

**E.12.** Monitoring, reporting and recordkeeping of actual emissions shall be done as required in Common Conditions I.1., I.2., and I.3. in Subsection I.

### **Other Requirements**

**E.13. Special Compliance Tests:** When the Department, after investigation, has good reason (such as complaints, increased visible emissions or questionable maintenance of control equipment) to believe that any applicable emission standard contained in a Department rule or in a permit issued pursuant to those rules is being violated, it may require the owner or operator of the emissions unit to conduct compliance tests which identify the nature and quantity of pollutant emissions from the emissions unit and to provide a report on the results of said tests to the Department. [Rule 62-297.310(7)(b), F.A.C.]

**E.14. Component Replacement:** For the replacement of gas turbine components to facilitate prompt repair and return the unit to its original specifications, Permittee shall comply with the following notification and testing requirements.

- a. Components shall only be replaced with functionally equivalent “like-kind” equipment. Replacement components may consist of improved or newer equipment, but such components shall not change operation or increase the capacity (heat input and power output rates) of the gas turbine. Replacement components that affect emissions shall be designed to achieve the emissions standards specified in all valid air permits and shall achieve these standards or better. After a component replacement, the gas turbine compressor engine remains subject to the standards of all valid air permits.
- b. Permittee shall notify the Compliance Authority within seven days after beginning any replacement of the gas generator component of the compressor engine. Within seven days of first fire on a replacement gas generator, Permittee shall submit the following information to the Compliance Authority: date of first fire and certification from the vendor that the replacement gas generator is a functionally equivalent “like-kind” component. The vendor certification shall also identify the make, model number, maximum heat input rate (MMBtu/hour), power output (bhp) at ISO conditions, and that the permitted emission rates are achievable with the replacement component. This notification may be made by letter, fax, or email. A copy of the information shall be kept on site at the compressor station. Within 60 days of restarting the unit after a gas generator replacement, Permittee shall conduct stack tests to demonstrate compliance with the applicable emission standards. Permittee shall notify the Compliance Authority

in writing at least 15 days prior to conducting these tests. Permittee shall comply with all permit requirements for test notification, test methods, test procedures, and reporting. [Rules 62-4.130, 62-4.160(2), (6), and (15) and 62-297.310(7)(b), F.A.C.]

- c. After investigation and for good cause, the Department may require special compliance tests pursuant to Rule 62-297.310(7)(b), F.A.C.

*{Permitting Note: This emission unit is also subject to 40 CFR 63 Subpart YYYYY - NESHAP for Stationary Combustion Turbines. See Facility-Wide Condition 14 for applicable requirements.}*

### **NSPS Conditions**

**E.15.** Applicable portions of 40 CFR 60 Subpart A - General Provisions Requirements and Subpart GG - Standards of Performance for Stationary Gas Turbines, are incorporated and included by reference as conditions of this permit. This includes but is not limited to the following:

- a. 40 CFR 60.7 - Notification and record keeping
- b. 40 CFR 60.8 - Performance tests
- c. 40 CFR 60.11 - Compliance with standards and maintenance requirements
- d. 40 CFR 60.12 - Circumvention
- e. 40 CFR 60.13 - Monitoring requirements
- f. 40 CFR 60.14 - Modification
- g. 40 CFR 60.17 - Incorporations by reference

[Rule 62-204.800, F.A.C., 40 CFR 60 Subpart A, and permit 0390029-003-AC]

**Subsection F. This section addresses the following emissions unit**

| <b><u>EU I.D.</u></b> | <b><u>Brief Description</u></b>                    |
|-----------------------|--|
| 011                   | Solar Titan 130-20502S Combustion Turbine No. 1409 |

Compressor Engine No. 1409 is a Solar Titan Model No. 130-20502S gas combustion turbine installed on December 16, 2010. The combustion turbine fires approximately 151,800 cubic feet per hour of pipeline natural gas (SCC No 2-02-002-54) at maximum permitted capacity. At 165 MMBtu per hour of heat input, the combustion turbine produces approximately 20,500 bhp. After initial startup, the unit operates at or near capacity. Natural gas contains little or no ash, sulfur, or other contaminants, which minimizes emissions of particulate matter and sulfur dioxide. The efficient combustion of natural gas at high temperatures results in lower emissions of carbon monoxide and volatile organic compounds. Lean premix combustion technology minimizes the formation of nitrogen oxides. When operating at capacity, exhaust gases exit a 55 feet tall stack that is 7.5 feet x 8 feet in diameter with a flow rate of approximately 232,782 acfm at 944° F.

**APPLICABLE FEDERAL REGULATIONS**

**F.1. 40 CFR 60 Subpart KKKK:** The combustion turbine is subject to applicable requirements in NSPS Subparts A - General Provisions and KKKK - Stationary Combustion Turbines, of 40 CFR 60. (See Appendix 40CFR60 KKKK)

**F.2. 40 CFR 63 Subpart YYYY:** The combustion turbine is subject to applicable requirements in NESHAP Subparts A - General Provisions and YYYY - Stationary Combustion Turbines, of 40 CFR 63. However, Subpart YYYY has been stayed by EPA until further notice. (See Appendix 40CFR63 YYYY)

**PERFORMANCE RESTRICTIONS**

**F.3. Permitted Capacity:** The maximum allowable heat input rate to the combustion turbine is 165 MMBtu per hour while producing approximately 20,500 bhp (ISO) based on: a compressor inlet air temperature of 59°F; a compressor inlet pressure of 1 atmosphere; 100% load; and a higher heating value (hhv) of 1040 Btu/scf for natural gas. Heat input rates vary depending upon combustion turbine characteristics, load, and ambient conditions. Performance data shall be adjusted for the appropriate site conditions in accordance with the performance curves and/or equations on file with the Department. [Rule 62-210.200(PTE), F.A.C.]

**F.4. Authorized Fuel:** The combustion turbine shall fire only natural gas with a maximum sulfur (S) content of 10 grains per 100 standard cubic feet of natural gas. [Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.; and 40 CFR 60 Subpart KKKK]

**F.5. Restricted Operation:** The hours of operation of the combustion turbine are not restricted (8760 hours per year). Except for startup and shutdown, operation below 50% base load is prohibited. [Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]

**EMISSIONS STANDARDS**

**F.6. Emissions Standards:** The combustion turbine shall not exceed the following standards for carbon monoxide (CO), nitrogen oxides (NO<sub>x</sub>), opacity, particulate matter (PM), particulate matter with a mean aerodynamic diameter of 10 microns or less (PM<sub>10</sub>), sulfur dioxide (SO<sub>2</sub>), and volatile organic compounds (VOC).

| Pollutant                        | Emissions Standards <sup>h</sup>             | Equivalent Maximum Emissions <sup>i</sup> |      | Rule Basis <sup>j</sup>     |
|----------------------------------|--|---|------|-----------------------------|
|                                  |  | lb/hour                                   | TPY  |                             |
| CO                               | 25.0 ppmvd @ 15% oxygen <sup>a</sup>         | 9.0                                       | 39.4 | Rule 62-212.400(12), F.A.C. |
| NO <sub>x</sub>                  | 15.0 ppmvd @ 15% oxygen <sup>b</sup>         | 8.9                                       | 38.9 | Rule 62-212.400(12), F.A.C. |
|                                  | 25.0 ppmvd @ 15% oxygen <sup>c</sup>         | ---                                       | ---  | 40 CFR 60.4320              |
| SO <sub>2</sub>                  | 10 grains of sulfur/100 scf <sup>d</sup>     | 4.5                                       | 19.9 | Rule 62-212.400(12), F.A.C. |
|                                  | 0.060 lb SO <sub>2</sub> /MMBtu <sup>e</sup> | ---                                       | ---  | 40 CFR 60.4330              |
| Opacity                          | 10% opacity <sup>f</sup>                     | Not Applicable                            |      | Rule 62-4.070(3), F.A.C.    |
| PM/PM <sub>10</sub> <sup>g</sup> | None   | 1.09                                      | 4.76 | ---                         |
| VOC <sup>g</sup>                 | None   | 0.52                                      | 2.29 | ---                         |

- a. Compliance with the CO standards shall be demonstrated based on the average of three test runs conducted at permitted capacity as determined by EPA Method 10.
- b. Compliance with the state NO<sub>x</sub> standard shall be demonstrated based on the average of three test runs conducted at permitted capacity as determined by EPA Method 7E or 20.
- c. Compliance with the federal NO<sub>x</sub> standard shall be demonstrated as determined EPA Method 7E or 20 and the applicable requirements of 40 CFR 60.4400.
- d. To reduce potential SO<sub>2</sub> emissions, Permittee shall comply with a maximum sulfur content of 10 grains of sulfur/100 scf as specified in the current Federal Energy Regulatory Commission (FERC) tariff. Actual fuel sulfur levels are expected to be less than 1 grain per 100 scf.
- e. Compliance with the FERC natural gas tariff effectively limits the potential SO<sub>2</sub> emissions to 0.027 lb/MMBtu, which is less than half of federal standard in 40 CFR 60.4330. Actual SO<sub>2</sub> levels are expected to be less than 0.0027 lb/MMBtu.
- f. The opacity standard is based on a 6-minute average, as determined by EPA Method 9. The opacity standard serves as a surrogate standard to show efficient combustion.
- g. Potential PM/PM<sub>10</sub> and VOC emissions are minimized by the equipment specification of “lean premix combustion design”. The CO standard serves as a surrogate standard to show efficient combustion. PM emissions are based on an AP-42 emission factor of 0.0066 lb/MMBtu (Table 3.1-2a) and all PM emissions are assumed to be PM<sub>10</sub> emissions. VOC emissions are based on available vendor data of 25 ppmvd @ 15% oxygen of unburned hydrocarbons and the assumption that only 10% of these emissions are regulated VOC emissions. No testing or other compliance demonstration is required for PM/PM<sub>10</sub> and VOC emissions.
- h. Permittee shall demonstrate compliance with these standards.
- i. The equivalent maximum emissions are provided for informational purposes and are based on: the permitted capacity; a compressor inlet air temperature of 59° F; a compressor inlet pressure of 1 atmosphere; full operation (8760 hours per year); and the permit standards (CO, NO<sub>x</sub>, and SO<sub>2</sub>) or the maximum expected emissions (PM/PM<sub>10</sub> and VOC). Each test report shall identify the measured mass emission rates for CO and NO<sub>x</sub>. The report shall estimate the SO<sub>2</sub> mass emission rate based on the current typical fuel sulfur content and actual natural gas firing rate.
- j. The CO, NO<sub>x</sub> and SO<sub>2</sub> emissions standards of this permit ensure that the project is not subject to PSD preconstruction review in accordance with Rule 62-212.400(PSD), F.A.C. [Rules 62-4.070(3) and 62-212.400(12), F.A.C., 40 CFR 60.4320, and 40 CFR 60.4330, and permit 0390029-011-AC]

**TESTING REQUIREMENTS**

**F.7. Annual Compliance Tests:** During each federal fiscal year (October 1 - September 30), the combustion turbine shall be tested to demonstrate compliance with the emission standards for CO, NO<sub>x</sub>, and visible emissions. If the turbine’s NO<sub>x</sub> emissions exceed 75% of the applicable NSPS NO<sub>x</sub> standard on the previous performance test, the subsequent compliance test shall be conducted no more than 14 calendar months following the previous performance test. CO and NO<sub>x</sub> emissions shall be tested concurrently at permitted capacity. Actual SO<sub>2</sub> emissions shall be reported based on the current typical fuel sulfur content and actual natural gas firing rate for each test run. [Rules 62-4.070(3), and 62-297.310(7)(a)4, F.A.C., and 40 CFR 60.4400]

**F.8. Test Requirements:** Permittee shall notify the Compliance Authority in writing at least 30 days prior to any initial NSPS performance test and at least 15 days prior to any other required test. If the proposed test schedule must be changed due to valid issues with equipment shakedown or test team schedules, the Compliance Authority may accept a shorter notice. Tests shall be conducted in accordance with the applicable requirements specified in this permit and 40 CFR 60 Subpart KKKK as applicable. [Rule 62-297.310(7)(a)9, F.A.C., and 40 CFR 60.7, 60.8, and 60.4400]

**F.9. Test Methods:** Required tests shall be performed in accordance with the following reference methods.

| Method | Description of Method and Comments   |
|--------|--|
| 1-4    | Traverse Points, Velocity and Flow Rate, Gas Analysis, and Moisture Content (These methods shall be conducted as necessary to support the other test methods.)   |
| 7E     | Determination of Nitrogen Oxide Emissions from Stationary Sources  |
| 9      | Visual Determination of the Opacity of Emissions from Stationary Sources   |
| 10     | Determination of Carbon Monoxide Emissions from Stationary Sources (This method shall be based on a continuous sampling train.)  |
| 19     | Determination of Sulfur Dioxide Removal Efficiency and Particulate Matter, Sulfur Dioxide, and Nitrogen Oxides Emission Rates (Optional F-factor method may be used to determine flow rate and gas analysis to calculate mass emissions in lieu of Methods 1-4.) |
| 20     | Determination of Nitrogen Oxides, Sulfur Dioxide and Diluent Emissions from Combustion Turbines  |

The above methods are described in Appendix A of 40 CFR 60, and are adopted by reference in Rule 62-204.800, F.A.C. No other methods may be used unless prior written approval is received from the Department. [Rules 62-204.800, and 62-297.100, F.A.C.; and Appendix A of 40 CFR 60]

**RECORDS AND REPORTS**

**F.10. Test Reports:** Permittee shall prepare and submit reports for all required tests in accordance with the requirements specified in this permit. For each test run, the report shall identify the natural gas firing rate (cubic feet per hour), the heat input rate (MMBtu per hour), the power output (bhp), the percent of base load, and the compressor inlet temperature. [Rule 62-297.310(8), F.A.C., and 40 CFR 60.8]

**F.11. Operational Data:** Using the automated combustion turbine control system, Permittee shall monitor and record heat input (MMBtu), power output (bhp) and hours of operation for the combustion turbine. Operational information shall be summarized and reported with the required Annual Operating Report. [Rule 62-4.070(3), F.A.C.]

**F.12. Component Replacements:** For the replacement of combustion turbine components to facilitate prompt repair and return the unit to its original specifications, Permittee shall comply with the following notification and testing requirements.

- a. Components shall only be replaced with functionally equivalent “like-kind” equipment. Replacement components may consist of improved or newer equipment, but such components shall not change operation or increase the capacity (heat input and power output rates) of the combustion turbine. Replacement components that affect emissions shall be designed to achieve the emissions standards specified in all valid air permits and shall achieve these standards or better. After a component replacement, the combustion turbine compressor engine remains subject to the standards of all valid air permits. [Rule 62-210.200(169), F.A.C.]
- b. Permittee shall notify the Compliance Authority within seven days after beginning any replacement of the gas generator component of the compressor engine. Within seven days of first fire on a replacement gas generator, Permittee shall submit the following information to the Compliance Authority: date of first fire and certification from the vendor that the replacement gas generator is a functionally equivalent “like-kind” component. The vendor certification shall also identify the make, model number, maximum heat input rate (MMBtu/hour), power output (bhp) at ISO conditions, and that the permitted emission rates are achievable with the replacement component. This notification may be made by letter, fax, or email. A copy of the information shall be kept on site at the compressor station. Within 60 days of restarting the unit after a gas generator replacement, Permittee shall conduct stack tests to demonstrate compliance with the applicable emission standards. Permittee shall notify the Compliance Authority in writing at least 15 days prior to conducting these tests. If the proposed test schedule must be changed due to valid issues with equipment shakedown or test team schedules, the Compliance Authority may accept a shorter notice. Permittee shall comply with all permit requirements for test notification, test methods, test procedures, and reporting. [Rules 62-4.130, 62-4.160(2), (6), and (15), and 62-297.310(7)(b), F.A.C.]
- c. After investigation and for good cause, the Department may require special compliance tests pursuant to Rule 62-297.310(7)(b), F.A.C.

**F.13.** Monitoring, reporting and recordkeeping of actual emissions shall be done as required in Common Conditions I.1., I.2., and I 3. in Subsection I.

**Subsection G. This section addresses the following emissions unit**

| <u>EU I.D.</u> | <u>Brief Description</u>                       |
|----------------|--|
| 012            | Emergency Generators FGTC GEN04 and FGTC GEN05 |

EU 012, Two-Generac Model No. SG300 (or equivalents) emergency generators, FGTC GEN04 and FGTC GEN05, are each powered by 454 bhp reciprocating internal combustion engines firing pipeline natural gas. The engines are 4-stroke, rich burn, spark-ignition engines. The engines coupled with the generators utilize a non-selective catalytic reduction or 3-way catalyst as primary control technology.

**APPLICABLE FEDERAL REGULATIONS**

**G.1. NSPS Subpart JJJJ:** The Two-Generac Model No. SG300 (or equivalents) emergency generators, FGTC GEN04 and FGTC GEN05 (EU 012), are subject to applicable requirements in NSPS Subparts A (General Provisions) and JJJJ (Stationary Spark Internal Combustion Engines) of 40 CFR 60. See Appendix E. [Rules 62-210.300(a)(35)g., and 62-204.800(8)(b)80, F.A.C.] *{Permitting note: The emergency generator 454 Hp engines were manufactured after January 1, 2010 and are subject to emissions limits of (40 CFR 60 Subpart JJJJ) 40 CFR 60.4233, operation and maintenance requirements of 40 CFR 60.4243, and recordkeeping requirements of 40 CFR 60.4243(a)(1) and 60.4245(a)(1), (2) & (3). However, the engines are certified and thus exempt from annual testing by 40 CFR 60.4243(a)(1) if operated and maintained according to the manufacturer's emissions-related written instructions.}*

**Emission Standards**

**G.2.** The Two Generac Model No. SG300 emergency generator engines shall meet the emissions standards of 40 CFR § 60.4233(e), Table 1, excerpted below.

| EXERPT FROM TABLE 1 TO SUBPART JJJJ OF PART 60—NOX, CO, AND VOC EMISSION STANDARDS FOR STATIONARY EMERGENCY ENGINES >25 HP                |                      |                  |                    |     |     |                 |     |     |
|---|----------------------|------------------|--------------------|-----|-----|-----------------|-----|-----|
| Engine type and fuel  | Maximum engine power | Manufacture date | Emission standards |     |     |                 |     |     |
|   |                      |                  | g/HP-hr            |     |     | ppmvd at 15% O2 |     |     |
|   |                      |                  | NOX                | CO  | VOC | NOX             | CO  | VOC |
| Emergency   | HP>130               | 1/1/2009         | 2.0                | 4.0 | 1.0 | 160             | 540 | 86  |
| For purposes of this subpart, when calculating emissions of volatile organic compounds, emissions of formaldehyde should not be included. |                      |                  |                    |     |     |                 |     |     |

**Compliance Requirements**

**G.3. Methods of Operation**

- a. The owner or operator of the emergency generator engines shall operate and maintain the engines and control devices according to the manufacturer's emission-related written instructions. [40 CFR 60.4243(a)(1)]
- b. If the certified engine and control device are not operated and maintained according to the manufacturer's emission-related written instructions, the engine will be considered a non-certified engine, and owners or operators of the noncertified engine must to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions and must conduct an initial performance test within 1 year of engine startup to demonstrate compliance, but a

subsequent test is not required unless the engine is rebuilt or undergoes major repair or maintenance. [40 CFR 60.4243(a)(2)(ii) and (f)]

**G.4.** Emergency stationary ICE may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. There is no time limit on the use of emergency stationary ICE in emergency situations. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency ICE beyond 100 hours per year. Emergency stationary ICE may operate up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity. For owners and operators of emergency engines, any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as permitted in this section, is prohibited. [40 CFR 60.4243(d)].

**G.5.** Owners and operators of stationary SI natural gas fired engines may operate their engines using propane for a maximum of 100 hours per year as an alternative fuel solely during emergency operations, but must keep records of such use. If propane is used for more than 100 hours per year in an engine that is not certified to the emission standards when using propane, the owners and operators are required to conduct a performance test to demonstrate compliance with the emission standards of 40 CFR 60.4233. [40 CFR 60.4243(e)].

### **Testing Requirements**

**G.6.** No performance testing of the emergency generator engines is required if the engines are certified by the manufacturer and the engines and control devices are operated and maintained according to the manufacturer's emission-related written instructions. [40 CFR 60.4243(a)(1)].

### **Notification, Reporting and Recordkeeping Requirements.**

**G.7.** The owner or operator of the emergency generator engines shall keep records of conducted maintenance to demonstrate compliance with operation and maintenance requirements of 40 CFR 60.4243(a)(1).

**G.8.** Owners and operators of all stationary SI ICE must keep records of the following information:

- (1) All notifications submitted to comply with this subpart and all documentation supporting any notification.
- (2) Maintenance conducted on the engine.
- (3) If the stationary SI internal combustion engine is a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards and information as required in 40 CFR 90, 1048, 1054, and 1060, as applicable.

[40 CFR 60.4245(a)(1), (2) & (3)]

### **Other Requirements**

**G.9. NESHAP Subpart ZZZZ:** The emergency generators are subject to applicable requirements in NESHAP Subparts A and ZZZZ (Reciprocating Internal Combustion Engines). Pursuant to 40 CFR 63.6590(c) for stationary reciprocating internal combustion engines (RICE) also subject to regulations under 40 CFR 60, a 4-stroke rich burn stationary RICE with a site rating of less than or equal to 500 bhp must meet the requirements of this part by meeting the requirements of 40 CFR 60 subpart JJJJ for spark ignition engines. No further requirements apply for such engines under this part. [Rules 62-210.300(a)(35)h., and 62-204.800(10)(b)82, F.A.C.]

**Subsection H. This section addresses the following emissions unit**

| <b><u>EU I.D.</u></b> | <b><u>Brief Description</u></b>                          |
|-----------------------|--|
| 009                   | Emergency Generator FGTC GEN03 & Miscellaneous Equipment |

EU 009, Miscellaneous Support Equipment includes fugitive emissions, lube oil storage tanks, existing FGTC GEN03 (637 bhp), and one 500 gallon oily water tank.

The 500 gallon oily water tank is authorized by permit 0390029-011-AC.

*{Permitting Note: the engine of Emergency Generator FGTC GEN03 is not currently subject to NSPS or NESHAP requirements, but its NOx emissions must be included in the emissions reporting required by Rule 62-212.300(1)(e) F.A.C.}*

## STATEMENT OF BASIS

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### Title V Air Operation Permit Revision Permit No. 0390029-013-AV

#### APPLICANT

The applicant for this project is Florida Gas Transmission Company (FGT). The applicant's responsible official and mailing address are: David W. Shellhouse, Vice President, Southeast Operations Florida Gas Transmission Company, 2405 Lucien Way, Suite 200, Maitland, Florida 32751-7047.

#### FACILITY DESCRIPTION

The applicant operates Gadsden Compressor Station No. 14, located at 3690 Hosford Highway in Quincy, Gadsden County, Florida.

Gadsden Compressor Station No. 14 is part of a natural gas transmission pipeline system and contains six natural gas fired internal combustion reciprocating engines and three natural gas-fired gas combustion turbine engines. The engines provide power for compressors to move the gas along the pipeline.

Emissions Units 001, 002, 003, 004, 005 and 006 (FGT Engines Nos. 1401, 1402, 1403, 1404, 1405 and 1406) are reciprocating internal combustion (IC) engines. Emissions Units 001, 002, 003 and 005 engines are naturally aspirated and operate at near stoichiometric air-to-fuel ratio. NOx and carbon monoxide (CO) are emitted uncontrolled through raised stacks. The Emissions Unit 004 engine uses a turbocharger, providing more air at higher pressures, to reduce NOx emissions and offset other emission increases. This engine has a catalytic converter to reduce CO emissions. The Emissions Unit 006 engine incorporates "lean burn" technology to minimize NOx emissions and is subject to a Best Available Control Technology (BACT) determination of 2 g/BHP-hr NOx (equivalent of 10.6 lbs/hr and 46.3 TPY).

Emissions Units 008 and 010 (FGT Engine Nos. 1407 and 1408) are gas combustion turbines, incorporating an efficiently operated dry low-NOx combustion system technology to minimize NOx emissions.

Emissions Unit 011 (FGT Engine No. 1409) is a gas combustion turbine. The Emissions Unit 011 turbine uses efficient combustion of natural gas at high temperatures to lower emissions of carbon monoxide and volatile organic compounds. Lean premix combustion technology will minimize the formation of nitrogen oxides

Also included in this permit are miscellaneous unregulated/insignificant emissions units and/or activities.

#### PROJECT DESCRIPTION

This is a revision to Title V renewal permit 0390029-010-AV, effective June 24, 2008 to incorporate permit 0390029-011-AC, effective April 22, 2009, for a gas combustion turbine (FGT No. 1409), two 454 bhp emergency generators and one 500 gallon oily water tank, and a modification to permit 0390029-011-AC, by permit 0390084-012-AC. Permit 0012-AC allows increasing the new turbine's maximum allowable heat input rate from 158 to 165 MMBtu per hour to increase the power output from 19,465 to 20,500 bhp (ISO) and increases the new turbine's maximum allowable emissions of carbon monoxide, nitrogen oxides, particulate matter and PM10, sulfur dioxide, and volatile organic compounds to 39.4, 38.9, 4.77, 19.9, and 2.29 tons per year, respectively. Permit 0012-AC is in combined processing with this revision permit.

#### PROCESSING SCHEDULE AND RELATED DOCUMENTS

Application for a Title V Air Operation Permit Revision received June 2, 2011. Application was complete.

#### PRIMARY REGULATORY REQUIREMENTS

Title III: The facility is identified as a major source of hazardous air pollutants (HAP).

## STATEMENT OF BASIS

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Title V: The facility is a Title V major source of air pollution in accordance with Chapter 62-213, Florida Administrative Code (F.A.C.).

PSD: The facility is not a Prevention of Significant Deterioration (PSD)-major source of air pollution in accordance with Rule 62-212.400, F.A.C.

NSPS: The facility operates units subject to the New Source Performance Standards (NSPS) of 40 Code of Federal Regulations (CFR) 60.

NESHAP: The facility operates units subject to the National Emissions Standards for Hazardous Air Pollutants (NESHAP) of 40 CFR 63.

CAIR: The facility is not subject to the Clean Air Interstate Rule (CAIR) set forth in Rule 62-296.470, F.A.C.

CAM: Compliance Assurance Monitoring (CAM) does not apply to any of the units at the facility

### PROJECT REVIEW

Emissions Units 001 through 003 and 005 (FGT Engines Nos.1401, 1402, 1403 and 1405) are reciprocating internal combustion (IC) engines, manufactured by Worthington, model SEHG-8. The engines are fired by pipeline natural gas (NG) and each is rated at 2,000 BHP with a maximum heat input rating of 15 MMBtu/hr. Engines 1401-1403 were originally placed in service in 1958, while engine 1405 was originally placed in service in 1968.

Emissions Unit 004 (FGT Engine No. 1404) is a reciprocating IC engine, manufactured by Worthington, model SEHG-8. This engine is fired by pipeline natural gas and is rated at 2,000 BHP with a maximum heat input rating of 16.5 MMBtu/hr. This engine was initially placed in service in 1966.

Emissions Unit 006 (FGT Engine No. 1406) is a reciprocating IC engine, manufactured by Cooper-Bessemer, model GMVR-12C. This engine is fired by pipeline natural gas and rated at 2,700 BHP with a maximum heat input rating of 21.69 MMBtu/hr. This engine was initially placed in service in 1991.

Emissions Unit 008 (FGT Engine No. 1407) is a gas combustion turbine manufactured by Solar, model Mars 90 T13002S. This turbine is fired by pipeline natural gas and rated at 13,000 BHP at ISO conditions with a maximum heat input of 112.8 MMBtu/hr at ISO conditions. Heat input rate will vary depending upon gas turbine characteristics, load, and ambient conditions. This turbine was initially placed in service in 2001.

Emissions Unit 010 (FGT Engine No. 1408) is a gas combustion turbine manufactured by Nuovo Pignone, model PGT-10B. This turbine is fired by pipeline natural gas and rated at 15,700 BHP at ISO conditions with a maximum heat input of 134.8 MMBtu/hr at ISO conditions. Heat input rate will vary depending upon gas turbine characteristics, load, and ambient conditions. This-turbine was initially placed in service in 2002.

Permit 0390029-011-AC, effective April 22, 2009 added Emissions Unit 011, compressor Engine (FGT Engine No.1409), a Solar Titan Model No. 130-20502S gas combustion turbine. The gas combustion turbine fires approximately 151,800 cubic feet per hour of pipeline natural gas (SCC No 2-02-002-54) at maximum permitted capacity. At 165 MMBtu per hour of heat input, the combustion turbine produces approximately 20,500 bhp. When operating at capacity, exhaust gases exit a 55 feet tall stack that is 7.5 feet x 8 feet in diameter with a flow rate of approximately 232,782 acfm at 944° F.

Internal combustion reciprocating engines (Nos. 1401 - 1406) and combustion turbines (Nos. 1407 and 1408) are subject to (MACT) 40 CFR 63 Subpart ZZZZ - NESHAP for Stationary Reciprocating Internal Combustion Engines and Subpart YYYYY - NESHAP for Stationary Combustion Turbines, respectively. However, based on rules 40 CFR 63.6090(b)(4) and 63.6590(b)(3) the engines Nos. 1401-1408 do not have to meet the requirements of the Subparts or Subpart A. In addition, no initial notification is required. Be aware that any future

## STATEMENT OF BASIS

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reconstruction (defined in 40 CFR 63.2) may result in engines 1401-1408 becoming subject to these rules. Combustion gas turbine (FGT Engine No.1409) is subject to 40 CFR 60 Subpart KKKK - NSPS for Stationary Combustion Turbines and 40 CFR 63 Subpart YYYY - NESHAP for Stationary Combustion Turbines. The two 454 Hp engines for the new emergency generators are subject to the limits from table 1, and the certification, maintenance and recordkeeping requirements of 40 CFR 60 Subpart JJJJ - Stationary Spark Ignition Internal Combustion Engines. By meeting the applicable requirements of 40 CFR 60 Subpart JJJJ, the two 454 Hp engines for the new emergency generators also meet applicable requirements in 40 CFR 63, NESHAP Subparts A and ZZZZ - Reciprocating Internal Combustion Engines.

### CONCLUSION

This Title V air operation permit revision is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and Chapters 62-4, 62-210 and 62-213, F.A.C. The NO<sub>x</sub> emission increase is close enough to the significant emissions rate that Permittee is subject to monitoring, reporting and recordkeeping provisions of Rule 62-212.300(1)(e), F.A.C.

0390029-013sob.doc

# Appendix A-1, Abbreviations, Acronyms, Citations, and Identification Numbers

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## Abbreviations and Acronyms:

**°F:** Degrees Fahrenheit  
**BACT:** Best Available Control Technology  
**CFR:** Code of Federal Regulations  
**DEP:** State of Florida, Department of Environmental Protection  
**DARM:** Division of Air Resource Management  
**EPA:** United States Environmental Protection Agency  
**F.A.C.:** Florida Administrative Code  
**F.S.:** Florida Statute  
**ISO:** International Standards Organization  
**LAT:** Latitude  
**LONG:** Longitude  
**MMBtu:** million British thermal units  
**MW:** Megawatt  
**ORIS:** Office of Regulatory Information Systems  
**SOA:** Specific Operating Agreement  
**UTM:** Universal Transverse Mercator

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## Citations:

*The following examples illustrate the methods used in this permit to abbreviate and cite the references of rules, regulations, guidance memorandums, permit numbers, and ID numbers.*

### Code of Federal Regulations:

*Example:* [40 CFR 60.334]

|        |        |              |                             |
|--------|--------|--------------|-----------------------------|
| Where: | 40     | reference to | Title 40                    |
|        | CFR    | reference to | Code of Federal Regulations |
|        | 60     | reference to | Part 60                     |
|        | 60.334 | reference to | Regulation 60.334           |

### Florida Administrative Code (F.A.C.) Rules:

*Example:* [Rule 62-213, F.A.C.]

|        |            |              |                         |
|--------|------------|--------------|-------------------------|
| Where: | 62         | reference to | Title 62                |
|        | 62-213     | reference to | Chapter 62-213          |
|        | 62-213.205 | reference to | Rule 62-213.205, F.A.C. |

**ISO:** International Standards Organization refers to those conditions at 288 degrees K, 60 percent relative humidity, and 101.3 kilopascals pressure.

**Appendix A-1, Abbreviations, Acronyms, Citations, and Identification Numbers  
(version dated 02/05/97) (continued)**

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**Identification Numbers:**

Facility Identification (ID) Number:

*Example:* Facility ID No.: 1050221

*Where:*

105 = 3-digit number code identifying the facility is located in Polk County  
0221 = 4-digit number assigned by state database.

Permit Numbers:

*Example:* 1050221-002-AV, or  
1050221-001-AC

*Where:*

AC = Air Construction Permit  
AV = Air Operation Permit (Title V Source)  
105 = 3-digit number code identifying the facility is located in Polk County  
0221 = 4-digit number assigned by permit tracking database  
001 or 002 = 3-digit sequential project number assigned by permit tracking database

*Example:* PSD-FL-185  
PA95-01  
AC53-208321

*Where:*

PSD = Prevention of Significant Deterioration Permit  
PA = Power Plant Siting Act Permit  
AC = old Air Construction Permit numbering

## Appendix I-1: List of Insignificant Emissions Units and/or Activities.

Florida Gas Transmission Company DRAFT Title V Operation Permit Revision No.: 0390029-013-AV  
Compressor Station No. 14 Facility ID No.: 0390029

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The facilities, emissions units, or pollutant-emitting activities listed in Rule 62-210.300(3)(a), F.A.C., Categorical Exemptions, are exempt from the permitting requirements of Chapters 62-210 and 62-4, F.A.C.; provided, however, that exempt emissions units shall be subject to any applicable emission limiting standards and the emissions from exempt emissions units or activities shall be considered in determining the potential emissions of the facility containing such emissions units. Emissions units and pollutant-emitting activities exempt from permitting under Rule 62-210.300(3)(a), F.A.C., shall not be exempt from the permitting requirements of Chapter 62-213, F.A.C., if they are contained within a Title V source; however, such emissions units and activities shall be considered insignificant for Title V purposes provided they also meet the criteria of Rule 62-213.430(6)(b), F.A.C. No emissions unit shall be entitled to an exemption from permitting under Rule 62.210.300(3)(a), F.A.C., if its emissions, in combination with the emissions of other units and activities at the facility, would cause the facility to emit or have the potential to emit any pollutant in such amount as to make the facility a Title V source.

The below listed emissions units and/or activities are considered insignificant pursuant to Rule 62-213.430(6), F.A.C.

### Brief Description of Emissions Units and/or Activities

1. One 637 BHP natural gas fired emergency generator operated less than 500 hours per year. Records shall be maintained and available for Department inspection showing the hours of operation.
2. Lube Oil Storage Tanks - one 3,000-gallon and one 10,000-gallon horizontal lube oil (0.02 psia true vapor pressure) storage tanks.
3. Used Lube Oil Tank - one 3,780-gallon used lube oil storage tank.
4. Oily Water Tanks - two 210-barrel wastewater with used lube oil (0.02 psia true vapor pressure) storage tanks.
5. Pipeline Condensate Tank - one 210-barrel pipeline condensate (organic liquid with 1.4 psia Reid vapor pressure) storage tank.
6. Lube Oil Rundown Tank - one 1,000-gallon lube oil (0.02 psia true vapor pressure) storage tank.
7. One 350-gallon diesel fuel storage tank.
8. One 250-gallon gasoline fuel storage tank.
9. Parts Cleaners - parts cleaners used to clean engine parts with naphtha containing cleaning fluid.
10. Paint Cleaner - paint cleaner used to clean painting materials with naphtha containing cleaning fluid.
11. Blow-down Stacks - stacks used for emergency or maintenance to blow-down natural gas.
12. Fugitive Component Leaks - leaks from valves, flanges and other components.
13. Emergency Generators FGTC GEN04 and FGTC GEN05

## APPENDIX SS-1, STACK SAMPLING FACILITIES (version dated 10/07/96)

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Stack Sampling Facilities Provided by the Owner of an Emissions Unit. This section describes the minimum requirements for stack sampling facilities that are necessary to sample point emissions units. Sampling facilities include sampling ports, work platforms, access to work platforms, electrical power, and sampling equipment support. Emissions units must provide these facilities at their expense. All stack sampling facilities must meet any Occupational Safety and Health Administration (OSHA) Safety and Health Standards described in 29 CFR Part 1910, Subparts D and E.

(a) Permanent Test Facilities. The owner or operator of an emissions unit for which a compliance test, other than a visible emissions test, is required on at least an annual basis, shall install and maintain permanent stack sampling facilities.

(b) Temporary Test Facilities. The owner or operator of an emissions unit that is not required to conduct a compliance test on at least an annual basis may use permanent or temporary stack sampling facilities. If the owner chooses to use temporary sampling facilities on an emissions unit, and the Department elects to test the unit, such temporary facilities shall be installed on the emissions unit within 5 days of a request by the Department and remain on the emissions unit until the test is completed.

(c) Sampling Ports.

1. All sampling ports shall have a minimum inside diameter of 3 inches.

2. The ports shall be capable of being sealed when not in use.

3. The sampling ports shall be located in the stack at least 2 stack diameters or equivalent diameters downstream and at least 0.5 stack diameter or equivalent diameter upstream from any fan, bend, constriction or other flow disturbance.

4. For emissions units for which a complete application to construct has been filed prior to December 1, 1980, at least two sampling ports, 90 degrees apart, shall be installed at each sampling location on all circular stacks that have an outside diameter of 15 feet or less. For stacks with a larger diameter, four sampling ports, each 90 degrees apart, shall be installed. For emissions units for which a complete application to construct is filed on or after December 1, 1980, at least two sampling ports, 90 degrees apart, shall be installed at each sampling location on all circular stacks that have an outside diameter of 10 feet or less. For stacks with larger diameters, four sampling ports, each 90 degrees apart, shall be installed. On horizontal circular ducts, the ports shall be located so that the probe can enter the stack vertically, horizontally or at a 45 degree angle.

5. On rectangular ducts, the cross sectional area shall be divided into the number of equal areas in accordance with EPA Method 1. Sampling ports shall be provided which allow access to each sampling point. The ports shall be located so that the probe can be inserted perpendicular to the gas flow.

(d) Work Platforms.

1. Minimum size of the working platform shall be 24 square feet in area. Platforms shall be at least 3 feet wide.

2. On circular stacks with 2 sampling ports, the platform shall extend at least 110 degrees around the stack.

3. On circular stacks with more than two sampling ports, the work platform shall extend 360 degrees around the stack.

4. All platforms shall be equipped with an adequate safety rail (ropes are not acceptable), toeboard, and hinged floor-opening cover if ladder access is used to reach the platform. The safety rail directly in line with the sampling ports shall be removable so that no obstruction exists in an area 14 inches below each sample port and 6 inches on either side of the sampling port.

(e) Access to Work Platform.

**APPENDIX SS-1, STACK SAMPLING FACILITIES (version dated 10/07/96)**  
**(continued)**

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1. Ladders to the work platform exceeding 15 feet in length shall have safety cages or fall arresters with a minimum of 3 compatible safety belts available for use by sampling personnel.

2. Walkways over free-fall areas shall be equipped with safety rails and toeboards.

(f) Electrical Power.

1. A minimum of two 120-volt AC, 20-amp outlets shall be provided at the sampling platform within 20 feet of each sampling port.

2. If extension cords are used to provide the electrical power, they shall be kept on the plant's property and be available immediately upon request by sampling personnel.

(g) Sampling Equipment Support.

1. A three-quarter inch eyebolt and an angle bracket shall be attached directly above each port on vertical stacks and above each row of sampling ports on the sides of horizontal ducts.

a. The bracket shall be a standard 3 inch x 3 inch x one-quarter inch equal-legs bracket which is 1 and one-half inches wide. A hole that is one-half inch in diameter shall be drilled through the exact center of the horizontal portion of the bracket. The horizontal portion of the bracket shall be located 14 inches above the centerline of the sampling port.

b. A three-eighth inch bolt which protrudes 2 inches from the stack may be substituted for the required bracket. The bolt shall be located 15 and one-half inches above the centerline of the sampling port.

c. The three-quarter inch eyebolt shall be capable of supporting a 500 pound working load. For stacks that are less than 12 feet in diameter, the eyebolt shall be located 48 inches above the horizontal portion of the angle bracket. For stacks that are greater than or equal to 12 feet in diameter, the eyebolt shall be located 60 inches above the horizontal portion of the angle bracket. If the eyebolt is more than 120 inches above the platform, a length of chain shall be attached to it to bring the free end of the chain to within safe reach from the platform.

2. A complete monorail or dualrail arrangement may be substituted for the eyebolt and bracket.

3. When the sample ports are located in the top of a horizontal duct, a frame shall be provided above the port to allow the sample probe to be secured during the test.

[Rule 62-297.310(6), F.A.C.]

## APPENDIX TV-6, TITLE V CONDITIONS (version dated 06/23/06)

[Note: This attachment includes “canned conditions” developed from the “Title V Core List.”]

{Permitting note: APPENDIX TV-6, TITLE V CONDITIONS, is distributed to the permittee only. Other persons requesting copies of these conditions shall be provided one copy when requested or otherwise appropriate.}

### Chapter 62-4, F.A.C.

1. **Not federally enforceable. General Prohibition.** Any stationary installation which will reasonably be expected to be a source of pollution shall not be operated, maintained, constructed, expanded, or modified without the appropriate and valid permits issued by the Department, unless the source is exempted by Department rule. The Department may issue a permit only after it receives reasonable assurance that the installation will not cause pollution in violation of any of the provisions of Chapter 403, F.S., or the rules promulgated thereunder. A permitted installation may only be operated, maintained, constructed, expanded or modified in a manner that is consistent with the terms of the permit.

[Rule 62-4.030, Florida Administrative Code (F.A.C.); and, Section 403.087, Florida Statute (F.S.)]

2. **Not federally enforceable. Procedures to Obtain Permits and Other Authorizations: Applications.**

(1) Any person desiring to obtain a permit from the Department shall apply on forms prescribed by the Department and shall submit such additional information as the Department by law may require.

(2) All applications and supporting documents shall be filed in quadruplicate with the Department.

(3) To ensure protection of public health, safety, and welfare, any construction, modification, or operation of an installation which may be a source of pollution, shall be in accordance with sound professional engineering practices pursuant to Chapter 471, F.S. All applications for a Department permit shall be certified by a professional engineer registered in the State of Florida except, when the application is for renewal of an air pollution operation permit at a non-Title V source as defined in Rule 62-210.200, F.A.C., or where professional engineering is not required by Chapter 471, F.S. Where required by Chapter 471 or 492, F.S., applicable portions of permit applications and supporting documents which are submitted to the Department for public record shall be signed and sealed by the professional(s) who prepared or approved them.

(4) Processing fees for air construction permits shall be in accordance with Rule 62-4.050(4), F.A.C.

(5)(a) To be considered by the Department, each application must be accompanied by the proper processing fee. The fee shall be paid by check, payable to the Department of Environmental Protection. The fee is non-refundable except as provided in Section 120.60, F.S., and in this section.

(b) When an application is received without the required fee, the Department shall acknowledge receipt of the application and shall immediately notify the applicant by certified mail that the required fee was not received and advise the applicant of the correct fee. The Department shall take no further action until the correct fee is received. If a fee was received by the Department which is less than the amount required, the Department shall return the fee along with the written notification.

(c) Upon receipt of the proper application fee, the permit processing time requirements of Sections 120.60(2) and 403.0876, F.S., shall begin.

(d) If the applicant does not submit the required fee within ten days of receipt of written notification, the Department shall either return the unprocessed application or arrange with the applicant for the pick up of the application.

(e) If an applicant submits an application fee in excess of the required fee, the permit processing time requirements of Sections 120.60(2) and 403.0876, F.S., shall begin upon receipt, and the Department shall refund to the applicant the amount received in excess of the required fee.

(6) Any substantial modification to a complete application shall require an additional processing fee determined pursuant to the schedule set forth in Rule 62-4.050, F.A.C., and shall restart the time requirements of Sections 120.60 and 403.0876, F.S. For purposes of this subsection, the term "substantial modification" shall mean a modification which is reasonably expected to lead to substantially different environmental impacts which require a detailed review.

(7) Modifications to existing permits proposed by the permittee which require substantial changes in the existing permit or require substantial evaluation by the Department of potential impacts of the proposed modifications shall require the same fee as a new application for the same time duration except for modification under Chapter 62-45, F.A.C.

[Rule 62-4.050, F.A.C.]

## APPENDIX TV-6, TITLE V CONDITIONS (version dated 06/23/06) (continued)

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3. Standards for Issuing or Denying Permits. Except as provided at Rule 62-213.460, F.A.C., the issuance of a permit does not relieve any person from complying with the requirements of Chapter 403, F.S., or Department rules.  
[Rule 62-4.070(7), F.A.C.]

4. Modification of Permit Conditions.

(1) For good cause and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions and on application of the permittee the Department may grant additional time. For the purpose of this section, good cause shall include, but not be limited to, any of the following: **(also, see Condition No. 38.)**

(a) A showing that an improvement in effluent or emission quality or quantity can be accomplished because of technological advances without unreasonable hardship.

(b) A showing that a higher degree of treatment is necessary to effect the intent and purpose of Chapter 403, F.S.

(c) A showing of any change in the environment or surrounding conditions that requires a modification to conform to applicable air or water quality standards.

(e) Adoption or revision of Florida Statutes, rules, or standards which require the modification of a permit condition for compliance.

(2) A permittee may request a modification of a permit by applying to the Department.

(3) A permittee may request that a permit be extended as a modification of the permit. Such a request must be submitted to the Department in writing before the expiration of the permit. Upon timely submittal of a request for extension, unless the permit automatically expires by statute or rule, the permit will remain in effect until final agency action is taken on the request. For construction permits, an extension shall be granted if the applicant can demonstrate reasonable assurances that, upon completion, the extended permit will comply with the standards and conditions required by applicable regulation. For all other permits, an extension shall be granted if the applicant can demonstrate reasonable assurances that the extended permit will comply with the standards and conditions applicable to the original permit. A permit for which the permit application fee was prorated in accordance with Rule 62-4.050(4)(v), F.A.C., shall not be extended. In no event shall a permit be extended or remain in effect longer than the time limits established by statute or rule.

[Rule 62-4.080, F.A.C.]

5. Renewals. Prior to 180 days before the expiration of a permit issued pursuant to Chapter 62-213, F.A.C., the permittee shall apply for a renewal of a permit using forms incorporated by reference in the specific rule chapter for that kind of permit. A renewal application shall be timely and sufficient. If the application is submitted prior to 180 days before expiration of the permit, it will be considered timely and sufficient. If the renewal application is submitted at a later date, it will not be considered timely and sufficient unless it is submitted and made complete prior to the expiration of the operation permit. When the application for renewal is timely and sufficient, the existing permit shall remain in effect until the renewal application has been finally acted upon by the Department or, if there is court review of the Department's final agency action, until a later date is required by Section 120.60, F.S., provided that, for renewal of a permit issued pursuant to Chapter 62-213, F.A.C., the applicant complies with the requirements of Rules 62-213.420(1)(b)3. and 4., F.A.C.

[Rule 62-4.090, F.A.C.]

6. Suspension and Revocation.

(1) Permits shall be effective until suspended, revoked, surrendered, or expired and shall be subject to the provisions of Chapter 403, F.S., and rules of the Department.

(2) Failure to comply with pollution control laws and rules shall be grounds for suspension or revocation.

(3) A permit issued pursuant to Chapter 62-4, F.A.C., shall not become a vested property right in the permittee. The Department may revoke any permit issued by it if it finds that the permit holder or his agent:

(a) Submitted false or inaccurate information in his application or operational reports.

(b) Has violated law, Department orders, rules or permit conditions.

(c) Has failed to submit operational reports or other information required by Department rules.

(d) Has refused lawful inspection under Section 403.091, F.S.

(4) No revocation shall become effective except after notice is served by personal services, certified mail, or newspaper notice pursuant to Section 120.60(7), F.S., upon the person or persons named therein and a hearing held if requested within the time specified in the notice. The notice shall specify the provision of the law, or rule alleged to be violated, or the permit condition or Department order alleged to be violated, and the facts alleged to constitute a violation thereof.

[Rule 62-4.100, F.A.C.]

**APPENDIX TV-6, TITLE V CONDITIONS (version dated 06/23/06) (continued)**

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7. **Not federally enforceable. Financial Responsibility.** The Department may require an applicant to submit proof of financial responsibility and may require the applicant to post an appropriate bond to guarantee compliance with the law and Department rules. [Rule 62-4.110, F.A.C.]

8. **Transfer of Permits.**

(1) Within 30 days after the sale or legal transfer of a permitted facility, an "Application for Transfer of Permit" (DEP Form 62-1.201(1)) must be submitted to the Department. This form must be completed with the notarized signatures of both the permittee and the proposed new permittee. For air permits, an "Application for Transfer of Air Permit" (DEP Form 62-210.900(7)) shall be submitted.

(2) The Department shall approve the transfer of a permit unless it determines that the proposed new permittee cannot provide reasonable assurances that conditions of the permit will be met. The determination shall be limited solely to the ability of the new permittee to comply with the conditions of the existing permit, and it shall not concern the adequacy of these permit conditions. If the Department proposes to deny the transfer, it shall provide both the permittee and the proposed new permittee a written objection to such transfer together with notice of a right to request a Chapter 120, F.S., proceeding on such determination.

(3) Within 30 days of receiving a properly completed Application for Transfer of Permit form, the Department shall issue a final determination. The Department may toll the time for making a determination on the transfer by notifying both the permittee and the proposed new permittee that additional information is required to adequately review the transfer request. Such notification shall be served within 30 days of receipt of an Application for Transfer of Permit form, completed pursuant to Rule 62-4.120(1), F.A.C. If the Department fails to take action to approve or deny the transfer within 30 days of receipt of the completed Application for Transfer of Permit form, or within 30 days of receipt of the last item of timely requested additional information, the transfer shall be deemed approved.

(4) The permittee is encouraged to apply for a permit transfer prior to the sale or legal transfer of a permitted facility. However, the transfer shall not be effective prior to the sale or legal transfer.

(5) Until this transfer is approved by the Department, the permittee and any other person constructing, operating, or maintaining the permitted facility shall be liable for compliance with the terms of the permit. The permittee transferring the permit shall remain liable for corrective actions that may be required as a result of any violations occurring prior to the sale or legal transfer of the facility. [Rule 62-4.120, F.A.C.]

9. **Plant Operation-Problems.** If the permittee is temporarily unable to comply with any of the conditions of the permit due to breakdown of equipment or destruction by hazard of fire, wind or by other cause, the permittee shall immediately notify the Department. Notification shall include pertinent information as to the cause of the problem, and what steps are being taken to correct the problem and to prevent its recurrence, and where applicable, the owner's intent toward reconstruction of destroyed facilities. Such notification does not release the permittee from any liability for failure to comply with Department rules. **(also, see Condition No. 10.)**

[Rule 62-4.130, F.A.C.]

10. For purposes of notification to the Department pursuant to Condition No. 9., Condition No. 12.(8), and Rule 62-4.130, F.A.C., Plant Operation-Problems, "immediately" shall mean the same day, if during a workday (i.e., 8:00 a.m. - 5:00 p.m.), or the first business day after the incident, excluding weekends and holidays; and, for purposes of 40 CFR 70.6(a)(3)(iii)(B), "prompt" shall have the same meaning as "immediately". **[also, see Conditions Nos. 9. and 12.(8).]**

[40 CFR 70.6(a)(3)(iii)(B)]

11. **Not federally enforceable. Review.** Failure to request a hearing within 14 days of receipt of notice of proposed or final agency action on a permit application or as otherwise required in Chapter 62-103, F.A.C., shall be deemed a waiver of the right to an administrative hearing.

[Rule 62-4.150, F.A.C.]

12. **Permit Conditions.** All permits issued by the Department shall include the following general conditions:

(1) The terms, conditions, requirements, limitations and restrictions set forth in this permit, are "permit conditions" and are binding and enforceable pursuant to Sections 403.141, 403.727, or 403.859 through 403.861, F.S. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.

**APPENDIX TV-6, TITLE V CONDITIONS (version dated 06/23/06) (continued)**

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- (2) This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.
- (3) As provided in Subsections 403.987(6) and 403.722(5), F.S., the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations. This permit is not a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in this permit.
- (4) This permit conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.
- (5) This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of F.S. and Department rules, unless specifically authorized by an order from the Department.
- (6) The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed and used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.
- (7) The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at reasonable times, access to the premises where the permitted activity is located or conducted to:
- (a) Have access to and copy any records that must be kept under conditions of the permit;
  - (b) Inspect the facility, equipment, practices, or operations regulated or required under this permit; and
  - (c) Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules. Reasonable time may depend on the nature of the concern being investigated.
- (8) If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information: **(also, see Condition No. 10.)**
- (a) A description of and cause of noncompliance; and
  - (b) The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance. The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.
- (9) In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by Sections 403.111 and 403.73, F.S. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.
- (10) The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance; provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.
- (11) This permit is transferable only upon Department approval in accordance with Rule 62-4.120, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.
- (12) This permit or a copy thereof shall be kept at the work site of the permitted activity.
- (14) The permittee shall comply with the following:
- (a) Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.
  - (b) The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least five (5) years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.
  - (c) Records of monitoring information shall include:
    - 1. The date, exact place, and time of sampling or measurements;
    - 2. The person responsible for performing the sampling or measurements;
    - 3. The dates analyses were performed;
    - 4. The person responsible for performing the analyses;

**APPENDIX TV-6, TITLE V CONDITIONS (version dated 06/23/06) (continued)**

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5. The analytical techniques or methods used;

6. The results of such analyses.

(15) When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware the relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

[Rules 62-4.160 and 62-213.440(1)(b), F.A.C.]

13. Construction Permits.

(1) No person shall construct any installation or facility which will reasonably be expected to be a source of air ~~or water~~ pollution without first applying for and receiving a construction permit from the Department unless exempted by statute or Department rule. In addition to the requirements of Chapter 62-4, F.A.C., applicants for a Department Construction Permit shall submit the following as applicable:

(a) A completed application on forms furnished by the Department.

(b) An engineering report covering:

1. Plant description and operations,

2. Types and quantities of all waste material to be generated whether liquid, gaseous or solid,

3. Proposed waste control facilities,

4. The treatment objectives,

5. The design criteria on which the control facilities are based, and

6. Other information deemed relevant.

Design criteria submitted pursuant to Rule 62-4.210(1)(b)5., F.A.C., shall be based on the results of laboratory and pilot-plant scale studies whenever such studies are warranted. The design efficiencies of the proposed waste treatment facilities and the quantities and types of pollutants in the treated effluents or emissions shall be indicated. Work of this nature shall be subject to the requirements of Chapter 471, F.S. Where confidential records are involved, certain information may be kept confidential pursuant to Section 403.111, F.S.

(c) The owners' written guarantee to meet the design criteria as accepted by the Department and to abide by Chapter 403, F.S., and the rules of the Department as to the quantities and types of materials to be discharged from the installation. The owner may be required to post an appropriate bond or other equivalent evidence of financial responsibility to guarantee compliance with such conditions in instances where the owner's financial resources are inadequate or proposed control facilities are experimental in nature.

(2) The construction permit may contain conditions and an expiration date as determined by the Secretary or the Secretary's designee.

(3) When the Department issues a permit to construct, the permittee shall be allowed a period of time, specified in the permit, to construct, and to operate and test to determine compliance with Chapter 403, F.S., and the rules of the Department and, where applicable, to apply for and receive an operation permit. The Department may require tests and evaluations of the treatment facilities by the permittee at his/her expense.

[Rule 62-4.210, F.A.C.]

14. **Not federally enforceable.** Operation Permit for New Sources. To properly apply for an operation permit for new sources the applicant shall submit the appropriate fee and certification that construction was completed, noting any deviations from the conditions in the construction permit and test results where appropriate.

[Rule 62-4.220, F.A.C.]

Chapters 28-106 and 62-110, F.A.C.

15. Public Notice, Public Participation, and Proposed Agency Action. The permittee shall comply with all of the requirements for public notice, public participation, and proposed agency action pursuant to Rules 62-110.106 and 62-210.350, F.A.C.

[Rules 62-110.106, 62-210.350 and 62-213.430(1)(b), F.A.C.]

16. Administrative Hearing. The permittee shall comply with all of the requirements for a petition for administrative hearing or waiver of right to administrative proceeding pursuant to Rules 28-106.201, 28-106.301 and 62-110.106, F.A.C.

[Rules 28-106.201, 28-106.301 and 62-110.106, F.A.C.]

**APPENDIX TV-6, TITLE V CONDITIONS (version dated 06/23/06) (continued)**

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Chapter 62-204, F.A.C.

17. Asbestos. This permit does not authorize any demolition or renovation of the facility or its parts or components which involves asbestos removal. This permit does not constitute a waiver of any of the requirements of Chapter 62-257, F.A.C., and 40 CFR 61, Subpart M, National Emission Standard for Asbestos, adopted and incorporated by reference in Rule 62-204.800, F.A.C. Compliance with Chapter 62-257, F.A.C., and 40 CFR 61, Subpart M, Section 61.145, is required for any asbestos demolition or renovation at the source.

[40 CFR 61; Rule 62-204.800, F.A.C.; and, Chapter 62-257, F.A.C.]

Chapter 62-210, F.A.C.

18. Permits Required. Unless exempted from permitting pursuant to Rule 62-210.300(3)(a) or (b), F.A.C., or Rule 62-4.040, F.A.C., or unless specifically authorized by provision of Rule 62-210.300(4), F.A.C., or Rule 62-213.300, F.A.C., the owner or operator of any facility or emissions unit which emits or can reasonably be expected to emit any air pollutant shall obtain an appropriate permit from the Department prior to beginning construction, reconstruction pursuant to 40 CFR 60.15 or 63.2, modification, or the addition of pollution control equipment; or to authorize initial or continued operation of the emissions unit; or to establish a PAL or Air Emissions Bubble. All emissions limitations, controls, and other requirements imposed by such permits shall be at least as stringent as any applicable limitations and requirements contained in or enforceable under the State Implementation Plan (SIP) or that are otherwise federally enforceable. Except as provided at Rule 62-213.460, F.A.C., issuance of a permit does not relieve the owner or operator of a facility or an emissions unit from complying with any applicable requirements, any emission limiting standards or other requirements of the air pollution rules of the Department or any other such requirements under federal, state, or local law.

(1) Air Construction Permits.

(a) Unless exempt from permitting pursuant to Rule 62-210.300(3)(a) or (b), F.A.C., or Rule 62-4.040, F.A.C., an air construction permit shall be obtained by the owner or operator of any proposed new, reconstructed, or modified facility or emissions unit, or any new pollution control equipment prior to the beginning of construction, reconstruction pursuant to 40 CFR 60.15 or 63.2, or modification of the facility or emissions unit or addition of the pollution control equipment; or to establish a PAL; in accordance with all applicable provisions of Chapter 62-210, F.A.C., Chapter 62-212, F.A.C., and Chapter 62-4, F.A.C. Except as provided under Rule 62-213.415, F.A.C., the owner or operator of any facility seeking to create or change an air emissions bubble shall obtain an air construction permit in accordance with all the applicable provisions of Chapter 62-210, F.A.C., Chapters 62-212 and 62-4, F.A.C. The construction permit shall be issued for a period of time sufficient to allow construction, reconstruction or modification of the facility or emissions unit or addition of the air pollution control equipment; and operation while the owner or operator of the new, reconstructed or modified facility or emissions unit or the new pollution control equipment is conducting tests or otherwise demonstrating initial compliance with the conditions of the construction permit.

(b) Notwithstanding the expiration of an air construction permit, all limitations and requirements of such permit that are applicable to the design and operation of the permitted facility or emissions unit shall remain in effect until the facility or emissions unit is permanently shut down, except for any such limitation or requirement that is obsolete by its nature (such as a requirement for initial compliance testing) or any such limitation or requirement that is changed in accordance with the provisions of Rule 62-210.300(1)(b)1., F.A.C. Either the applicant or the Department can propose that certain conditions be considered obsolete. Any conditions or language in an air construction permit that are included for informational purposes only, if they are transferred to the air operation permit, shall be transferred for informational purposes only and shall not become enforceable conditions unless voluntarily agreed to by the permittee or otherwise required under Department rules.

1. Except for those limitations or requirements that are obsolete, all limitations and requirements of an air construction permit shall be included and identified in any air operation permit for the facility or emissions unit. The limitations and requirements included in the air operation permit can be changed, and thereby superseded, through the issuance of an air construction permit, federally enforceable state air operation permit, federally enforceable air general permit, or Title V air operation permit; provided, however, that:

a. Any change that would constitute an administrative correction may be made pursuant to Rule 62-210.360, F.A.C.;

b. Any change that would constitute a modification, as defined at Rule 62-210.200, F.A.C., shall be accomplished only through the issuance of an air construction permit; and

c. Any change in a permit limitation or requirement that originates from a permit issued pursuant to 40 CFR 52.21, Rule 62-204.800(11)(d)2., F.A.C., Rule 62-212.400, F.A.C., Rule 62-212.500, F.A.C., or any former codification of Rule 62-212.400 or Rule 62-212.500, F.A.C., shall be accomplished only through the issuance of a new or revised air construction permit under Rule 62-204.800(11)(d)2., Rule 62-212.400 or Rule 62-212.500, F.A.C., as appropriate.

2. The force and effect of any change in a permit limitation or requirement made in accordance with the provisions of Rule 62-210.300(1)(b)1., F.A.C., shall be the same as if such change were made to the original air construction permit.

3. Nothing in Rule 62-210.300(1)(b), F.A.C., shall be construed as to allow operation of a facility or emissions unit without a valid air operation permit.

(2) Air Operation Permits. Upon expiration of the air operation permit for any existing facility or emissions unit, subsequent to construction or modification, or subsequent to the creation of or change to a bubble, and demonstration of compliance with the conditions of the construction permit for any new or modified facility or emissions unit, any air emissions bubble, or as otherwise

## APPENDIX TV-6, TITLE V CONDITIONS (version dated 06/23/06) (continued)

provided in Chapter 62-210, F.A.C., or Chapter 62-213, F.A.C., the owner or operator of such facility or emissions unit shall obtain a renewal air operation permit, an initial air operation permit or air general permit, or an administrative correction or revision of an existing air operation permit, whichever is appropriate, in accordance with all applicable provisions of Chapter 62-210, F.A.C., Chapter 62-213, F.A.C., and Chapter 62-4, F.A.C.

(a) Minimum Requirements for All Air Operation Permits. At a minimum, a permit issued pursuant to this subsection shall:

1. Specify the manner, nature, volume and frequency of the emissions permitted, and the applicable emission limiting standards or performance standards, if any;
2. Require proper operation and maintenance of any pollution control equipment by qualified personnel, where applicable in accordance with the provisions of any operation and maintenance plan required by the air pollution rules of the Department.
3. Contain an effective date stated in the permit which shall not be earlier than the date final action is taken on the application and be issued for a period, beginning on the effective date, as provided below.
  - a. The operation permit for an emissions unit which is in compliance with all applicable rules and in operational condition, and which the owner or operator intends to continue operating, shall be issued or renewed for a five-year period, except that, for Title V sources subject to Rule 62-213.420(1)(a)1., F.A.C., operation permits shall be extended until 60 days after the due date for submittal of the facility's Title V permit application as specified in Rule 62-213.420(1)(a)1., F.A.C.
  - b. Except as provided in Rule 62-210.300(2)(a)3.d., F.A.C., the operation permit for an emissions unit which has been shut down for six months or more prior to the expiration date of the current operation permit, shall be renewed for a period not to exceed five years from the date of shutdown, even if the emissions unit is not maintained in operational condition, provided:
    - (i) the owner or operator of the emissions unit demonstrates to the Department that the emissions unit may need to be reactivated and used, or that it is the owner's or operator's intent to apply to the Department for a permit to construct a new emissions unit at the facility before the end of the extension period; and
    - (ii) the owner or operator of the emissions unit agrees to and is legally prohibited from providing the allowable emission permitted by the renewed permit as an emissions offset to any other person under Rule 62-212.500, F.A.C.; and
    - (iii) the emissions unit was operating in compliance with all applicable rules as of the time the source was shut down.
  - c. Except as provided in Rule 62-210.300(2)(a)3.d., F.A.C., the operation permit for an emissions unit which has been shut down for five years or more prior to the expiration date of the current operation permit shall be renewed for a maximum period not to exceed ten years from the date of shutdown, even if the emissions unit is not maintained in operational condition, provided the conditions given in Rule 62-210.300(2)(a)3.b., F.A.C., are met and the owner or operator demonstrates to the Department that failure to renew the permit would constitute a hardship, which may include economic hardship.
  - d. The operation permit for an electric utility generating unit on cold standby or long-term reserve shutdown shall be renewed for a five-year period, and additional five-year periods, even if the unit is not maintained in operational condition, provided the conditions given in Rules 62-210.300(2)(a)3.b.(i) through (iii), F.A.C., are met.
4. In the case of an emissions unit permitted pursuant to Rules 62-210.300(2)(a)3.b., c., and d., F.A.C., include reasonable notification and compliance testing requirements for reactivation of such emissions unit and provide that the owner or operator demonstrate to the Department prior to reactivation that such reactivation would not constitute reconstruction pursuant to Rule 62-204.800(8), F.A.C.

[Rules 62-210.300(1) & (2), F.A.C.]

19. **Not federally enforceable.** Notification of Startup. The owners or operator of any emissions unit or facility which has a valid air operation permit which has been shut down more than one year, shall notify the Department in writing of the intent to start up such emissions unit or facility, a minimum of 60 days prior to the intended startup date.

- (a) The notification shall include information as to the startup date, anticipated emission rates or pollutants released, changes to processes or control devices which will result in changes to emission rates, and any other conditions which may differ from the valid outstanding operation permit.
- (b) If, due to an emergency, a startup date is not known 60 days prior thereto, the owner shall notify the Department as soon as possible after the date of such startup is ascertained.

[Rule 62-210.300(5), F.A.C.]

**APPENDIX TV-6, TITLE V CONDITIONS (version dated 06/23/06) (continued)**

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20. Emissions Unit Reclassification.

(a) Any emissions unit whose operation permit has been revoked as provided for in Chapter 62-4, F.A.C., shall be deemed permanently shut down for purposes of Rule 62-212.500, F.A.C. Any emissions unit whose permit to operate has expired without timely renewal or transfer may be deemed permanently shut down, provided, however, that no such emissions unit shall be deemed permanently shut down if, within 20 days after receipt of written notice from the Department, the emissions unit owner or operator demonstrates that the permit expiration resulted from inadvertent failure to comply with the requirements of Rule 62-4.090, F.A.C., and that the owner or operator intends to continue the emissions unit in operation, and either submits an application for an air operation permit or complies with permit transfer requirements, if applicable.

(b) If the owner or operator of an emissions unit which is so permanently shut down, applies to the Department for a permit to reactivate or operate such emissions unit, the emissions unit will be reviewed and permitted as a new emissions unit.

[Rule 62-210.300(6), F.A.C.]

21. Transfer of Air Permits.

(a) An air permit is transferable only after submission of an Application for Transfer of Air Permit (DEP Form 62-210.900(7)) and Department approval in accordance with Rule 62-4.120, F.A.C. For Title V permit transfers only, a complete application for transfer of air permit shall include the requirements of 40 CFR 70.7(d)(1)(iv), adopted and incorporated by reference at Rule 62-204.800, F.A.C. Within 30 days after approval of the transfer of permit, the Department shall update the permit by an administrative permit correction pursuant to Rule 62-210.360, F.A.C.

(b) For an air general permit, the provision of Rules 62-210.300(7)(a) and 62-4.120, F.A.C., do not apply. Thirty (30) days before using an air general permit, the new owner must submit an air general permit notification to the Department in accordance with Rule 62-210.300(4), F.A.C., or Rule 62-213.300(2)(b), F.A.C.

[Rule 62-210.300(7), F.A.C.]

22. Public Notice and Comment.

(1) Public Notice of Proposed Agency Action.

(a) A notice of proposed agency action on permit application, where the proposed agency action is to issue the permit, shall be published by any applicant for:

1. An air construction permit;
2. An air operation permit, permit renewal or permit revision subject to Rule 62-210.300(2)(b), F.A.C., (i.e., a FESOP), except as provided in Rule 62-210.300(2)(b)1.b., F.A.C.; or
3. An air operation permit, permit renewal, or permit revision subject to Chapter 62-213, F.A.C., except Title V air general permits or those permit revisions meeting the requirements of Rule 62-213.412(1), F.A.C.

(b) The notice required by Rule 62-210.350(1)(a), F.A.C., shall be published in accordance with all otherwise applicable provisions of Rule 62-110.106, F.A.C. A public notice under Rule 62-210.350(1)(a)1., F.A.C., for an air construction permit may be combined with any required public notice under Rule 62-210.350(1)(a)2. or 3., F.A.C., for air operation permits. If such notices are combined, the public notice must comply with the requirements for both notices.

(c) Except as otherwise provided at Rules 62-210.350(2), (5), and (6), F.A.C., each notice of intent to issue an air construction permit shall provide a 14-day period for submittal of public comments.

(2) Additional Public Notice Requirements for Emissions Units Subject to Prevention of Significant Deterioration or Nonattainment - Area Preconstruction Review.

(a) Before taking final agency action on a construction permit application for any proposed new or modified facility or emissions unit subject to the preconstruction review requirements of Rule 62-212.400 or 62-212.500, F.A.C., the Department shall comply with all applicable provisions of Rule 62-110.106, F.A.C., and provide an opportunity for public comment which shall include as a minimum the following:

1. A complete file available for public inspection in at least one location in the district affected which includes the information submitted by the owner or operator, exclusive of confidential records under Section 403.111, F.S., and the Department's analysis of the effect of the proposed construction or modification on ambient air quality, including the Department's preliminary determination of whether the permit should be approved or disapproved;
2. A 30-day period for submittal of public comments; and
3. A notice, by advertisement in a newspaper of general circulation in the county affected, specifying the nature and location of the proposed facility or emissions unit, whether BACT or LAER has been determined, the degree of PSD increment consumption expected, if applicable, and the location of the information specified in paragraph 1. above; and notifying the public of the opportunity for submitting comments and requesting a public hearing.

**APPENDIX TV-6, TITLE V CONDITIONS (version dated 06/23/06) (continued)**

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- (b) The notice provided for in Rule 62-210.350(2)(a)3., F.A.C., shall be prepared by the Department and published by the applicant in accordance with all applicable provisions of Rule 62-110.106, F.A.C., except that the applicant shall cause the notice to be published no later than thirty (30) days prior to final agency action.
  - (c) A copy of the notice provided for in Rule 62-210.350(2)(a)3., F.A.C., shall also be sent by the Department to the Regional Office of the U. S. Environmental Protection Agency and to all other state and local officials or agencies having cognizance over the location of such new or modified facility or emissions unit, including local air pollution control agencies, chief executives of city or county government, regional land use planning agencies, and any other state, Federal Land Manager, or Indian Governing Body whose lands may be affected by emissions from the new or modified facility or emissions unit.
  - (d) A copy of the notice provided for in Rule 62-210.350(2)(a)3., F.A.C., shall be displayed in the appropriate district, branch and local program offices.
  - (e) An opportunity for public hearing shall be provided in accordance with Chapter 120, F.S., and Rule 62-110.106, F.A.C.
  - (f) Any public comments received shall be made available for public inspection in the location where the information specified in Rule 62-210.350(2)(a)1., F.A.C., is available and shall be considered by the Department in making a final determination to approve or deny the permit.
  - (g) The final determination shall be made available for public inspection at the same location where the information specified in Rule 62-210.350(2)(a)1., F.A.C., was made available.
  - (h) For a proposed new or modified emissions unit which would be located within 100 kilometers of any Federal Class I area or whose emissions may affect any Federal Class I area, and which would be subject to the preconstruction review requirements of Rule 62-212.400 or 62-212.500, F.A.C.:
    - 1. The Department shall mail or transmit to the Administrator a copy of the initial application for an air construction permit and notice of every action related to the consideration of the permit application.
    - 2. The Department shall mail or transmit to the Federal Land Manager of each affected Class I area a copy of any written notice of intent to apply for an air construction permit; the initial application for an air construction permit, including all required analyses and demonstrations; any subsequently submitted information related to the application; the preliminary determination and notice of proposed agency action on the permit application; and any petition for an administrative hearing regarding the application or the Department's proposed action. Each such document shall be mailed or transmitted to the Federal Land Manager within fourteen (14) days after its receipt by the Department.
- (3) Additional Public Notice Requirements for Facilities Subject to Operation Permits for Title V Sources.
- (a) Before taking final agency action to issue a new, renewed, or revised air operation permit subject to Chapter 62-213, F.A.C., the Department shall comply with all applicable provisions of Rule 62-110.106, F.A.C., and provide an opportunity for public comment which shall include as a minimum the following:
    - 1. A complete file available for public inspection in at least one location in the district affected which includes the information submitted by the owner or operator, exclusive of confidential records under Section 403.111, F.S.; and
    - 2. A 30-day period for submittal of public comments.
  - (b) The notice provided for in Rule 62-210.350(3)(a), F.A.C., shall be prepared by the Department and published by the applicant in accordance with all applicable provisions of Rule 62-110.106, F.A.C., except that the applicant shall cause the notice to be published no later than thirty (30) days prior to final agency action. If written comments received during the 30-day comment period on a draft permit result in the Department's issuance of a revised draft permit in accordance with Rule 62-213.430(1), F.A.C., the Department shall require the applicant to publish another public notice in accordance with Rule 62-210.350(1)(a), F.A.C.
  - (c) The notice shall identify:
    - 1. The facility;
    - 2. The name and address of the office at which processing of the permit occurs;
    - 3. The activity or activities involved in the permit action;
    - 4. The emissions change involved in any permit revision;
    - 5. The name, address, and telephone number of a Department representative from whom interested persons may obtain additional information, including copies of the permit draft, the application, and all relevant supporting materials, including any permit application, compliance plan, permit, monitoring report, and compliance statement required pursuant to Chapter 62-213, F.A.C. (except for information entitled to confidential treatment pursuant to Section 403.111, F.S.), and all other materials available to the Department that are relevant to the permit decision;
    - 6. A brief description of the comment procedures required by Rule 62-210.350(3), F.A.C.;
    - 7. The time and place of any hearing that may be held, including a statement of procedure to request a hearing (unless a hearing has already been scheduled); and

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8. The procedures by which persons may petition the Administrator to object to the issuance of the proposed permit after expiration of the Administrator's 45-day review period.

[Rules 62-210.350(1) thru (3), F.A.C.]

### 23. Administrative Permit Corrections.

(1) A facility owner shall notify the Department by letter of minor corrections to information contained in a permit. Such notifications shall include:

- (a) Typographical errors noted in the permit;
- (b) Name, address or phone number change from that in the permit;
- (c) A change requiring more frequent monitoring or reporting by the permittee;
- (d) A change in ownership or operational control of a facility, subject to the following provisions:
  1. The Department determines that no other change in the permit is necessary;
  2. The permittee and proposed new permittee have submitted an Application for Transfer of Air Permit, and the Department has approved the transfer pursuant to Rule 62-210.300(7), F.A.C.; and
  3. The new permittee has notified the Department of the effective date of sale or legal transfer.
- (e) Changes listed at 40 CFR 72.83(a)(1), (2), (6), (9) and (10), adopted and incorporated by reference at Rule 62-204.800, F.A.C., and changes made pursuant to Rules 62-214.340(1) and (2), F.A.C., to Title V sources subject to emissions limitations or reductions pursuant to 42 USC ss. 7651-7651o;
- (f) Changes listed at 40 CFR 72.83(a)(11) and (12), adopted and incorporated by reference at Rule 62-204.800, F.A.C., to Title V sources subject to emissions limitations or reductions pursuant to 42 USC ss. 7651-7651o, provided the notification is accompanied by a copy of any EPA determination concerning the similarity of the change to those listed at Rule 62-210.360(1)(e), F.A.C.; and
- (g) Any other similar minor administrative change at the source.

(2) Upon receipt of any such notification, the Department shall within 60 days correct the permit and provide a corrected copy to the owner.

(3) After first notifying the owner, the Department shall correct any permit in which it discovers errors of the types listed at Rules 62-210.360(1)(a) and (b), F.A.C., and provide a corrected copy to the owner.

(4) For Title V source permits, other than general permits, a copy of the corrected permit shall be provided to EPA and any approved local air program in the county where the facility or any part of the facility is located.

[Rule 62-210.360, F.A.C.]

### 24. Emissions Computation and Reporting.

(1) Applicability. This rule sets forth required methodologies to be used by the owner or operator of a facility for computing actual emissions, baseline actual emissions, and net emissions increase, as defined at Rule 62-210.200, F.A.C., and for computing emissions for purposes of the reporting requirements of subsection 62-210.370(3) and paragraph 62-212.300(1)(e), F.A.C., or of any permit condition that requires emissions be computed in accordance with this rule. This rule is not intended to establish methodologies for determining compliance with the emission limitations of any air permit.

(2) Computation of Emissions. For any of the purposes set forth in subsection 62-210.370(1), F.A.C., the owner or operator of a facility shall compute emissions in accordance with the requirements set forth in this subsection.

(a) Basic Approach. The owner or operator shall employ, on a pollutant-specific basis, the most accurate of the approaches set forth below to compute the emissions of a pollutant from an emissions unit; provided, however, that nothing in this rule shall be construed to require installation and operation of any continuous emissions monitoring system (CEMS), continuous parameter monitoring system (CPMS), or predictive emissions monitoring system (PEMS) not otherwise required by rule or permit, nor shall anything in this rule be construed to require performance of any stack testing not otherwise required by rule or permit.

1. If the emissions unit is equipped with a CEMS meeting the requirements of paragraph 62-210.370(2)(b), F.A.C., the owner or operator shall use such CEMS to compute the emissions of the pollutant, unless the owner or operator demonstrates to the department that an alternative approach is more accurate because the CEMS represents still-emerging technology.
2. If a CEMS is not available or does not meet the requirements of paragraph 62-210.370(2)(b), F.A.C., but emissions of the pollutant can be computed pursuant to the mass balance methodology of paragraph 62-210.370(2)(c), F.A.C., the owner or operator shall use such methodology, unless the owner or operator demonstrates to the department that an alternative approach is more accurate.
3. If a CEMS is not available or does not meet the requirements of paragraph 62-210.370(2)(b), F.A.C., and emissions cannot be computed pursuant to the mass balance methodology, the owner or operator shall use an emission factor meeting the requirements of paragraph 62-210.370(2)(d), F.A.C., unless the owner or operator demonstrates to the department that an alternative approach is more accurate.

(b) Continuous Emissions Monitoring System (CEMS).

1. An owner or operator may use a CEMS to compute emissions of a pollutant for purposes of this rule provided:
  - a. The CEMS complies with the applicable certification and quality assurance requirements of 40 CFR Part 60, Appendices B and F, or, for an acid rain unit, the certification and quality assurance requirements of 40 CFR Part 75, all adopted by reference at Rule 62-204.800, F.A.C.; or
  - b. The owner or operator demonstrates that the CEMS otherwise represents the most accurate means of computing emissions for purposes of this rule.
2. Stack gas volumetric flow rates used with the CEMS to compute emissions shall be obtained by the most accurate of the following methods as demonstrated by the owner or operator:
  - a. A calibrated flowmeter that records data on a continuous basis, if available; or

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- b. The average flow rate of all valid stack tests conducted during a five-year period encompassing the period over which the emissions are being computed, provided all stack tests used shall represent the same operational and physical configuration of the unit.
  - 3. The owner or operator may use CEMS data in combination with an appropriate f-factor, heat input data, and any other necessary parameters to compute emissions if such method is demonstrated by the owner or operator to be more accurate than using a stack gas volumetric flow rate as set forth at subparagraph 62-210.370(2)(b)2., F.A.C., above.
  - (c) Mass Balance Calculations.
    - 1. An owner or operator may use mass balance calculations to compute emissions of a pollutant for purposes of this rule provided the owner or operator:
      - a. Demonstrates a means of validating the content of the pollutant that is contained in or created by all materials or fuels used in or at the emissions unit; and
      - b. Assumes that the emissions unit emits all of the pollutant that is contained in or created by any material or fuel used in or at the emissions unit if it cannot otherwise be accounted for in the process or in the capture and destruction of the pollutant by the unit's air pollution control equipment.
    - 2. Where the vendor of a raw material or fuel which is used in or at the emissions unit publishes a range of pollutant content from such material or fuel, the owner or operator shall use the highest value of the range to compute the emissions, unless the owner or operator demonstrates using site-specific data that another content within the range is more accurate.
    - 3. In the case of an emissions unit using coatings or solvents, the owner or operator shall document, through purchase receipts, records and sales receipts, the beginning and ending VOC inventories, the amount of VOC purchased during the computational period, and the amount of VOC disposed of in the liquid phase during such period.
  - (d) Emission Factors.
    - 1. An owner or operator may use an emission factor to compute emissions of a pollutant for purposes of this rule provided the emission factor is based on site-specific data such as stack test data, where available, unless the owner or operator demonstrates to the department that an alternative emission factor is more accurate. An owner or operator using site-specific data to derive an emission factor, or set of factors, shall meet the following requirements.
      - a. If stack test data are used, the emission factor shall be based on the average emissions per unit of input, output, or gas volume, whichever is appropriate, of all valid stack tests conducted during at least a five-year period encompassing the period over which the emissions are being computed, provided all stack tests used shall represent the same operational and physical configuration of the unit.
      - b. Multiple emission factors shall be used as necessary to account for variations in emission rate associated with variations in the emissions unit's operating rate or operating conditions during the period over which emissions are computed.
      - c. The owner or operator shall compute emissions by multiplying the appropriate emission factor by the appropriate input, output or gas volume value for the period over which the emissions are computed. The owner or operator shall not compute emissions by converting an emission factor to pounds per hour and then multiplying by hours of operation, unless the owner or operator demonstrates that such computation is the most accurate method available.
    - 2. If site-specific data are not available to derive an emission factor, the owner or operator may use a published emission factor directly applicable to the process for which emissions are computed. If no directly-applicable emission factor is available, the owner or operator may use a factor based on a similar, but different, process.
  - (e) Accounting for Emissions During Periods of Missing Data from CEMS, PEMS, or CPMS. In computing the emissions of a pollutant, the owner or operator shall account for the emissions during periods of missing data from CEMS, PEMS, or CPMS using other site-specific data to generate a reasonable estimate of such emissions.
  - (f) Accounting for Emissions During Periods of Startup and Shutdown. In computing the emissions of a pollutant, the owner or operator shall account for the emissions during periods of startup and shutdown of the emissions unit.
  - (g) Fugitive Emissions. In computing the emissions of a pollutant from a facility or emissions unit, the owner or operator shall account for the fugitive emissions of the pollutant, to the extent quantifiable, associated with such facility or emissions unit.
  - (h) Recordkeeping. The owner or operator shall retain a copy of all records used to compute emissions pursuant to this rule for a period of five years from the date on which such emissions information is submitted to the department for any regulatory purpose.
- (3) Annual Operating Report for Air Pollutant Emitting Facility.
- (a) The Annual Operating Report for Air Pollutant Emitting Facility (DEP Form No. 62-210.900(5)) shall be completed each year.
  - (c) The annual operating report shall be submitted to the appropriate Department of Environmental Protection (DEP) division, district or DEP-approved local air pollution control program office by March 1 of the following year.
  - (d) Beginning with 2007 annual emissions, emissions shall be computed in accordance with the provisions of Rule 62-210.370(2), F.A.C., for purposes of the annual operating report.

[Rules 62-210.370(1), (2) and (3)(a), (c) & (d), F.A.C.]

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25. Circumvention. No person shall circumvent any air pollution control device, or allow the emission of air pollutants without the applicable air pollution control device operating properly.

[Rule 62-210.650, F.A.C.]

26. Forms and Instructions. The forms used by the Department in the stationary source control program are adopted and incorporated by reference in this section. The forms are listed by rule number, which is also the form number, with the subject, title and effective date. Copies of forms may be obtained by writing to the Department of Environmental Protection, Division of Air Resource Management, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, or by accessing the Division's website at [www.dep.state.fl.us/air](http://www.dep.state.fl.us/air). The requirement of Rule 62-4.050(2), F.A.C., to file application forms in quadruplicate is waived if an air permit application is submitted using the Department's electronic application form.

(1) Application for Air Permit - Long Form, Form and Instructions (Effective 02-02-2006).

(a) Acid Rain Part, Form and Instructions (Effective 06-16-2003).

1. Repowering Extension Plan, Form and Instructions (Effective 07/01/1995).

2. New Unit Exemption, Form and Instructions (Effective 04/16/2001).

3. Retired Unit Exemption, Form and Instructions (Effective 04/16/2001).

4. Phase II NOx Compliance Plan, Form and Instructions (Effective 01/06/1998).

5. Phase II NOx Averaging Plan, Form (Effective 01/06/1998).

(b) Reserved.

(5) Annual Operating Report for Air Pollutant Emitting Facility, Form and Instructions (Effective 02/11/1999).

(7) Application for Transfer of Air Permit – Title V Source, (Effective 04/16/2001).

[Rule 62-210.900, F.A.C.]

Chapter 62-213, F.A.C.

27. Responsible Official.

(1) Each Title V source must identify a responsible official on each application for Title V permit, permit revision, and permit renewal. For sources with only one responsible official, this is how the Title V source designates the responsible official.

(2) Each Title V source may designate more than one responsible official, provided a primary responsible official is designated as responsible for the certifications of all other designated responsible officials. Any action taken by the primary responsible official shall take precedence over any action taken by any other designated responsible official.

(3) Any facility initially designating more than one responsible official or changing the list of responsible officials must submit a Responsible Official Notification Form (DEP Form No. 62-213.900(8)) designating all responsible officials for a Title V source, stating which responsible official is the primary responsible official, and providing an effective date for any changes to the list of responsible officials. Each individual listed on the Responsible Official Notification Form must meet the definition of responsible official given at Rule 62-210.200, F.A.C.

(4) A Title V source with only one responsible official shall submit DEP Form No. 62-213.900(8) for a change in responsible official.

(5) No person shall take any action as a responsible official at a Title V source unless designated a responsible official as required by this rule, except that the existing responsible official of any Title V source which has a change in responsible official during the term of the permit and before the effective date of this rule may continue to act as a responsible official until the first submittal of DEP Form No. 62-213.900(8) or the next application for Title V permit, permit revision or permit renewal, whichever comes first.

[Rules 62-213.202(1) thru (5), F.A.C.]

28. Annual Emissions Fee. Each Title V source permitted to operate in Florida must pay between January 15 and March 1 of each year, upon written notice from the Department, an annual emissions fee in an amount determined as set forth in Rule 62-213.205(1), F.A.C.

(1)(g) If the Department has not received the fee by February 15 of the year following the calendar year for which the fee is calculated, the Department will send the primary responsible official of the Title V source a written warning of the consequences for failing to pay the fee by March 1. If the fee is not postmarked by March 1 of the year due, the Department shall impose, in addition to the fee, a penalty of 50 percent of the amount of the fee unpaid plus interest on such amount computed in accordance with Section 220.807, F.S. If the Department determines that a submitted fee was inaccurately calculated, the Department shall either refund to the permittee any amount overpaid or notify the permittee of any amount underpaid. The Department shall not impose a penalty or interest on any amount underpaid, provided that the permittee has timely remitted payment of at least 90 percent of the amount determined to be due and remits full payment within 60 days after receipt of notice of the amount underpaid. The Department shall waive the collection of underpayment and shall not refund overpayment of the fee, if the amount is less than 1 percent of the fee due, up to \$50.00. The Department shall make every effort to provide a timely assessment of the adequacy of the submitted fee. Failure to pay timely any required annual emissions fee, penalty, or interest constitutes grounds for permit revocation pursuant to Rule 62-4.100, F.A.C.

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(1)(i) Any documentation of actual hours of operation, actual material or heat input, actual production amount, or actual emissions used to calculate the annual emissions fee shall be retained by the owner for a minimum of five (5) years and shall be made available to the Department upon request.

(1)(j) A completed DEP Form 62-213.900(1), "Major Air Pollution Source Annual Emissions Fee Form", must be submitted by a responsible official with the annual emissions fee.

[Rules 62-213.205, (1)(g), (1)(i) & (1)(j), F.A.C.]

29. Reserved.

30. Reserved.

31. Air Operation Permit Fees. No permit application processing fee, renewal fee, modification fee or amendment fee is required for an operation permit for a Title V source.

[Rule 62-213.205(4), F.A.C.]

32. Permits and Permit Revisions Required. All Title V sources are subject to the permit requirements of Chapter 62-213, F.A.C., except those Title V sources permissible pursuant to Rule 62-213.300, F.A.C., Title V Air General Permits.

(1) No Title V source may operate except in compliance with Chapter 62-213, F.A.C.

(2) Except as provided in Rule 62-213.410, F.A.C., no source with a permit issued under the provisions of Chapter 62-213, F.A.C., shall make any changes in its operation without first applying for and receiving a permit revision if the change meets any of the following:

- (a) Constitutes a modification;
- (b) Violates any applicable requirement;
- (c) Exceeds the allowable emissions of any air pollutant from any unit within the source;
- (d) Contravenes any permit term or condition for monitoring, testing, recordkeeping, reporting or of a compliance certification requirement;
- (e) Requires a case-by-case determination of an emission limitation or other standard or a source specific determination of ambient impacts, or a visibility or increment analysis under the provisions of Chapter 62-212 or 62-296, F.A.C.;
- (f) Violates a permit term or condition which the source has assumed for which there is no corresponding underlying applicable requirement to which the source would otherwise be subject;
- (g) Results in the trading of emissions among units within a source except as specifically authorized pursuant to Rule 62-213.415, F.A.C.;
- (h) Results in the change of location of any relocatable facility identified as a Title V source pursuant to paragraph (a)-(e), (g) or (h) of the definition of "major source of air pollution" at Rule 62-210.200, F.A.C.;
- (i) Constitutes a change at an Acid Rain Source under the provisions of 40 CFR 72.81(a)(1), (2), or (3), (b)(1) or (b)(3), hereby incorporated by reference;
- (j) Constitutes a change in a repowering plan, nitrogen oxides averaging plan, or nitrogen oxides compliance deadline extension at an Acid Rain Source;

[Rules 62-213.400(1) & (2), F.A.C.]

33. Changes Without Permit Revision. Title V sources having a valid permit issued pursuant to Chapter 62-213, F.A.C., may make the following changes without permit revision, provided that sources shall maintain source logs or records to verify periods of operation:

(1) Permitted sources may change among those alternative methods of operation;

(2) A permitted source may implement operating changes, as defined in Rule 62-210.200, F.A.C., after the source submits any forms required by any applicable requirement and provides the Department and EPA with at least 7 days written notice prior to implementation. The source and the Department shall attach each notice to the relevant permit;

(a) The written notice shall include the date on which the change will occur, and a description of the change within the permitted source, the pollutants emitted and any change in emissions, and any term or condition becoming applicable or no longer applicable as a result of the change;

(b) The permit shield described in Rule 62-213.460, F.A.C., shall not apply to such changes;

(3) Permitted sources may implement changes involving modes of operation only in accordance with Rule 62-213.415, F.A.C.

[Rule 62-213.410, F.A.C.]

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### 34. Immediate Implementation Pending Revision Process.

(1) Those permitted Title V sources making any change that constitutes a modification pursuant to the definition of modification at Rule 62-210.200, F.A.C., but which would not constitute a modification pursuant to 42 USC 7412(a) or to 40 CFR 52.01, 60.2, or 61.15, adopted and incorporated by reference at Rule 62-204.800, F.A.C., may implement such change prior to final issuance of a permit revision, provided the change:

- (a) Does not violate any applicable requirement;
- (b) Does not contravene any permit term or condition for monitoring, testing, recordkeeping or reporting, or any compliance certification requirement;
- (c) Does not require or change a case-by-case determination of an emission limitation or other standard, or a source-specific determination of ambient impacts, or a visibility or increment analysis under the provisions of Chapter 62-212 or 62-296, F.A.C.;
- (d) Does not seek to establish or change a permit term or condition for which there is no corresponding underlying applicable requirement and which the source has assumed to avoid an applicable requirement to which the source would otherwise be subject including any federally enforceable emissions cap or federally enforceable alternative emissions limit.

(2) A Title V source may immediately implement such changes after they have been incorporated into the terms and conditions of a new or revised construction permit issued pursuant to Chapter 62-212, F.A.C., and after the source provides to EPA, the Department, each affected state and any approved local air program having geographic jurisdiction over the source, a copy of the source's application for operation permit revision. The Title V source may conform its application for construction permit to include all information required by Rule 62-213.420, F.A.C., in lieu of submitting separate application forms.

(3) The Department shall process the application for operation permit revision in accordance with the provisions of Chapter 62-213, F.A.C., except that the Department shall issue a draft permit revision or a determination to deny the revision within 60 days of receipt of a complete application for operation permit revision or, if the Title V source has submitted a construction permit application conforming to the requirements of Rule 62-213.420, F.A.C., the Department shall issue a draft permit or a determination to deny the revision at the same time the Department issues its determination on issuance or denial of the construction permit application. The Department shall not take final action on the operation permit revision application until all the requirements of Rules 62-213.430(1)(a), (c), (d), and (e), F.A.C., have been complied with.

(4) Pending final action on the operation permit revision application, the source shall implement the changes in accordance with the terms and conditions of the source's new or revised construction permit. If any terms and conditions of the new or revised construction permit have not been complied with prior to the issuance of the draft operation permit revision, the operation permit shall include a compliance plan in accordance with the provisions of Rule 62-213.440(2), F.A.C.

(5) The permit shield described in Rule 62-213.460, F.A.C., shall not apply to such changes until after the Department takes final action to issue the operation permit revision.

(6) If the Department denies the source's application for operation permit revision, the source shall cease implementation of the proposed changes.

[Rule 62-213.412, F.A.C.]

### 35. Permit Applications.

(1) Duty to Apply. For each Title V source, the owner or operator shall submit a timely and complete permit application in compliance with the requirements of Rules 62-213.420, F.A.C., and Rules 62-4.050(1) through (3), F.A.C.

#### (a) Timely Application.

3. For purposes of permit renewal, a timely application is one that is submitted in accordance with Rule 62-4.090, F.A.C.

#### (b) Complete Application.

1. Any applicant for a Title V permit, permit revision or permit renewal must submit an application on DEP Form No. 62-210.900(1), which must include all the information specified by Rule 62-213.420(3), F.A.C., except that an application for permit revision must contain only that information related to the proposed change(s) from the currently effective Title V permit and any other requirements that become applicable at the time of application. The applicant shall include information concerning fugitive emissions and stack emissions in the application. Each application for permit, permit revision or permit renewal shall be certified by a responsible official in accordance with Rule 62-213.420(4), F.A.C.

2. For those applicants submitting initial permit applications pursuant to Rule 62-213.420(1)(a)1., F.A.C., a complete application shall be an application that substantially addresses all the information required by the application form number 62-210.900(1), and such applications shall be deemed complete within sixty days of receipt of a signed and certified application unless the Department notifies the applicant of incompleteness within that time. For all other applicants, the applications shall be deemed complete sixty days after receipt, unless the Department, within sixty days after receipt of a signed application for permit, permit revision or permit renewal, requests additional documentation or information needed to process the application. An applicant making timely and complete application for permit, or timely application for

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permit renewal as described by Rule 62-4.090(1), F.A.C., shall continue to operate the source under the authority and provisions of any existing valid permit or Florida Electrical Power Plant Siting Certification, and in accordance with applicable requirements of the Acid Rain Program, until the conclusion of proceedings associated with its permit application or until the new permit becomes effective, whichever is later, provided the applicant complies with all the provisions of Rules 62-213.420(1)(b)3. and 4., F.A.C. Failure of the Department to request additional information within sixty days of receipt of a properly signed application shall not impair the Department's ability to request additional information pursuant to Rules 62-213.420(1)(b)3. and 4., F.A.C.

3. For those permit applications submitted pursuant to the provisions of Rule 62-213.420(1)(a)1., F.A.C., the Department shall notify the applicant if the Department becomes aware at any time during processing of the application that the application contains incorrect or incomplete information. The applicant shall submit the corrected or supplementary information to the Department within ninety days unless the applicant has requested and been granted additional time to submit the information. Failure of an applicant to submit corrected or supplementary information requested by the Department within ninety days or such additional time as requested and granted shall render the application incomplete.

4. For all applications other than those addressed at Rule 62-213.420(1)(b)3., F.A.C., should the Department become aware, during processing of any application that the application contains incorrect information, or should the Department become aware, as a result of comment from an affected State, an approved local air program, EPA, or the public that additional information is needed to evaluate the application, the Department shall notify the applicant within 30 days. When an applicant becomes aware that an application contains incorrect or incomplete information, the applicant shall submit the corrected or supplementary information to the Department. If the Department notifies an applicant that corrected or supplementary information is necessary to process the permit, and requests a response, the applicant shall provide the information to the Department within ninety days of the Department request unless the applicant has requested and been granted additional time to submit the information or, the applicant shall, within ninety days, submit a written request that the Department process the application without the information. Failure of an applicant to submit corrected or supplementary information requested by the Department within ninety days, or such additional time as requested and granted, or to demand in writing within ninety days that the application be processed without the information shall render the application incomplete. Nothing in this section shall limit any other remedies available to the Department.

[Rules 62-213.420(1)(a)3. and 62-213.420(1)(b)1., 2., 3. & 4., F.A.C.]

36. Confidential Information. Whenever an applicant submits information under a claim of confidentiality pursuant to Section 403.111, F.S., the applicant shall also submit a copy of all such information and claim directly to EPA. **(also, see Condition No. 50.)**  
[Rule 62-213.420(2), F.A.C.]

37. Standard Application Form and Required Information. Applications shall be submitted under Chapter 62-213, F.A.C., on forms provided by the Department and adopted by reference in Rule 62-210.900(1), F.A.C. The information as described in Rule 62-210.900(1), F.A.C., shall be included for the Title V source and each emissions unit. An application must include information sufficient to determine all applicable requirements for the Title V source and each emissions unit and to evaluate a fee amount pursuant to Rule 62-213.205, F.A.C.  
[Rule 62-213.420(3), F.A.C.]

38. a. Permit Renewal and Expiration. Permits being renewed are subject to the same requirements that apply to permit issuance at the time of application for renewal. Permit renewal applications shall contain that information identified in Rules 62-210.900(1) and 62-213.420(3), F.A.C. Unless a Title V source submits a timely application for permit renewal in accordance with the requirements of Rule 62-4.090(1), F.A.C., the existing permit shall expire and the source's right to operate shall terminate. No Title V permit will be issued for a new term except through the renewal process.

b. Permit Revision Procedures. Permit revisions shall meet all requirements of Chapter 62-213, F.A.C., including those for content of applications, public participation, review by approved local programs and affected states, and review by EPA, as they apply to permit issuance and permit renewal, except that permit revisions for those activities implemented pursuant to Rule 62-213.412, F.A.C., need not meet the requirements of Rule 62-213.430(1)(b), F.A.C. The Department shall require permit revision in accordance with the provisions of Rule 62-4.080, F.A.C., and 40 CFR 70.7(f), whenever any source becomes subject to any condition listed at 40

## APPENDIX TV-6, TITLE V CONDITIONS (version dated 06/23/06) (continued)

CFR 70.7(f)(1), hereby adopted and incorporated by reference. The below requirements from 40 CFR 70.7(f) are adopted and incorporated by reference in Rule 62-213.430(4), F.A.C.:

o 40 CFR 70.7(f): Reopening for Cause. (also, see Condition No. 4.)

(1) This section contains provisions from 40 CFR 70.7(f) that specify the conditions under which a Title V permit shall be reopened prior to the expiration of the permit. A Title V permit shall be reopened and revised under any of the following circumstances:

- (i) Additional applicable requirements under the Act become applicable to a major Part 70 source with a remaining permit term of 3 or more years. Such a reopening shall be completed not later than 18 months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to 40 CFR 70.4(b)(10)(i) or (ii).
  - (ii) Additional requirements (including excess emissions requirements) become applicable to an affected source under the acid rain program. Upon approved by the Administrator, excess emissions offset plans shall be deemed to be incorporated into the permit.
  - (iii) The permitting authority or EPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.
  - (iv) The Administrator or the permitting authority determines that the permit must be revised or revoked to assure compliance with the applicable requirements.
- (2) Proceedings to reopen and issue a permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of the permit for which cause to reopen exists. Such reopening shall be made as expeditiously as practicable.
- (3) Reopenings under 40 CFR 70.7(f)(1) shall not be initiated before a notice of such intent is provided to the Part 70 source by the permitting authority at least 30 days in advance of the date that the permit is to be reopened, except that the permitting authority may provide a shorter time period in the case of an emergency.

[Rules 62-213.430(3) & (4), F.A.C.; and, 40 CFR 70.7(f)]

39. Insignificant Emissions Units or Pollutant-Emitting Activities.

(a) All requests for determination of insignificant emissions units or activities made pursuant to Rule 62-213.420(3)(n), F.A.C., shall be processed in conjunction with the permit, permit renewal or permit revision application submitted pursuant to Chapter 62-213, F.A.C. Insignificant emissions units or activities shall be approved by the Department consistent with the provisions of Rule 62-4.040(1)(b), F.A.C. Emissions units or activities which are added to a Title V source after issuance of a permit under Chapter 62-213, F.A.C., shall be incorporated into the permit at its next renewal, provided such emissions units or activities have been exempted from the requirement to obtain an air construction permit and also qualify as insignificant pursuant to Rule 62-213.430(6), F.A.C.

(b) An emissions unit or activity shall be considered insignificant if all of the following criteria are met:

1. Such unit or activity would be subject to no unit-specific applicable requirement;
2. Such unit or activity, in combination with other units or activities proposed as insignificant, would not cause the facility to exceed any major source threshold(s) as defined in Rule 62-213.420(3)(c)1., F.A.C., unless it is acknowledged in the permit application that such units or activities would cause the facility to exceed such threshold(s);
3. Such unit or activity would not emit or have the potential to emit:
  - a. 500 pounds per year or more of lead and lead compounds expressed as lead;
  - b. 1,000 pounds per year or more of any hazardous air pollutant;
  - c. 2,500 pounds per year or more of total hazardous air pollutants; or
  - d. 5.0 tons per year or more of any other regulated pollutant.

[Rule 62-213.430(6), F.A.C.]

40. Permit Duration. Permits for sources subject to the Federal Acid Rain Program shall be issued for terms of five years, provided that the initial Acid Rain Part may be issued for a term less than five years where necessary to coordinate the term of such part with the term of a Title V permit to be issued to the source. Operation permits for Title V sources may not be extended as provided in Rule 62-4.080(3), F.A.C., if such extension will result in a permit term greater than five years.

[Rule 62-213.440(1)(a), F.A.C.]

41. Monitoring Information. All records of monitoring information shall specify the date, place, and time of sampling or measurement and the operating conditions at the time of sampling or measurement, the date(s) analyses were performed, the company or entity that performed the analyses, the analytical techniques or methods used, and the results of such analyses.

[Rule 62-213.440(1)(b)2.a., F.A.C.]

**APPENDIX TV-6, TITLE V CONDITIONS (version dated 06/23/06) (continued)**

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42. Retention of Records. Retention of records of all monitoring data and support information shall be for a period of at least 5 years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit.

[Rule 62-213.440(1)(b)2.b., F.A.C.]

43. Monitoring Reports. The permittee shall submit reports of any required monitoring at least every six (6) months. All instances of deviations from permit requirements must be clearly identified in such reports.

[Rule 62-213.440(1)(b)3.a., F.A.C.]

44. Deviation from Permit Requirements Reports. The permittee shall report in accordance with the requirements of Rules 62-210.700(6) and 62-4.130, F.A.C., deviations from permit requirements, including those attributable to upset conditions as defined in the permit. Reports shall include the probable cause of such deviations, and any corrective actions or preventive measures taken.

[Rule 62-213.440(1)(b)3.b., F.A.C.]

45. Reports. All reports shall be accompanied by a certification by a responsible official, pursuant to Rule 62-213.420(4), F.A.C.

[Rule 62-213.440(1)(b)3.c., F.A.C.]

46. If any portion of the final permit is invalidated, the remainder of the permit shall remain in effect.

[Rule 62-213.440(1)(d)1., F.A.C.]

47. It shall not be a defense for a permittee in an enforcement action that maintaining compliance with any permit condition would necessitate halting of or reduction of the source activity.

[Rule 62-213.440(1)(d)3., F.A.C.]

48. Any Title V source shall comply with all the terms and conditions of the existing permit until the Department has taken final action on any permit renewal or any requested permit revision, except as provided at Rule 62-213.412(2), F.A.C.

[Rule 62-213.440(1)(d)4., F.A.C.]

49. A situation arising from sudden and unforeseeable events beyond the control of the source which causes an exceedance of a technology-based emissions limitation because of unavoidable increases in emissions attributable to the situation and which requires immediate corrective action to restore normal operation, shall be an affirmative defense to an enforcement action in accordance with the provisions and requirements of 40 CFR 70.6(g)(2) and (3), hereby adopted and incorporated by reference.

[Rule 62-213.440(1)(d)5., F.A.C.]

50. Confidentiality Claims. Any permittee may claim confidentiality of any data or other information by complying with Rule 62-213.420(2), F.A.C. (**also, see Condition No. 36.**)

[Rule 62-213.440(1)(d)6., F.A.C.]

51. Statement of Compliance. (a)2. The permittee shall submit a Statement of Compliance with all terms and conditions of the permit that includes all the provisions of 40 CFR 70.6(c)(5)(iii), incorporated by reference at Rule 62-204.800, F.A.C., using DEP Form No. 62-213.900(7). Such statement shall be accompanied by a certification in accordance with Rule 62-213.420(4), F.A.C., for Title V requirements and with Rule 62-214.350, F.A.C., for Acid Rain requirements. Such statements shall be submitted (postmarked) to the Department and EPA:

a. Annually, within 60 days after the end of each calendar year during which the Title V permit was effective, or more frequently if specified by Rule 62-213.440(2), F.A.C., or by any other applicable requirement; and

b. Within 60 days after submittal of a written agreement for transfer of responsibility as required pursuant to 40 CFR 70.7(d)(1)(iv), adopted and incorporated by reference at Rule 62-204.800, F.A.C., or within 60 days after permanent shutdown of a facility permitted under Chapter 62-213, F.A.C.; provided that, in either such case, the reporting period shall be the portion of the calendar year the permit was effective up to the date of transfer of responsibility or permanent facility shutdown, as applicable.

3. In lieu of individually identifying all applicable requirements and specifying times of compliance with, non-compliance with, and deviation from each, the responsible official may use DEP Form No. 62-213.900(7) as such statement of compliance so long as the responsible official identifies all reportable deviations from and all instances of non-compliance with any applicable requirements and includes all information required by the federal regulation relating to each reportable deviation and instance of non-compliance.

## APPENDIX TV-6, TITLE V CONDITIONS (version dated 06/23/06) (continued)

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(b) The responsible official may treat compliance with all other applicable requirements as a surrogate for compliance with Rule 62-296.320(2), Objectionable Odor Prohibited.

[Rules 62-213.440(3)(a)2. & 3. and (b), F.A.C.]

52. Permit Shield. Except as provided in Chapter 62-213, F.A.C., compliance with the terms and conditions of a permit issued pursuant to Chapter 62-213, F.A.C., shall, as of the effective date of the permit, be deemed compliance with any applicable requirements in effect, provided that the source included such applicable requirements in the permit application. Nothing in Rule 62-213.460, F.A.C., or in any permit shall alter or affect the ability of EPA or the Department to deal with an emergency, the liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance, or the requirements of the Federal Acid Rain Program.

[Rule 62-213.460, F.A.C.]

53. Forms and Instructions. The forms used by the Department in the Title V source operation program are adopted and incorporated by reference in Rule 62-213.900, F.A.C. The form is listed by rule number, which is also the form number, and with the subject, title, and effective date. Copies of forms may be obtained by writing to the Department of Environmental Protection, Division of Air Resource Management, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, or by contacting the appropriate permitting authority.

(1) Major Air Pollution Source Annual Emissions Fee Form. (Effective 01/03/2001)

(7) Statement of Compliance Form. (Effective 06/02/2002)

(8) Responsible Official Notification Form. (Effective 06/02/2002)

[Rule 62-213.900, F.A.C.: Forms (1), (7) and (8)]

### Chapter 62-256, F.A.C.

54. **Not federally enforceable.** Open Burning. This permit does not authorize any open burning nor does it constitute any waiver of the requirements of Chapter 62-256, F.A.C. Source shall comply with Chapter 62-256, F.A.C., for any open burning at the source.

[Chapter 62-256, F.A.C.]

### Chapter 62-281, F.A.C.

55. Refrigerant Requirements. Any facility having refrigeration equipment, including air conditioning equipment, which uses a Class I or II substance (listed at 40 CFR 82, Subpart A, Appendices A and B), and any facility which maintains, services, or repairs motor vehicles using a Class I or Class II substance as refrigerant must comply with all requirements of 40 CFR 82, Subparts B and F, and with Rule 62-281.100, F.A.C. Those requirements include the following restrictions:

(1) Any facility having any refrigeration equipment normally containing 50 (fifty) pounds of refrigerant, or more, must keep servicing records documenting the date and type of all service and the quantity of any refrigerant added pursuant to 40 CFR 82.166;

(2) No person repairing or servicing a motor vehicle may perform any service on a motor vehicle air conditioner (MVAC) involving the refrigerant for such air conditioner unless the person has been properly trained and certified as provided at 40 CFR 82.34 and 40 CFR 82.40, and properly uses equipment approved pursuant to 40 CFR 82.36 and 40 CFR 82.38, and complies with 40 CFR 82.42;

(3) No person may sell or distribute, or offer for sale or distribution, any substance listed as a Class I or Class II substance at 40 CFR 82, Subpart A, Appendices A and B, except in compliance with Rule 62-281.100, F.A.C., and 40 CFR 82.34(b), 40 CFR 82.42, and/or 40 CFR 82.166;

(4) No person maintaining, servicing, repairing, or disposing of appliances may knowingly vent or otherwise release into the atmosphere any Class I or Class II substance used as a refrigerant in such equipment and no other person may open appliances (except MVACs as defined at 40 CFR 82.152) for service, maintenance or repair unless the person has been properly trained and certified pursuant to 40 CFR 82.161 and unless the person uses equipment certified for that type of appliance pursuant to 40 CFR 82.158 and unless the person observes the practices set forth at 40 CFR 82.156 and 40 CFR 82.166;

(5) No person may dispose of appliances (except small appliances, as defined at 40 CFR 82.152) without using equipment certified for that type of appliance pursuant to 40 CFR 82.158 and without observing the practices set forth at 40 CFR 82.156 and 40 CFR 82.166;

(6) No person may recover refrigerant from small appliances, MVACs and MVAC-like appliances (as defined at 40 CFR 82.152), except in compliance with the requirements of 40 CFR 82, Subpart F.

[40 CFR 82; and, Chapter 62-281, F.A.C. (**Chapter 62-281, F.A.C., is not federally enforceable**)]

**APPENDIX TV-6, TITLE V CONDITIONS (version dated 06/23/06) (continued)**

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Chapter 62-296, F.A.C.

56. Industrial, Commercial, and Municipal Open Burning Prohibited. Open burning in connection with industrial, commercial, or municipal operations is prohibited, except when:
- (a) Open burning is determined by the Department to be the only feasible method of operation and is authorized by an air permit issued pursuant to Chapter 62-210 or 62-213, F.A.C.; or
  - (b) An emergency exists which requires immediate action to protect human health and safety; or
  - (c) A county or municipality would use a portable air curtain incinerator to burn yard trash generated by a hurricane, tornado, fire or other disaster and the air curtain incinerator would otherwise be operated in accordance with the permitting exemption criteria of Rule 62-210.300(3), F.A.C.

[Rule 62-296.320(3), F.A.C.]

57. Unconfined Emissions of Particulate Matter.

(4)(c)1. No person shall cause, let, permit, suffer or allow the emissions of unconfined particulate matter from any activity, including vehicular movement; transportation of materials; construction; alteration; demolition or wrecking; or industrially related activities such as loading, unloading, storing or handling; without taking reasonable precautions to prevent such emissions.

3. Reasonable precautions include the following:

- a. Paving and maintenance of roads, parking areas and yards.
- b. Application of water or chemicals to control emissions from such activities as demolition of buildings, grading roads, construction, and land clearing.
- c. Application of asphalt, water, oil, chemicals or other dust suppressants to unpaved roads, yards, open stock piles and similar activities.
- d. Removal of particulate matter from roads and other paved areas under the control of the owner or operator of the facility to prevent reentrainment, and from buildings or work areas to prevent particulate from becoming airborne.
- e. Landscaping or planting of vegetation.
- f. Use of hoods, fans, filters, and similar equipment to contain, capture and/or vent particulate matter.
- g. Confining abrasive blasting where possible.
- h. Enclosure or covering of conveyor systems.

4. In determining what constitutes reasonable precautions for a particular facility, the Department shall consider the cost of the control technique or work practice, the environmental impacts of the technique or practice, and the degree of reduction of emissions expected from a particular technique or practice.

[Rules 62-296.320(4)(c)1., 3., & 4. F.A.C.]

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**TABLE 297.310-1 CALIBRATION SCHEDULE**

[Note: This table is referenced in Rule 62-297.310, F.A.C.]

| ITEM                            | MINIMUM CALIBRATION FREQUENCY  | REFERENCE INSTRUMENT  | TOLERANCE  |
|---------------------------------|--|---|--|
| Liquid in glass thermometer     | Annually   | ASTM Hg in glass ref. thermometer or equivalent, or thermometric points                   | +/-2%  |
| Bimetallic thermometer          | Quarterly  | Calib. liq. in glass thermometer  | 5 degrees F  |
| Thermocouple                    | Annually   | ASTM Hg in glass ref. thermometer, NBS calibrated reference and potentiometer             | 5 degrees F  |
| Barometer                       | Monthly  | Hg barometer or NOAA station  | +/-1% scale  |
| Pitot Tube                      | When required or when damaged  | By construction or measurements in wind tunnel D greater than 16" and standard pitot tube | See EPA Method 2, Fig. 2-2 & 2-3   |
| Probe Nozzles                   | Before each test or when nicked, dented, or corroded   | Micrometer  | +/-0.001" mean of at least three readings<br>Max. deviation between readings .004" |
| Dry Gas Meter and Orifice Meter | 1. Full Scale:<br>When received,<br>When 5% change observed,<br>Annually<br>2. One Point:<br>Semiannually<br>3. Check after each test series | Spirometer or calibrated wet test or dry gas test meter                                   | 2%   |
|                                 |  | Comparison check  | 5%   |

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## Subpart GG - Standards of Performance for Stationary Gas Turbines

### 40 CFR 60.330 - Applicability and designation of affected facility

(a) The provisions of this subpart are applicable to the following affected facilities: All stationary gas turbines with a heat input at peak load equal to or greater than 10.7 gigajoules (10 million Btu) per hour, based on the lower heating value of the fuel fired.

(b) Any facility under paragraph (a) of this section which commences construction, modification, or reconstruction after October 3, 1977, is subject to the requirements of this part except as provided in paragraphs (e) and (j) of 40 CFR 60.332. [44 FR 52798, Sept. 10, 1979, as amended at 52 FR 42434, Nov. 5, 1987; 65 FR 61759, Oct. 17, 2000]

### 40 CFR 60.331 - Definitions

As used in this subpart, all terms not defined herein shall have the meaning given them in the Act and in Subpart A of 40 CFR 60.

(a) *Stationary gas turbine* means any simple cycle gas turbine, regenerative cycle gas turbine or any gas turbine portion of a combined cycle steam/electric generating system that is not self propelled. It may, however, be mounted on a vehicle for portability.

(b) *Simple cycle gas turbine* means any stationary gas turbine which does not recover heat from the gas turbine exhaust gases to preheat the inlet combustion air to the gas turbine, or which does not recover heat from the gas turbine exhaust gases to heat water or generate steam.

(c) *Regenerative cycle gas turbine* means any stationary gas turbine which recovers heat from the gas turbine exhaust gases to preheat the inlet combustion air to the gas turbine.

(d) *Combined cycle gas turbine* means any stationary gas turbine which recovers heat from the gas turbine exhaust gases to heat water or generate steam.

(e) *Emergency gas turbine* means any stationary gas turbine which operates as a mechanical or electrical power source only when the primary power source for a facility has been rendered inoperable by an emergency situation.

(f) *Ice fog* means an atmospheric suspension of highly reflective ice crystals.

(g) *ISO standard day conditions* means 288 degrees Kelvin, 60 percent relative humidity and 101.3 kilopascals pressure.

(h) *Efficiency* means the gas turbine manufacturer's rated heat rate at peak load in terms of heat input per unit of power output based on the lower heating value of the fuel.

(i) *Peak load* means 100 percent of the manufacturer's design capacity of the gas turbine at ISO standard day conditions.

(j) *Base load* means the load level at which a gas turbine is normally operated.

(k) *Fire-fighting turbine* means any stationary gas turbine that is used solely to pump water for extinguishing fires.

(l) *Turbines employed in oil/gas production or oil/gas transportation* means any stationary gas turbine used to provide power to extract crude oil/natural gas from the earth or to move crude oil/natural gas, or products refined from these substances through pipelines.

(m) A *Metropolitan Statistical Area* or *MSA* as defined by the Department of Commerce.

(n) *Offshore platform gas turbines* means any stationary gas turbine located on a platform in an ocean.

(o) *Garrison facility* means any permanent military installation.

(p) *Gas turbine model* means a group of gas turbines having the same nominal air flow, combustor inlet pressure, combustor inlet temperature, firing temperature, turbine inlet temperature and turbine inlet pressure.

(q) *Electric utility stationary gas turbine* means any stationary gas turbine constructed for the purpose of supplying more than one-third of its potential electric output capacity to any utility power distribution system for sale.

(r) *Emergency fuel* is a fuel fired by a gas turbine only during circumstances, such as natural gas supply curtailment or breakdown of delivery system, that make it impossible to fire natural gas in the gas turbine.

(s) *Unit operating hour* means a clock hour during which any fuel is combusted in the affected unit. If the unit combusts fuel for the entire clock hour, it is considered to be a full unit operating hour. If the unit combusts fuel for only part of the clock hour, it is considered to be a partial unit operating hour.

(t) *Excess emissions* means a specified averaging period over which either:

(1) The NO<sub>x</sub> emissions are higher than the applicable emission limit in 40 CFR 60.332;

(2) The total sulfur content of the fuel being combusted in the affected facility exceeds the limit specified in 40 CFR 60.333; or

(3) The recorded value of a particular monitored parameter is outside the acceptable range specified in the parameter monitoring plan for the affected unit.

(u) *Natural gas* means a naturally occurring fluid mixture of hydrocarbons (e.g., methane, ethane, or propane) produced in geological formations beneath the Earth's surface that maintains a gaseous state at standard atmospheric temperature and pressure under ordinary conditions. Natural gas contains 20.0 grains or less of total sulfur per 100 standard cubic feet. Equivalent of this in other units are as follows: 0.068 weight percent total sulfur, 680 parts per million by weight (ppmw) total sulfur, and 338 parts per million by volume (ppmv) at 20 degrees Celsius total sulfur. Additionally, natural gas must either be composed of at least 70 percent methane by volume or have a gross calorific value between 950 and 1100 British thermal units (Btu) per standard cubic foot. Natural gas does not include the following gaseous fuels: landfill gas, digester gas, refinery gas, sour gas, blast furnace gas, coal-derived gas, producer gas, coke oven gas, or any gaseous fuel produced in a process which might result in highly variable sulfur content or heating value.

(v) *Duct burner* means a device that combusts fuel and that is placed in the exhaust duct from another source, such as a stationary gas turbine, internal combustion engine, kiln, etc., to allow the firing of additional fuel to heat the exhaust gases before the exhaust gases enter a heat recovery steam generating unit.

(w) *Lean premix stationary combustion turbine* means any stationary combustion turbine where the air and fuel are thoroughly mixed to form a lean mixture for combustion in the combustor. Mixing may occur before or in the combustion chamber. A unit which is capable of operating in both lean premix and diffusion flame modes is considered a lean premix stationary combustion turbine when it is in the lean premix mode, and it is considered a diffusion flame stationary combustion turbine when it is in the diffusion flame mode.

(x) *Diffusion flame stationary combustion turbine* means any stationary combustion turbine where fuel and air are injected at the combustor and are mixed only by diffusion prior to ignition. A unit which is capable of operating in both lean premix and diffusion flame modes is considered a lean premix stationary combustion turbine when it is in the lean premix mode, and it is considered a diffusion flame stationary combustion turbine when it is in the diffusion flame mode.

(y) *Unit operating day* means a 24-hour period between 12:00 midnight and the following midnight during which any fuel is combusted at any time in the unit. It is not necessary for fuel to be combusted continuously for the entire 24-hour period.

[44 FR 52798, Sept. 10, 1979, as amended at 47 FR 3770, Jan. 27, 1982; 65 FR 61759, Oct. 17, 2000; 69 FR 41359, July 8, 2004]

#### 40 CFR 60.332 - Standard for nitrogen oxides

(a) On and after the date on which the performance test required by 40 CFR 60.8 is completed, every owner or operator subject to the provisions of this subpart as specified in paragraphs (b), (c), and (d) of this section shall comply with one of the following, except as provided in paragraphs (e), (f), (g), (h), (i), (j), (k), and (l) of this section.

(1) No owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any stationary gas turbine, any gases which contain nitrogen oxides in excess of:

$$STD = 0.0075 \frac{(14.4)}{Y} + F$$

where:

STD = allowable ISO corrected (if required as given in §60.335(b)(1)) NO<sub>x</sub> emission concentration (percent by volume at 15 percent oxygen and on a dry basis),

Y = manufacturer's rated heat rate at manufacturer's rated load (kilojoules per watt hour) or, actual measured heat rate based on lower heating value of fuel as measured at actual peak load for the facility. The value of Y shall not exceed 14.4 kilojoules per watt hour, and

F = NO<sub>x</sub> emission allowance for fuel-bound nitrogen as defined in paragraph (a)(4) of this section.

(2) No owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any stationary gas turbine, any gases which contain nitrogen oxides in excess of:

$$STD = 0.0150 \frac{(14.4)}{Y} + F$$

where:

STD = allowable ISO corrected (if required as given in 40 CFR 60.335(b)(1)) NO<sub>x</sub> emission concentration (percent by volume at 15 percent oxygen and on a dry basis),

Y = manufacturer's rated heat rate at manufacturer's rated peak load (kilojoules per watt hour), or actual measured heat rate based on lower heating value of fuel as measured at actual peak load for the facility. The value of Y shall not exceed 14.4 kilojoules per watt hour, and

F = NO<sub>x</sub> emission allowance for fuel-bound nitrogen as defined in paragraph (a)(4) of this section.

(3) The use of F in paragraphs (a)(1) and (2) of this section is optional. That is, the owner or operator may choose to apply a NO<sub>x</sub> allowance for fuel-bound nitrogen and determine the appropriate F-value in accordance with paragraph (a)(4) of this section or may accept an F-value of zero.

(4) If the owner or operator elects to apply a NO<sub>x</sub> emission allowance for fuel-bound nitrogen, F shall be defined according to the nitrogen content of the fuel during the most recent performance test required under 40 CFR 60.8 as follows:

| <b>Fuel-bound nitrogen (percent by weight)</b> | <b>F (NO<sub>x</sub> percent by volume)</b> |
|--|---|
| N ≤ .015                                       | 0   |
| 0.015 < N ≤ 0.1                                | 0.04 (N)                                    |
| 0.1 < N ≤ 0.25                                 | 0.004+0.0067(N-0.1)                         |
| N > 0.25                                       | 0.005                                       |

Where:

N = the nitrogen content of the fuel (percent by weight).

or:

Manufacturers may develop and submit to EPA custom fuel-bound nitrogen allowances for each gas turbine model they manufacture. These fuel-bound nitrogen allowances shall be substantiated with data and must be approved for use by the Administrator before the initial performance test required by 40 CFR 60.8. Notices of approval of custom fuel-bound nitrogen allowances will be published in the Federal Register.

(b) Electric utility stationary gas turbines with a heat input at peak load greater than 107.2 gigajoules per hour (100 million Btu/hour) based on the lower heating value of the fuel fired shall comply with the provisions of paragraph (a)(1) of this section.

(c) Stationary gas turbines with a heat input at peak load equal to or greater than 10.7 gigajoules per hour (10 million Btu/hour) but less than or equal to 107.2 gigajoules per hour (100 million Btu/hour) based on the lower heating value of the fuel fired, shall comply with the provisions of paragraph (a)(2) of this section.

(d) Stationary gas turbines with a manufacturer's rated base load at ISO conditions of 30 megawatts or less except as provided in 40 CFR 60.332(b) shall comply with paragraph (a)(2) of this section.

(e) Stationary gas turbines with a heat input at peak load equal to or greater than 10.7 gigajoules per hour (10 million Btu/hour) but less than or equal to 107.2 gigajoules per hour (100 million Btu/hour) based on the lower heating value of the fuel fired and that have commenced construction prior to October 3, 1982 are exempt from paragraph (a) of this section.

(f) Stationary gas turbines using water or steam injection for control of NO<sub>x</sub> emissions are exempt from paragraph (a) when ice fog is deemed a traffic hazard by the owner or operator of the gas turbine.

(g) Emergency gas turbines, military gas turbines for use in other than a garrison facility, military gas turbines installed for use as military training facilities, and fire fighting gas turbines are exempt from paragraph (a) of this section.

(h) Stationary gas turbines engaged by manufacturers in research and development of equipment for both gas turbine emission control techniques and gas turbine efficiency improvements are exempt from paragraph (a) on a case-by-case basis as determined by the Administrator.

(i) Exemptions from the requirements of paragraph (a) of this section will be granted on a case-by-case basis as determined by the Administrator in specific geographical areas where mandatory water restrictions are required by governmental agencies because of drought conditions. These exemptions will be allowed only while the mandatory water restrictions are in effect.

(j) Stationary gas turbines with a heat input at peak load greater than 107.2 gigajoules per hour that commenced construction, modification, or reconstruction between the dates of October 3, 1977, and January 27, 1982, and were required in the September 10, 1979, Federal Register (44 FR 52792) to comply with paragraph (a)(1) of this section, except electric utility stationary gas turbines, are exempt from paragraph (a) of this section.

(k) Stationary gas turbines with a heat input greater than or equal to 10.7 gigajoules per hour (10 million Btu/hour) when fired with natural gas are exempt from paragraph (a)(2) of this section when being fired with an emergency fuel.

(l) Regenerative cycle gas turbines with a heat input less than or equal to 107.2 gigajoules per hour (100 million Btu/hour) are exempt from paragraph (a) of this section.

[44 FR 52798, Sept. 10, 1979, as amended at 47 FR 3770, Jan. 27, 1982; 65 FR 61759, Oct. 17, 2000; 69 FR 41359, July 8, 2004]

#### 40 CFR 60.333 - Standard for sulfur dioxide

On and after the date on which the performance test required to be conducted by 40 CFR 60.8 is completed, every owner or operator subject to the provision of this subpart shall comply with one or the other of the following conditions:

(a) No owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any stationary gas turbine any gases which contain sulfur dioxide in excess of 0.015 percent by volume at 15 percent oxygen and on a dry basis.

(b) No owner or operator subject to the provisions of this subpart shall burn in any stationary gas turbine any fuel which contains total sulfur in excess of 0.8 percent by weight (8000 ppmw).

[44 FR 52798, Sept. 10, 1979, as amended at 69 FR 41360, July 8, 2004]

#### **40 CFR 60.334 - Monitoring of operations**

(a) Except as provided in paragraph (b) of this section, the owner or operator of any stationary gas turbine subject to the provisions of this subpart and using water or steam injection to control NO<sub>x</sub> emissions shall install, calibrate, maintain and operate a continuous monitoring system to monitor and record the fuel consumption and the ratio of water or steam to fuel being fired in the turbine.

(b) The owner or operator of any stationary gas turbine that commenced construction, reconstruction or modification after October 3, 1977, but before July 8, 2004, and which uses water or steam injection to control NO<sub>x</sub> emissions may, as an alternative to operating the continuous monitoring system described in paragraph (a) of this section, install, certify, maintain, operate, and quality-assure a continuous emission monitoring system (CEMS) consisting of NO<sub>x</sub> and O<sub>2</sub> monitors. As an alternative, a CO<sub>2</sub> monitor may be used to adjust the measured NO<sub>x</sub> concentrations to 15 percent O<sub>2</sub> by either converting the CO<sub>2</sub> hourly averages to equivalent O<sub>2</sub> concentrations using Equation F-14a or F-14b in Appendix F to 40 CFR 75 of this chapter and making the adjustments to 15 percent O<sub>2</sub>, or by using the CO<sub>2</sub> readings directly to make the adjustments, as described in Method 20. If the option to use a CEMS is chosen, the CEMS shall be installed, certified, maintained and operated as follows:

(1) Each CEMS must be installed and certified according to PS 2 and 3 (for diluent) of 40 CFR 60 Appendix B, except the 7-day calibration drift is based on unit operating days, not calendar days. Appendix F, Procedure 1 is not required. The relative accuracy test audit (RATA) of the NO<sub>x</sub> and diluent monitors may be performed individually or on a combined basis, *i.e.*, the relative accuracy tests of the CEMS may be performed either:

(i) On a ppm basis (for NO<sub>x</sub>) and a percent O<sub>2</sub> basis for oxygen; or

(ii) On a ppm at 15 percent O<sub>2</sub> basis; or

(iii) On a ppm basis (for NO<sub>x</sub>) and a percent CO<sub>2</sub> basis (for a CO<sub>2</sub> monitor that uses the procedures in Method 20 to correct the NO<sub>x</sub> data to 15 percent O<sub>2</sub>).

(2) As specified in 40 CFR 60.13(e)(2), during each full unit operating hour, each monitor must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each 15-minute quadrant of the hour, to validate the hour. For partial unit operating hours, at least one valid data point must be obtained for each quadrant of the hour in which the unit operates. For unit operating hours in which required quality assurance and maintenance activities are performed on the CEMS, a minimum of two valid data points (one in each of two quadrants) are required to validate the hour.

(3) For purposes of identifying excess emissions, CEMS data must be reduced to hourly averages as specified in 40 CFR 60.13(h).

(i) For each unit operating hour in which a valid hourly average, as described in paragraph (b)(2) of this section, is obtained for both NO<sub>x</sub> and diluent, the data acquisition and handling system must calculate and record the hourly NO<sub>x</sub> emissions in the units of the applicable NO<sub>x</sub> emission standard under 40 CFR 60.332(a), *i.e.*, percent NO<sub>x</sub> by volume, dry basis, corrected to 15 percent O<sub>2</sub> and International Organization for Standardization (ISO) standard conditions (if required as given in 40 CFR 60.335(b)(1)). For any hour in which the hourly average O<sub>2</sub> concentration exceeds 19.0 percent O<sub>2</sub>, a diluent cap value of 19.0 percent O<sub>2</sub> may be used in the emission calculations.

(ii) A worst case ISO correction factor may be calculated and applied using historical ambient data. For the purpose of this calculation, substitute the maximum humidity of ambient air ( $H_o$ ), minimum ambient temperature ( $T_a$ ), and minimum combustor inlet absolute pressure ( $P_o$ ) into the ISO correction equation.

(iii) If the owner or operator has installed a  $NO_x$  CEMS to meet the requirements of 40 CFR 75 of this chapter, and is continuing to meet the ongoing requirements of 40 CFR 75 of this chapter, the CEMS may be used to meet the requirements of this section, except that the missing data substitution methodology provided for at 40 CFR 75 Subpart D, is not required for purposes of identifying excess emissions. Instead, periods of missing CEMS data are to be reported as monitor downtime in the excess emissions and monitoring performance report required in 40 CFR 60.7(c).

(c) For any turbine that commenced construction, reconstruction or modification after October 3, 1977, but before July 8, 2004, and which does not use steam or water injection to control  $NO_x$  emissions, the owner or operator may, but is not required to, for purposes of determining excess emissions, use a CEMS that meets the requirements of paragraph (b) of this section. Also, if the owner or operator has previously submitted and received EPA, State, or local permitting authority approval of a procedure for monitoring compliance with the applicable  $NO_x$  emission limit under 40 CFR 60.332, that approved procedure may continue to be used.

(d) The owner or operator of any new turbine constructed after July 8, 2004, and which uses water or steam injection to control  $NO_x$  emissions may elect to use either the requirements in paragraph (a) of this section for continuous water or steam to fuel ratio monitoring or may use a  $NO_x$  CEMS installed, certified, operated, maintained, and quality-assured as described in paragraph (b) of this section.

(e) The owner or operator of any new turbine that commences construction after July 8, 2004, and which does not use water or steam injection to control  $NO_x$  emissions, may, but is not required to, elect to use a  $NO_x$  CEMS installed, certified, operated, maintained, and quality-assured as described in paragraph (b) of this section. Other acceptable monitoring approaches include periodic testing approved by EPA or the State or local permitting authority or continuous parameter monitoring as described in paragraph (f) of this section.

(f) The owner or operator of a new turbine that commences construction after July 8, 2004, which does not use water or steam injection to control  $NO_x$  emissions may, but is not required to, perform continuous parameter monitoring as follows:

(1) For a diffusion flame turbine without add-on selective catalytic reduction controls (SCR), the owner or operator shall define at least four parameters indicative of the unit's  $NO_x$  formation characteristics and shall monitor these parameters continuously.

(2) For any lean pre-mix stationary combustion turbine, the owner or operator shall continuously monitor the appropriate parameters to determine whether the unit is operating in low- $NO_x$  mode.

(3) For any turbine that uses SCR to reduce  $NO_x$  emissions, the owner or operator shall continuously monitor appropriate parameters to verify the proper operation of the emission controls.

(4) For affected units that are also regulated under 40 CFR 75, if the owner or operator elects to monitor  $NO_x$  emission rate using the methodology in Appendix E to 40 CFR 75, or the low mass emissions methodology in 40 CFR 75.19, the requirements of this paragraph (f) may be met by performing the parametric monitoring described in section 2.3 of Appendix E or in 40 CFR 75.19(c)(1)(iv)(H).

(g) The steam or water to fuel ratio or other parameters that are continuously monitored as described in paragraphs (a), (d) or (f) of this section shall be monitored during the performance test required under 40 CFR 60.8, to establish acceptable values and ranges. The owner or operator may supplement the performance test data with engineering analyses, design specifications, manufacturer's recommendations and other relevant information to define the acceptable parametric ranges more precisely. The owner or operator shall develop and keep on-site a parameter monitoring plan which explains the procedures used to document proper operation of the  $NO_x$  emission controls. The plan shall include the parameter(s) monitored and the acceptable range(s) of the parameter(s) as well as the basis for designating the parameter(s) and acceptable range(s). Any supplemental data such as engineering analyses, design specifications, manufacturer's recommendations and other relevant information shall be included in the monitoring plan. For affected units that are also subject to 40 CFR 75 and that use the low mass emissions methodology in 40 CFR 75.19 or the  $NO_x$  emission measurement methodology in Appendix E to 40 CFR 75, the owner or operator may meet the requirements of this paragraph by developing and keeping on-site (or at a central location for unmanned facilities) a quality-assurance plan, as described in 40 CFR 75.19 (e)(5) or in section 2.3 of Appendix E and section 1.3.6 of Appendix B to 40 CFR 75.

(h) The owner or operator of any stationary gas turbine subject to the provisions of this subpart:

(1) Shall monitor the total sulfur content of the fuel being fired in the turbine, except as provided in paragraph (h)(3) of this section. The sulfur content of the fuel must be determined using total sulfur methods described in 40 CFR 60.335(b)(10). Alternatively, if the total sulfur content of the gaseous fuel during the most recent performance test was less than 0.4 weight percent (4000 ppmw), ASTM D4084-82, 94, D5504-01, D6228-98, or Gas Processors

Association Standard 2377-86 (all of which are incorporated by reference-see 40 CFR 60.17), which measure the major sulfur compounds may be used; and

(2) Shall monitor the nitrogen content of the fuel combusted in the turbine, if the owner or operator claims an allowance for fuel bound nitrogen (*i.e.*, if an F-value greater than zero is being or will be used by the owner or operator to calculate STD in 40 CFR 60.332). The nitrogen content of the fuel shall be determined using methods described in 40 CFR 60.335(b)(9) or an approved alternative.

(3) Notwithstanding the provisions of paragraph (h)(1) of this section, the owner or operator may elect not to monitor the total sulfur content of the gaseous fuel combusted in the turbine, if the gaseous fuel is demonstrated to meet the definition of natural gas in 40 CFR 60.331(u), regardless of whether an existing custom schedule approved by the administrator for Subpart GG requires such monitoring. The owner or operator shall use one of the following sources of information to make the required demonstration:

(i) The gas quality characteristics in a current, valid purchase contract, tariff sheet or transportation contract for the gaseous fuel, specifying that the maximum total sulfur content of the fuel is 20.0 grains/100 scf or less; or

(ii) Representative fuel sampling data which show that the sulfur content of the gaseous fuel does not exceed 20 grains/100 scf. At a minimum, the amount of fuel sampling data specified in section 2.3.1.4 or 2.3.2.4 of Appendix D to 40 CFR 75 is required.

(4) For any turbine that commenced construction, reconstruction or modification after October 3, 1977, but before July 8, 2004, and for which a custom fuel monitoring schedule has previously been approved, the owner or operator may, without submitting a special petition to the Administrator, continue monitoring on this schedule.

(i) The frequency of determining the sulfur and nitrogen content of the fuel shall be as follows:

(1) *Fuel oil.* For fuel oil, use one of the total sulfur sampling options and the associated sampling frequency described in sections 2.2.3, 2.2.4.1, 2.2.4.2, and 2.2.4.3 of Appendix D to 40 CFR 75 (*i.e.*, flow proportional sampling, daily sampling, sampling from the unit's storage tank after each addition of fuel to the tank, or sampling each delivery prior to combining it with fuel oil already in the intended storage tank). If an emission allowance is being claimed for fuel-bound nitrogen, the nitrogen content of the oil shall be determined and recorded once per unit operating day.

(2) *Gaseous fuel.* Any applicable nitrogen content value of the gaseous fuel shall be determined and recorded once per unit operating day. For owners and operators that elect not to demonstrate sulfur content using options in paragraph (h)(3) of this section, and for which the fuel is supplied without intermediate bulk storage, the sulfur content value of the gaseous fuel shall be determined and recorded once per unit operating day.

(3) *Custom schedules.* Notwithstanding the requirements of paragraph (i)(2) of this section, operators or fuel vendors may develop custom schedules for determination of the total sulfur content of gaseous fuels, based on the design and operation of the affected facility and the characteristics of the fuel supply. Except as provided in paragraphs (i)(3)(i) and (i)(3)(ii) of this section, custom schedules shall be substantiated with data and shall be approved by the Administrator before they can be used to comply with the standard in §60.333.

(i) The two custom sulfur monitoring schedules set forth in paragraphs (i)(3)(i)(A) through (D) and in paragraph (i)(3)(ii) of this section are acceptable, without prior Administrative approval:

(A) The owner or operator shall obtain daily total sulfur content measurements for 30 consecutive unit operating days, using the applicable methods specified in this subpart. Based on the results of the 30 daily samples, the required frequency for subsequent monitoring of the fuel's total sulfur content shall be as specified in paragraph (i)(3)(i)(B), (C), or (D) of this section, as applicable.

(B) If none of the 30 daily measurements of the fuel's total sulfur content exceeds 0.4 weight percent (4000 ppmw), subsequent sulfur content monitoring may be performed at 12 month intervals. If any of the samples taken at 12-month intervals has a total sulfur content between 0.4 and 0.8 weight percent (4000 and 8000 ppmw), follow the procedures in paragraph (i)(3)(i)(C) of this section. If any measurement exceeds 0.8 weight percent (8000 ppmw), follow the procedures in paragraph (i)(3)(i)(D) of this section.

(C) If at least one of the 30 daily measurements of the fuel's total sulfur content is between 0.4 and 0.8 weight percent (4000 and 8000 ppmw), but none exceeds 0.8 weight percent (8000 ppmw), then:

( 1 ) Collect and analyze a sample every 30 days for three months. If any sulfur content measurement exceeds 0.8 weight percent (8000 ppmw), follow the procedures in paragraph (i)(3)(i)(D) of this section. Otherwise, follow the procedures in paragraph (i)(3)(i)(C)( 2 ) of this section.

( 2 ) Begin monitoring at 6-month intervals for 12 months. If any sulfur content measurement exceeds 0.8 weight percent (8000 ppmw), follow the procedures in paragraph

(i)(3)(i)(D) of this section. Otherwise, follow the procedures in paragraph (i)(3)(i)(C)( 3 ) of this section.

( 3 ) Begin monitoring at 12-month intervals. If any sulfur content measurement exceeds 0.8 weight percent (8000 ppmw), follow the procedures in paragraph (i)(3)(i)(D) of this section. Otherwise, continue to monitor at this frequency.

(D) If a sulfur content measurement exceeds 0.8 weight percent (8000 ppmw), immediately begin daily monitoring according to paragraph (i)(3)(i)(A) of this section. Daily monitoring shall continue until 30 consecutive daily samples, each having a sulfur content no greater than 0.8 weight percent (8000 ppmw), are obtained. At that point, the applicable procedures of paragraph (i)(3)(i)(B) or (C) of this section shall be followed.

(ii) The owner or operator may use the data collected from the 720-hour sulfur sampling demonstration described in section 2.3.6 of Appendix D to 40 CFR 75 of this chapter to determine a custom sulfur sampling schedule, as follows:

(A) If the maximum fuel sulfur content obtained from the 720 hourly samples does not exceed 20 grains/100 scf (*i.e.*, the maximum total sulfur content of natural gas as defined in 40 CFR 60.331(u)), no additional monitoring of the sulfur content of the gas is required, for the purposes of this subpart.

(B) If the maximum fuel sulfur content obtained from any of the 720 hourly samples exceeds 20 grains/100 scf, but none of the sulfur content values (when converted to weight percent sulfur) exceeds 0.4 weight percent (4000 ppmw), then the minimum required sampling frequency shall be one sample at 12 month intervals.

(C) If any sample result exceeds 0.4 weight percent sulfur (4000 ppmw), but none exceeds 0.8 weight percent sulfur (8000 ppmw), follow the provisions of paragraph (i)(3)(i)(C) of this section.

(D) If the sulfur content of any of the 720 hourly samples exceeds 0.8 weight percent (8000 ppmw), follow the provisions of paragraph (i)(3)(i)(D) of this section.

(j) For each affected unit that elects to continuously monitor parameters or emissions, or to periodically determine the fuel sulfur content or fuel nitrogen content under this subpart, the owner or operator shall submit reports of excess emissions and monitor downtime, in accordance with 40 CFR 60.7(c). Excess emissions shall be reported for all periods of unit operation, including startup, shutdown and malfunction. For the purpose of reports required under 40 CFR 60.7(c), periods of excess emissions and monitor downtime that shall be reported are defined as follows:

(1) Nitrogen oxides.

(i) For turbines using water or steam to fuel ratio monitoring:

(A) An excess emission shall be any unit operating hour for which the average steam or water to fuel ratio, as measured by the continuous monitoring system, falls below the acceptable steam or water to fuel ratio needed to demonstrate compliance with 40 CFR 60.332, as established during the performance test required in 40 CFR 60.8. Any unit operating hour in which no water or steam is injected into the turbine shall also be considered an excess emission.

(B) A period of monitor downtime shall be any unit operating hour in which water or steam is injected into the turbine, but the essential parametric data needed to determine the steam or water to fuel ratio are unavailable or invalid.

(C) Each report shall include the average steam or water to fuel ratio, average fuel consumption, ambient conditions (temperature, pressure, and humidity), gas turbine load, and (if applicable) the nitrogen content of the fuel during each excess emission. You do not have to report ambient conditions if you opt to use the worst case ISO correction factor as specified in 40 CFR 60.334(b)(3)(ii), or if you are not using the ISO correction equation under the provisions of 40 CFR 60.335(b)(1).

(ii) If the owner or operator elects to take an emission allowance for fuel bound nitrogen, then excess emissions and periods of monitor downtime are as described in paragraphs (j)(1)(ii)(A) and (B) of this section.

(A) An excess emission shall be the period of time during which the fuel-bound nitrogen (N) is greater than the value measured during the performance test required in 40 CFR 60.8 and used to determine the allowance. The excess emission begins on the date and hour of the sample which shows that N is greater than the performance test value, and ends with the date and hour of a subsequent sample which shows a fuel nitrogen content less than or equal to the performance test value.

(B) A period of monitor downtime begins when a required sample is not taken by its due date. A period of monitor downtime also begins on the date and hour that a required sample is taken, if invalid results are obtained. The period of monitor downtime ends on the date and hour of the next valid sample.

(iii) For turbines using NO<sub>x</sub> and diluent CEMS:

(A) An hour of excess emissions shall be any unit operating hour in which the 4-hour rolling average NO<sub>x</sub> concentration exceeds the applicable emission limit in 40 CFR 60.332(a)(1) or (2). For the purposes of this subpart, a “4-hour rolling average NO<sub>x</sub> concentration” is the arithmetic average of the average NO<sub>x</sub> concentration measured by the CEMS for a given hour (corrected to 15 percent O<sub>2</sub> and, if required under 40 CFR 60.335(b)(1), to ISO standard conditions) and the three unit operating hour average NO<sub>x</sub> concentrations immediately preceding that unit operating hour.

(B) A period of monitor downtime shall be any unit operating hour in which sufficient data are not obtained to validate the hour, for either NO<sub>x</sub> concentration or diluent (or both).

(C) Each report shall include the ambient conditions (temperature, pressure, and humidity) at the time of the excess emission period and (if the owner or operator has claimed an emission allowance for fuel bound nitrogen) the nitrogen content of the fuel during the period of excess emissions. You do not have to report ambient conditions if you opt to use the worst case ISO correction factor as specified in 40 CFR 60.334(b)(3)(ii), or if you are not using the ISO correction equation under the provisions of 40 CFR 60.335(b)(1).

(iv) For owners or operators that elect, under paragraph (f) of this section, to monitor combustion parameters or parameters that document proper operation of the NO<sub>x</sub> emission controls:

(A) An excess emission shall be a 4-hour rolling unit operating hour average in which any monitored parameter does not achieve the target value or is outside the acceptable range defined in the parameter monitoring plan for the unit.

(B) A period of monitor downtime shall be a unit operating hour in which any of the required parametric data are either not recorded or are invalid.

(2) Sulfur dioxide. If the owner or operator is required to monitor the sulfur content of the fuel under paragraph (h) of this section:

(i) For samples of gaseous fuel and for oil samples obtained using daily sampling, flow proportional sampling, or sampling from the unit's storage tank, an excess emission occurs each unit operating hour included in the period beginning on the date and hour of any sample for which the sulfur content of the fuel being fired in the gas turbine exceeds 0.8 weight percent and ending on the date and hour that a subsequent sample is taken that demonstrates compliance with the sulfur limit.

(ii) If the option to sample each delivery of fuel oil has been selected, the owner or operator shall immediately switch to one of the other oil sampling options (*i.e.*, daily sampling, flow proportional sampling, or sampling from the unit's storage tank) if the sulfur content of a delivery exceeds 0.8 weight percent. The owner or operator shall continue to use one of the other sampling options until all of the oil from the delivery has been combusted, and shall evaluate excess emissions according to paragraph (j)(2)(i) of this section. When all of the fuel from the delivery has been burned, the owner or operator may resume using the as-delivered sampling option.

(iii) A period of monitor downtime begins when a required sample is not taken by its due date. A period of monitor downtime also begins on the date and hour of a required sample, if invalid results are obtained. The period of monitor downtime shall include only unit operating hours, and ends on the date and hour of the next valid sample.

(3) *Ice fog*. Each period during which an exemption provided in 40 CFR 60.332(f) is in effect shall be reported in writing to the Administrator quarterly. For each period the ambient conditions existing during the period, the date and time the air pollution control system was deactivated, and the date and time the air pollution control system was reactivated shall be reported. All quarterly reports shall be postmarked by the 30th day following the end of each calendar quarter.

(4) *Emergency fuel*. Each period during which an exemption provided in 40 CFR 60.332(k) is in effect shall be included in the report required in 40 CFR

60.7(c). For each period, the type, reasons, and duration of the firing of the emergency fuel shall be reported.

(5) All reports required under §60.7(c) shall be postmarked by the 30th day following the end of each 6-month period.

[44 FR 52798, Sept. 10, 1979, as amended at 47 FR 3770, Jan. 27, 1982; 65 FR 61759, Oct. 17, 2000; 69 FR 41360, July 8, 2004; 71 FR 9457, Feb. 24, 2006]

#### 40 CFR 60.335 - Test methods and procedures

(a) The owner or operator shall conduct the performance tests required in 40 CFR 60.8, using either

(1) EPA Method 20,

(2) ASTM D6522-00 (incorporated by reference, see 40 CFR 60.17), or

(3) EPA Method 7E and either EPA Method 3 or 3A in appendix A to this part, to determine NO<sub>x</sub> and diluent concentration.

(4) Sampling traverse points are to be selected following Method 20 or Method 1, (non-particulate procedures) and sampled for equal time intervals. The sampling shall be performed with a traversing single-hole probe or, if feasible, with a stationary multi-hole probe that samples each of the points sequentially. Alternatively, a multi-hole probe designed and documented to sample equal volumes from each hole may be used to sample simultaneously at the required points.

(5) Notwithstanding paragraph (a)(4) of this section, the owner or operator may test at few points than are specified in Method 1 or Method 20 if the following conditions are met:

(i) You may perform a stratification test for NO<sub>x</sub> and diluent pursuant to

(A) [Reserved]

(B) The procedures specified in section 6.5.6.1(a) through (e) Appendix A to 40 CFR 75.

(ii) Once the stratification sampling is completed, the owner or operator may use the following alternative sample point selection criteria for the performance test:

(A) If each of the individual traverse point NO<sub>x</sub> concentrations, normalized to 15 percent O<sub>2</sub>, is within ±10 percent of the mean normalized concentration for all traverse points, then you may use 3 points (located either 16.7, 50.0, and 83.3 percent of the way across the stack or duct, or, for circular stacks or ducts greater than 2.4 meters (7.8 feet) in diameter, at 0.4, 1.2, and 2.0 meters from the wall). The 3 points shall be located along the measurement line that exhibited the highest average normalized NO<sub>x</sub> concentration during the stratification test; or

(B) If each of the individual traverse point NO<sub>x</sub> concentrations, normalized to 15 percent O<sub>2</sub>, is within ±5 percent of the mean normalized concentration for all traverse points, then you may sample at a single point, located at least 1 meter from the stack wall or at the stack centroid.

(6) Other acceptable alternative reference methods and procedures are given in paragraph (c) of this section.

(b) The owner or operator shall determine compliance with the applicable nitrogen oxides emission limitation in 40 CFR 60.332 and shall meet the performance test requirements of 40 CFR 60.8 as follows:

(1) For each run of the performance test, the mean nitrogen oxides emission concentration (NO<sub>xo</sub>) corrected to 15 percent O<sub>2</sub> shall be corrected to ISO standard conditions using the following equation. Notwithstanding this requirement, use of the ISO correction equation is optional for: Lean premix stationary combustion turbines; units used in association with heat recovery steam generators (HRSG) equipped with duct burners; and units equipped with add-on emission control devices:

$$\text{NO}_x = (\text{NO}_{x_o})(P_r/P_o)^{0.5} e^{19} (H_o - 0.00633)(288^\circ\text{K}/T_a)^{1.53}$$

Where:

NO<sub>x</sub> = emission concentration of NO<sub>x</sub> at 15 percent O<sub>2</sub> and ISO standard ambient conditions, ppm by volume, dry basis,

NO<sub>xo</sub> = mean observed NO<sub>x</sub> concentration, ppm by volume, dry basis, at 15 percent O<sub>2</sub>,

P<sub>r</sub> = reference combustor inlet absolute pressure at 101.3 kilopascals ambient pressure, mm Hg,

P<sub>o</sub> = observed combustor inlet absolute pressure at test, mm Hg,

H<sub>o</sub> = observed humidity of ambient air, g H<sub>2</sub>O/g air,

e = transcendental constant, 2.718, and

T<sub>a</sub> = ambient temperature, °K.

(2) The 3-run performance test required by 40 CFR 60.8 must be performed within ±5 percent at 30, 50, 75, and 90-to-100 percent of peak load or at four evenly-spaced load points in the normal operating range of the gas turbine, including the minimum point in the operating range and 90-to-100 percent of peak load, or at the highest achievable load point if 90-to-100 percent of peak load cannot be physically achieved in practice. If the turbine combusts both oil and gas as primary or backup fuels, separate performance testing is required for each fuel. Notwithstanding these requirements, performance testing is not required for any emergency fuel (as defined in 40 CFR 60.331).

(3) For a combined cycle turbine system with supplemental heat (duct burner), the owner or operator may elect to measure the turbine NO<sub>x</sub> emissions after the duct burner rather than directly after the turbine. If the owner or operator elects to use this alternative sampling location, the applicable NO<sub>x</sub> emission limit in 40 CFR 60.332 for the combustion turbine must still be met.

(4) If water or steam injection is used to control NO<sub>x</sub> with no additional post-combustion NO<sub>x</sub> control and the owner or operator chooses to monitor the steam or water to fuel ratio in accordance with 40 CFR 60.334(a), then that monitoring system must be operated concurrently with each EPA Method 20, ASTM D6522-00 (incorporated by

reference, see 40 CFR 60.17), or EPA Method 7E run and shall be used to determine the fuel consumption and the steam or water to fuel ratio necessary to comply with the applicable 40 CFR 60.332 NO<sub>x</sub> emission limit.

(5) If the owner operator elects to claim an emission allowance for fuel bound nitrogen as described in 40 CFR 60.332, then concurrently with each reference method run, a representative sample of the fuel used shall be collected and analyzed, following the applicable procedures described in 40 CFR 60.335(b)(9). These data shall be used to determine the maximum fuel nitrogen content for which the established water (or steam) to fuel ratio will be valid.

(6) If the owner or operator elects to install a CEMS, the performance evaluation of the CEMS may either be conducted separately (as described in paragraph (b)(7) of this section) or as part of the initial performance test of the affected unit.

(7) If the owner or operator elects to install and certify a NO<sub>x</sub> CEMS under 40 CFR 60.334(e), then the initial performance test required under 40 CFR 60.8 may be done in the following alternative manner:

(i) Perform a minimum of 9 reference method runs, with a minimum time per run of 21 minutes, at a single load level, between 90 and 100 percent of peak (or the highest physically achievable) load.

(ii) Use the test data both to demonstrate compliance with the applicable NO<sub>x</sub> emission limit under 40 CFR 60.332 and to provide the required reference method data for the RATA of the CEMS described under 40 CFR 60.334(b).

(iii) The requirement to test at three additional load levels is waived.

(8) If the owner or operator elects under 40 CFR 60.334(f) to monitor combustion parameters or parameters indicative of proper operation of NO<sub>x</sub> emission controls, the appropriate parameters shall be continuously monitored and recorded during each run of the initial performance test, to establish acceptable operating ranges, for purposes of the parameter monitoring plan for the affected unit, as specified in 40 CFR 60.334(g).

(9) To determine the fuel bound nitrogen content of fuel being fired (if an emission allowance is claimed for fuel bound nitrogen), the owner or operator may use equipment and procedures meeting the requirements of:

(i) For liquid fuels, ASTM D2597-94 (Reapproved 1999), D6366-99, D4629-02, D5762-02 (all of which are incorporated by reference, *see* 40 CFR 60.17); or

(ii) For gaseous fuels, shall use analytical methods and procedures that are accurate to within 5 percent of the instrument range and are approved by the Administrator.

(10) If the owner or operator is required under 40 CFR 60.334(i)(1) or (3) to periodically determine the sulfur content of the fuel combusted in the turbine, a minimum of three fuel samples shall be collected during the performance test. Analyze the samples for the total sulfur content of the fuel using:

(i) For liquid fuels, ASTM D129-00, D2622-98, D4294-02, D1266-98, D5453-00 or D1552-01 (all of which are incorporated by reference, *see* 40 CFR 60.17); or

(ii) For gaseous fuels, ASTM D1072-80, 90 (Reapproved 1994); D3246-81, 92, 96; D4468-85 (Reapproved 2000); or D6667-01 (all of which are incorporated by reference, *see* 40 CFR 60.17). The applicable ranges of some ASTM methods mentioned above are not adequate to measure the levels of sulfur in some fuel gases. Dilution of samples before analysis (with verification of the dilution ratio) may be used, subject to the prior approval of the Administrator.

(11) The fuel analyses required under paragraphs (b)(9) and (b)(10) of this section may be performed by the owner or operator, a service contractor retained by the owner or operator, the fuel vendor, or any other qualified agency.

(c) The owner or operator may use the following as alternatives to the reference methods and procedures specified in this section:

(1) Instead of using the equation in paragraph (b)(1) of this section, manufacturers may develop ambient condition correction factors to adjust the nitrogen oxides emission level measured by the performance test as provided in 40 CFR 60.8 to ISO standard day conditions.

[69 FR 41363, July 8, 2004, as amended at 71 FR 9458, Feb. 24, 2006]

## Subpart JJJJ - Standards of Performance for Stationary Spark Ignition Internal Combustion Engines

Source: 73 FR 3591, Jan. 18, 2008, unless otherwise noted.

### What This Subpart Covers

#### 40 CFR 60.4230 - Am I subject to this Subpart?

(a) The provisions of this Subpart are applicable to manufacturers, owners, and operators of stationary spark ignition (SI) internal combustion engines (ICE) as specified in paragraphs (a)(1) through (5) of this section. For the purposes of this Subpart, the date that construction commences is the date the engine is ordered by the owner or operator.

(1) Manufacturers of stationary SI ICE with a maximum engine power less than or equal to 19 kilowatt (KW) (25 horsepower (HP)) that are manufactured on or after July 1, 2008.

(2) Manufacturers of stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) that are gasoline fueled or that are rich burn engines fueled by liquefied petroleum gas (LPG), where the date of manufacture is:

(i) On or after July 1, 2008; or

(ii) On or after January 1, 2009, for emergency engines.

(3) Manufacturers of stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) that are not gasoline fueled and are not rich burn engines fueled by LPG, where the manufacturer participates in the voluntary manufacturer certification program described in this Subpart and where the date of manufacture is:

(i) On or after July 1, 2007, for engines with a maximum engine power greater than or equal to 500 HP (except lean burn engines with a maximum engine power greater than or equal to 500 HP and less than 1,350 HP);

(ii) On or after January 1, 2008, for lean burn engines with a maximum engine power greater than or equal to 500 HP and less than 1,350 HP;

(iii) On or after July 1, 2008, for engines with a maximum engine power less than 500 HP; or

(iv) On or after January 1, 2009, for emergency engines.

(4) Owners and operators of stationary SI ICE that commence construction after June 12, 2006, where the stationary SI ICE are manufactured:

(i) On or after July 1, 2007, for engines with a maximum engine power greater than or equal to 500 HP (except lean burn engines with a maximum engine power greater than or equal to 500 HP and less than 1,350 HP);

(ii) on or after January 1, 2008, for lean burn engines with a maximum engine power greater than or equal to 500 HP and less than 1,350 HP;

(iii) on or after July 1, 2008, for engines with a maximum engine power less than 500 HP; or

(iv) on or after January 1, 2009, for emergency engines with a maximum engine power greater than 19 KW (25 HP).

(5) Owners and operators of stationary SI ICE that commence modification or reconstruction after June 12, 2006.

(b) The provisions of this Subpart are not applicable to stationary SI ICE being tested at an engine test cell/stand.

(c) If you are an owner or operator of an area source subject to this Subpart, you are exempt from the obligation to obtain a permit under 40 CFR 70 or 40 CFR 71, provided you are not required to obtain a permit under 40 CFR 70.3(a) or 40 CFR 71.3(a) for a reason other than your status as an area source under this Subpart. Notwithstanding the previous sentence, you must continue to comply with the provisions of this Subpart as applicable.

(d) For the purposes of this Subpart, stationary SI ICE using alcohol-based fuels are considered gasoline engines.

(e) Stationary SI ICE may be eligible for exemption from the requirements of this Subpart as described in 40 CFR 1068 Subpart C (or the exemptions described in 40 CFR 90 and 1048, for engines that would need to be certified to standards in those parts), except that owners and operators, as well as manufacturers, may be eligible to request an exemption for national security.

(f) Owners and operators of facilities with internal combustion engines that are acting as temporary replacement units and that are located at a stationary source for less than 1 year and that have been properly certified as meeting the standards that would be applicable to such engine under the appropriate non-road engine provisions, are not required to meet any other provisions under this Subpart with regard to such engines.

### Emission Standards for Manufacturers

40FR 60.4231 - What emission standards must I meet if I am a manufacturer of stationary SI internal combustion engines or equipment containing such engines?

(a). Stationary SI internal combustion engine manufacturers must certify their stationary SI ICE with a maximum engine power less than or equal to 19 KW (25 HP) manufactured on or after July 1, 2008 to the certification emission standards and other requirements for new non-road SI engines in 40 CFR 90 or 1054, as follows:

| <b>If engine replacement is</b> | <b>and manufacturing dates are</b> | <b>the engine must meet emission standards and related requirements for non-handheld engines under</b> |
|---------------------------------|------------------------------------|--|
| (1) below 225 cc                | July 1, 2008 to December 31, 2011  | 40 CFR 90  |
| (2) below 225 cc                | January 1, 2012 or later           | 40 CFR 1054  |
| (3) at or above 225 cc          | July 1, 2008 to December 31, 2010  | 40 CFR 90  |
| (4) at or above 225 cc          | January 1, 2011 or later           | 40 CFR 1054  |

(b) Stationary SI internal combustion engine manufacturers must certify their stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) (except emergency stationary ICE with a maximum engine power greater than 25 HP and less than 130 HP) that use gasoline and that are manufactured on or after the applicable date in 40 CFR 60.4230(a)(2), or manufactured on or after the applicable date in 40 CFR 60.4230(a)(4) for emergency stationary ICE with a maximum engine power greater than or equal to 130 HP, to the certification emission standards and other requirements for new non-road SI engines in 40 CFR 1048. Stationary SI internal combustion engine manufacturers must certify their emergency stationary SI ICE with a maximum engine power greater than 25 HP and less than 130 HP that are manufactured on or after the applicable date in 40 CFR 60.4230(a)(4) to the Phase 1 emission standards in 40 CFR 90.103, applicable to class II engines, and other requirements for new non-road SI engines in 40 CFR 90. Stationary SI internal combustion engine manufacturers may certify their stationary SI ICE with a maximum engine power less than or equal to 30 KW (40 HP) with a total displacement less than or equal to 1,000 cubic centimeters (cc) to the certification emission standards and other requirements for new non-road SI engines in 40 CFR 90 or 1054, as appropriate.

(c) Stationary SI internal combustion engine manufacturers must certify their stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) (except emergency stationary ICE with a maximum engine power greater than 25 HP and less than 130 HP) that are rich burn engines that use LPG and that are manufactured on or after the applicable date in 40 CFR 60.4230(a)(2), or manufactured on or after the applicable date in 40 CFR 60.4230(a)(4) for emergency stationary ICE with a maximum engine power greater than or equal to 130 HP, to the certification emission standards and other requirements for new non-road SI engines in 40 CFR 1048. Stationary SI internal combustion engine manufacturers must certify their emergency stationary SI ICE with a maximum engine power greater than 25 HP and less than 130 HP that are manufactured on or after the applicable date in 40 CFR 60.4230(a)(4) to the Phase 1 emission standards in 40 CFR 90.103, applicable to class II engines, and other requirements for new non-road SI engines in 40 CFR 90. Stationary SI internal combustion engine manufacturers may certify their stationary SI ICE with a maximum engine power less than or equal to 30 KW (40 HP) with a total displacement less than or equal to 1,000 cc to the certification emission standards and other requirements for new non-road SI engines in 40 CFR 90 or 1054, as appropriate.

(d) Stationary SI internal combustion engine manufacturers who choose to certify their stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) and less than 75 KW (100 HP) (except gasoline and rich burn engines that use LPG and emergency stationary ICE with a maximum engine power greater than 25 HP and less than 130 HP) under the voluntary manufacturer certification program described in this Subpart must certify those engines to the certification emission standards for new non-road SI engines in 40 CFR 1048. Stationary SI internal combustion engine manufacturers who choose to certify their emergency stationary SI ICE greater than 25 HP and less than 130 HP, must certify those engines to the Phase 1 emission standards in 40 CFR 90.103, applicable to class II engines, for new non-road SI engines in 40 CFR 90. Stationary SI internal combustion engine manufacturers may certify their stationary SI ICE with a maximum engine power less than or equal to 30 KW (40 HP) with a total displacement less than or equal to 1,000 cc to the certification emission standards for new non-road SI engines in 40 CFR 90 or 1054, as appropriate. For stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) and less than 75 KW (100 HP) (except gasoline and rich burn engines that use LPG and emergency stationary ICE with a maximum engine power greater than 25 HP and less than 130 HP) manufactured prior to January 1, 2011, manufacturers may choose to certify these engines to the standards in Table 1 to this Subpart applicable to engines with a maximum engine power greater than or equal to 100 HP and less than 500 HP.

(e) Stationary SI internal combustion engine manufacturers who choose to certify their stationary SI ICE with a maximum engine power greater than or equal to 75 KW (100 HP) (except gasoline and rich burn engines that use LPG) under the voluntary manufacturer certification program described in this Subpart must certify those engines to the emission standards in Table 1 to this Subpart. Stationary SI internal combustion engine manufacturers may certify their stationary SI ICE with a maximum engine power greater than or equal to 75 KW (100 HP) that are lean burn engines that use LPG to the certification emission standards for new non-road SI engines in 40 CFR 1048. For stationary SI ICE with a maximum engine power greater than or equal to 100 HP (75 KW) and less than 500 HP (373 KW) manufactured prior to January 1, 2011, and for stationary SI ICE with a maximum engine power greater than or equal to 500 HP (373 KW) manufactured prior to July 1, 2010, manufacturers may choose to certify these engines to the certification emission standards for new non-road SI engines in 40 CFR 1048 applicable to engines that are not severe duty engines.

(f) Manufacturers of equipment containing stationary SI internal combustion engines meeting the provisions of 40 CFR 1054 must meet the provisions of 40 CFR 1060, to the extent they apply to equipment manufacturers.  
[73 FR 3591, Jan. 18, 2008, as amended by 73 FR 59175, Oct. 8, 2008]

40 CFR 60.4232 - How long must my engines meet the emission standards if I am a manufacturer of stationary SI internal combustion engines?

Engines manufactured by stationary SI internal combustion engine manufacturers must meet the emission standards as required in 40 CFR 60.4231 during the certified emissions life of the engines.

**Emission Standards for Owners and Operators**

40 CFR 60.4233 - What emission standards must I meet if I am an owner or operator of a stationary SI internal combustion engine?

(a) Owners and operators of stationary SI ICE with a maximum engine power less than or equal to 19 KW (25 HP) manufactured on or after July 1, 2008, must comply with the emission standards in 40 CFR 60.4231(a) for their stationary SI ICE.

(b) Owners and operators of stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) manufactured on or after the applicable date in 40 CFR 60.4230(a)(4) that use gasoline must comply with the emission standards in 40 CFR 60.4231(b) for their stationary SI ICE.

(c) Owners and operators of stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) manufactured on or after the applicable date in 40 CFR 60.4230(a)(4) that are rich burn engines that use LPG must comply with the emission standards in 40 CFR 60.4231(c) for their stationary SI ICE.

(d) Owners and operators of stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) and less than 75 KW (100 HP) (except gasoline and rich burn engines that use LPG) must comply with the emission standards for field testing in 40 CFR 1048.101(c) for their non-emergency stationary SI ICE and with the emission standards in Table 1 to this Subpart for their emergency stationary SI ICE. Owners and operators of stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) and less than 75 KW (100 HP) manufactured prior to January 1, 2011, that were certified to the standards in Table 1 to this Subpart applicable to engines with a maximum engine power greater than or equal to 100 HP and less than 500 HP, may optionally choose to meet those standards.

(e) Owners and operators of stationary SI ICE with a maximum engine power greater than or equal to 75 KW (100 HP) (except gasoline and rich burn engines that use LPG) must comply with the emission standards in Table 1 to this Subpart for their stationary SI ICE. For owners and operators of stationary SI ICE with a maximum engine power greater than or equal to 100 HP (except gasoline and rich burn engines that use LPG) manufactured prior to January 1, 2011 that were certified to the certification emission standards in 40 CFR 1048 applicable to engines that are not severe duty engines, if such stationary SI ICE was certified to a carbon monoxide (CO) standard above the standard in Table 1 to this Subpart, then the owners and operators may meet the CO certification (not field testing) standard for which the engine was certified.

(f) Owners and operators of any modified or reconstructed stationary SI ICE subject to this Subpart must meet the requirements as specified in paragraphs (f)(1) through (5) of this section.

(1) Owners and operators of stationary SI ICE with a maximum engine power less than or equal to 19 KW (25 HP), that are modified or reconstructed after June 12, 2006, must comply with the same emission standards as those specified in paragraph (a) of this section.

(2) Owners and operators of stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) that use gasoline engines, that are modified or reconstructed after June 12, 2006, must comply with the same emission standards as those specified in paragraph (b) of this section.

(3) Owners and operators of stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) that are rich burn engines that use LPG, that are modified or reconstructed after June 12, 2006, must comply with the same emission standards as those specified in paragraph (c) of this section.

(4) Owners and operators of stationary SI natural gas and lean burn LPG engines with a maximum engine power greater than 19 KW (25 HP), that are modified or reconstructed after June 12, 2006, must comply with the same emission standards as those specified in paragraph (d) or (e) of this section, except that such owners and operators of non-emergency engines and emergency engines greater than or equal to 130 HP must meet a nitrogen oxides (NO<sub>x</sub>) emission standard of 3.0 grams per HP-hour (g/HP-hr), a CO emission standard of 4.0 g/HP-hr (5.0 g/HP-hr for non-emergency engines less than 100 HP), and a volatile organic compounds (VOC) emission standard of 1.0 g/HP-hr, or a NO<sub>x</sub> emission standard of 250 ppmvd at 15 percent oxygen (O<sub>2</sub>), a CO emission standard 540 ppmvd at 15 percent O<sub>2</sub> (675 ppmvd at 15 percent O<sub>2</sub> for non-emergency engines less than 100 HP), and a VOC emission standard of 86 ppmvd at 15 percent O<sub>2</sub>, where the date of manufacture of the engine is:

(i) Prior to July 1, 2007, for non-emergency engines with a maximum engine power greater than or equal to 500 HP;

(ii) Prior to July 1, 2008, for non-emergency engines with a maximum engine power less than 500 HP;

(iii) Prior to January 1, 2009, for emergency engines.

(5) Owners and operators of stationary SI landfill/digester gas ICE engines with a maximum engine power greater than 19 KW (25 HP), that are modified or reconstructed after June 12, 2006, must comply with the same emission standards as those specified in paragraph (e) of this section for stationary landfill/digester gas engines.

(g) Owners and operators of stationary SI wellhead gas ICE engines may petition the Administrator for approval on a case-by-case basis to meet emission standards no less stringent than the emission standards that apply to stationary emergency SI engines greater than 25 HP and less than 130 HP due to the presence of high sulfur levels in the fuel, as specified in Table 1 to this Subpart. The request must, at a minimum, demonstrate that the fuel has high sulfur levels that prevent the use of after treatment controls and also that the owner has reasonably made all attempts possible to obtain an engine that will meet the standards without the use of aftertreatment controls. The petition must request the most stringent standards reasonably applicable to the engine using the fuel.

(h) Owners and operators of stationary SI ICE that are required to meet standards that reference 40 CFR 1048.101 must, if testing their engines in use, meet the standards in that section applicable to field testing, except as indicated in paragraph (e) of this section.

#### 40 CFR 60.4234 - How long must I meet the emission standards if I am an owner or operator of a stationary SI internal combustion engine?

Owners and operators of stationary SI ICE must operate and maintain stationary SI ICE that achieve the emission standards as required in 40 CFR 60.4233 over the entire life of the engine.

#### **Other Requirements for Owners and Operators**

#### 40 CFR 60.4235 - What fuel requirements must I meet if I am an owner or operator of a stationary SI gasoline fired internal combustion engine subject to this Subpart?

Owners and operators of stationary SI ICE subject to this Subpart that use gasoline must use gasoline that meets the per gallon sulfur limit in 40 CFR 80.195.

#### 40 CFR 60.4236 - What is the deadline for importing or installing stationary SI ICE produced in the previous model year?

(a) After July 1, 2010, owners and operators may not install stationary SI ICE with a maximum engine power of less than 500 HP that do not meet the applicable requirements in 40 CFR 60.4233.

(b) After July 1, 2009, owners and operators may not install stationary SI ICE with a maximum engine power of greater than or equal to 500 HP that do not meet the applicable requirements in 40 CFR 60.4233, except that lean burn engines with a maximum engine power greater than or equal to 500 HP and less than 1,350 HP that do not meet the applicable requirements in 40 CFR 60.4233 may not be installed after January 1, 2010.

(c) For emergency stationary SI ICE with a maximum engine power of greater than 19 KW (25 HP), owners and operators may not install engines that do not meet the applicable requirements in 40 CFR 60.4233 after January 1, 2011.

(d) In addition to the requirements specified in 40 CFR 60.4231 and 60.4233, it is prohibited to import stationary SI ICE less than or equal to 19 KW (25 HP), stationary rich burn LPG SI ICE, and stationary gasoline SI ICE that do not meet the applicable requirements specified in paragraphs (a), (b), and (c) of this section, after the date specified in paragraph (a), (b), and (c) of this section.

(e) The requirements of this section do not apply to owners and operators of stationary SI ICE that have been modified or reconstructed, and they do not apply to engines that were removed from one existing location and reinstalled at a new location.

**40 CFR 60.4237 - What are the monitoring requirements if I am an owner or operator of an emergency stationary SI internal combustion engine?**

(a) Starting on July 1, 2010, if the emergency stationary SI internal combustion engine that is greater than or equal to 500 HP that was built on or after July 1, 2010, does not meet the standards applicable to non-emergency engines, the owner or operator must install a non-resettable hour meter.

(b) Starting on January 1, 2011, if the emergency stationary SI internal combustion engine that is greater than or equal to 130 HP and less than 500 HP that was built on or after January 1, 2011, does not meet the standards applicable to non-emergency engines, the owner or operator must install a non-resettable hour meter.

(c) If you are an owner or operator of an emergency stationary SI internal combustion engine that is less than 130 HP, was built on or after July 1, 2008, and does not meet the standards applicable to non-emergency engines, you must install a non-resettable hour meter upon startup of your emergency engine.

**Compliance Requirements for Manufacturers**

**40 CFR 60.4238 - What are my compliance requirements if I am a manufacturer of stationary SI internal combustion engines  $\leq$  19 KW (25 HP) or a manufacturer of equipment containing such engines?**

Stationary SI internal combustion engine manufacturers who are subject to the emission standards specified in 40 CFR 60.4231(a) must certify their stationary SI ICE using the certification procedures required in 40 CFR 90 Subpart B, or 40 CFR 1054 Subpart C, as applicable, and must test their engines as specified in those parts. Manufacturers of equipment containing stationary SI internal combustion engines meeting the provisions of 40 CFR 1054 must meet the provisions of 40 CFR 1060 Subpart C, to the extent they apply to equipment manufacturers.

[73 FR 59176, Oct. 8, 2008]

**40 CFR 60.4239 - What are my compliance requirements if I am a manufacturer of stationary SI internal combustion engines  $>$  19 KW (25 HP) that use gasoline or a manufacturer of equipment containing such engines?**

Stationary SI internal combustion engine manufacturers who are subject to the emission standards specified in 40 CFR 60.4231(b) must certify their stationary SI ICE using the certification procedures required in 40 CFR 1048 Subpart C, and must test their engines as specified in that part. Stationary SI internal combustion engine manufacturers who certify their stationary SI ICE with a maximum engine power less than or equal to 30 KW (40 HP) with a total displacement less than or equal to 1,000 cc to the certification emission standards and other requirements for new non-road SI engines in 40 CFR 90 or 40 CFR 1054, and manufacturers of stationary SI emergency engines that are greater than 25 HP and less than 130 HP who meet the Phase 1 emission standards in 40 CFR 90.103, applicable to class II engines, must certify their stationary SI ICE using the certification procedures required in 40 CFR 90 Subpart B, or 40 CFR 1054 Subpart C, as applicable, and must test their engines as specified in those parts. Manufacturers of equipment containing stationary SI internal combustion engines meeting the provisions of 40 CFR 1054 must meet the provisions of 40 CFR 1060 Subpart C, to the extent they apply to equipment manufacturers.

[73 FR 59176, Oct. 8, 2008]

**40 CFR 60.4240 - What are my compliance requirements if I am a manufacturer of stationary SI internal combustion engines  $>$  19 KW (25 HP) that are rich burn engines that use LPG or a manufacturer of equipment containing such engines?**

Stationary SI internal combustion engine manufacturers who are subject to the emission standards specified in 40 CFR 60.4231(c) must certify their stationary SI ICE using the certification procedures required in 40 CFR 1048 Subpart C, and must test their engines as specified in that part. Stationary SI internal combustion engine manufacturers who certify their stationary SI ICE with a maximum engine power less than or equal to 30 KW (40 HP) with a total displacement less than or equal to 1,000 cc to the certification emission standards and other requirements for new non-road SI engines in 40 CFR 90 or 40 CFR 1054, and manufacturers of stationary SI emergency engines that are greater than 25 HP and less than 130 HP who meet the Phase 1 emission standards in 40 CFR 90.103, applicable to class II engines, must certify their stationary SI ICE using the certification procedures required in 40 CFR 90 Subpart B, or 40 CFR 1054 Subpart C, as applicable, and must test their engines as specified in those parts. Manufacturers of equipment containing stationary SI

internal combustion engines meeting the provisions of 40 CFR 1054 must meet the provisions of 40 CFR 1060 Subpart C, to the extent they apply to equipment manufacturers.  
[73 FR 59176, Oct. 8, 2008]

40 CFR 60.4241 - What are my compliance requirements if I am a manufacturer of stationary SI internal combustion engines participating in the voluntary certification program or a manufacturer of equipment containing such engines?

(a) Manufacturers of stationary SI internal combustion engines with a maximum engine power greater than 19 KW (25 HP) that do not use gasoline and are not rich burn engines that use LPG can choose to certify their engines to the emission standards in 40 CFR 60.4231(d) or (e), as applicable, under the voluntary certification program described in this Subpart. Manufacturers who certify their engines under the voluntary certification program must meet the requirements as specified in paragraphs (b) through (g) of this section. In addition, manufacturers of stationary SI internal combustion engines who choose to certify their engines under the voluntary certification program, must also meet the requirements as specified in 40 CFR 60.4247.

(b) Manufacturers of engines other than those certified to standards in 40 CFR 90 or 40 CFR 1054 must certify their stationary SI ICE using the certification procedures required in 40 CFR 1048 Subpart C, and must follow the same test procedures that apply to large SI non-road engines under 40 CFR 1048, but must use the D-1 cycle of International Organization of Standardization 8178-4: 1996(E) (incorporated by reference, see 40 CFR 60.17) or the test cycle requirements specified in Table 5 to 40 CFR 1048.505, except that Table 5 of 40 CFR 1048.505 applies to high load engines only. Stationary SI internal combustion engine manufacturers who certify their stationary SI ICE with a maximum engine power less than or equal to 30 KW (40 HP) with a total displacement less than or equal to 1,000 cc to the certification emission standards and other requirements for new non-road SI engines in 40 CFR 90 or 40 CFR 1054, and manufacturers of emergency engines that are greater than 25 HP and less than 130 HP who meet the Phase 1 standards in 40 CFR 90.103, applicable to class II engines, must certify their stationary SI ICE using the certification procedures required in 40 CFR 90 Subpart B, or 40 CFR 1054 Subpart C, as applicable, and must test their engines as specified in those parts. Manufacturers of equipment containing stationary SI internal combustion engines meeting the provisions of 40 CFR 1054 must meet the provisions of 40 CFR 1060 Subpart C, to the extent they apply to equipment manufacturers.

(c) Certification of stationary SI ICE to the emission standards specified in 40 CFR 60.4231(d) or (e), as applicable, is voluntary, but manufacturers who decide to certify are subject to all of the requirements indicated in this Subpart with regard to the engines included in their certification. Manufacturers must clearly label their stationary SI engines as certified or non-certified engines.

(d) Manufacturers of natural gas fired stationary SI ICE who conduct voluntary certification of stationary SI ICE to the emission standards specified in 40 CFR 60.4231(d) or (e), as applicable, must certify their engines for operation using fuel that meets the definition of pipeline-quality natural gas. The fuel used for certifying stationary SI natural gas engines must meet the definition of pipeline-quality natural gas as described in 40 CFR 60.4248. In addition, the manufacturer must provide information to the owner and operator of the certified stationary SI engine including the specifications of the pipeline-quality natural gas to which the engine is certified and what adjustments the owner or operator must make to the engine when installed in the field to ensure compliance with the emission standards.

(e) Manufacturers of stationary SI ICE that are lean burn engines fueled by LPG who conduct voluntary certification of stationary SI ICE to the emission standards specified in 40 CFR 60.4231(d) or (e), as applicable, must certify their engines for operation using fuel that meets the specifications in 40 CFR 1065.720.

(f) Manufacturers may certify their engines for operation using gaseous fuels in addition to pipeline-quality natural gas; however, the manufacturer must specify the properties of that fuel and provide testing information showing that the engine will meet the emission standards specified in 40 CFR 60.4231(d) or (e), as applicable, when operating on that fuel. The manufacturer must also provide instructions for configuring the stationary engine to meet the emission standards on fuels that do not meet the pipeline-quality natural gas definition. The manufacturer must also provide information to the owner and operator of the certified stationary SI engine regarding the configuration that is most conducive to reduced emissions where the engine will be operated on gaseous fuels with different quality than the fuel that it was certified to.

(g) A stationary SI engine manufacturer may certify an engine family solely to the standards applicable to landfill/digester gas engines as specified in 40 CFR 60.4231(d) or (e), as applicable, but must certify their engines for operation using landfill/digester gas and must add a permanent label stating that the engine is for use only in landfill/digester gas applications. The label must be added according to the labeling requirements specified in 40 CFR 1048.135(b).

(h) For purposes of this Subpart, when calculating emissions of volatile organic compounds, emissions of formaldehyde should not be included.

(i) For engines being certified to the voluntary certification standards in Table 1 of this Subpart, the VOC measurement shall be made by following the procedures in 40 CFR 1065.260 and 1065.265 in order to determine the total NMHC emissions by using a flame-ionization detector and non-methane cutter. As an alternative to the non-methane cutter, manufacturers may use a gas chromatograph as allowed under 40 CFR 1065.267 and may measure ethane, as well as methane, for excluding such levels from the total VOC measurement.  
[73 FR 3591, Jan. 18, 2008, as amended by 73 FR 59176, Oct. 8, 2008]

40 CFR 60.4242 - What other requirements must I meet if I am a manufacturer of stationary SI internal combustion engines or equipment containing stationary SI internal combustion engines or a manufacturer of equipment containing such engines?

(a) Stationary SI internal combustion engine manufacturers must meet the provisions of 40 CFR 90.1048 or 40 CFR 1054, as applicable, as well as 40 CFR 1068 for engines that are certified to the emission standards in 40 CFR 1048 or 1054, except that engines certified pursuant to the voluntary certification procedures in 40 CFR 60.4241 are subject only to the provisions indicated in 40 CFR 60.4247 and are permitted to provide instructions to owners and operators allowing for deviations from certified configurations, if such deviations are consistent with the provisions of paragraphs 40 CFR 60.4241(c) through (f). Manufacturers of equipment containing stationary SI internal combustion engines meeting the provisions of 40 CFR 1054 must meet the provisions of 40 CFR 1060, as applicable. Labels on engines certified to 40 CFR 1048 must refer to stationary engines, rather than or in addition to non-road engines, as appropriate.

(b) An engine manufacturer certifying an engine family or families to standards under this Subpart that are identical to standards applicable under 40 CFR 90.1048, or 40 CFR 1054 for that model year may certify any such family that contains both non-road and stationary engines as a single engine family and/or may include any such family containing stationary engines in the averaging, banking and trading provisions applicable for such engines under those parts. This provision also applies to equipment or component manufacturers certifying to standards under 40 CFR 1060.

(c) Manufacturers of engine families certified to 40 CFR 1048 may meet the labeling requirements referred to in paragraph (a) of this section for stationary SI ICE by either adding a separate label containing the information required in paragraph (a) of this section or by adding the words "and stationary" after the word "non-road" to the label.

(d) For all engines manufactured on or after January 1, 2011, and for all engines with a maximum engine power greater than 25 HP and less than 130 HP manufactured on or after July 1, 2008, a stationary SI engine manufacturer that certifies an engine family solely to the standards applicable to emergency engines must add a permanent label stating that the engines in that family are for emergency use only. The label must be added according to the labeling requirements specified in 40 CFR 1048.135(b).

(e) All stationary SI engines subject to mandatory certification that do not meet the requirements of this Subpart must be labeled according to 40 CFR 1068.230 and must be exported under the provisions of 40 CFR 1068.230. Stationary SI engines subject to standards in 40 CFR 90 may use the provisions in 40 CFR 90.909. Manufacturers of stationary engines with a maximum engine power greater than 25 HP that are not certified to standards and other requirements under 40 CFR 1048 are subject to the labeling provisions of 40 CFR 1048.20 pertaining to excluded stationary engines.

(f) For manufacturers of gaseous-fueled stationary engines required to meet the warranty provisions in 40 CFR 90.1103 or 1054.120, we may establish an hour-based warranty period equal to at least the certified emissions life of the engines (in engine operating hours) if we determine that these engines are likely to operate for a number of hours greater than the applicable useful life within 24 months. We will not approve an alternate warranty under this paragraph (f) for non-road engines. An alternate warranty period approved under this paragraph (f) will be the specified number of engine operating hours or two years, whichever comes first. The engine manufacturer shall request this alternate warranty period in its application for certification or in an earlier submission. We may approve an alternate warranty period for an engine family subject to the following conditions:

(1) The engines must be equipped with non-resettable hour meters.

(2) The engines must be designed to operate for a number of hours substantially greater than the applicable certified emissions life.

(3) The emission-related warranty for the engines may not be shorter than any published warranty offered by the manufacturer without charge for the engines. Similarly, the emission-related warranty for any component shall not be shorter than any published warranty offered by the manufacturer without charge for that component.

[73 FR 3591, Jan. 18, 2008, as amended by 73 FR 59177, Oct. 8, 2008]

## **Compliance Requirements for Owners and Operators**

40 CFR 60.4243 - What are my compliance requirements if I am an owner or operator of a stationary SI internal combustion engine?

(a) If you are an owner or operator of a stationary SI internal combustion engine that is manufactured after July 1, 2008, and must comply with the emission standards specified in 40 CFR 60.4233(a) through (c), you must comply by purchasing an engine certified to the emission standards in 40 CFR 60.4231(a) through (c), as applicable, for the same engine class and maximum engine power. You must also meet the requirements as specified in 40 CFR 1068 Subparts A through D, as they apply to you. If you adjust engine settings according to and consistent with the manufacturer's instructions, your stationary SI internal combustion engine will not be considered out of compliance. In addition, you must meet one of the requirements specified in (a)(1) and (2) of this section.

(1) If you operate and maintain the certified stationary SI internal combustion engine and control device according to the manufacturer's emission-related written instructions, you must keep records of conducted maintenance to demonstrate compliance, but no performance testing is required if you are an owner or operator.

(2) If you do not operate and maintain the certified stationary SI internal combustion engine and control device according to the manufacturer's emission-related written instructions, your engine will be considered a non-certified engine, and you must demonstrate compliance according to (a)(2)(i) through (iii) of this section, as appropriate.

(i) If you are an owner or operator of a stationary SI internal combustion engine less than 100 HP, you must keep a maintenance plan and records of conducted maintenance to demonstrate compliance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions, but no performance testing is required if you are an owner or operator.

(ii) If you are an owner or operator of a stationary SI internal combustion engine greater than or equal to 100 HP and less than or equal to 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test within 1 year of engine startup to demonstrate compliance.

(iii) If you are an owner or operator of a stationary SI internal combustion engine greater than 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test within 1 year of engine startup and conduct subsequent performance testing every 8,760 hours or 3 years, whichever comes first, thereafter to demonstrate compliance.

(b) If you are an owner or operator of a stationary SI internal combustion engine and must comply with the emission standards specified in 40 CFR 60.4233(d) or (e), you must demonstrate compliance according to one of the methods specified in paragraphs (b)(1) and (2) of this section.

(1) Purchasing an engine certified according to procedures specified in this Subpart, for the same model year and demonstrating compliance according to one of the methods specified in paragraph (a) of this section.

(2) Purchasing a non-certified engine and demonstrating compliance with the emission standards specified in 40 CFR 60.4233(d) or (e) and according to the requirements specified in 40 CFR 60.4244, as applicable, and according to paragraphs (b)(2)(i) and (ii) of this section.

(i) If you are an owner or operator of a stationary SI internal combustion engine greater than 25 HP and less than or equal to 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test to demonstrate compliance.

(ii) If you are an owner or operator of a stationary SI internal combustion engine greater than 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test and conduct subsequent performance testing every 8,760 hours or 3 years, whichever comes first, thereafter to demonstrate compliance.

(c) If you are an owner or operator of a stationary SI internal combustion engine that must comply with the emission standards specified in 40 CFR 60.4233(f), you must demonstrate compliance according paragraph (b)(2)(i) or (ii) of this section, except that if you comply according to paragraph (b)(2)(i) of this section, you demonstrate that your non-certified engine complies with the emission standards specified in 40 CFR 60.4233(f).

(d) Emergency stationary ICE may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. There is no time limit on the use of emergency stationary ICE in emergency situations. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency ICE beyond 100 hours per year. Emergency stationary ICE may operate up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity. For owners and operators of emergency engines, any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as permitted in this section, is prohibited.

(e) Owners and operators of stationary SI natural gas fired engines may operate their engines using propane for a maximum of 100 hours per year as an alternative fuel solely during emergency operations, but must keep records of such use. If propane is used for more than 100 hours per year in an engine that is not certified to the emission standards when using propane, the owners and operators are required to conduct a performance test to demonstrate compliance with the emission standards of 40 CFR 60.4233.

(f) If you are an owner or operator of a stationary SI internal combustion engine that is less than or equal to 500 HP and you purchase a non-certified engine or you do not operate and maintain your certified stationary SI internal combustion engine and control device according to the manufacturer's written emission-related instructions, you are required to perform initial performance testing as indicated in this section, but you are not required to conduct subsequent performance testing unless the stationary engine is rebuilt or undergoes major repair or maintenance. A rebuilt stationary SI ICE means an engine that has been rebuilt as that term is defined in 40 CFR 94.11(a).

(g) It is expected that air-to-fuel ratio controllers will be used with the operation of three-way catalysts/non-selective catalytic reduction. The AFR controller must be maintained and operated appropriately in order to ensure proper operation of the engine and control device to minimize emissions at all times.

(h) If you are an owner/operator of an stationary SI internal combustion engine with maximum engine power greater than or equal to 500 HP that is manufactured after July 1, 2007 and before July 1, 2008, and must comply with the emission standards specified in sections 60.4233(b) or (c), you must comply by one of the methods specified in paragraphs (h)(1) through (h)(4) of this section.

(1) Purchasing an engine certified according to 40 CFR 1048. The engine must be installed and configured according to the manufacturer's specifications.

(2) Keeping records of performance test results for each pollutant for a test conducted on a similar engine. The test must have been conducted using the same methods specified in this Subpart and these methods must have been followed correctly.

(3) Keeping records of engine manufacturer data indicating compliance with the standards.

(4) Keeping records of control device vendor data indicating compliance with the standards.

## **Testing Requirements for Owners and Operators**

### 40 CFR 60.4244 - What test methods and other procedures must I use if I am an owner or operator of a stationary SI internal combustion engine?

Owners and operators of stationary SI ICE who conduct performance tests must follow the procedures in paragraphs (a) through (f) of this section.

(a) Each performance test must be conducted within 10 percent of 100 percent peak (or the highest achievable) load and according to the requirements in 40 CFR 60.8 and under the specific conditions that are specified by Table 2 to this Subpart.

(b) You may not conduct performance tests during periods of startup, shutdown, or malfunction, as specified in 40 CFR 60.8(c). If your stationary SI internal combustion engine is non-operational, you do not need to startup the engine solely to conduct a performance test; however, you must conduct the performance test immediately upon startup of the engine.

(c) You must conduct three separate test runs for each performance test required in this section, as specified in 40 CFR 60.8(f). Each test run must be conducted within 10 percent of 100 percent peak (or the highest achievable) load and last at least 1 hour.

(d) To determine compliance with the NO<sub>x</sub> mass per unit output emission limitation, convert the concentration of NO<sub>x</sub> in the engine exhaust using Equation 1 of this section:

$$ER = \frac{C_d \times 1.912 \times 10^{-3} \times Q \times T}{HP - hr} \quad (\text{Eq. 1})$$

Where:

ER = Emission rate of NO<sub>x</sub> in g/HP-hr.

C<sub>d</sub> = Measured NO<sub>x</sub> concentration in parts per million by volume (ppmv).

1.912×10<sup>-3</sup> = Conversion constant for ppm NO<sub>x</sub> to grams per standard cubic meter at 20 degrees Celsius.

Q = Stack gas volumetric flow rate, in standard cubic meter per hour, dry basis.

T = Time of test run, in hours.

HP-hr = Brake work of the engine, horsepower-hour (HP-hr).

(e) To determine compliance with the CO mass per unit output emission limitation, convert the concentration of CO in the engine exhaust using Equation 2 of this section:

$$ER = \frac{C_d \times 1.164 \times 10^{-3} \times Q \times T}{HP - hr} \quad (\text{Eq. 2})$$

Where:

ER = Emission rate of CO in g/HP-hr.

C<sub>d</sub> = Measured CO concentration in ppmv.

1.164×10<sup>-3</sup> = Conversion constant for ppm CO to grams per standard cubic meter at 20 degrees Celsius.

Q = Stack gas volumetric flow rate, in standard cubic meters per hour, dry basis.

T = Time of test run, in hours.

HP-hr = Brake work of the engine, in HP-hr.

(f) For purposes of this Subpart, when calculating emissions of VOC, emissions of formaldehyde should not be included. To determine compliance with the VOC mass per unit output emission limitation, convert the concentration of VOC in the engine exhaust using Equation 3 of this section:

$$ER = \frac{C_d \times 1.833 \times 10^{-3} \times Q \times T}{HP - hr} \quad (\text{Eq. 3})$$

Where:

ER = Emission rate of VOC in g/HP-hr.

C<sub>d</sub> = VOC concentration measured as propane in ppmv.

1.833×10<sup>-3</sup> = Conversion constant for ppm VOC measured as propane, to grams per standard cubic meter at 20 degrees Celsius.

Q = Stack gas volumetric flow rate, in standard cubic meters per hour, dry basis.

T = Time of test run, in hours.

HP-hr = Brake work of the engine, in HP-hr.

(g) If the owner/operator chooses to measure VOC emissions using either Method 18 of 40 CFR 60 Appendix A, or Method 320 of 40 CFR 63 Appendix A, then it has the option of correcting the measured VOC emissions to account for the potential differences in measured values between these methods and Method 25A. The results from Method 18 and Method 320 can be corrected for response factor differences using Equations 4 and 5 of this section. The corrected VOC concentration can then be placed on a propane basis using Equation 6 of this section.

$$RF_i = \frac{C}{C_{Ai}} \quad (\text{Eq. 4})$$

Where:

R<sub>fi</sub> = Response factor of compound i when measured with EPA Method 25A.

C<sub>M</sub> = Measured concentration of compound i in ppmv as carbon.

C<sub>Ai</sub> = True concentration of compound i in ppmv as carbon.

$$C_{\text{corr}} = R_{fi} \times C_{\text{meas}} \quad (\text{Eq. 5})$$

Where:

C<sub>corr</sub> = Concentration of compound i corrected to the value that would have been measured by EPA Method 25A, ppmv as carbon.

C<sub>meas</sub> = Concentration of compound i measured by EPA Method 320, ppmv as carbon.

$$C_{\text{Peq}} = 0.6098 \times C_{\text{corr}} \quad (\text{Eq. 6})$$

Where:

C<sub>Peq</sub> = Concentration of compound i in mg of propane equivalent per DSCM.

## Notification, Reports, and Records for Owners and Operators

### 40 CFR 60.4245 - What are my notification, reporting, and recordkeeping requirements if I am an owner or operator of a stationary SI internal combustion engine?

Owners or operators of stationary SI ICE must meet the following notification, reporting and recordkeeping requirements.

(a) Owners and operators of all stationary SI ICE must keep records of the information in paragraphs (a)(1) through (4) of this section.

- (1) All notifications submitted to comply with this Subpart and all documentation supporting any notification.
- (2) Maintenance conducted on the engine.
- (3) If the stationary SI internal combustion engine is a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards and information as required in 40 CFR 90, 1048, 1054, and 1060, as applicable.
- (4) If the stationary SI internal combustion engine is not a certified engine or is a certified engine operating in a non-certified manner and subject to 40 CFR 60.4243(a)(2), documentation that the engine meets the emission standards.

(b) For all stationary SI emergency ICE greater than or equal to 500 HP manufactured on or after July 1, 2010, that do not meet the standards applicable to non-emergency engines, the owner or operator of must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. For all stationary SI emergency ICE greater than or equal to 130 HP and less than 500 HP manufactured on or after July 1, 2011 that do not meet the standards applicable to non-emergency engines, the owner or operator of must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. For all stationary SI emergency ICE greater than 25 HP and less than 130 HP manufactured on or after July 1, 2008, that do not meet the standards applicable to non-emergency engines, the owner or operator of must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The owner or operator must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation.

(c) Owners and operators of stationary SI ICE greater than or equal to 500 HP that have not been certified by an engine manufacturer to meet the emission standards in 40 CFR 60.4231 must submit an initial notification as required in 40 CFR 60.7(a)(1). The notification must include the information in paragraphs (c)(1) through (5) of this section.

- (1) Name and address of the owner or operator;
- (2) The address of the affected source;
- (3) Engine information including make, model, engine family, serial number, model year, maximum engine power, and engine displacement;
- (4) Emission control equipment; and
- (5) Fuel used.

(d) Owners and operators of stationary SI ICE that are subject to performance testing must submit a copy of each performance test as conducted in 40 CFR 60.4244 within 60 days after the test has been completed.

[73 FR 3591, Jan. 18, 2008, as amended by 73 FR 59177, Oct. 8, 2008]

## General Provisions

#### 40 CFR 60.4246 - What parts of the General Provisions apply to me?

Table 3 to this Subpart shows which parts of the General Provisions in 40 CFR 60.1 through 60.19 apply to you.

#### **Mobile Source Provisions**

#### 40 CFR 60.4247 - What parts of the mobile source provisions apply to me if I am a manufacturer of stationary SI internal combustion engines or a manufacturer of equipment containing such engines?

(a) Manufacturers certifying to emission standards in 40 CFR 90, including manufacturers certifying emergency engines below 130 HP, must meet the provisions of 40 CFR 90. Manufacturers certifying to emission standards in 40 CFR 1054 must meet the provisions of 40 CFR 1054. Manufacturers of equipment containing stationary SI internal combustion engines meeting the provisions of 40 CFR 1054 must meet the provisions of 40 CFR 1060 to the extent they apply to equipment manufacturers.

(b) Manufacturers required to certify to emission standards in 40 CFR 1048 must meet the provisions of 40 CFR 1048. Manufacturers certifying to emission standards in 40 CFR 1048 pursuant to the voluntary certification program must meet the requirements in Table 4 to this Subpart as well as the standards in 40 CFR 1048.101.

(c) For manufacturers of stationary SI internal combustion engines participating in the voluntary certification program and certifying engines to Table 1 to this Subpart, Table 4 to this Subpart shows which parts of the mobile source provisions in 40 CFR 1048, 1065, and 1068 apply to you. Compliance with the deterioration factor provisions under 40 CFR 1048.205(n) and 1048.240 will be required for engines built new on and after January 1, 2010. Prior to January 1, 2010, manufacturers of stationary internal combustion engines participating in the voluntary certification program have the option to develop their own deterioration factors based on an engineering analysis.

[73 FR 3591, Jan. 18, 2008, as amended by 73 FR 59177, Oct. 8, 2008]

#### **Definitions**

#### 40 CFR 60.4248 - What definitions apply to this Subpart?

As used in this Subpart, all terms not defined herein shall have the meaning given them in the CAA and in Subpart A of 40 CFR 60.

*Certified emissions 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. The values for certified emissions life for stationary SI ICE with a maximum engine power less than or equal to 19 KW (25 HP) are given in 40 CFR 90.105, 40 CFR 1054.107, and 40 CFR 1060.101, as appropriate. The values for certified emissions life for stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) certified to 40 CFR 1048 are given in 40 CFR 1048.101(g). The certified emissions life for stationary SI ICE with a maximum engine power greater than 75 KW (100 HP) certified under the voluntary manufacturer certification program of this Subpart is 5,000 hours or 7 years, whichever comes first.

*Certified stationary internal combustion engine* means an engine that belongs to an engine family that has a certificate of conformity that complies with the emission standards and requirements in 40 CFR 60, or of 40 CFR 90, 40 CFR 1048, or 40 CFR 1054, as appropriate.

*Combustion turbine* means all equipment, including but not limited to the turbine, the fuel, air, lubrication and exhaust gas systems, control systems (except emissions control equipment), and any ancillary components and sub-components comprising any simple cycle combustion turbine, any regenerative/recuperative cycle combustion turbine, the combustion turbine portion of any cogeneration cycle combustion system, or the combustion turbine portion of any combined cycle steam/electric generating system.

*Compression ignition* means relating to a type of stationary internal combustion engine that is not a spark ignition engine.

*Diesel fuel* means any liquid obtained from the distillation of petroleum with a boiling point of approximately 150 to 360 degrees Celsius. One commonly used form is number 2 distillate oil.

*Digester gas* means any gaseous by-product of wastewater treatment typically formed through the anaerobic decomposition of organic waste materials and composed principally of methane and carbon dioxide (CO<sub>2</sub>).

*Emergency stationary internal combustion engine* means any stationary internal combustion engine whose operation is limited to emergency situations and required testing and maintenance. Examples include stationary ICE used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted,

or stationary ICE used to pump water in the case of fire or flood, etc. Stationary SI ICE used for peak shaving are not considered emergency stationary ICE. Stationary ICE used to supply power to an electric grid or that supply power as part of a financial arrangement with another entity are not considered to be emergency engines.

*Engine manufacturer* means the manufacturer of the engine. See the definition of “manufacturer” in this section.

*Four-stroke engine* means any type of engine which completes the power cycle in two crankshaft revolutions, with intake and compression strokes in the first revolution and power and exhaust strokes in the second revolution.

*Gasoline* means any fuel sold in any State for use in motor vehicles and motor vehicle engines, or non-road or stationary engines, and commonly or commercially known or sold as gasoline.

*Landfill gas* means a gaseous by-product of the land application of municipal refuse typically formed through the anaerobic decomposition of waste materials and composed principally of methane and CO<sub>2</sub>.

*Lean burn engine* means any two-stroke or four-stroke spark ignited engine that does not meet the definition of a rich burn engine.

*Liquefied petroleum gas* means any liquefied hydrocarbon gas obtained as a by-product in petroleum refining of natural gas production.

*Manufacturer* has the meaning given in section 216(1) of the Clean Air Act. In general, this term includes any person who manufactures a stationary engine for sale in the United States or otherwise introduces a new stationary engine into commerce in the United States. This includes importers who import stationary engines for resale.

*Maximum engine power* means maximum engine power as defined in 40 CFR 1048.801.

*Model year* means either: The calendar year in which the engine was originally produced, or the annual new model production period of the engine manufacturer 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 an engine that is converted to a stationary engine after being placed into service as a non-road or other non-stationary engine, model year means the calendar year or new model production period in which the engine was originally produced.

*Natural gas* means a naturally occurring mixture of hydrocarbon and non-hydrocarbon gases found in geologic formations beneath the Earth's surface, of which the principal constituent is methane. Natural gas may be field or pipeline quality.

*Other internal combustion engine* means any internal combustion engine, except combustion turbines, which is not a reciprocating internal combustion engine or rotary internal combustion engine.

*Pipeline-quality natural gas* means a naturally occurring fluid mixture of hydrocarbons (e.g., methane, ethane, or propane) produced in geological formations beneath the Earth's surface that maintains a gaseous state at standard atmospheric temperature and pressure under ordinary conditions, and which is provided by a supplier through a pipeline. Pipeline-quality natural gas must either be composed of at least 70 percent methane by volume or have a gross calorific value between 950 and 1,100 British thermal units per standard cubic foot.

*Rich burn engine* means any four-stroke spark ignited engine where the manufacturer's recommended operating air/fuel ratio divided by the stoichiometric air/fuel ratio at full load conditions is less than or equal to 1.1. Engines originally manufactured as rich burn engines, but modified prior to June 12, 2006, with passive emission control technology for NO<sub>x</sub> (such as pre-combustion chambers) will be considered lean burn engines. Also, existing engines where there are no manufacturer's recommendations regarding air/fuel ratio will be considered a rich burn engine if the excess oxygen content of the exhaust at full load conditions is less than or equal to 2 percent.

*Rotary internal combustion engine* means any internal combustion engine which uses rotary motion to convert heat energy into mechanical work.

*Spark ignition* means relating to either: a gasoline-fueled engine; or any other type of engine with a spark plug (or other sparking device) and with operating characteristics significantly similar to the theoretical Otto combustion cycle. Spark ignition engines usually use a throttle to regulate intake air flow to control power during normal operation. Dual-fuel engines in which a liquid fuel (typically diesel fuel) is used for compression ignition and gaseous fuel (typically natural gas) is used as the primary fuel at an annual average ratio of less than 2 parts diesel fuel to 100 parts total fuel on an energy equivalent basis are spark ignition engines.

*Stationary internal combustion engine* means any internal combustion engine, except combustion turbines, that converts heat energy into mechanical work and is not mobile. Stationary ICE differ from mobile ICE in that a stationary internal combustion engine is not a non-road engine as defined at 40 CFR 1068.30 (excluding paragraph (2)(ii) of that definition), and is not used to propel a motor vehicle or a vehicle used solely for competition. Stationary ICE include reciprocating ICE, rotary ICE, and other ICE, except combustion turbines.

*Stationary internal combustion engine test cell/stand* means an engine test cell/stand, as defined in Subpart P P P P P of 40 CFR 60, that test stationary ICE.

*Stoichiometric* means the theoretical air-to-fuel ratio required for complete combustion.

*Subpart* means 40 CFR 60 Subpart JJJJ.

*Two-stroke engine* means a type of engine which completes the power cycle in single crankshaft revolution by combining the intake and compression operations into one stroke and the power and exhaust operations into a second stroke. This system requires auxiliary scavenging and inherently runs lean of stoichiometric.

*Volatile organic compounds* means volatile organic compounds as defined in 40 CFR 51.100(s).

*Voluntary certification program* means an optional engine certification program that manufacturers of stationary SI internal combustion engines with a maximum engine power greater than 19 KW (25 HP) that do not use gasoline and are not rich burn engines that use LPG can choose to participate in to certify their engines to the emission standards in 40 CFR 60.4231(d) or (e), as applicable.

[73 FR 3591, Jan. 18, 2008, as amended by 73 FR 59177, Oct. 8, 2008]

**Table 1 to Subpart JJJJ of 40 CFR 60 - NO<sub>x</sub>, CO, and VOC Emission Standards for Stationary Non-Emergency SI Engines ≥ 100 HP (Except Gasoline and Rich Burn LPG), Stationary SI Landfill/Digester Gas Engines, and Stationary Emergency Engines > 25 HP**

| Engine type and fuel  | Maximum engine power | Manufacture date     | Emission standards <sup>a</sup> |     |                  |                             |     |                  |
|---|----------------------|----------------------|---------------------------------|-----|------------------|-----------------------------|-----|------------------|
|   |                      |                      | g/HP-hr                         |     |                  | ppmvd at 15% O <sub>2</sub> |     |                  |
|   |                      |                      | NO <sub>x</sub>                 | CO  | VOC <sup>d</sup> | NO <sub>x</sub>             | CO  | VOC <sup>d</sup> |
| Non-Emergency SI Natural Gas <sup>b</sup> and Non-Emergency SI Lean Burn LPG <sup>b</sup>           | 100 ≤ HP < 500       | 7/1/2008<br>1/1/2011 | 2.0                             | 4.0 | 1.0              | 160                         | 540 | 86               |
|   |                      |                      | 1.0                             | 2.0 | 0.7              | 82                          | 270 | 60               |
| Non-Emergency SI Lean Burn Natural Gas and LPG  | 500 ≥ HP < 1,350     | 1/1/2008<br>7/1/2010 | 2.0                             | 4.0 | 1.0              | 160                         | 540 | 86               |
|   |                      |                      | 1.0                             | 2.0 | 0.7              | 82                          | 270 | 60               |
| Non-Emergency SI Natural Gas and Non-Emergency SI Lean Burn LPG (except lean burn 500 ≥ HP < 1,350) | HP ≥ 500<br>HP ≥ 500 | 7/1/2007<br>7/1/2010 | 2.0                             | 4.0 | 1.0              | 160                         | 540 | 86               |
|   |                      |                      | 1.0                             | 2.0 | 0.7              | 82                          | 270 | 60               |
| Landfill/Digester Gas (except lean burn 500 ≥ HP < 1,350)   | HP < 500             | 7/1/2008<br>1/1/2011 | 3.0                             | 5.0 | 1.0              | 220                         | 610 | 80               |
|   |                      |                      | 2.0                             | 5.0 | 1.0              | 150                         | 610 | 80               |
|   | HP ≥ 500             | 7/1/2007<br>7/1/2010 | 3.0                             | 5.0 | 1.0              | 220                         | 610 | 80               |
|   |                      |                      | 2.0                             | 5.0 | 1.0              | 150                         | 610 | 80               |
| Landfill/Digester Gas Lean Burn   | 500 ≥ HP < 1,350     | 1/1/2008<br>7/1/2010 | 3.0                             | 5.0 | 1.0              | 220                         | 610 | 80               |
|   |                      |                      | 2.0                             | 5.0 | 1.0              | 150                         | 610 | 80               |
| Emergency   | 25 > HP < 130        | 1/1/2009             | °10                             | 387 | N/A              | N/A                         | N/A | N/A              |
|   |                      |                      | 2.0                             | 4.0 | 1.0              | 160                         | 540 | 86               |
|   | HP ≥ 130             |                      |                                 |     |                  |                             |     |                  |

<sup>a</sup>Owners and operators of stationary non-certified SI engines may choose to comply with the emission standards in units of either g/HP-hr or ppmvd at 15 percent O<sub>2</sub>.

<sup>b</sup>Owners and operators of new or reconstructed non-emergency lean burn SI stationary engines with a site rating of greater than or equal to 250 brake HP located at a major source that are meeting the requirements of 40 CFR 63 Subpart ZZZZ, Table 2A do not have to comply with the CO emission standards of Table 1 of this Subpart.

<sup>c</sup>The emission standards applicable to emergency engines between 25 HP and 130 HP are in terms of NO<sub>x</sub> + HC.

<sup>d</sup>For purposes of this Subpart, when calculating emissions of volatile organic compounds, emissions of formaldehyde should not be included.

**Table 2 to Subpart JJJJ of 40 CFR 60 - Requirements for Performance Tests**

[As stated in 40 CFR 60.4244, you must comply with the following requirements for performance tests within 10 percent of 100 percent peak (or the highest achievable) load]

| For each  | Complying with the requirement to  | You must  | Using   | According to the following requirements   |
|---|--|---|---|---|
| 1. Stationary SI internal combustion engine demonstrating compliance according to 40 CFR 60.4244. | a. limit the concentration of NO <sub>x</sub> in the stationary SI internal combustion engine exhaust.                             | i. Select the sampling port location and the number of traverse points;   | (1) Method 1 or 1A of 40 CFR 60 Appendix A or ASTM Method D6522-00(2005) <sup>a</sup> .   | (a) If using a control device, the sampling site must be located at the outlet of the control device. |
|   | ii. Determine the O <sub>2</sub> concentration of the stationary internal combustion engine exhaust at the sampling port location; | (2) Method 3, 3A, or 3B <sup>b</sup> of 40 CFR 60 Appendix A or ASTM Method D6522-00(2005) <sup>a</sup> .   | (b) Measurements to determine O <sub>2</sub> concentration must be made at the same time as the measurements for NO <sub>x</sub> concentration. |   |
|   | iii. Determine the exhaust flowrate of the stationary internal combustion engine exhaust;  | (3) Method 2 or 19 of 40 CFR 60.  |   |   |
|   | iv. If necessary, measure moisture content of the stationary internal combustion engine exhaust at the sampling port location; and | (4) Method 4 of 40 CFR 60 Appendix A, Method 320 of 40 CFR 63 Appendix A, or ASTM D6348-03 (incorporated by reference, see 40 CFR 60.17).                                       | (c) Measurements to determine moisture must be made at the same time as the measurement for NO <sub>x</sub> concentration.                      |   |
|   | v. Measure NO <sub>x</sub> at the exhaust of the stationary internal combustion engine.  | (5) Method 7E of 40 CFR 60 Appendix A, Method D6522-00(2005) <sup>a</sup> , Method 320 of 40 CFR 63 Appendix A, or ASTM D6348-03 (incorporated by reference, see 40 CFR 60.17). | (d) Results of this test consist of the average of the three 1-hour or longer runs.   |   |
|   | b. limit the concentration of CO in the stationary SI internal combustion engine exhaust.  | i. Select the sampling port location and the number of traverse points;   | (1) Method 1 or 1A of 40 CFR 60 Appendix A.   | (a) If using a control device, the sampling site must be located at the outlet of the control device. |
|   | ii. Determine the O <sub>2</sub> concentration of the stationary internal combustion engine exhaust at the sampling port location; | (2) Method 3, 3A, or 3B <sup>b</sup> of 40 CFR 60 Appendix A or ASTM Method D6522-00(2005) <sup>a</sup> .   | (b) Measurements to determine O <sub>2</sub> concentration must be made at the same time as the measurements for CO concentration.              |   |
|   | iii. Determine the exhaust flowrate of the stationary internal combustion engine exhaust;  | (3) Method 2 or 19 of 40 CFR 60.  |   |   |
|   | iv. If necessary, measure moisture content of the stationary internal combustion engine exhaust at the sampling port location;     | (4) Method 4 of 40 CFR 60 Appendix A, Method 320 of 40 CFR 63 Appendix A, or ASTM D6348-03 (incorporated by reference, see 40 CFR 60.17).                                       | (c) Measurements to determine moisture must be made at the same time as the measurement for CO concentration.                                   |   |

|  |  |   |   |   |
|--|--|---|---|---|
|  | and  |   |   |   |
|  | v. Measure CO at the exhaust of the stationary internal combustion engine.   | (5) Method 10 of 40 CFR 60 Appendix A, ASTM Method D6522-00(2005) <sup>a</sup> , Method 320 of 40 CFR 63 Appendix A, or ASTM D 6348-03 (incorporated by reference, see 40 CFR 60.17).   | (d) Results of this test consist of the average of the three 1-hour or longer runs.   |   |
|  | c. limit the concentration of VOC in the stationary SI internal combustion engine exhaust.   | i. Select the sampling port location and the number of traverse points;   | (1) Method 1 or 1A of 40 CFR 60 Appendix A.   | (a) If using a control device, the sampling site must be located at the outlet of the control device. |
|  | ii. Determine the O <sub>2</sub> concentration of the stationary internal combustion engine exhaust at the sampling port location; | (2) Method 3, 3A, or 3B <sup>b</sup> of 40 CFR 60 Appendix A or ASTM Method D6522-00(2005) <sup>a</sup> .   | (b) Measurements to determine O <sub>2</sub> concentration must be made at the same time as the measurements for VOC concentration. |   |
|  | iii. Determine the exhaust flowrate of the stationary internal combustion engine exhaust;  | (3) Method 2 or 19 of 40 CFR 60.  |   |   |
|  | iv. If necessary, measure moisture content of the stationary internal combustion engine exhaust at the sampling port location; and | (4) Method 4 of 40 CFR 60 Appendix A, Method 320 of 40 CFR 63 Appendix A, or ASTM D6348-03 (incorporated by reference, see 40 CFR 60.17).   | (c) Measurements to determine moisture must be made at the same time as the measurement for VOC concentration.                      |   |
|  | v. Measure VOC at the exhaust of the stationary internal combustion engine.  | (5) Methods 25A and 18 of 40 CFR 60 Appendix A, Method 25A with the use of a methane cutter as described in 40 CFR 1065.265, Method 18 or 40 CFR 60 Appendix A, <sup>cd</sup> Method 320 of 40 CFR 63 Appendix A, or ASTM D6348-03 (incorporated by reference, see 40 CFR 60.17). | (d) Results of this test consist of the average of the three 1-hour or longer runs.   |   |

<sup>a</sup>ASTM D6522-00 is incorporated by reference; see 40 CFR 60.17. Also, you may petition the Administrator for approval to use alternative methods for portable analyzer.

<sup>b</sup>You may use ASME PTC 19.10-1981, Flue and Exhaust Gas Analyses, for measuring the O<sub>2</sub> content of the exhaust gas as an alternative to EPA Method 3B.

<sup>c</sup>You may use EPA Method 18 of 40 CFR 60 Appendix A, provided that you conduct an adequate presurvey test prior to the emissions test, such as the one described in OTM 11 on EPA's Web site (<http://www.epa.gov/ttn/emc/prelim/otm11.pdf>).

<sup>d</sup>You may use ASTM D6420-99 (2004), Test Method for Determination of Gaseous Organic Compounds by Direct Interface Gas Chromatography/Mass Spectrometry as an alternative to EPA Method 18 for measuring total non-methane organic.

**Table 3 to Subpart JJJJ of 40 CFR 60 - Applicability of General Provisions to Subpart JJJJ**  
[As stated in 40 CFR 60.4246, you must comply with the following applicable General Provisions]

| General provisions | Subject of citation | Applies to Subpart | Explanation |
|--------------------|---------------------|--------------------|-------------|
|--------------------|---------------------|--------------------|-------------|

| <b>citation</b> |  |     |  |
|-----------------|--|-----|--|
| 40 CFR 60.1     | General applicability of the General Provisions        | Yes |  |
| 40 CFR 60.2     | Definitions  | Yes | Additional terms defined in 40 CFR 60.4248.  |
| 40 CFR 60.3     | Units and abbreviations                                | Yes |  |
| 40 CFR 60.4     | Address  | Yes |  |
| 40 CFR 60.5     | Determination of construction or modification          | Yes |  |
| 40 CFR 60.6     | Review of plans  | Yes |  |
| 40 CFR 60.7     | Notification and Recordkeeping                         | Yes | Except that 40 CFR 60.7 only applies as specified in 40 CFR 60.4245.   |
| 40 CFR 60.8     | Performance tests                                      | Yes | Except that 40 CFR 60.8 only applies to owners and operators who are subject to performance testing in Subpart JJJJ. |
| 40 CFR 60.9     | Availability of information                            | Yes |  |
| 40 CFR 60.10    | State Authority  | Yes |  |
| 40 CFR 60.11    | Compliance with standards and maintenance requirements | Yes | Requirements are specified in Subpart JJJJ.  |
| 40 CFR 60.12    | Circumvention  | Yes |  |
| 40 CFR 60.13    | Monitoring requirements                                | No  |  |
| 40 CFR 60.14    | Modification   | Yes |  |
| 40 CFR 60.15    | Reconstruction   | Yes |  |
| 40 CFR 60.16    | Priority list  | Yes |  |
| 40 CFR 60.17    | Incorporations by reference                            | Yes |  |
| 40 CFR 60.18    | General control device requirements                    | No  |  |
| 40 CFR 60.19    | General notification and reporting requirements        | Yes |  |

**Table 4 to Subpart JJJJ of 40 CFR 60 - Applicability of Mobile Source Provisions for Manufacturers Participating in the Voluntary Certification Program and Certifying Stationary SI ICE to Emission Standards in Table 1 of Subpart JJJJ**

[As stated in 40 CFR 60.4247, you must comply with the following applicable mobile source provisions if you are a manufacturer participating in the voluntary certification program and certifying stationary SI ICE to emission standards in Table 1 of Subpart JJJJ]

| <b>Mobile source provisions citation</b> | <b>Subject of citation</b>                  | <b>Applies to Subpart</b> | <b>Explanation</b>                      |
|--|---|---------------------------|---|
| 1048 Subpart A                           | Overview and Applicability                  | Yes                       |   |
| 1048 Subpart B                           | Emission Standards and Related Requirements | Yes                       | Except for the specific sections below. |

|                        |   |     |   |
|------------------------|---|-----|---|
| 1048.101               | Exhaust Emission Standards  | No  |   |
| 1048.105               | Evaporative Emission Standards  | No  |   |
| 1048.110               | Diagnosing Malfunctions   | No  |   |
| 1048.140               | Certifying Blue Sky Series Engines  | No  |   |
| 1048.145               | Interim Provisions  | No  |   |
| 1048 Subpart C         | Certifying Engine Families  | Yes | Except for the specific sections below. |
| 1048.205(b)            | AECD reporting  | Yes |   |
| 1048.205(c)            | OBD Requirements  | No  |   |
| 1048.205(n)            | Deterioration Factors   | Yes | Except as indicated in 60.4247(c).      |
| 1048.205(p)(1)         | Deterioration Factor Discussion   | Yes |   |
| 1048.205(p)(2)         | Liquid Fuels as they require  | No  |   |
| 1048.240(b)(c)(d)      | Deterioration Factors   | Yes |   |
| 1048 Subpart D         | Testing Production-Line Engines   | Yes |   |
| 1048 Subpart E         | Testing In-Use Engines  | No  |   |
| 1048 Subpart F         | Test Procedures   | Yes |   |
| 1065.5(a)(4)           | Raw sampling (refers reader back to the specific emissions regulation for guidance) | Yes |   |
| 1048 Subpart G         | Compliance Provisions   | Yes |   |
| 1048 Subpart H         | Reserved  |     |   |
| 1048 Subpart I         | Definitions and Other Reference Information   | Yes |   |
| 1048 Appendix I and II | Yes   |     |   |
| 1065 (all Subparts)    | Engine Testing Procedures   | Yes | Except for the specific section below.  |
| 1065.715               | Test Fuel Specifications for Natural Gas  | No  |   |
| 1068 (all Subparts)    | General Compliance Provisions for Nonroad Programs                                  | Yes | Except for the specific sections below. |
| 1068.245               | Hardship Provisions for Unusual Circumstances                                       | No  |   |
| 1068.250               | Hardship Provisions for Small-Volume Manufacturers                                  | No  |   |
| 1068.255               | Hardship Provisions for Equipment Manufacturers and Secondary Engine Manufacturers  | No  |   |

## **Subpart KKKK—Standards of Performance for Stationary Combustion Turbines**

**Source:** 71 FR 38497, July 6, 2006, unless otherwise noted.

### **Introduction**

#### 40 CFR 60.4300 - What is the purpose of this subpart?

This subpart establishes emission standards and compliance schedules for the control of emissions from stationary combustion turbines that commenced construction, modification or reconstruction after February 18, 2005.

### **Applicability**

#### 40 CFR 60.4305 - Does this subpart apply to my stationary combustion turbine?

(a) If you are the owner or operator of a stationary combustion turbine with a heat input at peak load equal to or greater than 10.7 gigajoules (10 MMBtu) per hour, based on the higher heating value of the fuel, which commenced construction, modification, or reconstruction after February 18, 2005, your turbine is subject to this subpart. Only heat input to the combustion turbine should be included when determining whether or not this subpart is applicable to your turbine. Any additional heat input to associated heat recovery steam generators (HRSG) or duct burners should not be included when determining your peak heat input. However, this subpart does apply to emissions from any associated HRSG and duct burners.

(b) Stationary combustion turbines regulated under this subpart are exempt from the requirements of Subpart GG of this part. Heat recovery steam generators and duct burners regulated under this subpart are exempted from the requirements of 40 CFR 60 Subparts Da, Db, and Dc.

#### 40 CFR 60.4310 - What types of operations are exempt from these standards of performance?

(a) Emergency combustion turbines, as defined in 40 CFR 60.4420(i), are exempt from the nitrogen oxides (NO<sub>x</sub>) emission limits in 40 CFR 60.4320.

(b) Stationary combustion turbines engaged by manufacturers in research and development of equipment for both combustion turbine emission control techniques and combustion turbine efficiency improvements are exempt from the NO<sub>x</sub> emission limits in 40 CFR 60.4320 on a case-by-case basis as determined by the Administrator.

(c) Stationary combustion turbines at integrated gasification combined cycle electric utility steam generating units that are subject to 40 CFR 60 Subpart Da are exempt from this subpart.

(d) Combustion turbine test cells/stands are exempt from this subpart.

### **Emission Limits**

#### 40 CFR 60.4315 - What pollutants are regulated by this subpart?

The pollutants regulated by this subpart are nitrogen oxide (NO<sub>x</sub>) and sulfur dioxide (SO<sub>2</sub>).

#### 40 CFR 60.4320 - What emission limits must I meet for nitrogen oxides (NO<sub>x</sub>)?

(a) You must meet the emission limits for NO<sub>x</sub> specified in Table 1 to this subpart.

(b) If you have two or more turbines that are connected to a single generator, each turbine must meet the emission limits for NO<sub>x</sub>.

#### 40 CFR 60.4325 - What emission limits must I meet for NO<sub>x</sub> if my turbine burns both natural gas and distillate oil (or some other combination of fuels)?

You must meet the emission limits specified in Table 1 to this subpart. If your total heat input is greater than or equal to 50 percent natural gas, you must meet the corresponding limit for a natural gas-fired turbine when you are burning that fuel. Similarly, when your total heat input is greater than 50 percent distillate oil and fuels other than natural gas, you must meet the corresponding limit for distillate oil and fuels other than natural gas for the duration of the time that you burn that particular fuel.

#### 40 CFR 60.4330 - What emission limits must I meet for sulfur dioxide (SO<sub>2</sub>)?

(a) If your turbine is located in a continental area, you must comply with either paragraph (a)(1), (a)(2), or (a)(3) of this section. If your turbine is located in Alaska, you do not have to comply with the requirements in paragraph (a) of this section until January 1, 2008.

(1) You must not cause to be discharged into the atmosphere from the subject stationary combustion turbine any gases which contain SO<sub>2</sub> in excess of 110

nanograms per Joule (ng/J) (0.90 pounds per megawatt-hour (lb/MWh)) gross output;

(2) You must not burn in the subject stationary combustion turbine any fuel which contains total potential sulfur emissions in excess of 26 ng SO<sub>2</sub>/J (0.060 lb SO<sub>2</sub>/MMBtu) heat input. If your turbine simultaneously fires multiple fuels, each fuel must meet this requirement; or

(3) For each stationary combustion turbine burning at least 50 percent biogas on a calendar month basis, as determined based on total heat input, you must not cause to be discharged into the atmosphere from the affected source any gases that contain SO<sub>2</sub> in excess of 65 ng SO<sub>2</sub>/J (0.15 lb SO<sub>2</sub>/MMBtu) heat input.

(b) If your turbine is located in a noncontinental area or a continental area that the Administrator determines does not have access to natural gas and that the removal of sulfur compounds would cause more environmental harm than benefit, you must comply with one or the other of the following conditions:

(1) You must not cause to be discharged into the atmosphere from the subject stationary combustion turbine any gases which contain SO<sub>2</sub> in excess of 780 ng/J (6.2 lb/MWh) gross output, or

(2) You must not burn in the subject stationary combustion turbine any fuel which contains total sulfur with potential sulfur emissions in excess of 180 ng SO<sub>2</sub>/J (0.42 lb SO<sub>2</sub>/MMBtu) heat input. If your turbine simultaneously fires multiple fuels, each fuel must meet this requirement.

[71 FR 38497, July 6, 2006, as amended at 74 FR 11861, Mar. 20, 2009]

## **General Compliance Requirements**

### 40 CFR 60.4333 - What are my general requirements for complying with this subpart?

(a) You must operate and maintain your stationary combustion turbine, air pollution control equipment, and monitoring equipment in a manner consistent with good air pollution control practices for minimizing emissions at all times including during startup, shutdown, and malfunction.

(b) When an affected unit with heat recovery utilizes a common steam header with one or more combustion turbines, the owner or operator shall either:

(1) Determine compliance with the applicable NO<sub>x</sub> emissions limits by measuring the emissions combined with the emissions from the other unit(s) utilizing the common heat recovery unit; or

2) Develop, demonstrate, and provide information satisfactory to the Administrator on methods for apportioning the combined gross energy output from the heat recovery unit for each of the affected combustion turbines. The Administrator may approve such demonstrated substitute methods for apportioning the combined gross energy output measured at the steam turbine whenever the demonstration ensures accurate estimation of emissions related under this part.

## **Monitoring**

### 40 CFR 60.4335 - How do I demonstrate compliance for NO<sub>x</sub> if I use water or steam injection?

(a) If you are using water or steam injection to control NO<sub>x</sub> emissions, you must install, calibrate, maintain and operate a continuous monitoring system to monitor and record the fuel consumption and the ratio of water or steam to fuel being fired in the turbine when burning a fuel that requires water or steam injection for compliance.

(b) Alternatively, you may use continuous emission monitoring, as follows:

(1) Install, certify, maintain, and operate a continuous emission monitoring system (CEMS) consisting of a NO<sub>x</sub> monitor and a diluent gas (oxygen (O<sub>2</sub>) or carbon dioxide (CO<sub>2</sub>)) monitor, to determine the hourly NO<sub>x</sub> emission rate in parts per million (ppm) or pounds per million British thermal units (lb/MMBtu); and

(2) For units complying with the output-based standard, install, calibrate, maintain, and operate a fuel flow meter (or flow meters) to continuously measure the heat input to the affected unit; and

(3) For units complying with the output-based standard, install, calibrate, maintain, and operate a watt meter (or meters) to continuously measure the gross electrical output of the unit in megawatt-hours; and

(4) For combined heat and power units complying with the output-based standard, install, calibrate, maintain, and operate meters for useful recovered energy flow rate, temperature, and pressure, to continuously measure the total thermal energy output in British thermal units per hour (Btu/h).

### 40 CFR 60.4340 - How do I demonstrate continuous compliance for NO<sub>x</sub> if I do not use water or steam injection?

(a) If you are not using water or steam injection to control NO<sub>x</sub> emissions, you must perform annual performance tests in accordance with 40 CFR 60.4400 to demonstrate continuous compliance. If the NO<sub>x</sub> emission result from the performance test is less than or equal to 75 percent of the NO<sub>x</sub> emission limit for the turbine, you may reduce the frequency of subsequent performance tests to once every 2 years (no more than 26 calendar months following the previous performance test). If the results of any subsequent performance test exceed 75 percent of the NO<sub>x</sub> emission limit for the turbine, you must resume annual performance tests.

(b) As an alternative, you may install, calibrate, maintain and operate one of the following continuous monitoring systems:

(1) Continuous emission monitoring as described in 40 CFR 60.4335(b) and 60.4345, or

(2) Continuous parameter monitoring as follows:

(i) For a diffusion flame turbine without add-on selective catalytic reduction (SCR) controls, you must define parameters indicative of the unit's NO<sub>x</sub> formation characteristics, and you must monitor these parameters continuously.

(ii) For any lean premix stationary combustion turbine, you must continuously monitor the appropriate parameters to determine whether the unit is operating in low-NO<sub>x</sub> mode.

(iii) For any turbine that uses SCR to reduce NO<sub>x</sub> emissions, you must continuously monitor appropriate parameters to verify the proper operation of the emission controls.

(iv) For affected units that are also regulated under 40 CFR 75 of this chapter, with state approval you can monitor the NO<sub>x</sub> emission rate using the methodology in Appendix E to 40 CFR 75, or the low mass emissions methodology in 40 CFR 75.19, the requirements of this paragraph (b) may be met by performing the parametric monitoring described in section 2.3 of 40 CFR 75 Appendix E or in 40 CFR 75.19(c)(1)(iv)(H).

#### 40 CFR 60.4345 - What are the requirements for the continuous emission monitoring system equipment, if I choose to use this option?

If the option to use a NO<sub>x</sub>CEMS is chosen:

(a) Each NO<sub>x</sub> diluent CEMS must be installed and certified according to Performance Specification 2 (PS 2) in Appendix B to 40 CFR 60, except the 7-day calibration drift is based on unit operating days, not calendar days. With state approval, Procedure 1 in Appendix F to 40 CFR 60 is not required. Alternatively, a NO<sub>x</sub> diluent CEMS that is installed and certified according to Appendix A of 40 CFR 75 of this chapter is acceptable for use under this subpart. The relative accuracy test audit (RATA) of the CEMS shall be performed on a lb/MMBtu basis.

(b) As specified in 40 CFR 60.13(e)(2), during each full unit operating hour, both the NO<sub>x</sub> monitor and the diluent monitor must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each 15-minute quadrant of the hour, to validate the hour. For partial unit operating hours, at least one valid data point must be obtained with each monitor for each quadrant of the hour in which the unit operates. For unit operating hours in which required quality assurance and maintenance activities are performed on the CEMS, a minimum of two valid data points (one in each of two quadrants) are required for each monitor to validate the NO<sub>x</sub> emission rate for the hour.

(c) Each fuel flowmeter shall be installed, calibrated, maintained, and operated according to the manufacturer's instructions. Alternatively, with state approval, fuel flowmeters that meet the installation, certification, and quality assurance requirements of Appendix D to 40 CFR 75 of this chapter are acceptable for use under this subpart.

(d) Each watt meter, steam flow meter, and each pressure or temperature measurement device shall be installed, calibrated, maintained, and operated according to manufacturer's instructions.

(e) The owner or operator shall develop and keep on-site a quality assurance (QA) plan for all of the continuous monitoring equipment described in paragraphs (a), (c), and (d) of this section. For the CEMS and fuel flow meters, the owner or operator may, with state approval, satisfy the requirements of this paragraph by implementing the QA program and plan described in section 1 of Appendix B to 40 CFR 75 of this chapter.

#### 40 CFR 60.4350 - How do I use data from the continuous emission monitoring equipment to identify excess emissions?

For purposes of identifying excess emissions:

(a) All CEMS data must be reduced to hourly averages as specified in 40 CFR 60.13(h).

(b) For each unit operating hour in which a valid hourly average, as described in 40 CFR 60.4345(b), is obtained for both NO<sub>x</sub> and diluent monitors, the data acquisition and handling system must calculate and record the hourly NO<sub>x</sub> emission rate in units of ppm or lb/MMBtu, using the appropriate equation from method 19 in Appendix A of 40 CFR 60. For any hour in which the hourly average O<sub>2</sub> concentration exceeds 19.0 percent O<sub>2</sub> (or the hourly average CO<sub>2</sub> concentration is less than 1.0 percent CO<sub>2</sub>), a diluent cap value of 19.0 percent O<sub>2</sub> or 1.0 percent CO<sub>2</sub> (as applicable) may be used in the emission calculations.

(c) Correction of measured NO<sub>x</sub> concentrations to 15 percent O<sub>2</sub> is not allowed.

(d) If you have installed and certified a NO<sub>x</sub> diluent CEMS to meet the requirements of 40 CFR 75 of this chapter, states can approve that only quality assured data from the CEMS shall be used to identify excess emissions under this subpart. Periods where the missing data substitution procedures in Subpart D of 40 CFR 75 are applied are to be reported as monitor downtime in the excess emissions and monitoring performance report required under 40 CFR 60.7(c).

(e) All required fuel flow rate, steam flow rate, temperature, pressure, and megawatt data must be reduced to hourly averages.

(f) Calculate the hourly average NO<sub>x</sub> emission rates, in units of the emission standards under 40 CFR 60.4320, using either ppm for units complying with the concentration limit or the following equation for units complying with the output based standard:

(1) For simple-cycle operation:

$$E = \frac{(\text{NO}_x)_b * (\text{HI})_b}{P} \quad (\text{Eq. 1})$$

Where:

E = hourly NO<sub>x</sub> emission rate, in lb/MWh,

(NO<sub>x</sub>)<sub>b</sub> = hourly NO<sub>x</sub> emission rate, in lb/MMBtu,

(HI)<sub>b</sub> = hourly heat input rate to the unit, in MMBtu/h, measured using the fuel flowmeter(s), *e.g.*, calculated using Equation D-15a in Appendix D to 40 CFR 75 of this chapter, and

P = gross energy output of the combustion turbine in MW.

(2) For combined-cycle and combined heat and power complying with the output-based standard, use Equation 1 of this subpart, except that the gross energy output is calculated as the sum of the total electrical and mechanical energy generated by the combustion turbine, the additional electrical or mechanical energy (if any) generated by the steam turbine following the heat recovery steam generator, and 100 percent of the total useful thermal energy output that is not used to generate additional electricity or mechanical output, expressed in equivalent MW, as in the following equations:

$$P = (P_e)_t + (P_e)_c + P_s + P_o \quad (\text{Eq. 2})$$

Where:

P = gross energy output of the stationary combustion turbine system in MW.

(P<sub>e</sub>)<sub>t</sub> = electrical or mechanical energy output of the combustion turbine in MW,

(P<sub>e</sub>)<sub>c</sub> = electrical or mechanical energy output (if any) of the steam turbine in MW, and

$$P_s = \frac{Q * H}{3.413 \times 10^6 \text{ Btu/MWh}} \quad (\text{Eq. 3})$$

Where:

P<sub>s</sub> = useful thermal energy of the steam, measured relative to ISO conditions, not used to generate additional electric or mechanical output, in MW,

Q = measured steam flow rate in lb/h,

H = enthalpy of the steam at measured temperature and pressure relative to ISO conditions, in Btu/lb, and 3.413 x 10<sub>6</sub> = conversion from Btu/h to MW.

P<sub>o</sub> = other useful heat recovery, measured relative to ISO conditions, not used for steam generation or performance enhancement of the combustion turbine.

(3) For mechanical drive applications complying with the output-based standard, use the following equation:

$$E = \frac{(\text{NO}_x)_m}{\text{BL} * \text{AL}} \quad (\text{Eq. 4})$$

Where:

E = NO<sub>x</sub> emission rate in lb/MWh,

(NO<sub>x</sub>)<sub>m</sub> = NO<sub>x</sub> emission rate in lb/h,

BL = manufacturer's base load rating of turbine, in MW, and

AL = actual load as a percentage of the base load.

(g) For simple cycle units without heat recovery, use the calculated hourly average emission rates from paragraph (f) of this section to assess excess emissions on a 4-hour rolling average basis, as described in 40 CFR 60.4380(b)(1).

(h) For combined cycle and combined heat and power units with heat recovery, use the calculated hourly average emission rates from paragraph (f) of this section to assess excess emissions on a 30 unit operating day rolling average basis, as described in 40 CFR 60.4380(b)(1).

#### 40 CFR 60.4355 - How do I establish and document a proper parameter monitoring plan?

(a) The steam or water to fuel ratio or other parameters that are continuously monitored as described in 40 CFR 60.4335 and 60.4340 must be monitored during the performance test required under 40 CFR 60.8, to establish acceptable values and ranges. You may supplement the performance test data with engineering analyses, design specifications, manufacturer's recommendations and other relevant information to define the acceptable parametric ranges more precisely. You must develop and keep on-site a parameter monitoring plan which explains the procedures used to document proper operation of the NO<sub>x</sub> emission controls. The plan must:

(1) Include the indicators to be monitored and show there is a significant relationship to emissions and proper operation of the NO<sub>x</sub> emission controls,

(2) Pick ranges (or designated conditions) of the indicators, or describe the process by which such range (or designated condition) will be established,

(3) Explain the process you will use to make certain that you obtain data that are representative of the emissions or parameters being monitored (such as detector location, installation specification if applicable),

(4) Describe quality assurance and control practices that are adequate to ensure the continuing validity of the data,

(5) Describe the frequency of monitoring and the data collection procedures which you will use (e.g., you are using a computerized data acquisition over a number of discrete data points with the average (or maximum value) being used for purposes of determining whether an exceedance has occurred), and

(6) Submit justification for the proposed elements of the monitoring. If a proposed performance specification differs from manufacturer recommendation, you must explain the reasons for the differences. You must submit the data supporting the justification, but you may refer to generally available sources of information used to support the justification. You may rely on engineering assessments and other data, provided you demonstrate factors which assure compliance or explain why performance testing is unnecessary to establish indicator ranges. When establishing indicator ranges, you may choose to simplify the process by treating the parameters as if they were correlated. Using this assumption, testing can be divided into two cases:

(i) All indicators are significant only on one end of range (e.g., for a thermal incinerator controlling volatile organic compounds (VOC) it is only important to insure a minimum temperature, not a maximum). In this case, you may conduct your study so that each parameter is at the significant limit of its range while you conduct your emissions testing. If the emissions tests show that the source is in compliance at the significant limit of each parameter, then as long as each parameter is within its limit, you are presumed to be in compliance.

(ii) Some or all indicators are significant on both ends of the range. In this case, you may conduct your study so that each parameter that is significant at both ends of its range assumes its extreme values in all possible combinations of the extreme values (either single or double) of all of the other parameters. For example, if there were only two parameters, A and B, and A had a range of values while B had only a minimum value, the combinations would be A high with B minimum and A low with B minimum. If both A and B had a range, the combinations would be A high and B high, A low and B low, A high and B low, A low and B high. For the case of four parameters all having a range, there are 16 possible combinations.

(b) For affected units that are also subject to 40 CFR 75 and that have state approval to use the low mass emissions methodology in 40 CFR 75.19 or the NO<sub>x</sub> emission measurement methodology in Appendix E to 40 CFR 75, you may meet the requirements of this paragraph by developing and keeping on-site (or at a central location for unmanned facilities) a QA plan, as described in 40 CFR 75.19(e)(5) or in section 2.3 of Appendix E to 40 CFR 75 and section 1.3.6 of Appendix B to 40 CFR 75.

#### 40 CFR 60.4360 - How do I determine the total sulfur content of the turbine's combustion fuel?

You must monitor the total sulfur content of the fuel being fired in the turbine, except as provided in 40 CFR 60.4365. The sulfur content of the fuel must be determined using total sulfur methods described in 40 CFR 60.4415. Alternatively, if the total sulfur content of the gaseous fuel during the most recent performance test was less than half the applicable

limit, ASTM D4084, D4810, D5504, or D6228, or Gas Processors Association Standard 2377 (all of which are incorporated by reference, see 40 CFR 60.17), which measure the major sulfur compounds, may be used.

#### 40 CFR 60.4365 - How can I be exempted from monitoring the total sulfur content of the fuel?

You may elect not to monitor the total sulfur content of the fuel combusted in the turbine, if the fuel is demonstrated not to exceed potential sulfur emissions of 26 ng SO<sub>2</sub>/J (0.060 lb SO<sub>2</sub>/MMBtu) heat input for units located in continental areas and 180 ng SO<sub>2</sub>/J (0.42 lb SO<sub>2</sub>/MMBtu) heat input for units located in noncontinental areas or a continental area that the Administrator determines does not have access to natural gas and that the removal of sulfur compounds would cause more environmental harm than benefit. You must use one of the following sources of information to make the required demonstration:

- (a) The fuel quality characteristics in a current, valid purchase contract, tariff sheet or transportation contract for the fuel, specifying that the maximum total sulfur content for oil use in continental areas is 0.05 weight percent (500 ppmw) or less and 0.4 weight percent (4,000 ppmw) or less for noncontinental areas, the total sulfur content for natural gas use in continental areas is 20 grains of sulfur or less per 100 standard cubic feet and 140 grains of sulfur or less per 100 standard cubic feet for noncontinental areas, has potential sulfur emissions of less than less than 26 ng SO<sub>2</sub>/J (0.060 lb SO<sub>2</sub>/MMBtu) heat input for continental areas and has potential sulfur emissions of less than less than 180 ng SO<sub>2</sub>/J (0.42 lb SO<sub>2</sub>/MMBtu) heat input for noncontinental areas; or
- (b) Representative fuel sampling data which show that the sulfur content of the fuel does not exceed 26 ng SO<sub>2</sub>/J (0.060 lb SO<sub>2</sub>/MMBtu) heat input for continental areas or 180 ng SO<sub>2</sub>/J (0.42 lb SO<sub>2</sub>/MMBtu) heat input for noncontinental areas. At a minimum, the amount of fuel sampling data specified in section 2.3.1.4 or 2.3.2.4 of Appendix D to 40 CFR 75 is required.

#### 40 CFR 60.4370 - How often must I determine the sulfur content of the fuel?

The frequency of determining the sulfur content of the fuel must be as follows:

- (a) *Fuel oil.* For fuel oil, use one of the total sulfur sampling options and the associated sampling frequency described in sections 2.2.3, 2.2.4.1, 2.2.4.2, and 2.2.4.3 of Appendix D to 40 CFR 75 ( *i.e.* , flow proportional sampling, daily sampling, sampling from the unit's storage tank after each addition of fuel to the tank, or sampling each delivery prior to combining it with fuel oil already in the intended storage tank).
- (b) *Gaseous fuel.* If you elect not to demonstrate sulfur content using options in 40 CFR 60.4365, and the fuel is supplied without intermediate bulk storage, the sulfur content value of the gaseous fuel must be determined and recorded once per unit operating day.
- (c) *Custom schedules.* Notwithstanding the requirements of paragraph (b) of this section, operators or fuel vendors may develop custom schedules for determination of the total sulfur content of gaseous fuels, based on the design and operation of the affected facility and the characteristics of the fuel supply. Except as provided in paragraphs (c)(1) and (c)(2) of this section, custom schedules shall be substantiated with data and shall be approved by the Administrator before they can be used to comply with the standard in 40 CFR 60.4330.

(1) The two custom sulfur monitoring schedules set forth in paragraphs (c)(1)(i) through (iv) and in paragraph (c)(2) of this section are acceptable, without prior Administrative approval:

(i) The owner or operator shall obtain daily total sulfur content measurements for 30 consecutive unit operating days, using the applicable methods specified in this subpart. Based on the results of the 30 daily samples, the required frequency for subsequent monitoring of the fuel's total sulfur content shall be as specified in paragraph (c)(1)(ii), (iii), or (iv) of this section, as applicable.

(ii) If none of the 30 daily measurements of the fuel's total sulfur content exceeds half the applicable standard, subsequent sulfur content monitoring may be performed at 12-month intervals. If any of the samples taken at 12-month intervals has a total sulfur content greater than half but less than the applicable limit, follow the procedures in paragraph (c)(1)(iii) of this section. If any measurement exceeds the applicable limit, follow the procedures in paragraph (c)(1)(iv) of this section.

(iii) If at least one of the 30 daily measurements of the fuel's total sulfur content is greater than half but less than the applicable limit, but none exceeds the applicable limit, then:

(A) Collect and analyze a sample every 30 days for 3 months. If any sulfur content measurement exceeds the applicable limit, follow the procedures in paragraph (c)(1)(iv) of this section. Otherwise, follow the procedures in paragraph (c)(1)(iii)(B) of this section.

(B) Begin monitoring at 6-month intervals for 12 months. If any sulfur content measurement exceeds the applicable limit, follow the procedures in paragraph (c)(1)(iv) of this section. Otherwise, follow the procedures in paragraph (c)(1)(iii)(C) of this section.

(C) Begin monitoring at 12-month intervals. If any sulfur content measurement exceeds the applicable limit, follow the procedures in paragraph (c)(1)(iv) of this section. Otherwise, continue to monitor at this frequency.

(iv) If a sulfur content measurement exceeds the applicable limit, immediately begin daily monitoring according to paragraph (c)(1)(i) of this section. Daily monitoring shall continue until 30 consecutive daily samples, each having a sulfur content no greater than the applicable limit, are obtained. At that point, the applicable procedures of paragraph (c)(1)(ii) or (iii) of this section shall be followed.

(2) The owner or operator may use the data collected from the 720-hour sulfur sampling demonstration described in section 2.3.6 of Appendix D to 40 CFR 75 of this chapter to determine a custom sulfur sampling schedule, as follows:

(i) If the maximum fuel sulfur content obtained from the 720 hourly samples does not exceed 20 grains/100 scf, no additional monitoring of the sulfur content of the gas is required, for the purposes of this subpart.

(ii) If the maximum fuel sulfur content obtained from any of the 720 hourly samples exceeds 20 grains/100 scf, but none of the sulfur content values (when converted to weight percent sulfur) exceeds half the applicable limit, then the minimum required sampling frequency shall be one sample at 12 month intervals.

(iii) If any sample result exceeds half the applicable limit, but none exceeds the applicable limit, follow the provisions of paragraph (c)(1)(iii) of this section.

(iv) If the sulfur content of any of the 720 hourly samples exceeds the applicable limit, follow the provisions of paragraph (c)(1)(iv) of this section.

## Reporting

### 40 CFR 60.4375 - What reports must I submit?

(a) For each affected unit required to continuously monitor parameters or emissions, or to periodically determine the fuel sulfur content under this subpart, you must submit reports of excess emissions and monitor downtime, in accordance with 40 CFR 60.7(c). Excess emissions must be reported for all periods of unit operation, including start-up, shutdown, and malfunction.

(b) For each affected unit that performs annual performance tests in accordance with 40 CFR 60.4340(a), you must submit a written report of the results of each performance test before the close of business on the 60th day following the completion of the performance test.

### 40 CFR 60.4380 - How are excess emissions and monitor downtime defined for NO<sub>x</sub>?

For the purpose of reports required under 40 CFR 60.7(c), periods of excess emissions and monitor downtime that must be reported are defined as follows:

(a) For turbines using water or steam to fuel ratio monitoring:

(1) An excess emission is any unit operating hour for which the 4-hour rolling average steam or water to fuel ratio, as measured by the continuous monitoring system, falls below the acceptable steam or water to fuel ratio needed to demonstrate compliance with 40 CFR 60.4320, as established during the performance test required in 40 CFR 60.8. Any unit operating hour in which no water or steam is injected into the turbine when a fuel is being burned that requires water or steam injection for NO<sub>x</sub> control will also be considered an excess emission.

(2) A period of monitor downtime is any unit operating hour in which water or steam is injected into the turbine, but the essential parametric data needed to determine the steam or water to fuel ratio are unavailable or invalid.

(3) Each report must include the average steam or water to fuel ratio, average fuel consumption, and the combustion turbine load during each excess emission.

(b) For turbines using continuous emission monitoring, as described in 40 CFR 60.4335(b) and 60.4345:

(1) An excess emissions is any unit operating period in which the 4-hour or 30-day rolling average NO<sub>x</sub> emission rate exceeds the applicable emission

limit in 40 CFR 60.4320. For the purposes of this subpart, a "4-hour rolling average NO<sub>x</sub> emission rate" is the arithmetic average of the average NO<sub>x</sub> emission rate in ppm or ng/J (lb/MWh) measured by the continuous emission monitoring equipment for a given hour and the three unit operating hour average NO<sub>x</sub> emission rates immediately preceding that unit operating hour. Calculate the rolling average if a valid NO<sub>x</sub> emission rate is obtained for at least 3 of the 4 hours. For the purposes of this subpart, a "30-day rolling average NO<sub>x</sub> emission rate" is the arithmetic average of all hourly NO<sub>x</sub> emission data in ppm or ng/J (lb/MWh) measured by the continuous emission monitoring equipment for a given day and the twenty-nine unit operating days immediately preceding that unit operating day. A new 30-day average

is calculated each unit operating day as the average of all hourly NO<sub>x</sub> emissions rates for the preceding 30 unit operating days if a valid NO<sub>x</sub> emission rate is obtained for at least 75 percent of all operating hours.

(2) A period of monitor downtime is any unit operating hour in which the data for any of the following parameters are either missing or invalid: NO<sub>x</sub> concentration, CO<sub>2</sub> or O<sub>2</sub> concentration, fuel flow rate, steam flow rate, steam temperature, steam pressure, or megawatts. The steam flow rate, steam temperature, and steam pressure are only required if you will use this information for compliance purposes.

(3) For operating periods during which multiple emissions standards apply, the applicable standard is the average of the applicable standards during each hour. For hours with multiple emissions standards, the applicable limit for that hour is determined based on the condition that corresponded to the highest emissions standard.

(c) For turbines required to monitor combustion parameters or parameters that document proper operation of the NO<sub>x</sub> emission controls:

(1) An excess emission is a 4-hour rolling unit operating hour average in which any monitored parameter does not achieve the target value or is outside the acceptable range defined in the parameter monitoring plan for the unit.

(2) A period of monitor downtime is a unit operating hour in which any of the required parametric data are either not recorded or are invalid.

#### 40 CFR 60.4385 - How are excess emissions and monitoring downtime defined for SO<sub>2</sub>?

If you choose the option to monitor the sulfur content of the fuel, excess emissions and monitoring downtime are defined as follows:

(a) For samples of gaseous fuel and for oil samples obtained using daily sampling, flow proportional sampling, or sampling from the unit's storage tank, an excess emission occurs each unit operating hour included in the period beginning on the date and hour of any sample for which the sulfur content of the fuel being fired in the combustion turbine exceeds the applicable limit and ending on the date and hour that a subsequent sample is taken that demonstrates compliance with the sulfur limit.

(b) If the option to sample each delivery of fuel oil has been selected, you must immediately switch to one of the other oil sampling options (i.e., daily sampling, flow proportional sampling, or sampling from the unit's storage tank) if the sulfur content of a delivery exceeds 0.05 weight percent. You must continue to use one of the other sampling options until all of the oil from the delivery has been combusted, and you must evaluate excess emissions according to paragraph (a) of this section. When all of the fuel from the delivery has been burned, you may resume using the as-delivered sampling option.

(c) A period of monitor downtime begins when a required sample is not taken by its due date. A period of monitor downtime also begins on the date and hour of a required sample, if invalid results are obtained. The period of monitor downtime ends on the date and hour of the next valid sample.

#### 40 CFR 60.4390 - What are my reporting requirements if I operate an emergency combustion turbine or a research and development turbine?

(a) If you operate an emergency combustion turbine, you are exempt from the NO<sub>x</sub> limit and must submit an initial report to the Administrator stating your case.

(b) Combustion turbines engaged by manufacturers in research and development of equipment for both combustion turbine emission control techniques and combustion turbine efficiency improvements may be exempted from the NO<sub>x</sub> limit on a case-by-case basis as determined by the Administrator. You must petition for the exemption.

#### 40 CFR 60.4395 - When must I submit my reports?

All reports required under 40 CFR 60.7(c) must be postmarked by the 30th day following the end of each 6-month period.

### **Performance Tests**

#### 40 CFR 60.4400 - How do I conduct the initial and subsequent performance tests, regarding NO<sub>x</sub>?

(a) You must conduct an initial performance test, as required in 40 CFR 60.8. Subsequent NO<sub>x</sub> performance tests shall be conducted on an annual basis (no more than 14 calendar months following the previous performance test).

(1) There are two general methodologies that you may use to conduct the performance tests. For each test run:

(i) Measure the NO<sub>x</sub> concentration (in parts per million (ppm)), using EPA Method 7E or EPA Method 20 in Appendix A of 40 CFR 60. For units complying with the output based standard, concurrently measure the stack gas flow rate, using EPA Methods 1 and 2 in Appendix A of 40 CFR 60, and measure and record the electrical and thermal output from the unit. Then, use the following equation to calculate the NO<sub>x</sub> emission rate:

$$E = \frac{1.194 \times 10^{-7} * (NO_x)_e * Q_{std}}{P} \quad (\text{Eq. 5})$$

Where:

E = NO<sub>x</sub> emission rate, in lb/MWh

1.194 × 10<sup>-7</sup> = conversion constant, in lb/dscf-ppm

(NO<sub>x</sub>)<sub>e</sub> = average NO<sub>x</sub> concentration for the run, in ppm

Q<sub>std</sub> = stack gas volumetric flow rate, in dscf/hr

P = gross electrical and mechanical energy output of the combustion turbine, in MW (for simple-cycle operation), for combined-cycle operation, the sum of all electrical and mechanical output from the combustion and steam turbines, or, for combined heat and power operation, the sum of all electrical and mechanical output from the combustion and steam turbines plus all useful recovered thermal output not used for additional electric or mechanical generation, in MW, calculated according to 40 CFR 60.4350(f)(2); or

(ii) Measure the NO<sub>x</sub> and diluent gas concentrations, using either EPA Methods 7E and 3A, or EPA Method 20 in Appendix A of 40 CFR 60. Concurrently measure the heat input to the unit, using a fuel flowmeter (or flowmeters), and measure the electrical and thermal output of the unit. Use EPA Method 19 in Appendix A of 40 CFR 60 to calculate the NO<sub>x</sub> emission rate in lb/MMBtu. Then, use Equations 1 and, if necessary, 2 and 3 in 40 CFR 60.4350(f) to calculate the NO<sub>x</sub> emission rate in lb/MWh.

(2) Sampling traverse points for NO<sub>x</sub> and (if applicable) diluent gas are to be selected following EPA Method 20 or EPA Method 1 (non-particulate procedures), and sampled for equal time intervals. The sampling must be performed with a traversing single-hole probe, or, if feasible, with a stationary multi-hole probe that samples each of the points sequentially. Alternatively, a multi-hole probe designed and documented to sample equal volumes from each hole may be used to sample simultaneously at the required points.

(3) Notwithstanding paragraph (a)(2) of this section, you may test at fewer points than are specified in EPA Method 1 or EPA Method 20 in Appendix A of 40 CFR 60 if the following conditions are met:

(i) You may perform a stratification test for NO<sub>x</sub> and diluent pursuant to

(A) [Reserved], or

(B) The procedures specified in section 6.5.6.1(a) through (e) of Appendix A of 40 CFR 75.

(ii) Once the stratification sampling is completed, you may use the following alternative sample point selection criteria for the performance test:

(A) If each of the individual traverse point NO<sub>x</sub> concentrations is within ±10 percent of the mean concentration for all traverse points, or the individual traverse point diluent concentrations differs by no more than ±5ppm or ±0.5 percent CO<sub>2</sub> (or O<sub>2</sub>) from the mean for all traverse points, then you may use three points (located either 16.7, 50.0 and 83.3 percent of the way across the stack or duct, or, for circular stacks or ducts greater than 2.4 meters (7.8 feet) in diameter, at 0.4, 1.2, and 2.0 meters from the wall). The three points must be located along the measurement line that exhibited the highest average NO<sub>x</sub> concentration during the stratification test; or

(B) For turbines with a NO<sub>x</sub> standard greater than 15 ppm @ 15% O<sub>2</sub>, you may sample at a single point, located at least 1 meter from the stack wall or at the stack centroid if each of the individual traverse point NO<sub>x</sub> concentrations is within ±5 percent of the mean concentration for all traverse points, or the individual traverse point diluent concentrations differs by no more than ±3ppm or ±0.3 percent CO<sub>2</sub> (or O<sub>2</sub>) from the mean for all traverse points; or

(C) For turbines with a NO<sub>x</sub> standard less than or equal to 15 ppm @ 15% O<sub>2</sub>, you may sample at a single point, located at least 1 meter from the stack wall or at the stack centroid if each of the individual traverse point NO<sub>x</sub> concentrations is within ±2.5 percent of the mean concentration for all traverse points, or the individual traverse point diluent concentrations differs by no more than ±1ppm or ±0.15 percent CO<sub>2</sub> (or O<sub>2</sub>) from the mean for all traverse points.

(b) The performance test must be done at any load condition within plus or minus 25 percent of 100 percent of peak load. You may perform testing at the highest achievable load point, if at least 75 percent of peak load cannot be achieved in practice. You must conduct three separate test runs for each performance test. The minimum time per run is 20 minutes.

(1) If the stationary combustion turbine combusts both oil and gas as primary or backup fuels, separate performance testing is required for each fuel.

(2) For a combined cycle and CHP turbine systems with supplemental heat (duct burner), you must measure the total NO<sub>x</sub> emissions after the duct burner rather than directly after the turbine. The duct burner must be in operation during the performance test.

(3) If water or steam injection is used to control NO<sub>x</sub> with no additional post-combustion NO<sub>x</sub> control and you choose to monitor the steam or water to fuel ratio in accordance with 40 CFR 60.4335, then that monitoring system must be operated concurrently with each EPA Method 20 or EPA Method 7E run and must be used to determine the fuel consumption and the steam or water to fuel ratio necessary to comply with the applicable 40 CFR 60.4320 NO<sub>x</sub> emission limit.

(4) Compliance with the applicable emission limit in 40 CFR 60.4320 must be demonstrated at each tested load level. Compliance is achieved if the three-run arithmetic average NO<sub>x</sub> emission rate at each tested level meets the applicable emission limit in 40 CFR 60.4320.

(5) If you elect to install a CEMS, the performance evaluation of the CEMS may either be conducted separately or (as described in 40 CFR 60.4405) as part of the initial performance test of the affected unit.

(6) The ambient temperature must be greater than 0 °F during the performance test.

#### 40 CFR 60.4405 - How do I perform the initial performance test if I have chosen to install a NO<sub>x</sub>-diluent CEMS?

If you elect to install and certify a NO<sub>x</sub>-diluent CEMS under 40 CFR 60.4345, then the initial performance test required under 40 CFR 60.8 may be performed in the following alternative manner:

(a) Perform a minimum of nine RATA reference method runs, with a minimum time per run of 21 minutes, at a single load level, within plus or minus 25 percent of 100 percent of peak load. The ambient temperature must be greater than 0 °F during the RATA runs.

(b) For each RATA run, concurrently measure the heat input to the unit using a fuel flow meter (or flow meters) and measure the electrical and thermal output from the unit.

(c) Use the test data both to demonstrate compliance with the applicable NO<sub>x</sub> emission limit under 40 CFR 60.4320 and to provide the required reference method data for the RATA of the CEMS described under 40 CFR 60.4335.

(d) Compliance with the applicable emission limit in 40 CFR 60.4320 is achieved if the arithmetic average of all of the NO<sub>x</sub> emission rates for the RATA runs, expressed in units of ppm or lb/MWh, does not exceed the emission limit.

#### 40 CFR 60.4410 - How do I establish a valid parameter range if I have chosen to continuously monitor parameters?

If you have chosen to monitor combustion parameters or parameters indicative of proper operation of NO<sub>x</sub> emission controls in accordance with 40 CFR 60.4340, the appropriate parameters must be continuously monitored and recorded during each run of the initial performance test, to establish acceptable operating ranges, for purposes of the parameter monitoring plan for the affected unit, as specified in 40 CFR 60.4355.

#### 40 CFR 60.4415 - How do I conduct the initial and subsequent performance tests for sulfur?

(a) You must conduct an initial performance test, as required in 40 CFR 60.8. Subsequent SO<sub>2</sub> performance tests shall be conducted on an annual basis (no more than 14 calendar months following the previous performance test). There are three methodologies that you may use to conduct the performance tests.

(1) If you choose to periodically determine the sulfur content of the fuel combusted in the turbine, a representative fuel sample would be collected following ASTM D5287 (incorporated by reference, see 40 CFR 60.17) for natural gas or ASTM D4177 (incorporated by reference, see 40 CFR 60.17) for oil. Alternatively, for oil, you may follow the procedures for manual pipeline sampling in section 14 of ASTM D4057 (incorporated by reference, see 40 CFR 60.17). The fuel analyses of this section may be performed either by you, a service contractor retained by you, the fuel vendor, or any other qualified agency. Analyze the samples for the total sulfur content of the fuel using:

(i) For liquid fuels, ASTM D129, or alternatively D1266, D1552, D2622, D4294, or D5453 (all of which are incorporated by reference, see 40 CFR 60.17); or

(ii) For gaseous fuels, ASTM D1072, or alternatively D3246, D4084, D4468, D4810, D6228, D6667, or Gas Processors Association Standard 2377 (all of which are incorporated by reference, see 40 CFR 60.17).

(2) Measure the SO<sub>2</sub> concentration (in parts per million (ppm)), using EPA Methods 6, 6C, 8, or 20 in Appendix A of 40 CFR 60. In addition, the American Society of Mechanical Engineers (ASME) standard, ASME PTC 19-10-1981-Part 10, "Flue and Exhaust Gas Analyses," manual methods for sulfur dioxide (incorporated by reference, see 40 CFR 60.17) can be used instead of EPA Methods 6 or 20. For units complying with the output based standard, concurrently measure the stack gas flow rate, using EPA Methods 1 and 2 in Appendix A of 40 CFR 60, and measure and record the electrical and thermal output from the unit. Then use the following equation to calculate the SO<sub>2</sub> emission rate:

$$E = \frac{1.664 \times 10^{-7} * (SO_2)_c * Q_{sd}}{P} \quad (\text{Eq. 6})$$

Where:

E = SO<sub>2</sub> emission rate, in lb/MWh

$1.664 \times 10^{-7}$  = conversion constant, in lb/dscf-ppm

(SO<sub>2</sub>)<sub>c</sub> = average SO<sub>2</sub> concentration for the run, in ppm

Q<sub>std</sub> = stack gas volumetric flow rate, in dscf/hr

P = gross electrical and mechanical energy output of the combustion turbine, in MW (for simple-cycle operation), for combined-cycle operation, the sum of all electrical and mechanical output from the combustion and steam turbines, or, for combined heat and power operation, the sum of all electrical and mechanical output from the combustion and steam turbines plus all useful recovered thermal output not used for additional electric or mechanical generation, in MW, calculated according to 40 CFR 60.4350(f)(2); or

(3) Measure the SO<sub>2</sub> and diluent gas concentrations, using either EPA Methods 6, 6C, or 8 and 3A, or 20 in Appendix A of 40 CFR 60. In addition, you may use the manual methods for sulfur dioxide ASME PTC 19-10-1981-Part 10 (incorporated by reference, see 40 CFR 60.17). Concurrently measure the heat input to the unit, using a fuel flowmeter (or flowmeters), and measure the electrical and thermal output of the unit. Use EPA Method 19 in Appendix A of 40 CFR 60 to calculate the SO<sub>2</sub> emission rate in lb/MMBtu. Then, use Equations 1 and, if necessary, 2 and 3 in 40 CFR 60.4350(f) to calculate the SO<sub>2</sub> emission rate in lb/MWh.

(b) [Reserved]

## Definitions

### 40 CFR 60.4420 - What definitions apply to this subpart?

As used in this subpart, all terms not defined herein will have the meaning given them in the Clean Air Act and in Subpart A (General Provisions) of 40 CFR 60.

*Biogas* means gas produced by the anaerobic digestion or fermentation of organic matter including manure, sewage sludge, municipal solid waste, biodegradable waste, or any other biodegradable feedstock, under anaerobic conditions. Biogas is comprised primarily of methane and CO<sub>2</sub>.

*Combined cycle combustion turbine* means any stationary combustion turbine which recovers heat from the combustion turbine exhaust gases to generate steam that is only used to create additional power output in a steam turbine.

*Combined heat and power combustion turbine* means any stationary combustion turbine which recovers heat from the exhaust gases to heat water or another medium, generate steam for useful purposes other than additional electric generation, or directly uses the heat in the exhaust gases for a useful purpose.

*Combustion turbine model* means a group of combustion turbines having the same nominal air flow, combustor inlet pressure, combustor inlet temperature, firing temperature, turbine inlet temperature and turbine inlet pressure.

*Combustion turbine test cell/stand* means any apparatus used for testing uninstalled stationary or uninstalled mobile (motive) combustion turbines.

*Diffusion flame stationary combustion turbine* means any stationary combustion turbine where fuel and air are injected at the combustor and are mixed only by diffusion prior to ignition.

*Duct burner* means a device that combusts fuel and that is placed in the exhaust duct from another source, such as a stationary combustion turbine, internal combustion engine, kiln, etc., to allow the firing of additional fuel to heat the exhaust gases before the exhaust gases enter a heat recovery steam generating unit.

*Efficiency* means the combustion turbine manufacturer's rated heat rate at peak load in terms of heat input per unit of power output-based on the higher heating value of the fuel.

*Emergency combustion turbine* means any stationary combustion turbine which operates in an emergency situation. Examples include stationary combustion turbines used to produce power for critical networks or equipment, including power supplied to portions of a facility, when electric power from the local utility is interrupted, or stationary combustion turbines used to pump water in the case of fire or flood, etc. Emergency stationary combustion turbines do not include stationary combustion turbines used as peaking units at electric utilities or stationary combustion turbines at industrial facilities that typically operate at low capacity factors. Emergency combustion turbines may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are required by the manufacturer, the vendor, or the insurance company associated with the turbine. Required testing of such units should be minimized, but there is no time limit on the use of emergency combustion turbines.

*Excess emissions* means a specified averaging period over which either (1) the NO<sub>x</sub> emissions are higher than the applicable emission limit in 40 CFR 60.4320; (2) the total sulfur content of the fuel being combusted in the affected

facility exceeds the limit specified in 40 CFR 60.4330; or (3) the recorded value of a particular monitored parameter is outside the acceptable range specified in the parameter monitoring plan for the affected unit.

*Gross useful output* means the gross useful work performed by the stationary combustion turbine system. For units using the mechanical energy directly or generating only electricity, the gross useful work performed is the gross electrical or mechanical output from the turbine/generator set. For combined heat and power units, the gross useful work performed is the gross electrical or mechanical output plus the useful thermal output (i.e., thermal energy delivered to a process).

*Heat recovery steam generating unit* means a unit where the hot exhaust gases from the combustion turbine are routed in order to extract heat from the gases and generate steam, for use in a steam turbine or other device that utilizes steam. Heat recovery steam generating units can be used with or without duct burners.

*Integrated gasification combined cycle electric utility steam generating unit* means a coal-fired electric utility steam generating unit that burns a synthetic gas derived from coal in a combined-cycle gas turbine. No solid coal is directly burned in the unit during operation.

*ISO conditions* means 288 Kelvin, 60 percent relative humidity and 101.3 kilopascals pressure.

*Lean premix stationary combustion turbine* means any stationary combustion turbine where the air and fuel are thoroughly mixed to form a lean mixture before delivery to the combustor. Mixing may occur before or in the combustion chamber. A lean premixed turbine may operate in diffusion flame mode during operating conditions such as startup and shutdown, extreme ambient temperature, or low or transient load.

*Natural gas* means a naturally occurring fluid mixture of hydrocarbons (e.g., methane, ethane, or propane) produced in geological formations beneath the Earth's surface that maintains a gaseous state at standard atmospheric temperature and pressure under ordinary conditions. Additionally, natural gas must either be composed of at least 70 percent methane by volume or have a gross calorific value between 950 and 1,100 British thermal units (Btu) per standard cubic foot. Natural gas does not include the following gaseous fuels: landfill gas, digester gas, refinery gas, sour gas, blast furnace gas, coal-derived gas, producer gas, coke oven gas, or any gaseous fuel produced in a process which might result in highly variable sulfur content or heating value.

*Noncontinental area* means the State of Hawaii, the Virgin Islands, Guam, American Samoa, the Commonwealth of Puerto Rico, the Northern Mariana Islands, or offshore platforms.

*Peak load* means 100 percent of the manufacturer's design capacity of the combustion turbine at ISO conditions.

*Regenerative cycle combustion turbine* means any stationary combustion turbine which recovers heat from the combustion turbine exhaust gases to preheat the inlet combustion air to the combustion turbine.

*Simple cycle combustion turbine* means any stationary combustion turbine which does not recover heat from the combustion turbine exhaust gases to preheat the inlet combustion air to the combustion turbine, or which does not recover heat from the combustion turbine exhaust gases for purposes other than enhancing the performance of the combustion turbine itself.

*Stationary combustion turbine* means all equipment, including but not limited to the turbine, the fuel, air, lubrication and exhaust gas systems, control systems (except emissions control equipment), heat recovery system, and any ancillary components and sub-components comprising any simple cycle stationary combustion turbine, any regenerative/recuperative cycle stationary combustion turbine, any combined cycle combustion turbine, and any combined heat and power combustion turbine based system. Stationary means that the combustion turbine is not self propelled or intended to be propelled while performing its function. It may, however, be mounted on a vehicle for portability.

*Unit operating day* means a 24-hour period between 12 midnight and the following midnight during which any fuel is combusted at any time in the unit. It is not necessary for fuel to be combusted continuously for the entire 24-hour period.

*Unit operating hour* means a clock hour during which any fuel is combusted in the affected unit. If the unit combusts fuel for the entire clock hour, it is considered to be a full unit operating hour. If the unit combusts fuel for only part of the clock hour, it is considered to be a partial unit operating hour.

*Useful thermal output* means the thermal energy made available for use in any industrial or commercial process, or used in any heating or cooling application, i.e., total thermal energy made available for processes and applications other than electrical or mechanical generation. Thermal output for this subpart means the energy in recovered thermal output measured against the energy in the thermal output at 15 degrees Celsius and 101.325 kilopascals of pressure.

[71 FR 38497, July 6, 2006, as amended at 74 FR 11861, Mar. 20, 2009]

**Table 1 to Subpart KKKK of Part 60 - Nitrogen Oxide Emission Limits for New Stationary Combustion Turbines**

| Combustion turbine type  | Combustion turbine heat input at peak load (HHV) | NO <sub>x</sub> emission standard   |
|--|--|---|
| New turbine firing natural gas, electric generating  | ≤ 50 MMBtu/h                                     | 42 ppm at 15 percent O <sub>2</sub> or 290 ng/J of useful output (2.3 lb/MWh).    |
| New turbine firing natural gas, mechanical drive   | ≤ 50 MMBtu/h                                     | 100 ppm at 15 percent O <sub>2</sub> or 690 ng/J of useful output (5.5 lb/MWh).   |
| New turbine firing natural gas   | > 50 MMBtu/h and ≤ 850 MMBtu/h                   | 25 ppm at 15 percent O <sub>2</sub> or 150 ng/J of useful output (1.2 lb/MWh).    |
| New, modified, or reconstructed turbine firing natural gas   | > 850 MMBtu/h                                    | 15 ppm at 15 percent O <sub>2</sub> or 54 ng/J of useful output (0.43 lb/MWh)     |
| New turbine firing fuels other than natural gas, electric generating   | ≤ 50 MMBtu/h                                     | 96 ppm at 15 percent O <sub>2</sub> or 700 ng/J of useful output (5.5 lb/MWh).    |
| New turbine firing fuels other than natural gas, mechanical drive  | ≤ 50 MMBtu/h                                     | 150 ppm at 15 percent O <sub>2</sub> or 1,100 ng/J of useful output (8.7 lb/MWh). |
| New turbine firing fuels other than natural gas  | > 50 MMBtu/h and ≤ 850 MMBtu/h                   | 74 ppm at 15 percent O <sub>2</sub> or 460 ng/J of useful output (3.6 lb/MWh).    |
| New, modified, or reconstructed turbine firing fuels other than natural gas  | > 850 MMBtu/h                                    | 42 ppm at 15 percent O <sub>2</sub> or 160 ng/J of useful output (1.3 lb/MWh).    |
| Modified or reconstructed turbine  | ≤ 50 MMBtu/h                                     | 150 ppm at 15 percent O <sub>2</sub> or 1,100 ng/J of useful output (8.7 lb/MWh). |
| Modified or reconstructed turbine firing natural gas   | > 50 MMBtu/h and ≤ 850 MMBtu/h                   | 42 ppm at 15 percent O <sub>2</sub> or 250 ng/J of useful output (2.0 lb/MWh).    |
| Modified or reconstructed turbine firing fuels other than natural gas  | > 50 MMBtu/h and ≤ 850 MMBtu/h                   | 96 ppm at 15 percent O <sub>2</sub> or 590 ng/J of useful output (4.7 lb/MWh).    |
| Turbines located north of the Arctic Circle (latitude 66.5 degrees north), turbines operating at less than 75 percent of peak load, modified and reconstructed offshore turbines, and turbine operating at temperatures less than 0 °F | ≤ 30 MW output                                   | 150 ppm at 15 percent O <sub>2</sub> or 1,100 ng/J of useful output (8.7 lb/MWh). |
| Turbines located north of the Arctic Circle (latitude 66.5 degrees north), turbines operating at less than 75 percent of peak load, modified and reconstructed offshore turbines, and turbine operating at temperatures less than 0 °F | > 30 MW output                                   | 96 ppm at 15 percent O <sub>2</sub> or 590 ng/J of useful output (4.7 lb/MWh).    |
| Heat recovery units operating independent of the combustion turbine  | All sizes  | 54 ppm at 15 percent O <sub>2</sub> or 110 ng/J of useful output (0.86 lb/MWh).   |

## Subpart YYYY - National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines

Source: 69 FR 10537, Mar. 5, 2004, unless otherwise noted.

### What This Subpart Covers

#### 40 CFR 63.6080 - What is the purpose of subpart YYYY?

Subpart YYYY establishes national emission limitations and operating limitations for hazardous air pollutants (HAP) emissions from stationary combustion turbines located at major sources of HAP emissions, and requirements to demonstrate initial and continuous compliance with the emission and operating limitations.

#### 40 CFR 63.6085 - Am I subject to this subpart?

You are subject to this subpart if you own or operate a stationary combustion turbine located at a major source of HAP emissions.

(a) Stationary combustion turbine means all equipment, including but not limited to the turbine, the fuel, air, lubrication and exhaust gas systems, control systems (except emissions control equipment), and any ancillary components and sub-components comprising any simple cycle stationary combustion turbine, any regenerative/recuperative cycle stationary combustion turbine, the combustion turbine portion of any stationary cogeneration cycle combustion system, or the combustion turbine portion of any stationary combined cycle steam/electric generating system. Stationary means that the combustion turbine is not self propelled or intended to be propelled while performing its function, although it may be mounted on a vehicle for portability or transportability. Stationary combustion turbines covered by this subpart include simple cycle stationary combustion turbines, regenerative/recuperative cycle stationary combustion turbines, cogeneration cycle stationary combustion turbines, and combined cycle stationary combustion turbines. Stationary combustion turbines subject to this subpart do not include turbines located at a research or laboratory facility, if research is conducted on the turbine itself and the turbine is not being used to power other applications at the research or laboratory facility.

(b) A major source of HAP emissions is a contiguous site under common control that emits or has the potential to emit any single HAP at a rate of 10 tons (9.07 megagrams) or more per year or any combination of HAP at a rate of 25 tons (22.68 megagrams) or more per year, except that for oil and gas production facilities, a major source of HAP emissions is determined for each surface site.

#### 40 CFR 63.6090 - What parts of my plant does this subpart cover?

This subpart applies to each affected source.

(a) *Affected source.* An affected source is any existing, new, or reconstructed stationary combustion turbine located at a major source of HAP emissions.

(1) *Existing stationary combustion turbine.* A stationary combustion turbine is existing if you commenced construction or reconstruction of the stationary combustion turbine on or before January 14, 2003. A change in ownership of an existing stationary combustion turbine does not make that stationary combustion turbine a new or reconstructed stationary combustion turbine.

(2) *New stationary combustion turbine.* A stationary combustion turbine is new if you commenced construction of the stationary combustion turbine after January 14, 2003.

(3) *Reconstructed stationary combustion turbine.* A stationary combustion turbine is reconstructed if you meet the definition of reconstruction in 40 CFR 63.2 of Subpart A and reconstruction is commenced after January 14, 2003.

(b) *Subcategories with limited requirements.*

(1) A new or reconstructed stationary combustion turbine located at a major source which meets either of the following criteria does not have to meet the requirements of this subpart and of Subpart A of 40 CFR 60 except for the initial notification requirements of 40 CFR 63.6145(d):

(i) The stationary combustion turbine is an emergency stationary combustion turbine; or

(ii) The stationary combustion turbine is located on the North Slope of Alaska.

(2) A stationary combustion turbine which burns landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, or a stationary combustion turbine where gasified municipal solid waste (MSW) is used to generate 10 percent or more of the gross heat input on an annual basis does not have to meet the requirements of this subpart except for:

(i) The initial notification requirements of 40 CFR 63.6145(d); and

(ii) Additional monitoring and reporting requirements as provided in 40 CFR 63.6125(c) and 63.6150.

(3) An existing, new, or reconstructed stationary combustion turbine with a rated peak power output of less than 1.0 megawatt (MW) at International Organization for Standardization (ISO) standard day conditions, which is located at a

major source, does not have to meet the requirements of this subpart and of Subpart A of 40 CFR 60. This determination applies to the capacities of individual combustion turbines, whether or not an aggregated group of combustion turbines has a common add-on air pollution control device. No initial notification is necessary, even if the unit appears to be subject to other requirements for initial notification. For example, a 0.75 MW emergency turbine would not have to submit an initial notification.

(4) Existing stationary combustion turbines in all subcategories do not have to meet the requirements of this subpart and of Subpart A of 40 CFR 60. No initial notification is necessary for any existing stationary combustion turbine, even if a new or reconstructed turbine in the same category would require an initial notification.

(5) Combustion turbine engine test cells/stands do not have to meet the requirements of this subpart but may have to meet the requirements of Subpart A of 40 CFR 60 if subject to another subpart. No initial notification is necessary, even if the unit appears to be subject to other requirements for initial notification.

#### 40 CFR 63.6092 - Are duct burners and waste heat recovery units covered by subpart YYYY?

No, duct burners and waste heat recovery units are considered steam generating units and are not covered under this subpart. In some cases, it may be difficult to separately monitor emissions from the turbine and duct burner, so sources are allowed to meet the required emission limitations with their duct burners in operation.

#### 40 CFR 63.6095 - When do I have to comply with this subpart?

##### (a) *Affected sources.*

(1) If you start up a new or reconstructed stationary combustion turbine which is a lean premix oil-fired stationary combustion turbine or a diffusion flame oil-fired stationary combustion turbine as defined by this subpart on or before March 5, 2004, you must comply with the emissions limitations and operating limitations in this subpart no later than March 5, 2004.

(2) If you start up a new or reconstructed stationary combustion turbine which is a lean premix oil-fired stationary combustion turbine or a diffusion flame oil-fired stationary combustion turbine as defined by this subpart after March 5, 2004, you must comply with the emissions limitations and operating limitations in this subpart upon startup of your affected source.

(b) *Area sources that become major sources.* If your new or reconstructed stationary combustion turbine is an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP, it must be in compliance with any applicable requirements of this subpart when it becomes a major source.

(c) You must meet the notification requirements in 40 CFR 63.6145 according to the schedule in 40 CFR 63.6145 and in 40 CFR 63 subpart A.

(d) *Stay of standards for gas-fired subcategories.* If you start up a new or reconstructed stationary combustion turbine that is a lean premix gas-fired stationary combustion turbine or diffusion flame gas-fired stationary combustion turbine as defined by this subpart, you must comply with the Initial Notification requirements set forth in 40 CFR 63.6145 but need not comply with any other requirement of this subpart until EPA takes final action to require compliance and publishes a document in the Federal Register.

[69 FR 10537, Mar. 5, 2004, as amended at 69 FR 51188, Aug. 18, 2004]

## **Emission and Operating Limitations**

#### 40 CFR 63.6100 - What emission and operating limitations must I meet?

For each new or reconstructed stationary combustion turbine which is a lean premix gas-fired stationary combustion turbine, a lean premix oil-fired stationary combustion turbine, a diffusion flame gas-fired stationary combustion turbine, or a diffusion flame oil-fired stationary combustion turbine as defined by this subpart, you must comply with the emission limitations and operating limitations in Table 1 and Table 2 of this subpart.

## **General Compliance Requirements**

#### 40 CFR 63.6105 - What are my general requirements for complying with this subpart?

(a) You must be in compliance with the emission limitations and operating limitations which apply to you at all times except during startup, shutdown, and malfunctions.

(b) If you must comply with emission and operating limitations, you must operate and maintain your stationary combustion turbine, oxidation catalyst emission control device or other air pollution control equipment, and monitoring

equipment in a manner consistent with good air pollution control practices for minimizing emissions at all times including during startup, shutdown, and malfunction.

### **Testing and Initial Compliance Requirements**

#### 40 CFR 63.6110 - By what date must I conduct the initial performance tests or other initial compliance demonstrations?

(a) You must conduct the initial performance tests or other initial compliance demonstrations in Table 4 of this subpart that apply to you within 180 calendar days after the compliance date that is specified for your stationary combustion turbine in 40 CFR 63.6095 and according to the provisions in 40 CFR 63.7(a)(2).

(b) An owner or operator is not required to conduct an initial performance test to determine outlet formaldehyde concentration on units for which a performance test has been previously conducted, but the test must meet all of the conditions described in paragraphs (b)(1) through (b)(5) of this section.

(1) The test must have been conducted using the same methods specified in this subpart, and these methods must have been followed correctly.

(2) The test must not be older than 2 years.

(3) The test must be reviewed and accepted by the Administrator.

(4) Either no process or equipment changes must have been made since the test was performed, or the owner or operator must be able to demonstrate that the results of the performance test, with or without adjustments, reliably demonstrate compliance despite process or equipment changes.

(5) The test must be conducted at any load condition within plus or minus 10 percent of 100 percent load.

#### 40 CFR 63.6115 - When must I conduct subsequent performance tests?

Subsequent performance tests must be performed on an annual basis as specified in Table 3 of this subpart.

#### 40 CFR 63.6120 - What performance tests and other procedures must I use?

(a) You must conduct each performance test in Table 3 of this subpart that applies to you.

(b) Each performance test must be conducted according to the requirements of the General Provisions at 40 CFR 63.7(e)(1) and under the specific conditions in Table 2 of this subpart.

(c) Do not conduct performance tests or compliance evaluations during periods of startup, shutdown, or malfunction. Performance tests must be conducted at high load, defined as 100 percent plus or minus 10 percent.

(d) You must conduct three separate test runs for each performance test, and each test run must last at least 1 hour.

(e) If your stationary combustion turbine is not equipped with an oxidation catalyst, you must petition the Administrator for operating limitations that you will monitor to demonstrate compliance with the formaldehyde emission limitation in Table 1. You must measure these operating parameters during the initial performance test and continuously monitor thereafter. Alternatively, you may petition the Administrator for approval of no additional operating limitations. If you submit a petition under this section, you must not conduct the initial performance test until after the petition has been approved or disapproved by the Administrator.

(f) If your stationary combustion turbine is not equipped with an oxidation catalyst and you petition the Administrator for approval of additional operating limitations to demonstrate compliance with the formaldehyde emission limitation in Table 1, your petition must include the following information described in paragraphs (f)(1) through (5) of this section.

(1) Identification of the specific parameters you propose to use as additional operating limitations;

(2) A discussion of the relationship between these parameters and HAP emissions, identifying how HAP emissions change with changes in these parameters and how limitations on these parameters will serve to limit HAP emissions;

(3) A discussion of how you will establish the upper and/or lower values for these parameters which will establish the limits on these parameters in the operating limitations;

(4) A discussion identifying the methods you will use to measure and the instruments you will use to monitor these parameters, as well as the relative accuracy and precision of these methods and instruments; and

(5) A discussion identifying the frequency and methods for recalibrating the instruments you will use for monitoring these parameters.

(g) If you petition the Administrator for approval of no additional operating limitations, your petition must include the information described in paragraphs (g)(1) through (7) of this section.

(1) Identification of the parameters associated with operation of the stationary combustion turbine and any emission control device which could change intentionally ( e.g., operator adjustment, automatic controller adjustment, etc.) or unintentionally ( e.g., wear and tear, error, etc.) on a routine basis or over time;

- (2) A discussion of the relationship, if any, between changes in the parameters and changes in HAP emissions;
- (3) For the parameters which could change in such a way as to increase HAP emissions, a discussion of why establishing limitations on the parameters is not possible;
- (4) For the parameters which could change in such a way as to increase HAP emissions, a discussion of why you could not establish upper and/or lower values for the parameters which would establish limits on the parameters as operating limitations;
- (5) For the parameters which could change in such a way as to increase HAP emissions, a discussion identifying the methods you could use to measure them and the instruments you could use to monitor them, as well as the relative accuracy and precision of the methods and instruments;
- (6) For the parameters, a discussion identifying the frequency and methods for recalibrating the instruments you could use to monitor them; and
- (7) A discussion of why, from your point of view, it is infeasible, unreasonable or unnecessary to adopt the parameters as operating limitations.

40 CFR 63.6125 - What are my monitor installation, operation, and maintenance requirements?

- (a) If you are operating a stationary combustion turbine that is required to comply with the formaldehyde emission limitation and you use an oxidation catalyst emission control device, you must monitor on a continuous basis your catalyst inlet temperature in order to comply with the operating limitations in Table 2 and as specified in Table 5 of this subpart.
- (b) If you are operating a stationary combustion turbine that is required to comply with the formaldehyde emission limitation and you are not using an oxidation catalyst, you must continuously monitor any parameters specified in your approved petition to the Administrator, in order to comply with the operating limitations in Table 2 and as specified in Table 5 of this subpart.
- (c) If you are operating a stationary combustion turbine which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, or a stationary combustion turbine where gasified MSW is used to generate 10 percent or more of the gross heat input on an annual basis, you must monitor and record your fuel usage daily with separate fuel meters to measure the volumetric flow rate of each fuel. In addition, you must operate your turbine in a manner which minimizes HAP emissions.
- (d) If you are operating a lean premix gas-fired stationary combustion turbine or a diffusion flame gas-fired stationary combustion turbine as defined by this subpart, and you use any quantity of distillate oil to fire any new or existing stationary combustion turbine which is located at the same major source, you must monitor and record your distillate oil usage daily for all new and existing stationary combustion turbines located at the major source with a non-resettable hour meter to measure the number of hours that distillate oil is fired.

40 CFR 63.6130 - How do I demonstrate initial compliance with the emission and operating limitations?

- (a) You must demonstrate initial compliance with each emission and operating limitation that applies to you according to Table 4 of this subpart.
- (b) You must submit the Notification of Compliance Status containing results of the initial compliance demonstration according to the requirements in 40 CFR 63.6145(f).

**Continuous Compliance Requirements**

40 CFR 63.6135 - How do I monitor and collect data to demonstrate continuous compliance?

- (a) Except for monitor malfunctions, associated repairs, and required quality assurance or quality control activities (including, as applicable, calibration checks and required zero and span adjustments of the monitoring system), you must conduct all parametric monitoring at all times the stationary combustion turbine is operating.
- (b) Do not use data recorded during monitor malfunctions, associated repairs, and required quality assurance or quality control activities for meeting the requirements of this subpart, including data averages and calculations. You must use all the data collected during all other periods in assessing the performance of the control device or in assessing emissions from the new or reconstructed stationary combustion turbine.

40 CFR 63.6140 - How do I demonstrate continuous compliance with the emission and operating limitations?

- (a) You must demonstrate continuous compliance with each emission limitation and operating limitation in Table 1 and Table 2 of this subpart according to methods specified in Table 5 of this subpart.
- (b) You must report each instance in which you did not meet each emission limitation or operating limitation. You must also report each instance in which you did not meet the requirements in Table 7 of this subpart that apply to you. These

instances are deviations from the emission and operating limitations in this subpart. These deviations must be reported according to the requirements in 40 CFR 63.6150.

(c) Consistent with 40 CFR 63.6(e) and 63.7(e)(1), deviations that occur during a period of startup, shutdown, and malfunction are not violations if you have operated your stationary combustion turbine in accordance with 40 CFR 63.6(e)(1)(i).

[69 FR 10537, Mar. 5, 2004, as amended at 71 FR 20467, Apr. 20, 2006]

## **Notifications, Reports, and Records**

### 40 CFR 63.6145 - What notifications must I submit and when?

(a) You must submit all of the notifications in 40 CFR 63.7(b) and (c), 63.8(e), 63.8(f)(4), and 63.9(b) and (h) that apply to you by the dates specified.

(b) As specified in 40 CFR 63.9(b)(2), if you start up your new or reconstructed stationary combustion turbine before March 5, 2004, you must submit an Initial Notification not later than 120 calendar days after March 5, 2004.

(c) As specified in 40 CFR 63.9(b), if you start up your new or reconstructed stationary combustion turbine on or after March 5, 2004, you must submit an Initial Notification not later than 120 calendar days after you become subject to this subpart.

(d) If you are required to submit an Initial Notification but are otherwise not affected by the emission limitation requirements of this subpart, in accordance with 40 CFR 63.6090(b), your notification must include the information in 40 CFR 63.9(b)(2)(i) through (v) and a statement that your new or reconstructed stationary combustion turbine has no additional emission limitation requirements and must explain the basis of the exclusion (for example, that it operates exclusively as an emergency stationary combustion turbine).

(e) If you are required to conduct an initial performance test, you must submit a notification of intent to conduct an initial performance test at least 60 calendar days before the initial performance test is scheduled to begin as required in 40 CFR 63.7(b)(1).

(f) If you are required to comply with the emission limitation for formaldehyde, you must submit a Notification of Compliance Status according to 40 CFR 63.9(h)(2)(ii). For each performance test required to demonstrate compliance with the emission limitation for formaldehyde, you must submit the Notification of Compliance Status, including the performance test results, before the close of business on the 60th calendar day following the completion of the performance test.

### 40 CFR 63.6150 - What reports must I submit and when?

(a) Anyone who owns or operates a stationary combustion turbine which must meet the emission limitation for formaldehyde must submit a semiannual compliance report according to Table 6 of this subpart. The semiannual compliance report must contain the information described in paragraphs (a)(1) through (a)(4) of this section. The semiannual compliance report must be submitted by the dates specified in paragraphs (b)(1) through (b)(5) of this section, unless the Administrator has approved a different schedule.

(1) Company name and address.

(2) Statement by a responsible official, with that official's name, title, and signature, certifying the accuracy of the content of the report.

(3) Date of report and beginning and ending dates of the reporting period.

(4) For each deviation from an emission limitation, the compliance report must contain the information in paragraphs (a)(4)(i) through (a)(4)(iii) of this section.

(i) The total operating time of each stationary combustion turbine during the reporting period.

(ii) Information on the number, duration, and cause of deviations (including unknown cause, if applicable), as applicable, and the corrective action taken.

(iii) Information on the number, duration, and cause for monitor downtime incidents (including unknown cause, if applicable, other than downtime associated with zero and span and other daily calibration checks).

(b) Dates of submittal for the semiannual compliance report are provided in (b)(1) through (b)(5) of this section.

(1) The first semiannual compliance report must cover the period beginning on the compliance date specified in 40 CFR 63.6095 and ending on June 30 or December 31, whichever date is the first date following the end of the first calendar half after the compliance date specified in 40 CFR 63.6095.

(2) The first semiannual compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date follows the end of the first calendar half after the compliance date that is specified in 40 CFR 63.6095.

(3) Each subsequent semiannual compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

(4) Each subsequent semiannual compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period.

(5) For each stationary combustion turbine that is subject to permitting regulations pursuant to 40 CFR 70 or 71, and if the permitting authority has established the date for submitting annual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), you may submit the first and subsequent compliance reports according to the dates the permitting authority has established instead of according to the dates in paragraphs (b)(1) through (4) of this section.

(c) If you are operating as a stationary combustion turbine which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, or a stationary combustion turbine where gasified MSW is used to generate 10 percent or more of the gross heat input on an annual basis, you must submit an annual report according to Table 6 of this subpart by the date specified unless the Administrator has approved a different schedule, according to the information described in paragraphs (d)(1) through (5) of this section. You must report the data specified in (c)(1) through (c)(3) of this section.

(1) Fuel flow rate of each fuel and the heating values that were used in your calculations. You must also demonstrate that the percentage of heat input provided by landfill gas, digester gas, or gasified MSW is equivalent to 10 percent or more of the total fuel consumption on an annual basis.

(2) The operating limits provided in your federally enforceable permit, and any deviations from these limits.

(3) Any problems or errors suspected with the meters.

(d) Dates of submittal for the annual report are provided in (d)(1) through (d)(5) of this section.

(1) The first annual report must cover the period beginning on the compliance date specified in 40 CFR 63.6095 and ending on December 31.

(2) The first annual report must be postmarked or delivered no later than January 31.

(3) Each subsequent annual report must cover the annual reporting period from January 1 through December 31.

(4) Each subsequent annual report must be postmarked or delivered no later than January 31.

(5) For each stationary combustion turbine that is subject to permitting regulations pursuant to 40 CFR 70 or 71, and if the permitting authority has established the date for submitting annual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), you may submit the first and subsequent compliance reports according to the dates the permitting authority has established instead of according to the dates in paragraphs (d)(1) through (4) of this section.

(e) If you are operating a lean premix gas-fired stationary combustion turbine or a diffusion flame gas-fired stationary combustion turbine as defined by this subpart, and you use any quantity of distillate oil to fire any new or existing stationary combustion turbine which is located at the same major source, you must submit an annual report according to Table 6 of this subpart by the date specified unless the Administrator has approved a different schedule, according to the information described in paragraphs (d)(1) through (5) of this section. You must report the data specified in (e)(1) through (e)(3) of this section.

(1) The number of hours distillate oil was fired by each new or existing stationary combustion turbine during the reporting period.

(2) The operating limits provided in your federally enforceable permit, and any deviations from these limits.

(3) Any problems or errors suspected with the meters.

#### 40 CFR 63.6155 - What records must I keep?

(a) You must keep the records as described in paragraphs (a)(1) through (5).

(1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification

or Notification of Compliance Status that you submitted, according to the requirements in 40 CFR 63.10(b)(2)(xiv).

(2) Records of performance tests and performance evaluations as required in 40 CFR 63.10(b)(2)(viii).

(3) Records of the occurrence and duration of each startup, shutdown, or malfunction as required in 40 CFR 63.10(b)(2)(i).

(4) Records of the occurrence and duration of each malfunction of the air pollution control equipment, if applicable, as required in 40 CFR 63.10(b)(2)(ii).

(5) Records of all maintenance on the air pollution control equipment as required in 40 CFR 63.10(b)(iii).

(b) If you are operating a stationary combustion turbine which fires landfill gas, digester gas or gasified MSW equivalent to 10 percent or more of the gross heat input on an annual basis, or if you are operating a lean premix gas-fired stationary combustion turbine or a diffusion flame gas-fired stationary combustion turbine as defined by this subpart, and you use

any quantity of distillate oil to fire any new or existing stationary combustion turbine which is located at the same major source, you must keep the records of your daily fuel usage monitors.

(c) You must keep the records required in Table 5 of this subpart to show continuous compliance with each operating limitation that applies to you.

#### 40 CFR 63.6160 - In what form and how long must I keep my records?

(a) You must maintain all applicable records in such a manner that they can be readily accessed and are suitable for inspection according to 40 CFR 63.10(b)(1).

(b) As specified in 40 CFR 63.10(b)(1), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

(c) You must retain your records of the most recent 2 years on site or your records must be accessible on site. Your records of the remaining 3 years may be retained off site.

### **Other Requirements and Information**

#### 40 CFR 63.6165 - What parts of the General Provisions apply to me?

Table 7 of this subpart shows which parts of the General Provisions in 40 CFR 63.1 through 15 apply to you.

#### 40 CFR 63.6170 - Who implements and enforces this subpart?

(a) This subpart is implemented and enforced by the U.S. EPA or a delegated authority such as your State, local, or tribal agency. If the EPA Administrator has delegated authority to your State, local, or tribal agency, then that agency (as well as the U.S. EPA) has the authority to implement and enforce this subpart. You should contact your EPA Regional Office to find out whether this subpart is delegated to your State, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under section 40 CFR 63 Subpart E, the authorities contained in paragraph (c) of this section are retained by the EPA Administrator and are not transferred to the State, local, or tribal agency.

(c) The authorities that will not be delegated to State, local, or tribal agencies are:

(1) Approval of alternatives to the emission limitations or operating limitations in 40 CFR 63.6100 under 40 CFR 63.6(g).

(2) Approval of major alternatives to test methods under 40 CFR 63.7(e)(2)(ii) and (f) and as defined in 40 CFR 63.90.

(3) Approval of major alternatives to monitoring under 40 CFR 63.8(f) and as defined in 40 CFR 63.90.

(4) Approval of major alternatives to recordkeeping and reporting under 40 CFR 63.10(f) and as defined in 40 CFR 63.90.

(5) Approval of a performance test which was conducted prior to the effective date of the rule to determine outlet formaldehyde concentration, as specified in 40 CFR 63.6110(b).

#### 40 CFR 63.6175 - What definitions apply to this subpart?

Terms used in this subpart are defined in the CAA; in 40 CFR 63.2, the General Provisions of this part; and in this section:

*Area source* means any stationary source of HAP that is not a major source as defined in this part.

*Associated equipment* as used in this subpart and as referred to in section 112(n)(4) of the CAA, means equipment associated with an oil or natural gas exploration or production well, and includes all equipment from the well bore to the point of custody transfer, except glycol dehydration units, storage vessels with potential for flash emissions, combustion turbines, and stationary reciprocating internal combustion engines.

*CAA* means the Clean Air Act (42 U.S.C. 7401 *et seq.*, as amended by Public Law 101-549, 104 Stat. 2399).

*Cogeneration cycle stationary combustion turbine* means any stationary combustion turbine that recovers heat from the stationary combustion turbine exhaust gases using an exhaust heat exchanger, such as a heat recovery steam generator.

*Combined cycle stationary combustion turbine* means any stationary combustion turbine that recovers heat from the stationary combustion turbine exhaust gases using an exhaust heat exchanger to generate steam for use in a steam turbine.

*Combustion turbine engine test cells/stands* means engine test cells/stands, as defined in Subpart P of 40 CFR 63, that test stationary combustion turbines.

*Compressor station* means any permanent combination of compressors that move natural gas at increased pressure from fields, in transmission pipelines, or into storage.

*Custody transfer* means the transfer of hydrocarbon liquids or natural gas: after processing and/or treatment in the producing operations, or from storage vessels or automatic transfer facilities or other such equipment, including product loading racks, to pipelines or any other forms of transportation. For the purposes of this subpart, the point at which such liquids or natural gas enters a natural gas processing plant is a point of custody transfer.

*Deviation* means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:

- (1) Fails to meet any requirement or obligation established by this subpart, including but not limited to any emission limitation or operating limitation;
- (2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit;
- (3) Fails to meet any emission limitation or operating limitation in this subpart during malfunction, regardless of whether or not such failure is permitted by this subpart; or
- (4) Fails to satisfy the general duty to minimize emissions established by 40 CFR 63.6(e)(1)(i).

*Diffusion flame gas-fired stationary combustion turbine* means:

- (1)(i) Each stationary combustion turbine which is equipped only to fire gas using diffusion flame technology,
  - (ii) Each stationary combustion turbine which is equipped both to fire gas using diffusion flame technology and to fire oil, during any period when it is firing gas, and
  - (iii) Each stationary combustion turbine which is equipped both to fire gas using diffusion flame technology and to fire oil, and is located at a major source where all new, reconstructed, and existing stationary combustion turbines fire oil no more than an aggregate total of 1000 hours during the calendar year.
- (2) Diffusion flame gas-fired stationary combustion turbines do not include:
- (i) Any emergency stationary combustion turbine,
  - (ii) Any stationary combustion turbine located on the North Slope of Alaska, or
  - (iii) Any stationary combustion turbine burning landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, or any stationary combustion turbine where gasified MSW is used to generate 10 percent or more of the gross heat input on an annual basis.

*Diffusion flame oil-fired stationary combustion turbine* means:

- (1)(i) Each stationary combustion turbine which is equipped only to fire oil using diffusion flame technology, and
  - (ii) Each stationary combustion turbine which is equipped both to fire oil using diffusion flame technology and to fire gas, and is located at a major source where all new, reconstructed, and existing stationary combustion turbines fire oil more than an aggregate total of 1000 hours during the calendar year, during any period when it is firing oil.
- (2) Diffusion flame oil-fired stationary combustion turbines do not include:
- (i) Any emergency stationary combustion turbine, or
  - (ii) Any stationary combustion turbine located on the North Slope of Alaska.

*Diffusion flame technology* means a configuration of a stationary combustion turbine where fuel and air are injected at the combustor and are mixed only by diffusion prior to ignition.

*Digester gas* means any gaseous by-product of wastewater treatment typically formed through the anaerobic decomposition of organic waste materials and composed principally of methane and CO<sub>2</sub>.

*Distillate oil* means any liquid obtained from the distillation of petroleum with a boiling point of approximately 150 to 360 degrees Celsius. One commonly used form is fuel oil number 2.

*Emergency stationary combustion turbine* means any stationary combustion turbine that operates in an emergency situation. Examples include stationary combustion turbines used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility is interrupted, or stationary combustion turbines used to pump water in the case of fire or flood, etc. Emergency stationary combustion turbines do not include stationary combustion turbines used as peaking units at electric utilities or stationary combustion turbines at industrial facilities that typically operate at low capacity factors. Emergency stationary combustion turbines may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are required by the manufacturer, the vendor, or the insurance company associated with the turbine. Required testing of such units should be minimized, but there is no time limit on the use of emergency stationary combustion turbines.

*Glycol dehydration unit* means a device in which a liquid glycol (including, but not limited to, ethylene glycol, diethylene glycol, or triethylene glycol) absorbent directly contacts a natural gas stream and absorbs water in a contact tower or absorption column (absorber). The glycol contacts and absorbs water vapor and other gas stream constituents from the natural gas and becomes "rich" glycol. This glycol is then regenerated in the glycol dehydration unit reboiler. The "lean" glycol is then recycled.

*Hazardous air pollutant (HAP)* means any air pollutant listed in or pursuant to section 112(b) of the CAA.

*ISO standard day conditions* means 288 degrees Kelvin (15 °C), 60 percent relative humidity and 101.3 kilopascals pressure.

*Landfill gas* means a gaseous by-product of the land application of municipal refuse typically formed through the anaerobic decomposition of waste materials and composed principally of methane and CO<sub>2</sub>.

*Lean premix gas-fired stationary combustion turbine* means:

- (1)(i) Each stationary combustion turbine which is equipped only to fire gas using lean premix technology,
  - (ii) Each stationary combustion turbine which is equipped both to fire gas using lean premix technology and to fire oil, during any period when it is firing gas, and
  - (iii) Each stationary combustion turbine which is equipped both to fire gas using lean premix technology and to fire oil, and is located at a major source where all new, reconstructed, and existing stationary combustion turbines fire oil no more than an aggregate total of 1000 hours during the calendar year.
- (2) Lean premix gas-fired stationary combustion turbines do not include:
- (i) Any emergency stationary combustion turbine,
  - (ii) Any stationary combustion turbine located on the North Slope of Alaska, or
  - (iii) Any stationary combustion turbine burning landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, or any stationary combustion turbine where gasified MSW is used to generate 10 percent or more of the gross heat input on an annual basis.

*Lean premix oil-fired stationary combustion turbine* means:

- (1)(i) Each stationary combustion turbine which is equipped only to fire oil using lean premix technology, and
  - (ii) Each stationary combustion turbine which is equipped both to fire oil using lean premix technology and to fire gas, and is located at a major source where all new, reconstructed, and existing stationary combustion turbines fire oil more than an aggregate total of 1000 hours during the calendar year, during any period when it is firing oil.
- (2) Lean premix oil-fired stationary combustion turbines do not include:
- (i) Any emergency stationary combustion turbine, or
  - (ii) Any stationary combustion turbine located on the North Slope of Alaska.

*Lean premix technology* means a configuration of a stationary combustion turbine where the air and fuel are thoroughly mixed to form a lean mixture for combustion in the combustor. Mixing may occur before or in the combustion chamber.

*Major source*, as used in this subpart, shall have the same meaning as in 40 CFR 63.2, except that:

- (1) Emissions from any oil or gas exploration or production well (with its associated equipment (as defined in this section)) and emissions from any pipeline compressor station or pump station shall not be aggregated with emissions from other similar units, to determine whether such emission points or stations are major sources, even when emission points are in a contiguous area or under common control;
- (2) For oil and gas production facilities, emissions from processes, operations, or equipment that are not part of the same oil and gas production facility, as defined in this section, shall not be aggregated;
- (3) For production field facilities, only HAP emissions from glycol dehydration units, storage vessel with the potential for flash emissions, combustion turbines and reciprocating internal combustion engines shall be aggregated for a major source determination; and
- (4) Emissions from processes, operations, and equipment that are not part of the same natural gas transmission and storage facility, as defined in this section, shall not be aggregated.

*Malfunction* means any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner which causes or has the potential to cause the emission limitations in this standard to be exceeded. Failures that are caused in part by poor maintenance or careless operation are not malfunctions.

*Municipal solid waste* as used in this subpart is as defined in 40 CFR 60.1465 of Subpart AAAA of 40 CFR 60, New Source Performance Standards for Small Municipal Waste Combustion Units.

*Natural gas* means a naturally occurring mixture of hydrocarbon and non-hydrocarbon gases found in geologic formations beneath the Earth's surface, of which the principal constituent is methane. May be field or pipeline quality. For the purposes of this subpart, the definition of natural gas includes similarly constituted fuels such as field gas, refinery gas, and syngas.

*Natural gas transmission* means the pipelines used for the long distance transport of natural gas (excluding processing). Specific equipment used in natural gas transmission includes the land, mains, valves, meters, boosters, regulators, storage vessels, dehydrators, compressors, and their driving units and appurtenances, and equipment used transporting gas from a production plant, delivery point of purchased gas, gathering system, storage area, or other wholesale source of gas to one or more distribution area(s).

*Natural gas transmission and storage facility* means any grouping of equipment where natural gas is processed, compressed, or stored prior to entering a pipeline to a local distribution company or (if there is no local distribution company) to a final end user. Examples of a facility for this source category are: an underground natural gas storage operation; or a natural gas compressor station that receives natural gas via pipeline, from an underground natural gas storage operation, or from a natural gas processing plant. The emission points associated with these phases include, but are not limited to, process vents. Processes that may have vents include, but are not limited to, dehydration and compressor station engines. Facility, for the purpose of a major source determination, means natural gas transmission and storage equipment that is located inside the boundaries of an individual surface site (as defined in this section) and is connected by ancillary equipment, such as gas flow lines or power lines. Equipment that is part of a facility will typically be located within close proximity to other equipment located at the same facility. Natural gas transmission and storage equipment or groupings of equipment located on different gas leases, mineral fee tracts, lease tracts, subsurface unit areas, surface fee tracts, or surface lease tracts shall not be considered part of the same facility.

*North Slope of Alaska* means the area north of the Arctic Circle (latitude 66.5 degrees North).

*Oil and gas production facility* as used in this subpart means any grouping of equipment where hydrocarbon liquids are processed, upgraded ( *i.e.*, remove impurities or other constituents to meet contract specifications), or stored prior to the point of custody transfer; or where natural gas is processed, upgraded, or stored prior to entering the natural gas transmission and storage source category. For purposes of a major source determination, facility (including a building, structure, or installation) means oil and natural gas production and processing equipment that is located within the boundaries of an individual surface site as defined in this section. Equipment that is part of a facility will typically be located within close proximity to other equipment located at the same facility. Pieces of production equipment or groupings of equipment located on different oil and gas leases, mineral fee tracts, lease tracts, subsurface or surface unit areas, surface fee tracts, surface lease tracts, or separate surface sites, whether or not connected by a road, waterway, power line or pipeline, shall not be considered part of the same facility. Examples of facilities in the oil and natural gas production source category include, but are not limited to, well sites, satellite tank batteries, central tank batteries, a compressor station that transports natural gas to a natural gas processing plant, and natural gas processing plants.

*Oxidation catalyst emission control device* means an emission control device that incorporates catalytic oxidation to reduce CO emissions.

*Potential to emit* means the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the stationary source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is federally enforceable. For oil and natural gas production facilities subject to subpart HH of this part, the potential to emit provisions in 40 CFR 63.760(a) may be used. For natural gas transmission and storage facilities subject to subpart HHH of this part, the maximum annual facility gas throughput for storage facilities may be determined according to 40 CFR 63.1270(a)(1) and the maximum annual throughput for transmission facilities may be determined according to 40 CFR 63.1270(a)(2).

*Production field facility* means those oil and gas production facilities located prior to the point of custody transfer.

*Production well* means any hole drilled in the earth from which crude oil, condensate, or field natural gas is extracted.

*Regenerative/recuperative cycle stationary combustion turbine* means any stationary combustion turbine that recovers heat from the stationary combustion turbine exhaust gases using an exhaust heat exchanger to preheat the combustion air entering the combustion chamber of the stationary combustion turbine.

*Research or laboratory facility* means any stationary source whose primary purpose is to conduct research and development into new processes and products, where such source is operated under the close supervision of technically trained personnel and is not engaged in the manufacture of products for commercial sale in commerce, except in a *de minimis* matter.

*Simple cycle stationary combustion turbine* means any stationary combustion turbine that does not recover heat from the stationary combustion turbine exhaust gases.

*Stationary combustion turbine* means all equipment, including but not limited to the turbine, the fuel, air, lubrication and exhaust gas systems, control systems (except emissions control equipment), and any ancillary components and sub-components comprising any simple cycle stationary combustion turbine, any regenerative/recuperative cycle stationary combustion turbine, the combustion turbine portion of any stationary cogeneration cycle combustion system, or the combustion turbine portion of any stationary combined cycle steam/electric generating system. Stationary means that the combustion turbine is not self propelled or intended to be propelled while performing its function. Stationary

combustion turbines do not include turbines located at a research or laboratory facility, if research is conducted on the turbine itself and the turbine is not being used to power other applications at the research or laboratory facility.

*Storage vessel with the potential for flash emissions* means any storage vessel that contains a hydrocarbon liquid with a stock tank gas-to-oil ratio equal to or greater than 0.31 cubic meters per liter and an American Petroleum Institute gravity equal to or greater than 40 degrees and an actual annual average hydrocarbon liquid throughput equal to or greater than 79,500 liters per day. Flash emissions occur when dissolved hydrocarbons in the fluid evolve from solution when the fluid pressure is reduced.

*Surface site* means any combination of one or more graded pad sites, gravel pad sites, foundations, platforms, or the immediate physical location upon which equipment is physically affixed.

[69 FR 10537, Mar. 5, 2004, as amended at 71 FR 20467, Apr. 20, 2006]

**Table 1 to Subpart YYYY of Part 63 - Emission Limitations**

As stated in 40 CFR 63.6100, you must comply with the following emission limitations

| <b>For each new or reconstructed stationary combustion turbine described in 40 CFR 63.6100 which is</b>   | <b>You must meet the following emission limitations</b>                                    |
|---|--|
| 1. a lean premix gas-fired stationary combustion turbine as defined in this subpart,<br>2. a lean premix oil-fired stationary combustion turbine as defined in this subpart,<br>3. a diffusion flame gas-fired stationary combustion turbine as defined in this subpart, or<br>4. a diffusion flame oil-fired stationary combustion turbine as defined in this subpart. | limit the concentration of formaldehyde to 91 ppbvd or less at 15 percent O <sub>2</sub> . |

**Table 2 to Subpart YYYY of Part 63 - Operating Limitations**

As stated in 40 CFR 63.6100 and 63.6140, you must comply with the following operating limitations

| <b>For</b>  | <b>You must</b>  |
|---|--|
| 1. each stationary combustion turbine that is required to comply with the emission limitation for formaldehyde and is using an oxidation catalyst     | maintain the 4-hour rolling average of the catalyst inlet temperature within the range suggested by the catalyst manufacturer. |
| 2. each stationary combustion turbine that is required to comply with the emission limitation for formaldehyde and is not using an oxidation catalyst | maintain any operating limitations approved by the Administrator.  |

**Table 3 to Subpart YYYY of Part 63 - Requirements for Performance Tests and Initial Compliance Demonstrations**

As stated in 40 CFR 63.6120, you must comply with the following requirements for performance tests and initial compliance demonstrations

| <b>You must</b>   | <b>Using</b>   | <b>According to the following requirements</b>   |
|---|--|--|
| a. demonstrate formaldehyde emissions meet the emission limitations specified in Table 1 by a performance test initially and on an annual basis AND | Test Method 320 of 40 CFR 63 Appendix A; ASTM D6348-03 provided that %R as determined in Annex A5 of ASTM D6348-03 is equal or greater than 70% and less than or equal to 130%; or other methods approved by the Administrator | formaldehyde concentration must be corrected to 15 percent O <sub>2</sub> , dry basis. Results of this test consist of the average of the three 1 hour runs. Test must be conducted within 10 percent of 100 percent load. |
| b. select the sampling port location and the number of traverse points AND  | Method 1 or 1A of 40 CFR 60 Appendix A 40 CFR 63.7(d)(1)(i)  | if using an air pollution control device, the sampling site must be located at the outlet of the air pollution control device.   |
| c. determine the O <sub>2</sub> concentration at the sampling port location AND   | Method 3A or 3B of 40 CFR 60 Appendix A  | measurements to determine O <sub>2</sub> concentration must be made at the same time as the  |

|  |   |   |
|--|---|---|
|  |   | performance test.   |
| d. determine the moisture content at the sampling port location for the purposes of correcting the formaldehyde concentration to a dry basis | Method 4 of 40 CFR 60 Appendix A or Test Method 320 of 40 CFR 63 Appendix A, or ASTM D6348-03 | measurements to determine moisture content must be made at the same time as the performance test. |

**Table 4 to Subpart YYYY of Part 63 - Initial Compliance With Emission Limitations**

As stated in 40 CFR 63.6110 and 63.6130, you must comply with the following requirements to demonstrate initial compliance with emission limitations

| <b>For the</b>                        | <b>You have demonstrated initial compliance if</b>  |
|---------------------------------------|---|
| emission limitation for formaldehyde. | the average formaldehyde concentration meets the emission limitations specified in Table 1. |

**Table 5 to Subpart YYYY of Part 63 - Continuous Compliance With Operating Limitations**

As stated in 40 CFR 63.6135 and 63.6140, you must comply with the following requirements to demonstrate continuing compliance with operating limitations:

| <b>For each stationary combustion turbine complying with the emission limitation for formaldehyde</b> | <b>You must demonstrate continuous compliance by</b>   |
|---|--|
| 1. with an oxidation catalyst   | continuously monitoring the inlet temperature to the catalyst and maintaining the 4-hour rolling average of the inlet temperature within the range suggested by the catalyst manufacturer. |
| 2. without the use of an oxidation catalyst   | continuously monitoring the operating limitations that have been approved in your petition to the Administrator.   |

**Table 6 to Subpart YYYY of Part 63 - Requirements for Reports**

As stated in 40 CFR 63.6150, you must comply with the following requirements for reports

| <b>If you own or operate a</b>   | <b>you must</b>  | <b>According to the following requirements</b>                 |
|--|--|--|
| 1. stationary combustion turbine which must comply with the formaldehyde emission limitation   | report your compliance status  | semiannually, according to the requirements of 40 CFR 63.6150. |
| 2. stationary combustion turbine which fires landfill gas, digester gas or gasified MSW equivalent to 10 percent or more of the gross heat input on an annual basis  | report (1) the fuel flow rate of each fuel and the heating values that were used in your calculations, and you must demonstrate that the percentage of heat input provided by landfill gas, digester gas, or gasified MSW is equivalent to 10 percent or more of the gross heat input on an annual basis, (2) the operating limits provided in your federally enforceable permit, and any deviations from these limits, and (3) any problems or errors suspected with the meters | annually, according to the requirements in 40 CFR 63.6150.     |
| 3. a lean premix gas-fired stationary combustion turbine or a diffusion flame gas-fired stationary combustion turbine as defined by this subpart, and you use any quantity of distillate oil to fire any new or existing stationary combustion turbine which is located at the same major source | report (1) the number of hours distillate oil was fired by each new or existing stationary combustion turbine during the reporting period, (2) the operating limits provided in your federally enforceable permit, and any deviations from these limits, and (3) any problems or errors suspected with the meters  | annually, according to the requirements in 40 CFR 63.6150.     |

**Table 7 of Subpart YYYY of Part 63 - Applicability of General Provisions to Subpart YYYY**

You must comply with the applicable General Provisions requirements:

| Citation              | Subject  | Applies to Subpart YYYY | Explanation  |
|-----------------------|--|-------------------------|--|
| 40 CFR 63.1           | General applicability of the General Provisions                                  | Yes                     | Additional terms defined in 40 CFR 63.6175.                          |
| 40 CFR 63.2           | Definitions  | Yes                     | Additional terms defined in 40 CFR 63.6175.                          |
| 40 CFR 63.3           | Units and abbreviations  | Yes                     |  |
| 40 CFR 63.4           | Prohibited activities  | Yes                     |  |
| 40 CFR 63.5           | Construction and reconstruction  | Yes                     |  |
| 40 CFR 63.6(a)        | Applicability  | Yes                     |  |
| 40 CFR 63.6(b)(1)-(4) | Compliance dates for new and reconstructed sources                               | Yes                     |  |
| 40 CFR 63.6(b)(5)     | Notification   | Yes                     |  |
| 40 CFR 63.6(b)(6)     | [Reserved]   |                         |  |
| 40 CFR 63.6(b)(7)     | Compliance dates for new and reconstructed area sources that become major        | Yes                     |  |
| 40 CFR 63.6(c)(1)-(2) | Compliance dates for existing sources  | Yes                     |  |
| 40 CFR 63.6(c)(3)-(4) | [Reserved]   |                         |  |
| 40 CFR 63.6(c)(5)     | Compliance dates for existing area sources that become major                     | Yes                     |  |
| 40 CFR 63.6(d)        | [Reserved]   |                         |  |
| 40 CFR 63.6(e)(1)     | Operation and maintenance  | Yes                     |  |
| 40 CFR 63.6(e)(2)     | [Reserved]   |                         |  |
| 40 CFR 63.6(e)(3)     | SSMP   | Yes                     |  |
| 40 CFR 63.6(f)(1)     | Applicability of standards except during startup, shutdown, or malfunction (SSM) | Yes                     |  |
| 40 CFR 63.6(f)(2)     | Methods for determining compliance   | Yes                     |  |
| 40 CFR 63.6(f)(3)     | Finding of compliance  | Yes                     |  |
| 40 CFR 63.6(g)(1)-(3) | Use of alternative standard  | Yes                     |  |
| 40 CFR 63.6(h)        | Opacity and visible emission standards   | No                      | Subpart YYYY does not contain opacity or visible emission standards. |
| 40 CFR 63.6(i)        | Compliance extension procedures and criteria                                     | Yes                     |  |
| 40 CFR 63.6(j)        | Presidential compliance exemption  | Yes                     |  |
| 40 CFR 63.7(a)(1)-(2) | Performance test dates   | Yes                     | Subpart YYYY contains performance test dates at 40 CFR 63.6110.      |
| 40 CFR 63.7(a)(3)     | Section 114 authority  | Yes                     |  |

|                        |  |     |  |
|------------------------|--|-----|--|
| 40 CFR 63.7(b)(1)      | Notification of performance test                                     | Yes |  |
| 40 CFR 63.7(b)(2)      | Notification of rescheduling   | Yes |  |
| 40 CFR 63.7(c)         | Quality assurance/test plan  | Yes |  |
| 40 CFR 63.7(d)         | Testing facilities   | Yes |  |
| 40 CFR 63.7(e)(1)      | Conditions for conducting performance tests                          | Yes |  |
| 40 CFR 63.7(e)(2)      | Conduct of performance tests and reduction of data                   | Yes | Subpart YYYY specifies test methods at 40 CFR 63.6120.   |
| 40 CFR 63.7(e)(3)      | Test run duration  | Yes |  |
| 40 CFR 63.7(e)(4)      | Administrator may require other testing under section 114 of the CAA | Yes |  |
| 40 CFR 63.7(f)         | Alternative test method provisions                                   | Yes |  |
| 40 CFR 63.7(g)         | Performance test data analysis, recordkeeping, and reporting         | Yes |  |
| 40 CFR 63.7(h)         | Waiver of tests  | Yes |  |
| 40 CFR 63.8(a)(1)      | Applicability of monitoring requirements                             | Yes | Subpart YYYY contains specific requirements for monitoring at 40 CFR 63.6125.  |
| 40 CFR 63.8(a)(2)      | Performance specifications   | Yes |  |
| 40 CFR 63.8(a)(3)      | [Reserved]   |     |  |
| 40 CFR 63.8(a)(4)      | Monitoring for control devices                                       | No  |  |
| 40 CFR 63.8(b)(1)      | Monitoring   | Yes |  |
| 40 CFR 63.8(b)(2)-(3)  | Multiple effluents and multiple monitoring systems                   | Yes |  |
| 40 CFR 63.8(c)(1)      | Monitoring system operation and maintenance                          | Yes |  |
| 40 CFR 63.8(c)(1)(i)   | Routine and predictable SSM  | Yes |  |
| 40 CFR 63.8(c)(1)(ii)  | Parts for repair of CMS readily available                            | Yes |  |
| 40 CFR 63.8(c)(1)(iii) | SSMP for CMS required  | Yes |  |
| 40 CFR 63.8(c)(2)-(3)  | Monitoring system installation                                       | Yes |  |
| 40 CFR 63.8(c)(4)      | Continuous monitoring system (CMS) requirements                      | Yes | Except that subpart YYYY does not require continuous opacity monitoring systems (COMS).  |
| 40 CFR 63.8(c)(5)      | COMS minimum procedures  | No  |  |
| 40 CFR 63.8(c)(6)-(8)  | CMS requirements   | Yes | Except that subpart YYYY does not require COMS.  |
| 40 CFR 63.8(d)         | CMS quality control  | Yes |  |
| 40 CFR 63.8(e)         | CMS performance evaluation   | Yes | Except for 40 CFR 63.8(e)(5)(ii), which applies to COMS.   |
| 40 CFR 63.8(f)(1)-(5)  | Alternative monitoring method  | Yes |  |
| 40 CFR 63.8(f)(6)      | Alternative to relative accuracy test                                | Yes |  |
| 40 CFR 63.8(g)         | Data reduction   | Yes | Except that provisions for COMS are not applicable. Averaging periods for demonstrating compliance are specified at 40 CFR 40 CFR 63.6135 and 63.6140. |
| 40 CFR 63.9(a)         | Applicability and State delegation of notification requirements      | Yes |  |

|                               |  |     |  |
|-------------------------------|--|-----|--|
| 40 CFR 63.9(b)(1)-(5)         | Initial notifications  | Yes | Except that 40 CFR 63.9(b)(3) is reserved.   |
| 40 CFR 63.9(c)                | Request for compliance extension   | Yes |  |
| 40 CFR 63.9(d)                | Notification of special compliance requirements for new sources                                | Yes |  |
| 40 CFR 63.9(e)                | Notification of performance test   | Yes |  |
| 40 CFR 63.9(f)                | Notification of visible emissions/opacity test   | No  | Subpart YYYYY does not contain opacity or VE standards.  |
| 40 CFR 63.9(g)(1)             | Notification of performance evaluation   | Yes |  |
| 40 CFR 63.9(g)(2)             | Notification of use of COMS data   | No  | Subpart YYYYY does not contain opacity or VE standards.  |
| 40 CFR 63.9(g)(3)             | Notification that criterion for alternative to relative accuracy test audit (RATA) is exceeded | Yes | If alternative is in use.  |
| 40 CFR 63.9(h)                | Notification of compliance status  | Yes | Except that notifications for sources not conducting performance tests are due 30 days after completion of performance evaluations. 40 CFR 63.9(h)(4) is reserved. |
| 40 CFR 63.9(i)                | Adjustment of submittal deadlines  | Yes |  |
| 40 CFR 63.9(j)                | Change in previous information   | Yes |  |
| 40 CFR 63.10(a)               | Administrative provisions for recordkeeping and reporting                                      | Yes |  |
| 40 CFR 63.10(b)(1)            | Record retention   | Yes |  |
| 40 CFR 63.10(b)(2)(i)-(iii)   | Records related to SSM   | Yes |  |
| 40 CFR 63.10(b)(2)(iv)-(v)    | Records related to actions during SSM  | Yes |  |
| 40 CFR 63.10(b)(2)(vi)-(xi)   | CMS records  | Yes |  |
| 40 CFR 63.10(b)(2)(xii)       | Record when under waiver   | Yes |  |
| 40 CFR 63.10(b)(2)(xiii)      | Records when using alternative to RATA   | Yes | For CO standard if using RATA alternative.   |
| 40 CFR 63.10(b)(2)(xiv)       | Records of supporting documentation  | Yes |  |
| 40 CFR 63.10(b)(3)            | Records of applicability determination   | Yes |  |
| 40 CFR 63.10(c)               | Additional records for sources using CMS   | Yes | Except that 40 CFR 63.10(c)(2)-(4) and (9) are reserved.   |
| 40 CFR 63.10(d)(1)            | General reporting requirements   | Yes |  |
| 40 CFR 63.10(d)(2)            | Report of performance test results   | Yes |  |
| 40 CFR 63.10(d)(3)            | Reporting opacity or VE observations   | No  | Subpart YYYYY does not contain opacity or VE standards.  |
| 40 CFR 63.10(d)(4)            | Progress reports   | Yes |  |
| 40 CFR 63.10(d)(5)            | Startup, shutdown, and malfunction reports   | No  | Subpart YYYYY does not require reporting of startup, shutdowns, or malfunctions.   |
| 40 CFR 63.10(e)(1) and (2)(i) | Additional CMS reports   | Yes |  |
| 40 CFR 63.10(e)(2)(ii)        | COMS-related report  | No  | Subpart YYYYY does not require COMS.   |
| 40 CFR 63.10(e)(3)            | Excess emissions and parameter   | Yes |  |

|                    |  |     |                                      |
|--------------------|--|-----|--------------------------------------|
|                    | exceedances reports                    |     |                                      |
| 40 CFR 63.10(e)(4) | Reporting COMS data                    | No  | Subpart YYYYY does not require COMS. |
| 40 CFR 63.10(f)    | Waiver for recordkeeping and reporting | Yes |                                      |
| 40 CFR 63.11       | Flares                                 | No  |                                      |
| 40 CFR 63.12       | State authority and delegations        | Yes |                                      |
| 40 CFR 63.13       | Addresses                              | Yes |                                      |
| 40 CFR 63.14       | Incorporation by reference             | Yes |                                      |
| 40 CFR 63.15       | Availability of information            | Yes |                                      |

## Subpart ZZZZ—National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

Source: 69 FR 33506, June 15, 2004, unless otherwise noted.

### What This Subpart Covers

#### 40 CFR 63.6580 - What is the purpose of subpart ZZZZ?

Subpart ZZZZ establishes national emission limitations and operating limitations for hazardous air pollutants (HAP) emitted from stationary reciprocating internal combustion engines (RICE) located at major and area sources of HAP emissions. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations and operating limitations.

[73 FR 3603, Jan. 18, 2008]

#### 40 CFR 63.6585 - Am I subject to this subpart?

You are subject to this subpart if you own or operate a stationary RICE at a major or area source of HAP emissions, except if the stationary RICE is being tested at a stationary RICE test cell/stand.

- (a) A stationary RICE is any internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work and which is not mobile. Stationary RICE differ from mobile RICE in that a stationary RICE is not a non-road engine as defined at 40 CFR 1068.30, and is not used to propel a motor vehicle or a vehicle used solely for competition.
  - (b) A major source of HAP emissions is a plant site that emits or has the potential to emit any single HAP at a rate of 10 tons (9.07 megagrams) or more per year or any combination of HAP at a rate of 25 tons (22.68 megagrams) or more per year, except that for oil and gas production facilities, a major source of HAP emissions is determined for each surface site.
  - (c) An area source of HAP emissions is a source that is not a major source.
  - (d) If you are an owner or operator of an area source subject to this subpart, your status as an entity subject to a standard or other requirements under this subpart does not subject you to the obligation to obtain a permit under 40 CFR 70 or 71, provided you are not required to obtain a permit under 40 CFR 70.3(a) or 40 CFR 71.3(a) for a reason other than your status as an area source under this subpart. Notwithstanding the previous sentence, you must continue to comply with the provisions of this subpart as applicable.
  - (e) If you are an owner or operator of a stationary RICE used for national security purposes, you may be eligible to request an exemption from the requirements of this subpart as described in 40 CFR 1068 Subpart C.
- [69 FR 33506, June 15, 2004, as amended at 73 FR 3603, Jan. 18, 2008]

#### 40 CFR 63.6590 - What parts of my plant does this subpart cover?

This subpart applies to each affected source.

(a) *Affected source.* An affected source is any existing, new, or reconstructed stationary RICE located at a major or area source of HAP emissions, excluding stationary RICE being tested at a stationary RICE test cell/stand.

##### (1) *Existing stationary RICE.*

- (i) For stationary RICE with a site rating of more than 500 brake horsepower (HP) located at a major source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before December 19, 2002.
- (ii) For stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before June 12, 2006.
- (iii) For stationary RICE located at an area source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before June 12, 2006.
- (iv) A change in ownership of an existing stationary RICE does not make that stationary RICE a new or reconstructed stationary RICE.

##### (2) *New stationary RICE*

- (i) A stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions is new if you commenced construction of the stationary RICE on or after December 19, 2002.
- (ii) A stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions is new if you commenced construction of the stationary RICE on or after June 12, 2006.
- (iii) A stationary RICE located at an area source of HAP emissions is new if you commenced construction of the stationary RICE on or after June 12, 2006.

(3) *Reconstructed stationary RICE*

(i) A stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions is reconstructed if you meet the definition of reconstruction in 40 CFR 63.2 and reconstruction is commenced on or after December 19, 2002.

(ii) A stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions is reconstructed if you meet the definition of reconstruction in 40 CFR 63.2 and reconstruction is commenced on or after June 12, 2006.

(iii) A stationary RICE located at an area source of HAP emissions is reconstructed if you meet the definition of reconstruction in 40 CFR 63.2 and reconstruction is commenced on or after June 12, 2006.

(b) *Stationary RICE subject to limited requirements.*

(1) An affected source which meets either of the criteria in paragraphs (b)(1)(i) through (ii) of this section does not have to meet the requirements of this subpart and of subpart A of 40 CFR 63 except for the initial notification requirements of 40 CFR 63.6645(f).

(i) The stationary RICE is a new or reconstructed emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions.

(ii) The stationary RICE is a new or reconstructed limited use stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions.

(2) A new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis must meet the initial notification requirements of 40 CFR 63.6645(f) and the requirements of 40 CFR 63.6625(c), 63.6650(g), and 63.6655(c). These stationary RICE do not have to meet the emission limitations and operating limitations of this subpart.

(3) The following stationary RICE do not have to meet the requirements of this subpart and of Subpart A 40 CFR 63, including initial notification requirements:

(i) Existing spark ignition 2 stroke lean burn (2SLB) stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;

(ii) Existing spark ignition 4 stroke lean burn (4SLB) stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;

(iii) Existing emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;

(iv) Existing limited use stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;

(v) Existing stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis;

(vi) Existing residential emergency stationary RICE located at an area source of HAP emissions;

(vii) Existing commercial emergency stationary RICE located at an area source of HAP emissions; or

(viii) Existing institutional emergency stationary RICE located at an area source of HAP emissions.

**(c) *Stationary RICE subject to Regulations under 40 CFR 60.* An affected source that meets any of the criteria in paragraphs (c)(1) through (7) of this section must meet the requirements 40 CFR 63 by meeting the requirements of 40 CFR 60 Subpart III, for compression ignition engines or 40 CFR 60 Subpart JJJJ, for spark ignition engines. No further requirements apply for such engines under this part.**

(1) A new or reconstructed stationary RICE located at an area source;

(2) A new or reconstructed 2SLB stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;

(3) A new or reconstructed 4SLB stationary RICE with a site rating of less than 250 brake HP located at a major source of HAP emissions;

(4) A new or reconstructed spark ignition 4 stroke rich burn (4SRB) stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;

(5) A new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis;

(6) A new or reconstructed emergency or limited use stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;

(7) A new or reconstructed compression ignition (CI) stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3604, Jan. 18, 2008; 75 FR 9674, Mar. 3, 2010; 75 FR 37733, June 30, 2010; 75 FR 51588, Aug. 20, 2010]

#### 40 CFR 63.6595 - When do I have to comply with this subpart?

##### *(a) Affected sources*

(1) If you have an existing stationary RICE, excluding existing non-emergency CI stationary RICE, with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the applicable emission limitations and operating limitations no later than June 15, 2007. If you have an existing non-emergency CI stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, an existing stationary CI RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, or an existing stationary CI RICE located at an area source of HAP emissions, you must comply with the applicable emission limitations and operating limitations no later than May 3, 2013.

If you have an existing stationary SI RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, or an existing stationary SI RICE located at an area source of HAP emissions, you must comply with the applicable emission limitations and operating limitations no later than October 19, 2013.

(2) If you start up your new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions before August 16, 2004, you must comply with the applicable emission limitations and operating limitations in this subpart no later than August 16, 2004.

(3) If you start up your new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions after August 16, 2004, you must comply with the applicable emission limitations and operating limitations in this subpart upon startup of your affected source.

(4) If you start up your new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions before January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart no later than January 18, 2008.

(5) If you start up your new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions after January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart upon startup of your affected source.

(6) If you start up your new or reconstructed stationary RICE located at an area source of HAP emissions before January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart no later than January 18, 2008.

(7) If you start up your new or reconstructed stationary RICE located at an area source of HAP emissions after January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart upon startup of your affected source.

*(b) Area sources that become major sources.* If you have an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP, the compliance dates in paragraphs (b)(1) and (2) of this section apply to you.

(1) Any stationary RICE for which construction or reconstruction is commenced after the date when your area source becomes a major source of HAP must be in compliance with this subpart upon startup of your affected source.

(2) Any stationary RICE for which construction or reconstruction is commenced before your area source becomes a major source of HAP must be in compliance with the provisions of this subpart that are applicable to RICE located at major sources within 3 years after your area source becomes a major source of HAP.

*(c)* If you own or operate an affected source, you must meet the applicable notification requirements in 40 CFR 63.6645 and in 40 CFR 63 Subpart A.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3604, Jan. 18, 2008; 75 FR 9675, Mar. 3, 2010; 75 FR 51589, Aug. 20, 2010]

## **Emission and Operating Limitations**

### 40 CFR 63.6600 - What emission limitations and operating limitations must I meet if I own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions?

Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in 40 CFR 63.6620 and Table 4 to this subpart.

(a) If you own or operate an existing, new, or reconstructed spark ignition 4SRB stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations in Table 1a to this subpart and the operating limitations in Table 1b to this subpart which apply to you.

(b) If you own or operate a new or reconstructed 2SLB stationary RICE with a site rating of more than 500 brake HP located at major source of HAP emissions, a new or reconstructed 4SLB stationary RICE with a site rating of more than 500 brake HP located at major source of HAP emissions, or a new or reconstructed CI stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations in Table 2a to this subpart and the operating limitations in Table 2b to this subpart which apply to you.

(c) If you own or operate any of the following stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the emission limitations in Tables 1a, 2a, 2c, and 2d to this subpart or operating limitations in Tables 1b and 2b to this subpart: an existing 2SLB stationary RICE; an existing 4SLB stationary RICE; a stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis; an emergency stationary RICE; or a limited use stationary RICE.

(d) If you own or operate an existing non-emergency stationary CI RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations in Table 2c to this subpart and the operating limitations in Table 2b to this subpart which apply to you.

[73 FR 3605, Jan. 18, 2008, as amended at 75 FR 9675, Mar. 3, 2010]

40 CFR 63.6601 - What emission limitations must I meet if I own or operate a new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 brake HP and less than or equal to 500 brake HP located at a major source of HAP emissions?

Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in 40 CFR 63.6620 and Table 4 to this subpart. If you own or operate a new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at major source of HAP emissions manufactured on or after January 1, 2008, you must comply with the emission limitations in Table 2a to this subpart and the operating limitations in Table 2b to this subpart which apply to you.

[73 FR 3605, Jan. 18, 2008, as amended at 75 FR 9675, Mar. 3, 2010; 75 FR 51589, Aug. 20, 2010]

40 CFR 63.6602 - What emission limitations must I meet if I own or operate an existing stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions?

If you own or operate an existing stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations in Table 2c to this subpart which apply to you. Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in 40 CFR 63.6620 and Table 4 to this subpart.

[75 FR 51589, Aug. 20, 2010]

40 CFR 63.6603 - What emission limitations and operating limitations must I meet if I own or operate an existing stationary RICE located at an area source of HAP emissions?

Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in 40 CFR 63.6620 and Table 4 to this subpart.

(a) If you own or operate an existing stationary RICE located at an area source of HAP emissions, you must comply with the requirements in Table 2d to this subpart and the operating limitations in Table 1b and Table 2b to this subpart that apply to you.

(b) If you own or operate an existing stationary non-emergency CI RICE greater than 300 HP located at area sources in areas of Alaska not accessible by the Federal Aid Highway System (FAHS) you do not have to meet the numerical CO emission limitations specified in Table 2d to this subpart. Existing stationary non-emergency CI RICE greater than 300 HP located at area sources in areas of Alaska not accessible by the FAHS must meet the management practices that are shown for stationary non-emergency CI RICE less than or equal to 300 HP in Table 2d to this subpart.

[75 FR 9675, Mar. 3, 2010, as amended at 75 FR 51589, Aug. 20, 2010; 76 FR 12866, Mar. 9, 2011]

40 CFR 63.6604 - What fuel requirements must I meet if I own or operate an existing stationary CI RICE?

If you own or operate an existing non-emergency, non-black start CI stationary RICE with a site rating of more than 300 brake HP with a displacement of less than 30 liters per cylinder that uses diesel fuel, you must use diesel fuel that meets the requirements in 40 CFR 80.510(b) for nonroad diesel fuel. Existing non-emergency CI stationary RICE located in

Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, or at area sources in areas of Alaska not accessible by the FAHS are exempt from the requirements of this section.

[75 FR 51589, Aug. 20, 2010]

### **General Compliance Requirements**

#### 40 CFR 63.6605 - What are my general requirements for complying with this subpart?

(a) You must be in compliance with the emission limitations and operating limitations in this subpart that apply to you at all times.

(b) At all times you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

[75 FR 9675, Mar. 3, 2010]

### **Testing and Initial Compliance Requirements**

#### 40 CFR 63.6610 - By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions?

If you own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions you are subject to the requirements of this section.

(a) You must conduct the initial performance test or other initial compliance demonstrations in Table 4 to this subpart that apply to you within 180 days after the compliance date that is specified for your stationary RICE in 40 CFR 63.6595 and according to the provisions in 40 CFR 63.7(a)(2).

(b) If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004 and own or operate stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must demonstrate initial compliance with either the proposed emission limitations or the promulgated emission limitations no later than February 10, 2005 or no later than 180 days after startup of the source, whichever is later, according to 40 CFR 63.7(a)(2)(ix).

(c) If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004 and own or operate stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, and you chose to comply with the proposed emission limitations when demonstrating initial compliance, you must conduct a second performance test to demonstrate compliance with the promulgated emission limitations by December 13, 2007 or after startup of the source, whichever is later, according to 40 CFR 63.7(a)(2)(ix).

(d) An owner or operator is not required to conduct an initial performance test on units for which a performance test has been previously conducted, but the test must meet all of the conditions described in paragraphs (d)(1) through (5) of this section.

(1) The test must have been conducted using the same methods specified in this subpart, and these methods must have been followed correctly.

(2) The test must not be older than 2 years.

(3) The test must be reviewed and accepted by the Administrator.

(4) Either no process or equipment changes must have been made since the test was performed, or the owner or operator must be able to demonstrate that the results of the performance test, with or without adjustments, reliably demonstrate compliance despite process or equipment changes.

(5) The test must be conducted at any load condition within plus or minus 10 percent of 100 percent load.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3605, Jan. 18, 2008]

#### 40 CFR 63.6611 - By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate a new or reconstructed 4SLB SI stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at a major source of HAP emissions?

If you own or operate a new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at a major source of HAP emissions, you must conduct an initial performance test within 240 days after the compliance date that is specified for your stationary RICE in 40 CFR 63.6595 and according to the provisions specified in Table 4 to this subpart, as appropriate.

[73 FR 3605, Jan. 18, 2008, as amended at 75 FR 51589, Aug. 20, 2010]

40 CFR 63.6612 - By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate an existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing stationary RICE located at an area source of HAP emissions?

If you own or operate an existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing stationary RICE located at an area source of HAP emissions you are subject to the requirements of this section.

(a) You must conduct any initial performance test or other initial compliance demonstration according to Tables 4 and 5 to this subpart that apply to you within 180 days after the compliance date that is specified for your stationary RICE in 40 CFR 63.6595 and according to the provisions in 40 CFR 63.7(a)(2).

(b) An owner or operator is not required to conduct an initial performance test on a unit for which a performance test has been previously conducted, but the test must meet all of the conditions described in paragraphs (b)(1) through (4) of this section.

(1) The test must have been conducted using the same methods specified in this subpart, and these methods must have been followed correctly.

(2) The test must not be older than 2 years.

(3) The test must be reviewed and accepted by the Administrator.

(4) Either no process or equipment changes must have been made since the test was performed, or the owner or operator must be able to demonstrate that the results of the performance test, with or without adjustments, reliably demonstrate compliance despite process or equipment changes.

[75 FR 9676, Mar. 3, 2010, as amended at 75 FR 51589, Aug. 20, 2010]

40 CFR 63.6615 - When must I conduct subsequent performance tests?

If you must comply with the emission limitations and operating limitations, you must conduct subsequent performance tests as specified in Table 3 of this subpart.

40 CFR 63.6620 - What performance tests and other procedures must I use?

(a) You must conduct each performance test in Tables 3 and 4 of this subpart that applies to you.

(b) Each performance test must be conducted according to the requirements that this subpart specifies in Table 4 to this subpart. If you own or operate a non-operational stationary RICE that is subject to performance testing, you do not need to start up the engine solely to conduct the performance test. Owners and operators of a non-operational engine can conduct the performance test when the engine is started up again.

(c) [Reserved]

(d) You must conduct three separate test runs for each performance test required in this section, as specified in 40 CFR 63.7(e)(3). Each test run must last at least 1 hour.

(e)

(1) You must use Equation 1 of this section to determine compliance with the percent reduction requirement:

$$\frac{C_i - C_o}{C_i} \times 100 = R \quad (\text{Eq. 1})$$

Where:

$C_i$  = concentration of CO or formaldehyde at the control device inlet,

$C_o$  = concentration of CO or formaldehyde at the control device outlet, and

R = percent reduction of CO or formaldehyde emissions.

(2) You must normalize the carbon monoxide (CO) or formaldehyde concentrations at the inlet and outlet of the control device to a dry basis and to 15 percent oxygen, or an equivalent percent carbon dioxide (CO<sub>2</sub>). If pollutant concentrations are to be corrected to 15 percent oxygen and CO<sub>2</sub> concentration is measured in lieu of oxygen

concentration measurement, a CO<sub>2</sub> correction factor is needed. Calculate the CO<sub>2</sub> correction factor as described in paragraphs (e)(2)(i) through (iii) of this section.

(i) Calculate the fuel-specific F<sub>o</sub> value for the fuel burned during the test using values obtained from Method 19, section 5.2, and the following equation:

$$F_o = \frac{0.209 F_d}{F_c} \quad (\text{Eq. 2})$$

Where:

F<sub>o</sub> = Fuel factor based on the ratio of oxygen volume to the ultimate CO<sub>2</sub> volume produced by the fuel at zero percent excess air.

0.209 = Fraction of air that is oxygen, percent/100.

F<sub>d</sub> = Ratio of the volume of dry effluent gas to the gross calorific value of the fuel from Method 19, dsm<sup>3</sup>/J (dscf/10<sup>6</sup> Btu).

F<sub>c</sub> = Ratio of the volume of CO<sub>2</sub> produced to the gross calorific value of the fuel from Method 19, dsm<sup>3</sup>/J (dscf/10<sup>6</sup> Btu).

(ii) Calculate the CO<sub>2</sub> correction factor for correcting measurement data to 15 percent oxygen, as follows:

$$X_{co_2} = \frac{5.9}{F_o} \quad (\text{Eq. 3})$$

Where:

X<sub>co2</sub> = CO<sub>2</sub> correction factor, percent.

5.9 = 20.9 percent O<sub>2</sub> - 15 percent O<sub>2</sub>, the defined O<sub>2</sub> correction value, percent.

(iii) Calculate the NO<sub>x</sub> and SO<sub>2</sub> gas concentrations adjusted to 15 percent O<sub>2</sub> using CO<sub>2</sub> as follows:

$$C_{adj} = C_d \frac{X_{co_2}}{\%CO_2} \quad (\text{Eq. 4})$$

Where:

% CO<sub>2</sub> = Measured CO<sub>2</sub> concentration measured, dry basis, percent.

(f) If you comply with the emission limitation to reduce CO and you are not using an oxidation catalyst, if you comply with the emission limitation to reduce formaldehyde and you are not using NSCR, or if you comply with the emission limitation to limit the concentration of formaldehyde in the stationary RICE exhaust and you are not using an oxidation catalyst or NSCR, you must petition the Administrator for operating limitations to be established during the initial performance test and continuously monitored thereafter; or for approval of no operating limitations. You must not conduct the initial performance test until after the petition has been approved by the Administrator.

(g) If you petition the Administrator for approval of operating limitations, your petition must include the information described in paragraphs (g)(1) through (5) of this section.

(1) Identification of the specific parameters you propose to use as operating limitations;

(2) A discussion of the relationship between these parameters and HAP emissions, identifying how HAP emissions change with changes in these parameters, and how limitations on these parameters will serve to limit HAP emissions;

(3) A discussion of how you will establish the upper and/or lower values for these parameters which will establish the limits on these parameters in the operating limitations;

(4) A discussion identifying the methods you will use to measure and the instruments you will use to monitor these parameters, as well as the relative accuracy and precision of these methods and instruments; and

(5) A discussion identifying the frequency and methods for recalibrating the instruments you will use for monitoring these parameters.

(h) If you petition the Administrator for approval of no operating limitations, your petition must include the information described in paragraphs (h)(1) through (7) of this section.

- (1) Identification of the parameters associated with operation of the stationary RICE and any emission control device which could change intentionally ( *e.g.*, operator adjustment, automatic controller adjustment, etc.) or unintentionally ( *e.g.*, wear and tear, error, etc.) on a routine basis or over time;
  - (2) A discussion of the relationship, if any, between changes in the parameters and changes in HAP emissions;
  - (3) For the parameters which could change in such a way as to increase HAP emissions, a discussion of whether establishing limitations on the parameters would serve to limit HAP emissions;
  - (4) For the parameters which could change in such a way as to increase HAP emissions, a discussion of how you could establish upper and/or lower values for the parameters which would establish limits on the parameters in operating limitations;
  - (5) For the parameters, a discussion identifying the methods you could use to measure them and the instruments you could use to monitor them, as well as the relative accuracy and precision of the methods and instruments;
  - (6) For the parameters, a discussion identifying the frequency and methods for recalibrating the instruments you could use to monitor them; and
  - (7) A discussion of why, from your point of view, it is infeasible or unreasonable to adopt the parameters as operating limitations.
- (i) The engine percent load during a performance test must be determined by documenting the calculations, assumptions, and measurement devices used to measure or estimate the percent load in a specific application. A written report of the average percent load determination must be included in the notification of compliance status. The following information must be included in the written report: the engine model number, the engine manufacturer, the year of purchase, the manufacturer's site-rated brake horsepower, the ambient temperature, pressure, and humidity during the performance test, and all assumptions that were made to estimate or calculate percent load during the performance test must be clearly explained. If measurement devices such as flow meters, kilowatt meters, beta analyzers, stain gauges, etc. are used, the model number of the measurement device, and an estimate of its accuracy in percentage of true value must be provided. [69 FR 33506, June 15, 2004, as amended at 75 FR 9676, Mar. 3, 2010]

#### 40 CFR 63.6625 - What are my monitoring, installation, collection, operation, and maintenance requirements?

- (a) If you elect to install a CEMS as specified in Table 5 of this subpart, you must install, operate, and maintain a CEMS to monitor CO and either oxygen or CO<sub>2</sub> at both the inlet and the outlet of the control device according to the requirements in paragraphs (a)(1) through (4) of this section.
- (1) Each CEMS must be installed, operated, and maintained according to the applicable performance specifications of 40 CFR 60 Appendix B.
  - (2) You must conduct an initial performance evaluation and an annual relative accuracy test audit (RATA) of each CEMS according to the requirements in 40 CFR 63.8 and according to the applicable performance specifications of 40 CFR 60 Appendix B as well as daily and periodic data quality checks in accordance with 40 CFR 60 Appendix F, procedure 1.
  - (3) As specified in 40 CFR 63.8(c)(4)(ii), each CEMS must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period. You must have at least two data points, with each representing a different 15-minute period, to have a valid hour of data.
  - (4) The CEMS data must be reduced as specified in 40 CFR 63.8(g)(2) and recorded in parts per million or parts per billion (as appropriate for the applicable limitation) at 15 percent oxygen or the equivalent CO<sub>2</sub> concentration.
- (b) If you are required to install a continuous parameter monitoring system (CPMS) as specified in Table 5 of this subpart, you must install, operate, and maintain each CPMS according to the requirements in paragraphs (b)(1) through (5) of this section. For an affected source that is complying with the emission limitations and operating limitations on March 9, 2011, the requirements in paragraph (b) of this section are applicable September 6, 2011.
- (1) You must prepare a site-specific monitoring plan that addresses the monitoring system design, data collection, and the quality assurance and quality control elements outlined in paragraphs (b)(1)(i) through (v) of this section and in 40 CFR 63.8(d). As specified in 40 CFR 63.8(f)(4), you may request approval of monitoring system quality assurance and quality control procedures alternative to those specified in paragraphs (b)(1) through (5) of this section in your site-specific monitoring plan.
    - (i) The performance criteria and design specifications for the monitoring system equipment, including the sample interface, detector signal analyzer, and data acquisition and calculations;
    - (ii) Sampling interface ( *e.g.*, thermocouple) location such that the monitoring system will provide representative measurements;
    - (iii) Equipment performance evaluations, system accuracy audits, or other audit procedures;

(iv) Ongoing operation and maintenance procedures in accordance with provisions in 40 CFR 63.8(c)(1) and (c)(3); and

(v) Ongoing reporting and recordkeeping procedures in accordance with provisions in 40 CFR 63.10(c), (e)(1), and (e)(2)(i).

(2) You must install, operate, and maintain each CPMS in continuous operation according to the procedures in your site-specific monitoring plan.

(3) The CPMS must collect data at least once every 15 minutes (see also 40 CFR 63.6635).

(4) For a CPMS for measuring temperature range, the temperature sensor must have a minimum tolerance of 2.8 degrees Celsius (5 degrees Fahrenheit) or 1 percent of the measurement range, whichever is larger.

(5) You must conduct the CPMS equipment performance evaluation, system accuracy audits, or other audit procedures specified in your site-specific monitoring plan at least annually.

(6) You must conduct a performance evaluation of each CPMS in accordance with your site-specific monitoring plan.

(c) If you are operating a new or reconstructed stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, you must monitor and record your fuel usage daily with separate fuel meters to measure the volumetric flow rate of each fuel. In addition, you must operate your stationary RICE in a manner which reasonably minimizes HAP emissions.

(d) If you are operating a new or reconstructed emergency 4SLB stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at a major source of HAP emissions, you must install a non-resettable hour meter prior to the startup of the engine.

(e) If you own or operate any of the following stationary RICE, you must operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions:

(1) An existing stationary RICE with a site rating of less than 100 HP located at a major source of HAP emissions;

(2) An existing emergency or black start stationary RICE with a site rating of less than or equal to 500 HP located at a major source of HAP emissions;

(3) An existing emergency or black start stationary RICE located at an area source of HAP emissions;

(4) An existing non-emergency, non-black start stationary CI RICE with a site rating less than or equal to 300 HP located at an area source of HAP emissions;

(5) An existing non-emergency, non-black start 2SLB stationary RICE located at an area source of HAP emissions;

(6) An existing non-emergency, non-black start landfill or digester gas stationary RICE located at an area source of HAP emissions;

(7) An existing non-emergency, non-black start 4SLB stationary RICE with a site rating less than or equal to 500 HP located at an area source of HAP emissions;

(8) An existing non-emergency, non-black start 4SRB stationary RICE with a site rating less than or equal to 500 HP located at an area source of HAP emissions;

(9) An existing, non-emergency, non-black start 4SLB stationary RICE with a site rating greater than 500 HP located at an area source of HAP emissions that is operated 24 hours or less per calendar year; and

(10) An existing, non-emergency, non-black start 4SRB stationary RICE with a site rating greater than 500 HP located at an area source of HAP emissions that is operated 24 hours or less per calendar year.

(f) If you own or operate an existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing emergency stationary RICE located at an area source of HAP emissions, you must install a non-resettable hour meter if one is not already installed.

(g) If you own or operate an existing non-emergency, non-black start CI engine greater than or equal to 300 HP that is not equipped with a closed crankcase ventilation system, you must comply with either paragraph (g)(1) or paragraph (g)(2) of this section. Owners and operators must follow the manufacturer's specified maintenance requirements for operating and maintaining the open or closed crankcase ventilation systems and replacing the crankcase filters, or can request the Administrator to approve different maintenance requirements that are as protective as manufacturer requirements. Existing CI engines located at area sources in areas of Alaska not accessible by the FAHS do not have to meet the requirements of paragraph (g) of this section.

(1) Install a closed crankcase ventilation system that prevents crankcase emissions from being emitted to the atmosphere, or

(2) Install an open crankcase filtration emission control system that reduces emissions from the crankcase by filtering the exhaust stream to remove oil mist, particulates, and metals.

(h) If you operate a new, reconstructed, or existing stationary engine, you must minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the emission standards applicable to all times other than startup in Tables 1a, 2a, 2c, and 2d to this subpart apply.

(i) If you own or operate a stationary CI engine that is subject to the work, operation or management practices in items 1 or 2 of Table 2c to this subpart or in items 1 or 4 of Table 2d to this subpart, you have the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d to this subpart. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Base Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30 percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine.

(j) If you own or operate a stationary SI engine that is subject to the work, operation or management practices in items 6, 7, or 8 of Table 2c to this subpart or in items 5, 6, 7, 9, or 11 of Table 2d to this subpart, you have the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d to this subpart. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Acid Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Acid Number increases by more than 3.0 milligrams of potassium hydroxide (KOH) per gram from Total Acid Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3606, Jan. 18, 2008; 75 FR 9676, Mar. 3, 2010; 75 FR 51589, Aug. 20, 2010; 76 FR 12866, Mar. 9, 2011]

#### 40 CFR 63.6630 - How do I demonstrate initial compliance with the emission limitations and operating limitations?

(a) You must demonstrate initial compliance with each emission and operating limitation that applies to you according to Table 5 of this subpart.

(b) During the initial performance test, you must establish each operating limitation in Tables 1b and 2b of this subpart that applies to you.

(c) You must submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in 40 CFR 63.6645.

### **Continuous Compliance Requirements**

#### 40 CFR 63.6635 - How do I monitor and collect data to demonstrate continuous compliance?

(a) If you must comply with emission and operating limitations, you must monitor and collect data according to this section.

(b) Except for monitor malfunctions, associated repairs, required performance evaluations, and required quality assurance or control activities, you must monitor continuously at all times that the stationary RICE is operating. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

(c) You may not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities in data averages and calculations used to report emission or operating levels. You must, however, use all the valid data collected during all other periods.

[69 FR 33506, June 15, 2004, as amended at 76 FR 12867, Mar. 9, 2011]

40 CFR 63.6640 - How do I demonstrate continuous compliance with the emission limitations and operating limitations?

(a) You must demonstrate continuous compliance with each emission limitation and operating limitation in Tables 1a and 1b, Tables 2a and 2b, Table 2c, and Table 2d to this subpart that apply to you according to methods specified in Table 6 to this subpart.

(b) You must report each instance in which you did not meet each emission limitation or operating limitation in Tables 1a and 1b, Tables 2a and 2b, Table 2c, and Table 2d to this subpart that apply to you. These instances are deviations from the emission and operating limitations in this subpart. These deviations must be reported according to the requirements in 40 CFR 63.6650. If you change your catalyst, you must reestablish the values of the operating parameters measured during the initial performance test. When you reestablish the values of your operating parameters, you must also conduct a performance test to demonstrate that you are meeting the required emission limitation applicable to your stationary RICE.

(c) [Reserved]

(d) For new, reconstructed, and rebuilt stationary RICE, deviations from the emission or operating limitations that occur during the first 200 hours of operation from engine startup (engine burn-in period) are not violations. Rebuilt stationary RICE means a stationary RICE that has been rebuilt as that term is defined in 40 CFR 94.11(a).

(e) You must also report each instance in which you did not meet the requirements in Table 8 to this subpart that apply to you. If you own or operate a new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions (except new or reconstructed 4SLB engines greater than or equal to 250 and less than or equal to 500 brake HP), a new or reconstructed stationary RICE located at an area source of HAP emissions, or any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in Table 8 to this subpart: An existing 2SLB stationary RICE, an existing 4SLB stationary RICE, an existing emergency stationary RICE, an existing limited use stationary RICE, or an existing stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis. If you own or operate any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in Table 8 to this subpart, except for the initial notification requirements: a new or reconstructed stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, a new or reconstructed emergency stationary RICE, or a new or reconstructed limited use stationary RICE.

*(f) Requirements for emergency stationary RICE*

(1) If you own or operate an existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, a new or reconstructed emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that was installed on or after June 12, 2006, or an existing emergency stationary RICE located at an area source of HAP emissions, you must operate the emergency stationary RICE according to the requirements in paragraphs (f)(1)(i) through (iii) of this section. Any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (f)(1)(i) through (iii) of this section, is prohibited. If you do not operate the engine according to the requirements in paragraphs (f)(1)(i) through (iii) of this section, the engine will not be considered an emergency engine under this subpart and will need to meet all requirements for non-emergency engines.

(i) There is no time limit on the use of emergency stationary RICE in emergency situations.

(ii) You may operate your emergency stationary RICE for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency RICE beyond 100 hours per year.

(iii) You may operate your emergency stationary RICE up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with

another entity; except that owners and operators may operate the emergency engine for a maximum of 15 hours per year as part of a demand response program if the regional transmission organization or equivalent balancing authority and transmission operator has determined there are emergency conditions that could lead to a potential electrical blackout, such as unusually low frequency, equipment overload, capacity or energy

deficiency, or unacceptable voltage level. The engine may not be operated for more than 30 minutes prior to the time when the emergency condition is expected to occur, and the engine operation must be terminated immediately after the facility is notified that the emergency condition is no longer imminent. The 15 hours per year of demand response operation are counted as part of the 50 hours of operation per year provided for non-emergency situations. The supply of emergency power to another entity or entities pursuant to financial arrangement is not limited by this paragraph (f)(1)(iii), as long as the power provided by the financial arrangement is limited to emergency power.

(2) If you own or operate an emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that was installed prior to June 12, 2006, you must operate the engine according to the conditions described in paragraphs (f)(2)(i) through (iii) of this section. If you do not operate the engine according to the requirements in paragraphs (f)(2)(i) through (iii) of this section, the engine will not be considered an emergency engine under this subpart and will need to meet all requirements for non-emergency engines.

(i) There is no time limit on the use of emergency stationary RICE in emergency situations.

(ii) You may operate your emergency stationary RICE for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by the manufacturer, the vendor, or the insurance company associated with the engine. Required testing of such units should be minimized, but there is no time limit on the use of emergency stationary RICE in emergency situations and for routine testing and maintenance.

(iii) You may operate your emergency stationary RICE for an additional 50 hours per year in non-emergency situations. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

[69 FR 33506, June 15, 2004, as amended at 71 FR 20467, Apr. 20, 2006; 73 FR 3606, Jan. 18, 2008; 75 FR 9676, Mar. 3, 2010; 75 FR 51591, Aug. 20, 2010]

## **Notifications, Reports, and Records**

### 40 CFR 63.6645 - What notifications must I submit and when?

(a) You must submit all of the notifications in 40 CFR 63.7(b) and (c), 63.8(e), (f)(4) and (f)(6), 63.9(b) through (e), and (g) and (h) that apply to you by the dates specified if you own or operate any of the following:

(1) An existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions.

(2) An existing stationary RICE located at an area source of HAP emissions.

(3) A stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions.

(4) A new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 HP located at a major source of HAP emissions.

(5) This requirement does not apply if you own or operate an existing stationary RICE less than 100 HP, an existing stationary emergency RICE, or an existing stationary RICE that is not subject to any numerical emission standards.

(b) As specified in 40 CFR 63.9(b)(2), if you start up your stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions before the effective date of this subpart, you must submit an Initial Notification not later than December 13, 2004.

(c) If you start up your new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions on or after August 16, 2004, you must submit an Initial Notification not later than 120 days after you become subject to this subpart.

(d) As specified in 40 CFR 63.9(b)(2), if you start up your stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions before the effective date of this subpart and you are required to submit an initial notification, you must submit an Initial Notification not later than July 16, 2008.

(e) If you start up your new or reconstructed stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions on or after March 18, 2008 and you are required to submit an initial notification, you must submit an Initial Notification not later than 120 days after you become subject to this subpart.

(f) If you are required to submit an Initial Notification but are otherwise not affected by the requirements of this subpart, in accordance with 40 CFR 63.6590(b), your notification should include the information in 40 CFR 63.9(b)(2)(i) through (v), and a statement that your stationary RICE has no additional requirements and explain the basis of the exclusion (for example, that it operates exclusively as an emergency stationary RICE if it has a site rating of more than 500 brake HP located at a major source of HAP emissions).

(g) If you are required to conduct a performance test, you must submit a Notification of Intent to conduct a performance test at least 60 days before the performance test is scheduled to begin as required in 40 CFR 63.7(b)(1).

(h) If you are required to conduct a performance test or other initial compliance demonstration as specified in Tables 4 and 5 to this subpart, you must submit a Notification of Compliance Status according to 40 CFR 63.9(h)(2)(ii).

(1) For each initial compliance demonstration required in Table 5 to this subpart that does not include a performance test, you must submit the Notification of Compliance Status before the close of business on the 30th day following the completion of the initial compliance demonstration.

(2) For each initial compliance demonstration required in Table 5 to this subpart that includes a performance test conducted according to the requirements in Table 3 to this subpart, you must submit the Notification of Compliance Status, including the performance test results, before the close of business on the 60th day following the completion of the performance test according to 40 CFR 63.10(d)(2).

[73 FR 3606, Jan. 18, 2008, as amended at 75 FR 9677, Mar. 3, 2010; 75 FR 51591, Aug. 20, 2010]

#### 40 CFR 63.6650 - What reports must I submit and when?

(a) You must submit each report in Table 7 of this subpart that applies to you.

(b) Unless the Administrator has approved a different schedule for submission of reports under 40 CFR 63.10(a), you must submit each report by the date in Table 7 of this subpart and according to the requirements in paragraphs (b)(1) through (b)(9) of this section.

(1) For semiannual Compliance reports, the first Compliance report must cover the period beginning on the compliance date that is specified for your affected source in 40 CFR 63.6595 and ending on June 30 or December 31, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for your source in 40 CFR 63.6595.

(2) For semiannual Compliance reports, the first Compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date follows the end of the first calendar half after the compliance date that is specified for your affected source in 40 CFR 63.6595.

(3) For semiannual Compliance reports, each subsequent Compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

(4) For semiannual Compliance reports, each subsequent Compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period.

(5) For each stationary RICE that is subject to permitting regulations pursuant to 40 CFR 70 or 71, and if the permitting authority has established dates for submitting semiannual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), you may submit the first and subsequent Compliance reports according to the dates the permitting authority has established instead of according to the dates in paragraphs (b)(1) through (b)(4) of this section.

(6) For annual Compliance reports, the first Compliance report must cover the period beginning on the compliance date that is specified for your affected source in 40 CFR 63.6595 and ending on December 31.

(7) For annual Compliance reports, the first Compliance report must be postmarked or delivered no later than January 31 following the end of the first calendar year after the compliance date that is specified for your affected source in 40 CFR 63.6595.

(8) For annual Compliance reports, each subsequent Compliance report must cover the annual reporting period from January 1 through December 31.

(9) For annual Compliance reports, each subsequent Compliance report must be postmarked or delivered no later than January 31.

(c) The Compliance report must contain the information in paragraphs (c)(1) through (6) of this section.

(1) Company name and address.

(2) Statement by a responsible official, with that official's name, title, and signature, certifying the accuracy of the content of the report.

(3) Date of report and beginning and ending dates of the reporting period.

(4) If you had a malfunction during the reporting period, the compliance report must include the number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. The report must also include a description

of actions taken by an owner or operator during a malfunction of an affected source to minimize emissions in accordance with 40 CFR 63.6605(b), including actions taken to correct a malfunction.

(5) If there are no deviations from any emission or operating limitations that apply to you, a statement that there were no deviations from the emission or operating limitations during the reporting period.

(6) If there were no periods during which the continuous monitoring system (CMS), including CEMS and CPMS, was out-of-control, as specified in 40 CFR 63.8(c)(7), a statement that there were no periods during which the CMS was out-of-control during the reporting period.

(d) For each deviation from an emission or operating limitation that occurs for a stationary RICE where you are not using a CMS to comply with the emission or operating limitations in this subpart, the Compliance report must contain the information in paragraphs (c)(1) through (4) of this section and the information in paragraphs (d)(1) and (2) of this section.

(1) The total operating time of the stationary RICE at which the deviation occurred during the reporting period.

(2) Information on the number, duration, and cause of deviations (including unknown cause, if applicable), as applicable, and the corrective action taken.

(e) For each deviation from an emission or operating limitation occurring for a stationary RICE where you are using a CMS to comply with the emission and operating limitations in this subpart, you must include information in paragraphs (c)(1) through (4) and (e)(1) through (12) of this section.

(1) The date and time that each malfunction started and stopped.

(2) The date, time, and duration that each CMS was inoperative, except for zero (low-level) and high-level checks.

(3) The date, time, and duration that each CMS was out-of-control, including the information in 40 CFR 63.8(c)(8).

(4) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of malfunction or during another period.

(5) A summary of the total duration of the deviation during the reporting period, and the total duration as a percent of the total source operating time during that reporting period.

(6) A breakdown of the total duration of the deviations during the reporting period into those that are due to control equipment problems, process problems, other known causes, and other unknown causes.

(7) A summary of the total duration of CMS downtime during the reporting period, and the total duration of CMS downtime as a percent of the total operating time of the stationary RICE at which the CMS downtime occurred during that reporting period.

(8) An identification of each parameter and pollutant (CO or formaldehyde) that was monitored at the stationary RICE.

(9) A brief description of the stationary RICE.

(10) A brief description of the CMS.

(11) The date of the latest CMS certification or audit.

(12) A description of any changes in CMS, processes, or controls since the last reporting period.

(f) Each affected source that has obtained a title V operating permit pursuant to 40 CFR 70 or 71 must report all deviations as defined in this subpart in the semiannual monitoring report required by 40 CFR 70.6 (a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A). If an affected source submits a Compliance report pursuant to Table 7 of this subpart along with, or as part of, the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), and the Compliance report includes all required information concerning deviations from any emission or operating limitation in this subpart, submission of the Compliance report shall be deemed to satisfy any obligation to report the same deviations in the semiannual monitoring report. However, submission of a Compliance report shall not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the permit authority.

(g) If you are operating as a new or reconstructed stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, you must submit an annual report according to Table 7 of this subpart by the date specified unless the Administrator has approved a different schedule, according to the information described in paragraphs (b)(1) through (b)(5) of this section. You must report the data specified in (g)(1) through (g)(3) of this section.

(1) Fuel flow rate of each fuel and the heating values that were used in your calculations. You must also demonstrate that the percentage of heat input provided by landfill gas or digester gas is equivalent to 10 percent or more of the total fuel consumption on an annual basis.

(2) The operating limits provided in your federally enforceable permit, and any deviations from these limits.

(3) Any problems or errors suspected with the meters.

[69 FR 33506, June 15, 2004, as amended at 75 FR 9677, Mar. 3, 2010]

#### 40 CFR 63.6655 - What records must I keep?

(a) If you must comply with the emission and operating limitations, you must keep the records described in paragraphs (a)(1) through (a)(5), (b)(1) through (b)(3) and (c) of this section.

(1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted, according to the requirement in 40 CFR 63.10(b)(2)(xiv).

(2) Records of the occurrence and duration of each malfunction of operation ( *i.e.*, process equipment) or the air pollution control and monitoring equipment.

(3) Records of performance tests and performance evaluations as required in 40 CFR 63.10(b)(2)(viii).

(4) Records of all required maintenance performed on the air pollution control and monitoring equipment.

(5) Records of actions taken during periods of malfunction to minimize emissions in accordance with 40 CFR 63.6605(b), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

(b) For each CEMS or CPMS, you must keep the records listed in paragraphs (b)(1) through (3) of this section.

(1) Records described in 40 CFR 63.10(b)(2)(vi) through (xi).

(2) Previous ( *i.e.*, superseded) versions of the performance evaluation plan as required in 40 CFR 63.8(d)(3).

(3) Requests for alternatives to the relative accuracy test for CEMS or CPMS as required in 40 CFR 63.8(f)(6)(i), if applicable.

(c) If you are operating a new or reconstructed stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, you must keep the records of your daily fuel usage monitors.

(d) You must keep the records required in Table 6 of this subpart to show continuous compliance with each emission or operating limitation that applies to you.

(e) You must keep records of the maintenance conducted on the stationary RICE in order to demonstrate that you operated and maintained the stationary RICE and after-treatment control device (if any) according to your own maintenance plan if you own or operate any of the following stationary RICE;

(1) An existing stationary RICE with a site rating of less than 100 brake HP located at a major source of HAP emissions.

(2) An existing stationary emergency RICE.

(3) An existing stationary RICE located at an area source of HAP emissions subject to management practices as shown in Table 2d to this subpart.

(f) If you own or operate any of the stationary RICE in paragraphs (f)(1) or (2) of this section, you must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The owner or operator must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation. If the engines are used for demand response operation, the owner or operator must keep records of the notification of the emergency situation, and the time the engine was operated as part of demand response.

(1) An existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions that does not meet the standards applicable to non-emergency engines.

(2) An existing emergency stationary RICE located at an area source of HAP emissions that does not meet the standards applicable to non-emergency engines.

[69 FR 33506, June 15, 2004, as amended at 75 FR 9678, Mar. 3, 2010; 75 FR 51592, Aug. 20, 2010]

#### 40 CFR 63.6660 - In what form and how long must I keep my records?

(a) Your records must be in a form suitable and readily available for expeditious review according to 40 CFR 63.10(b)(1).

(b) As specified in 40 CFR 63.10(b)(1), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

(c) You must keep each record readily accessible in hard copy or electronic form for at least 5 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to 40 CFR 63.10(b)(1).

[69 FR 33506, June 15, 2004, as amended at 75 FR 9678, Mar. 3, 2010]

### **Other Requirements and Information**

#### 40 CFR 63.6665 - What parts of the General Provisions apply to me?

Table 8 to this subpart shows which parts of the General Provisions in 40 CFR 63.1 through 63.15 apply to you. If you own or operate a new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions (except new or reconstructed 4SLB engines greater than or equal to 250 and less than or equal to 500 brake HP), a new or reconstructed stationary RICE located at an area source of HAP emissions, or any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with any of the requirements of the General Provisions specified in Table 8: An existing 2SLB stationary RICE, an existing 4SLB stationary RICE, an existing stationary RICE that combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, an existing emergency stationary RICE, or an existing limited use stationary RICE. If you own or operate any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in the General Provisions specified in Table 8 except for the initial notification requirements: A new stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, a new emergency stationary RICE, or a new limited use stationary RICE.

[75 FR 9678, Mar. 3, 2010]

#### 40 CFR 63.6670 - Who implements and enforces this subpart?

- (a) This subpart is implemented and enforced by the U.S. EPA, or a delegated authority such as your State, local, or tribal agency. If the U.S. EPA Administrator has delegated authority to your State, local, or tribal agency, then that agency (as well as the U.S. EPA) has the authority to implement and enforce this subpart. You should contact your U.S. EPA Regional Office to find out whether this subpart is delegated to your State, local, or tribal agency.
- (b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under 40 CFR 63 Subpart E, the authorities contained in paragraph (c) of this section are retained by the Administrator of the U.S. EPA and are not transferred to the State, local, or tribal agency.
- (c) The authorities that will not be delegated to State, local, or tribal agencies are:
- (1) Approval of alternatives to the non-opacity emission limitations and operating limitations in 40 CFR 63.6600 under 40 CFR 63.6(g).
  - (2) Approval of major alternatives to test methods under 40 CFR 63.7(e)(2)(ii) and (f) and as defined in 40 CFR 63.90.
  - (3) Approval of major alternatives to monitoring under 40 CFR 63.8(f) and as defined in 40 CFR 63.90.
  - (4) Approval of major alternatives to recordkeeping and reporting under 40 CFR 63.10(f) and as defined in 40 CFR 63.90.
  - (5) Approval of a performance test which was conducted prior to the effective date of the rule, as specified in 40 CFR 63.6610(b).

#### 40 CFR 63.6675 - What definitions apply to this subpart?

Terms used in this subpart are defined in the Clean Air Act (CAA); in 40 CFR 63.2, the General Provisions 40 CFR 63; and in this section as follows:

*Area source* means any stationary source of HAP that is not a major source as defined in part 63.

*Associated equipment* as used in this subpart and as referred to in section 112(n)(4) of the CAA, means equipment associated with an oil or natural gas exploration or production well, and includes all equipment from the well bore to the point of custody transfer, except glycol dehydration units, storage vessels with potential for flash emissions, combustion turbines, and stationary RICE.

*Black start engine* means an engine whose only purpose is to start up a combustion turbine.

CAA means the Clean Air Act (42 U.S.C. 7401 *et seq.*, as amended by Public Law 101-549, 104 Stat. 2399).

*Commercial emergency stationary RICE* means an emergency stationary RICE used in commercial establishments such as office buildings, hotels, stores, telecommunications facilities, restaurants, financial institutions such as banks, doctor's offices, and sports and performing arts facilities.

*Compression ignition* means relating to a type of stationary internal combustion engine that is not a spark ignition engine.

*Custody transfer* means the transfer of hydrocarbon liquids or natural gas: After processing and/or treatment in the producing operations, or from storage vessels or automatic transfer facilities or other such equipment, including product loading racks, to pipelines or any other forms of transportation. For the purposes of this subpart, the point at which such liquids or natural gas enters a natural gas processing plant is a point of custody transfer.

*Deviation* means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:

- (1) Fails to meet any requirement or obligation established by this subpart, including but not limited to any emission limitation or operating limitation;
- (2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit; or
- (3) Fails to meet any emission limitation or operating limitation in this subpart during malfunction, regardless or whether or not such failure is permitted by this subpart.
- (4) Fails to satisfy the general duty to minimize emissions established by 40 CFR 63.6(e)(1)(i).

*Diesel engine* means any stationary RICE in which a high boiling point liquid fuel injected into the combustion chamber ignites when the air charge has been compressed to a temperature sufficiently high for auto-ignition. This process is also known as compression ignition.

*Diesel fuel* means any liquid obtained from the distillation of petroleum with a boiling point of approximately 150 to 360 degrees Celsius. One commonly used form is fuel oil number 2. Diesel fuel also includes any non-distillate fuel with comparable physical and chemical properties ( e.g. biodiesel) that is suitable for use in compression ignition engines.

*Digester gas* means any gaseous by-product of wastewater treatment typically formed through the anaerobic decomposition of organic waste materials and composed principally of methane and CO<sub>2</sub>.

*Dual-fuel engine* means any stationary RICE in which a liquid fuel (typically diesel fuel) is used for compression ignition and gaseous fuel (typically natural gas) is used as the primary fuel.

*Emergency stationary RICE* means any stationary internal combustion engine whose operation is limited to emergency situations and required testing and maintenance. Examples include stationary RICE used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary RICE used to pump water in the case of fire or flood, etc. Stationary RICE used for peak shaving are not considered emergency stationary RICE. Stationary RICE used to supply power to an electric grid or that supply non-emergency power as part of a financial arrangement with another entity are not considered to be emergency engines, except as permitted under 40 CFR 63.6640(f). All emergency stationary RICE must comply with the requirements specified in 40 CFR 63.6640(f) in order to be considered emergency stationary RICE. If the engine does not comply with the requirements specified in 40 CFR 63.6640(f), then it is not considered to be an emergency stationary RICE under this subpart.

*Engine startup* means the time from initial start until applied load and engine and associated equipment reaches steady state or normal operation. For stationary engine with catalytic controls, engine startup means the time from initial start until applied load and engine and associated equipment, including the catalyst, reaches steady state or normal operation.

*Four-stroke engine* means any type of engine which completes the power cycle in two crankshaft revolutions, with intake and compression strokes in the first revolution and power and exhaust strokes in the second revolution.

*Gaseous fuel* means a material used for combustion which is in the gaseous state at standard atmospheric temperature and pressure conditions.

*Gasoline* means any fuel sold in any State for use in motor vehicles and motor vehicle engines, or nonroad or stationary engines, and commonly or commercially known or sold as gasoline.

*Glycol dehydration unit* means a device in which a liquid glycol (including, but not limited to, ethylene glycol, diethylene glycol, or triethylene glycol) absorbent directly contacts a natural gas stream and absorbs water in a contact tower or absorption column (absorber). The glycol contacts and absorbs water vapor and other gas stream constituents from the natural gas and becomes “rich” glycol. This glycol is then regenerated in the glycol dehydration unit reboiler. The “lean” glycol is then recycled.

*Hazardous air pollutants (HAP)* means any air pollutants listed in or pursuant to section 112(b) of the CAA.

*Institutional emergency stationary RICE* means an emergency stationary RICE used in institutional establishments such as medical centers, nursing homes, research centers, institutions of higher education, correctional facilities, elementary and secondary schools, libraries, religious establishments, police stations, and fire stations.

*ISO standard day conditions* means 288 degrees Kelvin (15 degrees Celsius), 60 percent relative humidity and 101.3 kilopascals pressure.

*Landfill gas* means a gaseous by-product of the land application of municipal refuse typically formed through the anaerobic decomposition of waste materials and composed principally of methane and CO<sub>2</sub>.

*Lean burn engine* means any two-stroke or four-stroke spark ignited engine that does not meet the definition of a rich burn engine.

*Limited use stationary RICE* means any stationary RICE that operates less than 100 hours per year.

*Liquefied petroleum gas* means any liquefied hydrocarbon gas obtained as a by-product in petroleum refining of natural gas production.

*Liquid fuel* means any fuel in liquid form at standard temperature and pressure, including but not limited to diesel, residual/crude oil, kerosene/naphtha (jet fuel), and gasoline.

*Major Source*, as used in this subpart, shall have the same meaning as in 40 CFR 63.2, except that:

- (1) Emissions from any oil or gas exploration or production well (with its associated equipment (as defined in this section)) and emissions from any pipeline compressor station or pump station shall not be aggregated with emissions from other similar units, to determine whether such emission points or stations are major sources, even when emission points are in a contiguous area or under common control;
- (2) For oil and gas production facilities, emissions from processes, operations, or equipment that are not part of the same oil and gas production facility, as defined in 40 CFR 63.1271 of Subpart HHH, shall not be aggregated;
- (3) For production field facilities, only HAP emissions from glycol dehydration units, storage vessel with the potential for flash emissions, combustion turbines and reciprocating internal combustion engines shall be aggregated for a major source determination; and
- (4) Emissions from processes, operations, and equipment that are not part of the same natural gas transmission and storage facility, as defined in 40 CFR 63.1271 of subpart HHH, shall not be aggregated.

*Malfunction* means any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner which causes, or has the potential to cause, the emission limitations in an applicable standard to be exceeded. Failures that are caused in part by poor maintenance or careless operation are not malfunctions.

*Natural gas* means a naturally occurring mixture of hydrocarbon and non-hydrocarbon gases found in geologic formations beneath the Earth's surface, of which the principal constituent is methane. Natural gas may be field or pipeline quality.

*Non-selective catalytic reduction (NSCR)* means an add-on catalytic nitrogen oxides (NO<sub>x</sub>) control device for rich burn engines that, in a two-step reaction, promotes the conversion of excess oxygen, NO<sub>x</sub>, CO, and volatile organic compounds (VOC) into CO<sub>2</sub>, nitrogen, and water.

*Oil and gas production facility* as used in this subpart means any grouping of equipment where hydrocarbon liquids are processed, upgraded ( *i.e.*, remove impurities or other constituents to meet contract specifications), or stored prior to the point of custody transfer; or where natural gas is processed, upgraded, or stored prior to entering the natural gas transmission and storage source category. For purposes of a major source determination, facility (including a building, structure, or installation) means oil and natural gas production and processing equipment that is located within the boundaries of an individual surface site as defined in this section. Equipment that is part of a facility will typically be located within close proximity to other equipment located at the same facility. Pieces of production equipment or groupings of equipment located on different oil and gas leases, mineral fee tracts, lease tracts, subsurface or surface unit areas, surface fee tracts, surface lease tracts, or separate surface sites, whether or not connected by a road, waterway, power line or pipeline, shall not be considered part of the same facility. Examples of facilities in the oil and natural gas production source category include, but are not limited to, well sites, satellite tank batteries, central tank batteries, a compressor station that transports natural gas to a natural gas processing plant, and natural gas processing plants.

*Oxidation catalyst* means an add-on catalytic control device that controls CO and VOC by oxidation.

*Peaking unit or engine* means any standby engine intended for use during periods of high demand that are not emergencies.

*Percent load* means the fractional power of an engine compared to its maximum manufacturer's design capacity at engine site conditions. Percent load may range between 0 percent to above 100 percent.

*Potential to emit* means the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the stationary source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is federally enforceable. For oil and natural gas production facilities subject to Subpart HH of 40 CFR 63, the potential to emit provisions in 40 CFR 63.760(a) may be used. For natural gas transmission and storage facilities subject to Subpart HHH of 40 CFR 63, the maximum annual facility gas throughput for storage facilities may be determined according to 40 CFR 63.1270(a)(1) and the maximum annual throughput for transmission facilities may be determined according to 40 CFR 63.1270(a)(2).

*Production field facility* means those oil and gas production facilities located prior to the point of custody transfer.

*Production well* means any hole drilled in the earth from which crude oil, condensate, or field natural gas is extracted.

*Propane* means a colorless gas derived from petroleum and natural gas, with the molecular structure C<sub>3</sub>H<sub>8</sub>.

*Residential emergency stationary RICE* means an emergency stationary RICE used in residential establishments such as homes or apartment buildings.

*Responsible official* means responsible official as defined in 40 CFR 70.2.

*Rich burn engine* means any four-stroke spark ignited engine where the manufacturer's recommended operating air/fuel ratio divided by the stoichiometric air/fuel ratio at full load conditions is less than or equal to 1.1. Engines originally manufactured as rich burn engines, but modified prior to December 19, 2002 with passive emission control technology for NO<sub>x</sub> (such as pre-combustion chambers) will be considered lean burn engines. Also, existing engines where there are no manufacturer's recommendations regarding air/fuel ratio will be considered a rich burn engine if the excess oxygen content of the exhaust at full load conditions is less than or equal to 2 percent.

*Site-rated HP* means the maximum manufacturer's design capacity at engine site conditions.

*Spark ignition* means relating to either: A gasoline-fueled engine; or any other type of engine with a spark plug (or other sparking device) and with operating characteristics significantly similar to the theoretical Otto combustion cycle. Spark ignition engines usually use a throttle to regulate intake air flow to control power during normal operation. Dual-fuel engines in which a liquid fuel (typically diesel fuel) is used for CI and gaseous fuel (typically natural gas) is used as the primary fuel at an annual average ratio of less than 2 parts diesel fuel to 100 parts total fuel on an energy equivalent basis are spark ignition engines.

*Stationary reciprocating internal combustion engine (RICE)* means any reciprocating internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work and which is not mobile. Stationary RICE differ from mobile RICE in that a stationary RICE is not a non-road engine as defined at 40 CFR 1068.30, and is not used to propel a motor vehicle or a vehicle used solely for competition.

*Stationary RICE test cell/stand* means an engine test cell/stand, as defined in Subpart P of 40 CFR 63, that tests stationary RICE.

*Stoichiometric* means the theoretical air-to-fuel ratio required for complete combustion.

*Storage vessel with the potential for flash emissions* means any storage vessel that contains a hydrocarbon liquid with a stock tank gas-to-oil ratio equal to or greater than 0.31 cubic meters per liter and an American Petroleum Institute gravity equal to or greater than 40 degrees and an actual annual average hydrocarbon liquid throughput equal to or greater than 79,500 liters per day. Flash emissions occur when dissolved hydrocarbons in the fluid evolve from solution when the fluid pressure is reduced.

*Subpart* means 40 CFR 63 Subpart ZZZZ.

*Surface site* means any combination of one or more graded pad sites, gravel pad sites, foundations, platforms, or the immediate physical location upon which equipment is physically affixed.

*Two-stroke engine* means a type of engine which completes the power cycle in single crankshaft revolution by combining the intake and compression operations into one stroke and the power and exhaust operations into a second stroke. This system requires auxiliary scavenging and inherently runs lean of stoichiometric. [69 FR 33506, June 15, 2004, as amended at 71 FR 20467, Apr. 20, 2006; 73 FR 3607, Jan. 18, 2008; 75 FR 9679, Mar. 3, 2010; 75 FR 51592, Aug. 20, 2010; 76 FR 12867, Mar. 9, 2011]

**Table 1a to Subpart ZZZZ of Part 63 - Emission Limitations for Existing, New, and Reconstructed Spark Ignition, 4SRB Stationary RICE >500 HP Located at a Major Source of HAP Emissions**

As stated in 40 CFR 63.6600 and 63.6640, you must comply with the following emission limitations at 100 percent load plus or minus 10 percent for existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions:

| For each                | You must meet the following emission limitation, except during periods of startup   | During periods of startup you must  |
|-------------------------|---|---|
| 1. 4SRB stationary RICE | a. Reduce formaldehyde emissions by 76 percent or more. If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004, you may reduce formaldehyde emissions by 75 percent or more until June 15, 2007 or | Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply. <sup>1</sup> |
|                         | b. Limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O <sub>2</sub>   |   |

<sup>1</sup>Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices. [75 FR 9679, Mar. 3, 2010, as amended at 75 FR 51592, Aug. 20, 2010]

**Table 1b to Subpart ZZZZ of Part 63 - Operating Limitations for Existing, New, and Reconstructed Spark Ignition 4SRB Stationary RICE >500 HP Located at a Major Source of HAP Emissions and Existing Spark Ignition 4SRB Stationary RICE >500 HP Located at an Area Source of HAP Emissions**

As stated in 40 CFR 63.6600, 63.6603, 63.6630 and 63.6640, you must comply with the following operating limitations for existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions and existing 4SRB stationary RICE >500 HP located at an area source of HAP emissions that operate more than 24 hours per calendar year:

| For each  | You must meet the following operating limitation   |
|---|--|
| 1. 4SRB stationary RICE complying with the requirement to reduce formaldehyde emissions by 76 percent or more (or by 75 percent or more, if applicable) and using NSCR; or<br>4SRB stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O <sub>2</sub> and using NSCR; or<br>4SRB stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 2.7 ppmvd or less at 15 percent O <sub>2</sub> and using NSCR.             | a. Maintain your catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water at 100 percent load plus or minus 10 percent from the pressure drop across the catalyst measured during the initial performance test; and<br>b. Maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 750 °F and less than or equal to 1250 °F. |
| 2. 4SRB stationary RICE complying with the requirement to reduce formaldehyde emissions by 76 percent or more (or by 75 percent or more, if applicable) and not using NSCR; or<br>4SRB stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O <sub>2</sub> and not using NSCR; or<br>4SRB stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 2.7 ppmvd or less at 15 percent O <sub>2</sub> and not using NSCR. | Comply with any operating limitations approved by the Administrator.   |

[76 FR 12867, Mar. 9, 2011]

**Table 2a to Subpart ZZZZ of Part 63 - Emission Limitations for New and Reconstructed 2SLB and Compression Ignition Stationary RICE >500 HP and New and Reconstructed 4SLB Stationary RICE ≥250 HP Located at a Major Source of HAP Emissions**

As stated in 40 CFR 63.6600 and 63.6640, you must comply with the following emission limitations for new and reconstructed lean burn and new and reconstructed compression ignition stationary RICE at 100 percent load plus or minus 10 percent:

| For each                | You must meet the following emission limitation, except during periods of startup  | During periods of startup you must  |
|-------------------------|--|---|
| 1. 2SLB stationary RICE | a. Reduce CO emissions by 58 percent or more; or<br>b. Limit concentration of formaldehyde in the stationary RICE exhaust to 12 ppmvd or less at 15 percent O <sub>2</sub> . If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004, you may limit concentration of formaldehyde to 17 ppmvd or less at 15 percent O <sub>2</sub> until June 15, 2007 | Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply. <sup>1</sup> |
| 2. 4SLB stationary RICE | a. Reduce CO emissions by 93 percent or more; or   |   |
|                         | b. Limit concentration of formaldehyde in the stationary RICE exhaust to 14 ppmvd or less at 15 percent O <sub>2</sub>   |   |
| 3. CI                   | a. Reduce CO emissions by 70 percent or more; or   |   |

|                 |   |  |
|-----------------|---|--|
| stationary RICE |   |  |
|                 | b. Limit concentration of formaldehyde in the stationary RICE exhaust to 580 ppbvd or less at 15 percent O <sub>2</sub> |  |

<sup>1</sup>Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices. [75 FR 9680, Mar. 3, 2010]

**Table 2b to Subpart ZZZZ of Part 63 - Operating Limitations for New and Reconstructed 2SLB and Compression Ignition Stationary RICE >500 HP Located at a Major Source of HAP Emissions, New and Reconstructed 4SLB Stationary RICE ≥250 HP Located at a Major Source of HAP Emissions, Existing Compression Ignition Stationary RICE >500 HP, and Existing 4SLB Stationary RICE >500 HP Located at an Area Source of HAP Emissions**

As stated in 40 CFR 63.6600, 63.6601, 63.6603, 63.6630, and 63.6640, you must comply with the following operating limitations for new and reconstructed 2SLB and compression ignition stationary RICE located at a major source of HAP emissions; new and reconstructed 4SLB stationary RICE ≥250 HP located at a major source of HAP emissions; existing compression ignition stationary RICE >500 HP; and existing 4SLB stationary RICE >500 HP located at an area source of HAP emissions that operate more than 24 hours per calendar year:

| For each   | You must meet the following operating limitation   |
|--|--|
| 1. 2SLB and 4SLB stationary RICE and CI stationary RICE complying with the requirement to reduce CO emissions and using an oxidation catalyst; or 2SLB and 4SLB stationary RICE and CI stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust and using an oxidation catalyst; or 4SLB stationary RICE and CI stationary RICE complying with the requirement to limit the concentration of CO in the stationary RICE exhaust and using an oxidation catalyst             | a. maintain your catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water at 100 percent load plus or minus 10 percent from the pressure drop across the catalyst that was measured during the initial performance test; and<br>b. maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 450 °F and less than or equal to 1350 °F. <sup>1</sup> |
| 2. 2SLB and 4SLB stationary RICE and CI stationary RICE complying with the requirement to reduce CO emissions and not using an oxidation catalyst; or 2SLB and 4SLB stationary RICE and CI stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust and not using an oxidation catalyst; or 4SLB stationary RICE and CI stationary RICE complying with the requirement to limit the concentration of CO in the stationary RICE exhaust and not using an oxidation catalyst | Comply with any operating limitations approved by the Administrator.   |

<sup>1</sup>Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.8(g) for a different temperature range. [75 FR 51593, Aug. 20, 2010, as amended at 76 FR 12867, Mar. 9, 2011]

**Table 2c to Subpart ZZZZ of Part 63 - Requirements for Existing Compression Ignition Stationary RICE Located at a Major Source of HAP Emissions and Existing Spark Ignition Stationary RICE ≤500 HP Located at a Major Source of HAP Emissions**

As stated in 40 CFR 63.6600, 63.6602, and 63.6640, you must comply with the following requirements for existing compression ignition stationary RICE located at a major source of HAP emissions and existing spark ignition stationary RICE ≤500 HP located at a major source of HAP emissions:

| For each   | You must meet the following requirement, except during periods of startup   | During periods of startup you must  |
|--|---|---|
| 1. Emergency stationary CI RICE and black start stationary CI RICE. <sup>1</sup> | a. Change oil and filter every 500 hours of operation or annually, whichever comes first; <sup>2</sup><br>b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first;<br>c. Inspect all hoses and belts every | Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply. <sup>3</sup> |

|  |  |  |
|--|--|--|
|  | 500 hours of operation or annually, whichever comes first, and replace as necessary. <sup>3</sup>  |  |
| 2. Non-Emergency, non-black start stationary CI RICE <100 HP                                   | a. Change oil and filter every 1,000 hours of operation or annually, whichever comes first; <sup>2</sup>                                 |  |
|  | b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first;  |  |
|  | c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary. <sup>3</sup>   |  |
| 3. Non-Emergency, non-black start CI stationary RICE 100≤HP≤300 HP                             | Limit concentration of CO in the stationary RICE exhaust to 230 ppmvd or less at 15 percent O <sub>2</sub>                               |  |
| 4. Non-Emergency, non-black start CI stationary RICE 300<HP≤500                                | a. Limit concentration of CO in the stationary RICE exhaust to 49 ppmvd or less at 15 percent O <sub>2</sub> ; or                        |  |
|  | b. Reduce CO emissions by 70 percent or more.  |  |
| 5. Non-Emergency, non-black start stationary CI RICE >500 HP                                   | a. Limit concentration of CO in the stationary RICE exhaust to 23 ppmvd or less at 15 percent O <sub>2</sub> ; or                        |  |
|  | b. Reduce CO emissions by 70 percent or more.  |  |
| 6. Emergency stationary SI RICE and black start stationary SI RICE. <sup>1</sup>               | a. Change oil and filter every 500 hours of operation or annually, whichever comes first; <sup>2</sup>                                   |  |
|  | b. Inspect spark plugs every 1,000 hours of operation or annually, whichever comes first;  |  |
|  | c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary. <sup>3</sup>   |  |
| 7. Non-Emergency, non-black start stationary SI RICE <100 HP that are not 2SLB stationary RICE | a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first; <sup>2</sup>                                 |  |
|  | b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first;  |  |
|  | c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary. <sup>3</sup> |  |
| 8. Non-Emergency, non-black start 2SLB stationary SI RICE <100 HP                              | a. Change oil and filter every 4,320 hours of operation or annually, whichever comes first; <sup>2</sup>                                 |  |

|   |  |  |
|---|--|--|
|   | b. Inspect spark plugs every 4,320 hours of operation or annually, whichever comes first;  |  |
|   | c. Inspect all hoses and belts every 4,320 hours of operation or annually, whichever comes first, and replace as necessary. <sup>3</sup> |  |
| 9. Non-emergency, non-black start 2SLB stationary RICE<br>100≤HP≤500                            | Limit concentration of CO in the stationary RICE exhaust to 225 ppmvd or less at 15 percent O <sub>2</sub>                               |  |
| 10. Non-emergency, non-black start 4SLB stationary RICE<br>100≤HP≤500                           | Limit concentration of CO in the stationary RICE exhaust to 47 ppmvd or less at 15 percent O <sub>2</sub>                                |  |
| 11. Non-emergency, non-black start 4SRB stationary RICE<br>100≤HP≤500                           | Limit concentration of formaldehyde in the stationary RICE exhaust to 10.3 ppmvd or less at 15 percent O <sub>2</sub>                    |  |
| 12. Non-emergency, non-black start landfill or digester gas-fired stationary RICE<br>100≤HP≤500 | Limit concentration of CO in the stationary RICE exhaust to 177 ppmvd or less at 15 percent O <sub>2</sub>                               |  |

<sup>1</sup>If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the work practice requirements on the schedule required in Table 2c of this subpart, or if performing the work practice on the required schedule would otherwise pose an unacceptable risk under Federal, State, or local law, the work practice can be delayed until the emergency is over or the unacceptable risk under Federal, State, or local law has abated. The work practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, State, or local law has abated. Sources must report any failure to perform the work practice on the schedule required and the Federal, State or local law under which the risk was deemed unacceptable.

<sup>2</sup>Sources have the option to utilize an oil analysis program as described in 40 CFR 63.6625(i) in order to extend the specified oil change requirement in Table 2c of this subpart.

<sup>3</sup>Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices. [75 FR 51593, Aug. 20, 2010]

**Table 2d to Subpart ZZZZ of Part 63 - Requirements for Existing Stationary RICE Located at Area Sources of HAP Emissions**

As stated in 40 CFR 63.6603 and 63.6640, you must comply with the following requirements for existing stationary RICE located at area sources of HAP emissions:

| <b>For each</b>   | <b>You must meet the following requirement, except during periods of startup</b>   | <b>During periods of startup you must</b>  |
|---|--|--|
| 1. Non-Emergency, non-black start CI stationary RICE<br>≤300 HP | a. Change oil and filter every 1,000 hours of operation or annually, whichever comes first; <sup>1</sup>   | Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply. |
|   | b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first;<br>c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary. |  |

|   |  |  |
|---|--|--|
| 2. Non-Emergency, non-black start CI stationary RICE<br>300<HP≤500  | a. Limit concentration of CO in the stationary RICE exhaust to 49 ppmvd at 15 percent O <sub>2</sub> ; or  |  |
|   | b. Reduce CO emissions by 70 percent or more.  |  |
| 3. Non-Emergency, non-black start CI stationary RICE<br>>500 HP   | a. Limit concentration of CO in the stationary RICE exhaust to 23 ppmvd at 15 percent O <sub>2</sub> ; or  |  |
|   | b. Reduce CO emissions by 70 percent or more.  |  |
| 4. Emergency stationary CI RICE and black start stationary CI RICE. <sup>2</sup>  | a. Change oil and filter every 500 hours of operation or annually, whichever comes first; <sup>1</sup>   |  |
|   | b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first; and  |  |
|   | c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.  |  |
| 5. Emergency stationary SI RICE; black start stationary SI RICE; non-emergency, non-black start 4SLB stationary RICE >500 HP that operate 24 hours or less per calendar year; non-emergency, non-black start 4SRB stationary RICE >500 HP that operate 24 hours or less per calendar year. <sup>2</sup> | a. Change oil and filter every 500 hours of operation or annually, whichever comes first; <sup>1</sup><br>b. Inspect spark plugs every 1,000 hours of operation or annually, whichever comes first; and<br>c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary. |  |
| 6. Non-emergency, non-black start 2SLB stationary RICE  | a. Change oil and filter every 4,320 hours of operation or annually, whichever comes first; <sup>1</sup>   |  |
|   | b. Inspect spark plugs every 4,320 hours of operation or annually, whichever comes first; and  |  |
|   | c. Inspect all hoses and belts every 4,320 hours of operation or annually, whichever comes first, and replace as necessary.  |  |
| 7. Non-emergency, non-black start 4SLB stationary RICE ≤500 HP  | a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first; <sup>1</sup>   |  |

|   |   |  |
|---|---|--|
|   | b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first; and                               |  |
|   | c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary. |  |
| 8. Non-emergency, non-black start 4SLB stationary RICE >500 HP                    | a. Limit concentration of CO in the stationary RICE exhaust to 47 ppmvd at 15 percent O <sub>2</sub> ; or                   |  |
|   | b. Reduce CO emissions by 93 percent or more.   |  |
| 9. Non-emergency, non-black start 4SRB stationary RICE ≤500 HP                    | a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first; <sup>1</sup>                    |  |
|   | b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first; and                               |  |
|   | c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary. |  |
| 10. Non-emergency, non-black start 4SRB stationary RICE >500 HP                   | a. Limit concentration of formaldehyde in the stationary RICE exhaust to 2.7 ppmvd at 15 percent O <sub>2</sub> ; or        |  |
|   | b. Reduce formaldehyde emissions by 76 percent or more.   |  |
| 11. Non-emergency, non-black start landfill or digester gas-fired stationary RICE | a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first; <sup>1</sup>                    |  |
|   | b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first; and                               |  |
|   | c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary. |  |

<sup>1</sup>Sources have the option to utilize an oil analysis program as described in 40 CFR 63.6625(i) in order to extend the specified oil change requirement in Table 2d of this subpart.

<sup>2</sup>If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the management practice requirements on the schedule required in Table 2d of this subpart, or if performing the management practice on the required schedule would otherwise pose an unacceptable risk under Federal, State, or local

law, the management practice can be delayed until the emergency is over or the unacceptable risk under Federal, State, or local law has abated. The management practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, State, or local law has abated. Sources must report any failure to perform the management practice on the schedule required and the Federal, State or local law under which the risk was deemed unacceptable.

[75 FR 51595, Aug. 20, 2010]

**Table 3 to Subpart ZZZZ of Part 63 - Subsequent Performance Tests**

As stated in 40 CFR 63.6615 and 63.6620, you must comply with the following subsequent performance test requirements:

| For each   | Complying with the requirement to                                      | You must  |
|--|--|---|
| 1. New or reconstructed 2SLB stationary RICE with a brake horsepower >500 located at major sources; new or reconstructed 4SLB stationary RICE with a brake horsepower $\geq 250$ located at major sources; and new or reconstructed CI stationary RICE with a brake horsepower >500 located at major sources   | Reduce CO emissions and not using a CEMS                               | Conduct subsequent performance tests semiannually. <sup>1</sup>                         |
| 2. 4SRB stationary RICE with a brake horsepower $\geq 5,000$ located at major sources  | Reduce formaldehyde emissions  | Conduct subsequent performance tests semiannually. <sup>1</sup>                         |
| 3. Stationary RICE with a brake horsepower >500 located at major sources and new or reconstructed 4SLB stationary RICE with a brake horsepower $250 \leq HP \leq 500$ located at major sources   | Limit the concentration of formaldehyde in the stationary RICE exhaust | Conduct subsequent performance tests semiannually. <sup>1</sup>                         |
| 4. Existing non-emergency, non-black start CI stationary RICE with a brake horsepower >500 that are not limited use stationary RICE; existing non-emergency, non-black start 4SLB and 4SRB stationary RICE located at an area source of HAP emissions with a brake horsepower >500 that are operated more than 24 hours per calendar year that are not limited use stationary RICE | Limit or reduce CO or formaldehyde emissions                           | Conduct subsequent performance tests every 8,760 hrs or 3 years, whichever comes first. |
| 5. Existing non-emergency, non-black start CI stationary RICE with a brake horsepower >500 that are limited use stationary RICE; existing non-emergency, non-black start 4SLB and 4SRB stationary RICE located at an area source of HAP emissions with a brake horsepower >500 that are operated more than 24 hours per calendar year and are limited use stationary RICE          | Limit or reduce CO or formaldehyde emissions                           | Conduct subsequent performance tests every 8,760 hrs or 5 years, whichever comes first. |

<sup>1</sup>After you have demonstrated compliance for two consecutive tests, you may reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test indicate the stationary RICE is not in compliance with the CO or formaldehyde emission limitation, or you deviate from any of your operating limitations, you must resume semiannual performance tests.

[75 FR 51596, Aug. 20, 2010]

**Table 4 to Subpart ZZZZ of Part 63 - Requirements for Performance Tests**

As stated in 40 CFR 63.6610, 63.6611, 63.6612, 63.6620, and 63.6640, you must comply with the following requirements for performance tests for stationary RICE:

| For each                              | Complying with the requirement to | You must   | Using                                       | According to the following requirements   |
|---------------------------------------|-----------------------------------|--|---|---|
| 1. 2SLB, 4SLB, and CI stationary RICE | a. Reduce CO emissions            | i. Measure the O <sub>2</sub> at the inlet and outlet of the control device; and | (1) Portable CO and O <sub>2</sub> analyzer | (a) Using ASTM D6522-00 (2005) <sup>a</sup> (incorporated by reference, see 40 CFR 63.14). Measurements to determine O <sub>2</sub> must be made at the same time as the measurements for CO concentration. |
|                                       |                                   | ii. Measure the CO at the inlet and the outlet of the control device             | (1) Portable CO and O <sub>2</sub> analyzer | (a) Using ASTM D6522-00 (2005) <sup>ab</sup> (incorporated by reference, see 40 CFR 63.14) or Method 10 of 40 CFR Appendix A. The CO  |

|                         |   |  |   |  |
|-------------------------|---|--|---|--|
|                         |   |  |   | concentration must be at 15 percent O <sub>2</sub> , dry basis.  |
| 2. 4SRB stationary RICE | a. Reduce formaldehyde emissions  | i. Select the sampling port location and the number of traverse points; and                                      | (1) Method 1 or 1A of 40 CFR 60 Appendix A 40 CFR 63.7(d)(1)(i)   | (a) Sampling sites must be located at the inlet and outlet of the control device.  |
|                         |   | ii. Measure O <sub>2</sub> at the inlet and outlet of the control device; and                                    | (1) Method 3 or 3A or 3B of 40 CFR 60 Appendix A, or ASTM Method D6522-00m (2005)   | (a) Measurements to determine O <sub>2</sub> concentration must be made at the same time as the measurements for formaldehyde concentration.                     |
|                         |   | iii. Measure moisture content at the inlet and outlet of the control device; and                                 | (1) Method 4 of 40 CFR 60 Appendix A, or Test Method 320 of 40 CFR 63 Appendix A, or ASTM D 6348-03   | (a) Measurements to determine moisture content must be made at the same time and location as the measurements for formaldehyde concentration.                    |
|                         |   | iv. Measure formaldehyde at the inlet and the outlet of the control device                                       | (1) Method 320 or 323 of 40 CFR 63 Appendix A; or ASTM D6348-03, <sup>c</sup> provided in ASTM D6348-03 Annex A5 (Analyte Spiking Technique), the percent R must be greater than or equal to 70 and less than or equal to 130 | (a) Formaldehyde concentration must be at 15 percent O <sub>2</sub> , dry basis. Results of this test consist of the average of the three 1-hour or longer runs. |
| 3. Stationary RICE      | a. Limit the concentration of formaldehyde or CO in the stationary RICE exhaust | i. Select the sampling port location and the number of traverse points; and                                      | (1) Method 1 or 1A of 40 CFR 60 Appendix A 40 CFR 63.7(d)(1)(i)   | (a) If using a control device, the sampling site must be located at the outlet of the control device.  |
|                         |   | ii. Determine the O <sub>2</sub> concentration of the stationary RICE exhaust at the sampling port location; and | (1) Method 3 or 3A or 3B of 40 CFR 60 Appendix A, or ASTM Method D6522-00 (2005)  | (a) Measurements to determine O <sub>2</sub> concentration must be made at the same time and location as the measurements for formaldehyde concentration.        |
|                         |   | iii. Measure moisture content of the stationary RICE exhaust at the sampling port location; and                  | (1) Method 4 of 40 CFR 60 Appendix A, or Test Method 320 of 40 CFR 63 Appendix A, or ASTM D 6348-03   | (a) Measurements to determine moisture content must be made at the same time and location as the measurements for formaldehyde concentration.                    |
|                         |   | iv. Measure formaldehyde at the exhaust of the stationary RICE; or   | (1) Method 320 or 323 of 40 CFR 63 Appendix A; or ASTM D6348-03, <sup>c</sup> provided in ASTM D6348-03 Annex A5 (Analyte Spiking Technique), the percent R must be greater than or equal to 70 and less than or equal to 130 | (a) Formaldehyde concentration must be at 15 percent O <sub>2</sub> , dry basis. Results of this test consist of the average of the three 1-hour or longer runs. |
|                         |   | v. Measure CO at the exhaust of the stationary RICE  | (1) Method 10 of 40 CFR 60 Appendix A, ASTM Method D6522-00 (2005), <sup>a</sup> Method 320 of 40 CFR 63 Appendix A, or ASTM D6348-03   | (a) CO Concentration must be at 15 percent O <sub>2</sub> , dry basis. Results of this test consist of the average of the three 1-hour longer runs.              |

<sup>a</sup>You may also use Methods 3A and 10 as options to ASTM-D6522-00 (2005). You may obtain a copy of ASTM-D6522-00 (2005) from at least one of the following addresses: American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959, or University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106. ASTM-D6522-00 (2005) may be used to test both CI and SI stationary RICE.

<sup>b</sup>You may also use Method 320 of 40 CFR 63 Appendix A, or ASTM D6348-03.

°You may obtain a copy of ASTM–D6348-03 from at least one of the following addresses: American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959, or University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106.  
 [75 FR 51597, Aug. 20, 2010]

**Table 5 to Subpart ZZZZ of Part 63 - Initial Compliance With Emission Limitations and Operating Limitations**  
 As stated in 40 CFR 63.6612, 63.6625 and 63.6630, you must initially comply with the emission and operating limitations as required by the following:

| For each  | Complying with the requirement to  | You have demonstrated initial compliance if   |
|---|--|---|
| 1. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, non-emergency stationary CI RICE >500 HP located at a major source of HAP, existing non-emergency stationary CI RICE >500 HP located at an area source of HAP, and existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year | a. Reduce CO emissions and using oxidation catalyst, and using a CPMS        | i. The average reduction of emissions of CO determined from the initial performance test achieves the required CO percent reduction; and<br>ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in 40 CFR 63.6625(b); and<br>iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.                   |
| 2. Non-emergency stationary CI RICE >500 HP located at a major source of HAP, existing non-emergency stationary CI RICE >500 HP located at an area source of HAP, and existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year   | a. Limit the concentration of CO, using oxidation catalyst, and using a CPMS | i. The average CO concentration determined from the initial performance test is less than or equal to the CO emission limitation; and<br>ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in 40 CFR 63.6625(b); and<br>iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.                      |
| 3. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, non-emergency stationary CI RICE >500 HP located at a major source of HAP, existing non-emergency stationary CI RICE >500 HP located at an area source of HAP, and existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year | a. Reduce CO emissions and not using oxidation catalyst                      | i. The average reduction of emissions of CO determined from the initial performance test achieves the required CO percent reduction; and<br>ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in 40 CFR 63.6625(b); and<br>iii. You have recorded the approved operating parameters (if any) during the initial performance test. |
| 4. Non-emergency stationary CI RICE >500 HP located at a major source of HAP, existing non-emergency stationary CI RICE >500 HP located at an area source of HAP, and existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year   | a. Limit the concentration of CO, and not using oxidation catalyst           | i. The average CO concentration determined from the initial performance test is less than or equal to the CO emission limitation; and<br>ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in 40 CFR 63.6625(b); and<br>iii. You have recorded the approved operating parameters (if any) during the initial performance test.    |
| 5. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, non-emergency stationary CI RICE >500 HP located at a major source of HAP, existing non-emergency stationary CI RICE >500 HP located at an area source of HAP, and existing non-   | a. Reduce CO emissions, and using a CEMS                                     | i. You have installed a CEMS to continuously monitor CO and either O <sub>2</sub> or CO <sub>2</sub> at both the inlet and outlet of the oxidation catalyst according to the requirements in 40 CFR 63.6625(a); and<br>ii. You have conducted a performance evaluation of your CEMS using PS 3 and 4A of  |

|   |   |  |
|---|---|--|
| emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year  |   | 40 CFR 60 Appendix B; and<br>iii. The average reduction of CO calculated using 40 CFR 63.6620 equals or exceeds the required percent reduction. The initial test comprises the first 4-hour period after successful validation of the CEMS. Compliance is based on the average percent reduction achieved during the 4-hour period.                          |
| 6. Non-emergency stationary CI RICE >500 HP located at a major source of HAP, existing non-emergency stationary CI RICE >500 HP located at an area source of HAP, and existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year | a. Limit the concentration of CO, and using a CEMS            | i. You have installed a CEMS to continuously monitor CO and either O <sub>2</sub> or CO <sub>2</sub> at the outlet of the oxidation catalyst according to the requirements in 40 CFR 63.6625(a); and<br>ii. You have conducted a performance evaluation of your CEMS using PS 3 and 4A of 40 CFR 60 Appendix B; and  |
|   |   | iii. The average concentration of CO calculated using 40 CFR 63.6620 is less than or equal to the CO emission limitation. The initial test comprises the first 4-hour period after successful validation of the CEMS. Compliance is based on the average concentration measured during the 4-hour period.  |
| 7. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP, and existing non-emergency 4SRB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year   | a. Reduce formaldehyde emissions and using NSCR               | i. The average reduction of emissions of formaldehyde determined from the initial performance test is equal to or greater than the required formaldehyde percent reduction; and<br>ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in 40 CFR 63.6625(b); and                                  |
|   |   | iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.  |
| 8. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP, and existing non-emergency 4SRB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year   | a. Reduce formaldehyde emissions and not using NSCR           | i. The average reduction of emissions of formaldehyde determined from the initial performance test is equal to or greater than the required formaldehyde percent reduction; and<br>ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in 40 CFR 63.6625(b); and |
|   |   | iii. You have recorded the approved operating parameters (if any) during the initial performance test.   |
| 9. Existing non-emergency 4SRB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year  | a. Limit the concentration of formaldehyde and not using NSCR | i. The average formaldehyde concentration determined from the initial performance test is less than or equal to the formaldehyde emission limitation; and  |
|   |   | ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in 40 CFR 63.6625(b); and  |
|   |   | iii. You have recorded the approved operating parameters (if any) during the initial performance test.   |

|  |  |   |
|--|--|---|
| 10. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE $250 \leq \text{HP} \leq 500$ located at a major source of HAP, and existing non-emergency 4SRB stationary RICE >500 HP | a. Limit the concentration of formaldehyde in the stationary RICE exhaust and using oxidation catalyst or NSCR     | i. The average formaldehyde concentration, corrected to 15 percent O <sub>2</sub> , dry basis, from the three test runs is less than or equal to the formaldehyde emission limitation; and<br>ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in 40 CFR 63.6625(b); and                                  |
|  |  | iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.   |
| 11. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE $250 \leq \text{HP} \leq 500$ located at a major source of HAP, and existing non-emergency 4SRB stationary RICE >500 HP | a. Limit the concentration of formaldehyde in the stationary RICE exhaust and not using oxidation catalyst or NSCR | i. The average formaldehyde concentration, corrected to 15 percent O <sub>2</sub> , dry basis, from the three test runs is less than or equal to the formaldehyde emission limitation; and<br>ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in 40 CFR 63.6625(b); and |
|  |  | iii. You have recorded the approved operating parameters (if any) during the initial performance test.  |
| 12. Existing non-emergency stationary RICE $100 \leq \text{HP} \leq 500$ located at a major source of HAP, and existing non-emergency stationary CI RICE $300 < \text{HP} \leq 500$ located at an area source of HAP   | a. Reduce CO or formaldehyde emissions   | i. The average reduction of emissions of CO or formaldehyde, as applicable determined from the initial performance test is equal to or greater than the required CO or formaldehyde, as applicable, percent reduction.  |
| 13. Existing non-emergency stationary RICE $100 \leq \text{HP} \leq 500$ located at a major source of HAP, and existing non-emergency stationary CI RICE $300 < \text{HP} \leq 500$ located at an area source of HAP   | a. Limit the concentration of formaldehyde or CO in the stationary RICE exhaust                                    | i. The average formaldehyde or CO concentration, as applicable, corrected to 15 percent O <sub>2</sub> , dry basis, from the three test runs is less than or equal to the formaldehyde or CO emission limitation, as applicable.  |

[76 FR 12867, Mar. 9, 2011]

**Table 6 to Subpart ZZZZ of Part 63 - Continuous Compliance With Emission Limitations, Operating Limitations, Work Practices, and Management Practices**

As stated in 40 CFR 63.6640, you must continuously comply with the emissions and operating limitations and work or management practices as required by the following:

| <b>For each</b>   | <b>Complying with the requirement to</b>                                 | <b>You must demonstrate continuous compliance by</b>  |
|---|--|---|
| I. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE $\geq 250$ HP located at a major source of HAP, and new or reconstructed non-emergency CI stationary RICE >500 HP located at a major source of HAP | a. Reduce CO emissions and using an oxidation catalyst, and using a CPMS | i. Conducting semiannual performance tests for CO to demonstrate that the required CO percent reduction is achieved; <sup>a</sup> and<br>ii. Collecting the catalyst inlet temperature data according to 40 CFR 63.6625(b); and<br>iii. Reducing these data to 4-hour rolling averages; and<br>iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and |
|   |  | v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.  |

|  |   |   |
|--|---|---|
| <p>2. New or reconstructed non-emergency 2SLB stationary RICE &gt;500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, and new or reconstructed non-emergency CI stationary RICE &gt;500 HP located at a major source of HAP</p>   | <p>a. Reduce CO emissions and not using an oxidation catalyst, and using a CPMS</p>                             | <p>i. Conducting semiannual performance tests for CO to demonstrate that the required CO percent reduction is achieved;<sup>a</sup> and<br/> ii. Collecting the approved operating parameter (if any) data according to 40 CFR 63.6625(b); and<br/> iii. Reducing these data to 4-hour rolling averages; and</p>  |
|  |   | <p>iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.</p>   |
| <p>3. New or reconstructed non-emergency 2SLB stationary RICE &gt;500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, new or reconstructed non-emergency stationary CI RICE &gt;500 HP located at a major source of HAP, existing non-emergency stationary CI RICE &gt;500 HP, existing non-emergency 4SLB stationary RICE &gt;500 HP located at an area source of HAP that are operated more than 24 hours per calendar year</p> | <p>a. Reduce CO emissions or limit the concentration of CO in the stationary RICE exhaust, and using a CEMS</p> | <p>i. Collecting the monitoring data according to 40 CFR 63.6625(a), reducing the measurements to 1-hour averages, calculating the percent reduction or concentration of CO emissions according to 40 CFR 63.6620; and<br/> ii. Demonstrating that the catalyst achieves the required percent reduction of CO emissions over the 4-hour averaging period, or that the emission remain at or below the CO concentration limit; and<br/> iii. Conducting an annual RATA of your CEMS using PS 3 and 4A of 40 CFR 60 Appendix B, as well as daily and periodic data quality checks in accordance with 40 CFR 60 Appendix F, procedure 1.</p> |
| <p>4. Non-emergency 4SRB stationary RICE &gt;500 HP located at a major source of HAP</p>   | <p>a. Reduce formaldehyde emissions and using NSCR</p>  | <p>i. Collecting the catalyst inlet temperature data according to 40 CFR 63.6625(b); and</p>  |
|  |   | <p>ii. Reducing these data to 4-hour rolling averages; and</p>  |
|  |   | <p>iii. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and</p>  |
|  |   | <p>iv. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.</p>  |
| <p>5. Non-emergency 4SRB stationary RICE &gt;500 HP located at a major source of HAP</p>   | <p>a. Reduce formaldehyde emissions and not using NSCR</p>  | <p>i. Collecting the approved operating parameter (if any) data according to 40 CFR 63.6625(b); and<br/> ii. Reducing these data to 4-hour rolling averages; and</p>  |
|  |   | <p>iii. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.</p>  |
| <p>6. Non-emergency 4SRB stationary RICE with a brake HP ≥5,000 located at a major source of HAP</p>   | <p>a. Reduce formaldehyde emissions</p>   | <p>Conducting semiannual performance tests for formaldehyde to demonstrate that the required formaldehyde percent reduction is achieved.<sup>a</sup></p>  |
| <p>7. New or reconstructed non-emergency stationary RICE &gt;500 HP located at a major source of HAP and new or reconstructed non-emergency 4SLB stationary</p>  | <p>a. Limit the concentration of formaldehyde in the stationary RICE exhaust and using</p>                      | <p>i. Conducting semiannual performance tests for formaldehyde to demonstrate that your emissions remain at or below the formaldehyde</p>   |

|   |   |   |
|---|---|---|
| RICE 250 ≤HP≤500 located at a major source of HAP   | oxidation catalyst or NSCR  | concentration limit; <sup>a</sup> and<br>ii. Collecting the catalyst inlet temperature data according to 40 CFR 63.6625(b); and   |
|   |   | iii. Reducing these data to 4-hour rolling averages; and  |
|   |   | iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and  |
|   |   | v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.  |
| 8. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP and new or reconstructed non-emergency 4SLB stationary RICE 250 ≤HP≤500 located at a major source of HAP   | a. Limit the concentration of formaldehyde in the stationary RICE exhaust and not using oxidation catalyst or NSCR  | i. Conducting semiannual performance tests for formaldehyde to demonstrate that your emissions remain at or below the formaldehyde concentration limit; <sup>a</sup> and<br>ii. Collecting the approved operating parameter (if any) data according to 40 CFR 63.6625(b); and   |
|   |   | iii. Reducing these data to 4-hour rolling averages; and  |
|   |   | iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.  |
| 9. Existing emergency and black start stationary RICE ≤500 HP located at a major source of HAP, existing non-emergency stationary RICE <100 HP located at a major source of HAP, existing emergency and black start stationary RICE located at an area source of HAP, existing non-emergency stationary CI RICE ≤300 HP located at an area source of HAP, existing non-emergency 2SLB stationary RICE located at an area source of HAP, existing non-emergency landfill or digester gas stationary SI RICE located at an area source of HAP, existing non-emergency 4SLB and 4SRB stationary RICE ≤500 HP located at an area source of HAP, existing non-emergency 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that operate 24 hours or less per calendar year | a. Work or Management practices   | i. Operating and maintaining the stationary RICE according to the manufacturer's emission-related operation and maintenance instructions; or<br>ii. Develop and follow your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions. |
| 10. Existing stationary CI RICE >500 HP that are not limited use stationary RICE, and existing 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that operate more than 24 hours per calendar year and are not limited use stationary RICE   | a. Reduce CO or formaldehyde emissions, or limit the concentration of formaldehyde or CO in the stationary RICE exhaust, and using oxidation catalyst or NSCR | i. Conducting performance tests every 8,760 hours or 3 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and   |
|   |   | ii. Collecting the catalyst inlet temperature data according to 40 CFR 63.6625(b); and  |
|   |   | iii. Reducing these data to 4-hour rolling averages; and  |

|   |   |   |
|---|---|---|
|   |   | iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and  |
|   |   | v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.  |
| 11. Existing stationary CI RICE >500 HP that are not limited use stationary RICE, and existing 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that operate more than 24 hours per calendar year and are not limited use stationary RICE | a. Reduce CO or formaldehyde emissions, or limit the concentration of formaldehyde or CO in the stationary RICE exhaust, and not using oxidation catalyst or NSCR   | i. Conducting performance tests every 8,760 hours or 3 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and |
|   |   | ii. Collecting the approved operating parameter (if any) data according to 40 CFR 63.6625(b); and   |
|   |   | iii. Reducing these data to 4-hour rolling averages; and  |
|   |   | iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.  |
| 12. Existing limited use CI stationary RICE >500 HP and existing limited use 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that operate more than 24 hours per calendar year   | a. Reduce CO or formaldehyde emissions or limit the concentration of formaldehyde or CO in the stationary RICE exhaust, and using an oxidation catalyst or NSCR     | i. Conducting performance tests every 8,760 hours or 5 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and |
|   |   | ii. Collecting the catalyst inlet temperature data according to 40 CFR 63.6625(b); and  |
|   |   | iii. Reducing these data to 4-hour rolling averages; and  |
|   |   | iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and  |
|   |   | v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.  |
| 13. Existing limited use CI stationary RICE >500 HP and existing limited use 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that operate more than 24 hours per calendar year   | a. Reduce CO or formaldehyde emissions or limit the concentration of formaldehyde or CO in the stationary RICE exhaust, and not using an oxidation catalyst or NSCR | i. Conducting performance tests every 8,760 hours or 5 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and |
|   |   | ii. Collecting the approved operating parameter (if any) data according to 40 CFR 63.6625(b); and   |

|  |  |  |
|--|--|--|
|  |  | iii. Reducing these data to 4-hour rolling averages; and   |
|  |  | iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test. |

<sup>a</sup>After you have demonstrated compliance for two consecutive tests, you may reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test indicate the stationary RICE is not in compliance with the CO or formaldehyde emission limitation, or you deviate from any of your operating limitations, you must resume semiannual performance tests.

[76 FR 12870, Mar. 9, 2011]

**Table 7 to Subpart ZZZZ of Part 63 - Requirements for Reports**

As stated in 40 CFR 63.6650, you must comply with the following requirements for reports:

| For each   | You must submit a | The report must contain  | You must submit the report  |
|--|-------------------|--|---|
| 1. Existing non-emergency, non-black start stationary RICE $100 \leq \text{HP} \leq 500$ located at a major source of HAP; existing non-emergency, non-black start stationary CI RICE $>500$ HP located at a major source of HAP; existing non-emergency 4SRB stationary RICE $>500$ HP located at a major source of HAP; existing non-emergency, non-black start stationary CI RICE $>300$ HP located at an area source of HAP; existing non-emergency, non-black start 4SLB and 4SRB stationary RICE $>500$ HP located at an area source of HAP and operated more than 24 hours per calendar year; new or reconstructed non-emergency stationary RICE $>500$ HP located at a major source of HAP; and new or reconstructed non-emergency 4SLB stationary RICE $250 \leq \text{HP} \leq 500$ located at a major source of HAP | Compliance report | a. If there are no deviations from any emission limitations or operating limitations that apply to you, a statement that there were no deviations from the emission limitations or operating limitations during the reporting period. If there were no periods during which the CMS, including CEMS and CPMS, was out-of-control, as specified in 40 CFR 63.8(c)(7), a statement that there were not periods during which the CMS was out-of-control during the reporting period; or<br>b. If you had a deviation from any emission limitation or operating limitation during the reporting period, the information in 40 CFR 63.6650(d). If there were periods during which the CMS, including CEMS and CPMS, was out-of-control, as specified in 40 CFR 63.8(c)(7), the information in 40 CFR 63.6650(e); or<br>c. If you had a malfunction during the reporting period, the information in 40 CFR 63.6650(c)(4) | i. Semiannually according to the requirements in 40 CFR 63.6650(b)(1)-(5) for engines that are not limited use stationary RICE subject to numerical emission limitations; and<br>ii. Annually according to the requirements in 40 CFR 63.6650(b)(6)-(9) for engines that are limited use stationary RICE subject to numerical emission limitations.<br>i. Semiannually according to the requirements in 40 CFR 63.6650(b).<br>i. Semiannually according to the requirements in 40 CFR 63.6650(b). |
| 2. New or reconstructed non-emergency stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis   | Report            | a. The fuel flow rate of each fuel and the heating values that were used in your calculations, and you must demonstrate that the percentage of heat input provided by landfill gas or digester gas, is equivalent to 10 percent or more of the gross heat input on an annual basis; and  | i. Annually, according to the requirements in 40 CFR 63.6650.   |
|  |                   | b. The operating limits provided in your federally enforceable permit, and any deviations from these limits; and   | i. See item 2.a.i.  |
|  |                   | c. Any problems or errors suspected with the meters.   | i. See item 2.a.i.  |

[75 FR 51603, Aug. 20, 2010]

**Table 8 to Subpart ZZZZ of Part 63 - Applicability of General Provisions to Subpart ZZZZ.**

As stated in 40 CFR 63.6665, you must comply with the following applicable general provisions.

| General provisions citation | Subject of citation   | Applies to subpart | Explanation   |
|-----------------------------|---|--------------------|---|
| 40 CFR 63.1                 | General applicability of the General Provisions                                   | Yes.               |   |
| 40 CFR 63.2                 | Definitions   | Yes                | Additional terms defined in 40 CFR 63.6675.   |
| 40 CFR 63.3                 | Units and abbreviations   | Yes.               |   |
| 40 CFR 63.4                 | Prohibited activities and circumvention   | Yes.               |   |
| 40 CFR 63.5                 | Construction and reconstruction   | Yes.               |   |
| 40 CFR 63.6(a)              | Applicability   | Yes.               |   |
| 40 CFR 63.6(b)(1)-(4)       | Compliance dates for new and reconstructed sources                                | Yes.               |   |
| 40 CFR 63.6(b)(5)           | Notification  | Yes.               |   |
| 40 CFR 63.6(b)(6)           | [Reserved]  |                    |   |
| 40 CFR 63.6(b)(7)           | Compliance dates for new and reconstructed area sources that become major sources | Yes.               |   |
| 40 CFR 63.6(c)(1)-(2)       | Compliance dates for existing sources   | Yes.               |   |
| 40 CFR 63.6(c)(3)-(4)       | [Reserved]  |                    |   |
| 40 CFR 63.6(c)(5)           | Compliance dates for existing area sources that become major sources              | Yes.               |   |
| 40 CFR 63.6(d)              | [Reserved]  |                    |   |
| 40 CFR 63.6(e)              | Operation and maintenance   | No.                |   |
| 40 CFR 63.6(f)(1)           | Applicability of standards  | No.                |   |
| 40 CFR 63.6(f)(2)           | Methods for determining compliance  | Yes.               |   |
| 40 CFR 63.6(f)(3)           | Finding of compliance   | Yes.               |   |
| 40 CFR 63.6(g)(1)-(3)       | Use of alternate standard   | Yes.               |   |
| 40 CFR 63.6(h)              | Opacity and visible emission standards  | No                 | Subpart ZZZZ does not contain opacity or visible emission standards.                  |
| 40 CFR 63.6(i)              | Compliance extension procedures and criteria                                      | Yes.               |   |
| 40 CFR 63.6(j)              | Presidential compliance exemption   | Yes.               |   |
| 40 CFR 63.7(a)(1)-(2)       | Performance test dates  | Yes                | Subpart ZZZZ contains performance test dates at 40 CFR 63.6610, 63.6611, and 63.6612. |
| 40 CFR 63.7(a)(3)           | CAA section 114 authority   | Yes.               |   |
| 40 CFR 63.7(b)(1)           | Notification of performance test  | Yes                | Except that 40 CFR 63.7(b)(1) only applies as specified in 40 CFR 63.6645.            |
| 40 CFR 63.7(b)(2)           | Notification of rescheduling  | Yes                | Except that 40 CFR 63.7(b)(2) only  |

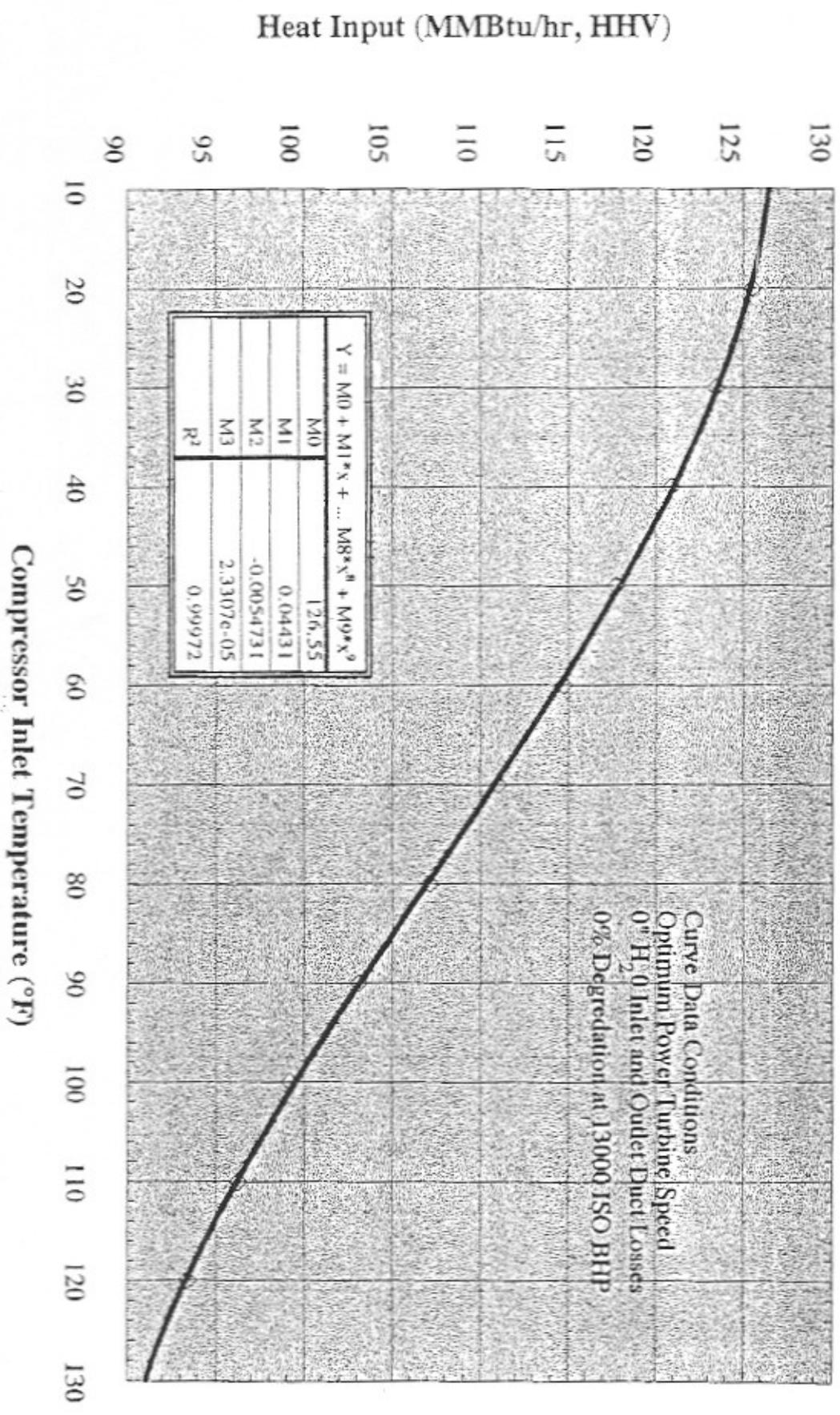
|                        |  |                    |  |
|------------------------|--|--------------------|--|
|                        |  |                    | applies as specified in 40 CFR 63.6645.  |
| 40 CFR 63.7(c)         | Quality assurance/test plan  | Yes                | Except that 40 CFR 63.7(c) only applies as specified in 40 CFR 63.6645.                |
| 40 CFR 63.7(d)         | Testing facilities   | Yes.               |  |
| 40 CFR 63.7(e)(1)      | Conditions for conducting performance tests                          | No.                | Subpart ZZZZ specifies conditions for conducting performance tests at 40 CFR 63.6620.  |
| 40 CFR 63.7(e)(2)      | Conduct of performance tests and reduction of data                   | Yes                | Subpart ZZZZ specifies test methods at 40 CFR 63.6620.                                 |
| 40 CFR 63.7(e)(3)      | Test run duration  | Yes.               |  |
| 40 CFR 63.7(e)(4)      | Administrator may require other testing under section 114 of the CAA | Yes.               |  |
| 40 CFR 63.7(f)         | Alternative test method provisions                                   | Yes.               |  |
| 40 CFR 63.7(g)         | Performance test data analysis, recordkeeping, and reporting         | Yes.               |  |
| 40 CFR 63.7(h)         | Waiver of tests  | Yes.               |  |
| 40 CFR 63.8(a)(1)      | Applicability of monitoring requirements                             | Yes                | Subpart ZZZZ contains specific requirements for monitoring at 40 CFR 63.6625.          |
| 40 CFR 63.8(a)(2)      | Performance specifications   | Yes.               |  |
| 40 CFR 63.8(a)(3)      | [Reserved]   |                    |  |
| 40 CFR 63.8(a)(4)      | Monitoring for control devices                                       | No.                |  |
| 40 CFR 63.8(b)(1)      | Monitoring   | Yes.               |  |
| 40 CFR 63.8(b)(2)-(3)  | Multiple effluents and multiple monitoring systems                   | Yes.               |  |
| 40 CFR 63.8(c)(1)      | Monitoring system operation and maintenance                          | Yes.               |  |
| 40 CFR 63.8(c)(1)(i)   | Routine and predictable SSM  | Yes.               |  |
| 40 CFR 63.8(c)(1)(ii)  | SSM not in Startup Shutdown Malfunction Plan                         | Yes.               |  |
| 40 CFR 63.8(c)(1)(iii) | Compliance with operation and maintenance requirements               | Yes.               |  |
| 40 CFR 63.8(c)(2)-(3)  | Monitoring system installation                                       | Yes.               |  |
| 40 CFR 63.8(c)(4)      | Continuous monitoring system (CMS) requirements                      | Yes                | Except that subpart ZZZZ does not require Continuous Opacity Monitoring System (COMS). |
| 40 CFR 63.8(c)(5)      | COMS minimum procedures  | No                 | Subpart ZZZZ does not require COMS.  |
| 40 CFR 63.8(c)(6)-(8)  | CMS requirements   | Yes                | Except that subpart ZZZZ does not require COMS.  |
| 40 CFR 63.8(d)         | CMS quality control  | Yes.               |  |
| 40 CFR 63.8(e)         | CMS performance evaluation   | Yes                | Except for 40 CFR 63.8(e)(5)(ii), which applies to COMS.                               |
|                        |  | Except that 40 CFR |  |

|                       |   |   |   |
|-----------------------|---|---|---|
|                       |   | 63.8(e) only applies as specified in 40 CFR 63.6645.                    |   |
| 40 CFR 63.8(f)(1)-(5) | Alternative monitoring method                                   | Yes   | Except that 40 CFR 63.8(f)(4) only applies as specified in 40 CFR 63.6645.  |
| 40 CFR 63.8(f)(6)     | Alternative to relative accuracy test                           | Yes   | Except that 40 CFR 63.8(f)(6) only applies as specified in 40 CFR 63.6645.  |
| 40 CFR 63.8(g)        | Data reduction  | Yes   | Except that provisions for COMS are not applicable. Averaging periods for demonstrating compliance are specified at 40 CFR 63.6635 and 63.6640. |
| 40 CFR 63.9(a)        | Applicability and State delegation of notification requirements | Yes.  |   |
| 40 CFR 63.9(b)(1)-(5) | Initial notifications   | Yes   | Except that 40 CFR 63.9(b)(3) is reserved.  |
|                       |   | Except that 40 CFR 63.9(b) only applies as specified in 40 CFR 63.6645. |   |
| 40 CFR 63.9(c)        | Request for compliance extension                                | Yes   | Except that 40 CFR 63.9(c) only applies as specified in 40 CFR 63.6645.   |
| 40 CFR 63.9(d)        | Notification of special compliance requirements for new sources | Yes   | Except that 40 CFR 63.9(d) only applies as specified in 40 CFR 63.6645.   |
| 40 CFR 63.9(e)        | Notification of performance test                                | Yes   | Except that 40 CFR 63.9(e) only applies as specified in 40 CFR 63.6645.   |
| 40 CFR 63.9(f)        | Notification of visible emission (VE)/opacity test              | No  | Subpart ZZZZ does not contain opacity or VE standards.  |
| 40 CFR 63.9(g)(1)     | Notification of performance evaluation                          | Yes   | Except that 40 CFR 63.9(g) only applies as specified in 40 CFR 63.6645.   |
| 40 CFR 63.9(g)(2)     | Notification of use of COMS data                                | No  | Subpart ZZZZ does not contain opacity or VE standards.  |
| 40 CFR 63.9(g)(3)     | Notification that criterion for alternative to RATA is exceeded | Yes   | If alternative is in use.   |
|                       |   | Except that 40 CFR 63.9(g) only applies as specified in 40 CFR 63.6645. |   |
| 40 CFR 63.9(h)(1)-(6) | Notification of compliance status                               | Yes   | Except that notifications for sources using a CEMS are due 30 days after completion of performance evaluations. 40 CFR 63.9(h)(4) is reserved.  |
|                       |   |   | Except that 40 CFR 63.9(h) only applies as specified in 40 CFR 63.6645.   |
| 40 CFR 63.9(i)        | Adjustment of submittal deadlines                               | Yes.  |   |
| 40 CFR 63.9(j)        | Change in previous information                                  | Yes.  |   |
| 40 CFR 63.10(a)       | Administrative provisions for recordkeeping/reporting           | Yes.  |   |
| 40 CFR 63.10(b)(1)    | Record retention  | Yes.  |   |

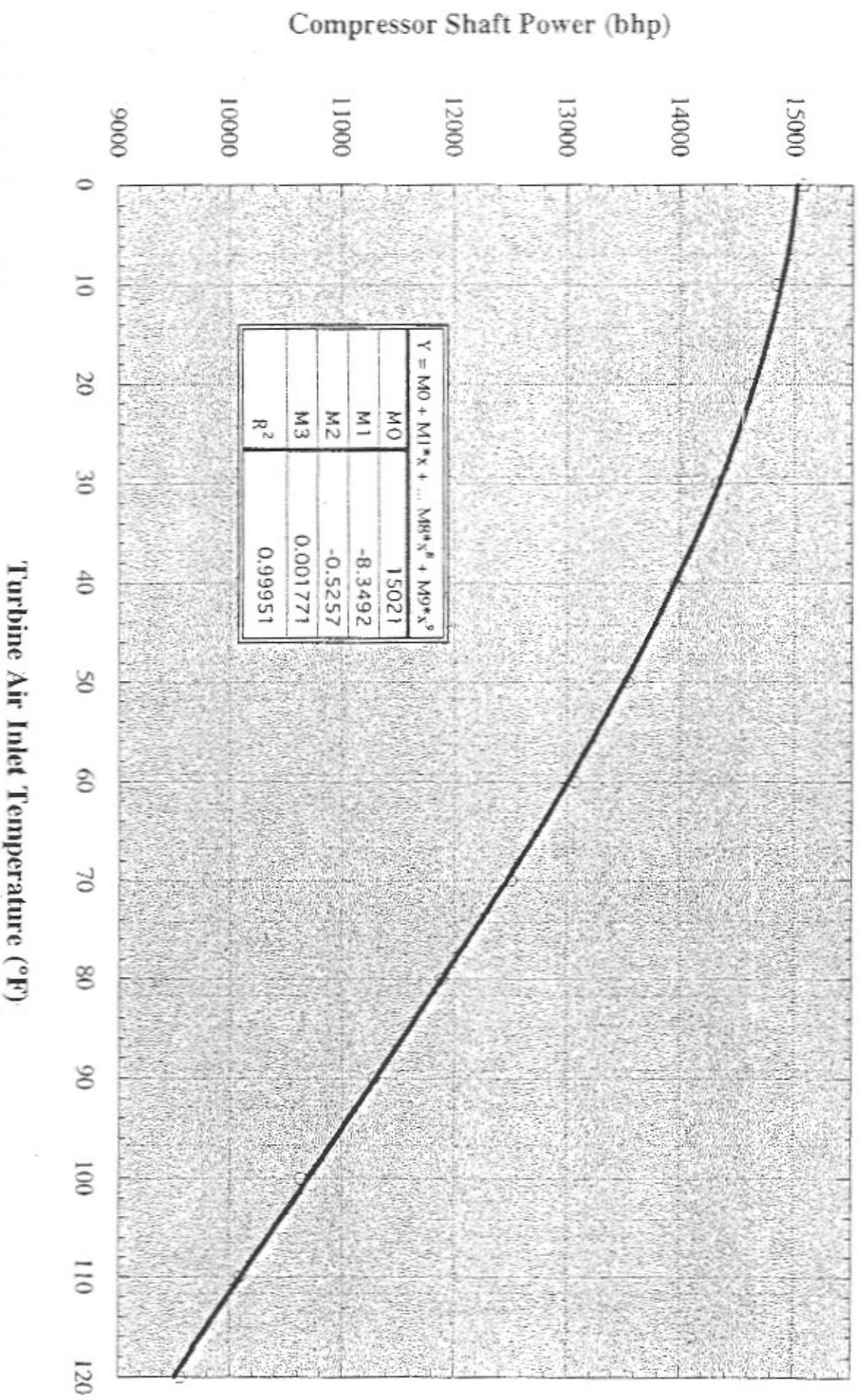
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|-------------------------------|---|------|--|
| 40 CFR 63.10(b)(2)(i)-(v)     | Records related to SSM                            | No.  |  |
| 40 CFR 63.10(b)(2)(vi)-(xi)   | Records   | Yes. |  |
| 40 CFR 63.10(b)(2)(xii)       | Record when under waiver                          | Yes. |  |
| 40 CFR 63.10(b)(2)(xiii)      | Records when using alternative to RATA            | Yes  | For CO standard if using RATA alternative.               |
| 40 CFR 63.10(b)(2)(xiv)       | Records of supporting documentation               | Yes. |  |
| 40 CFR 63.10(b)(3)            | Records of applicability determination            | Yes. |  |
| 40 CFR 63.10(c)               | Additional records for sources using CEMS         | Yes  | Except that 40 CFR 63.10(c)(2)-(4) and (9) are reserved. |
| 40 CFR 63.10(d)(1)            | General reporting requirements                    | Yes. |  |
| 40 CFR 63.10(d)(2)            | Report of performance test results                | Yes. |  |
| 40 CFR 63.10(d)(3)            | Reporting opacity or VE observations              | No   | Subpart ZZZZ does not contain opacity or VE standards.   |
| 40 CFR 63.10(d)(4)            | Progress reports                                  | Yes. |  |
| 40 CFR 63.10(d)(5)            | Startup, shutdown, and malfunction reports        | No.  |  |
| 40 CFR 63.10(e)(1) and (2)(i) | Additional CMS Reports                            | Yes. |  |
| 40 CFR 63.10(e)(2)(ii)        | COMS-related report                               | No   | Subpart ZZZZ does not require COMS.                      |
| 40 CFR 63.10(e)(3)            | Excess emission and parameter exceedances reports | Yes. | Except that 40 CFR 63.10(e)(3)(i) (C) is reserved.       |
| 40 CFR 63.10(e)(4)            | Reporting COMS data                               | No   | Subpart ZZZZ does not require COMS.                      |
| 40 CFR 63.10(f)               | Waiver for recordkeeping/reporting                | Yes. |  |
| 40 CFR 63.11                  | Flares  | No.  |  |
| 40 CFR 63.12                  | State authority and delegations                   | Yes. |  |
| 40 CFR 63.13                  | Addresses   | Yes. |  |
| 40 CFR 63.14                  | Incorporation by reference                        | Yes. |  |
| 40 CFR 63.15                  | Availability of information                       | Yes. |  |

[75 FR 9688, Mar. 3, 2010]

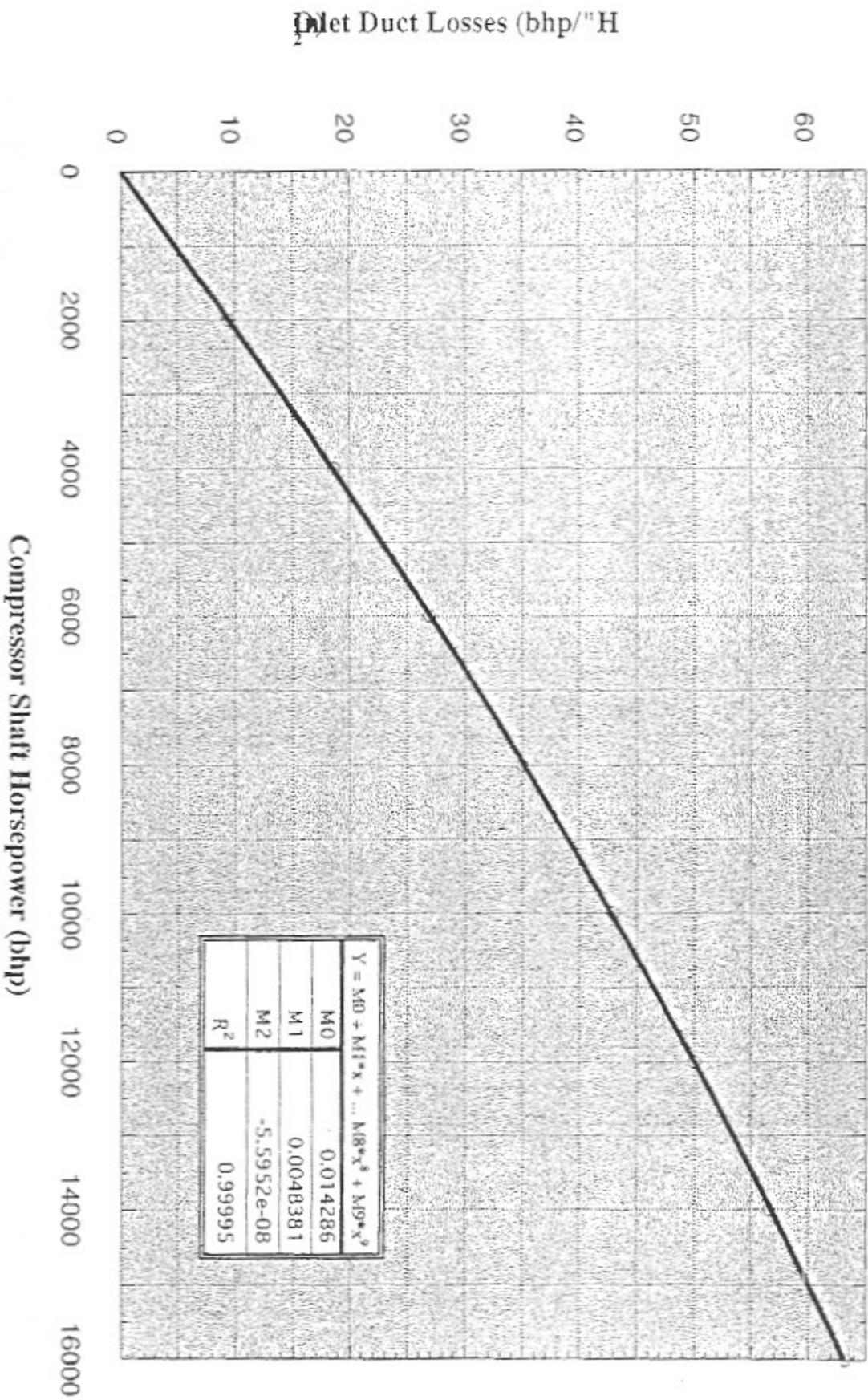
# Solar Mars 90 T-13002S Combustion Turbine Unit 1407 - Fuel Consumption Curve Heat Input vs Inlet Temperature



**Solar Mars 90 T-13002S Combustion Turbine  
 Unit 1407 - Output Power Curve No. 1  
 Turbine Air Inlet Temperature vs Output Power**



Solar Mars 90 T-13002S Combustion Turbine  
 Unit 1407 - Output Power Curve No. 2  
 Inlet Duct Losses vs Output Power

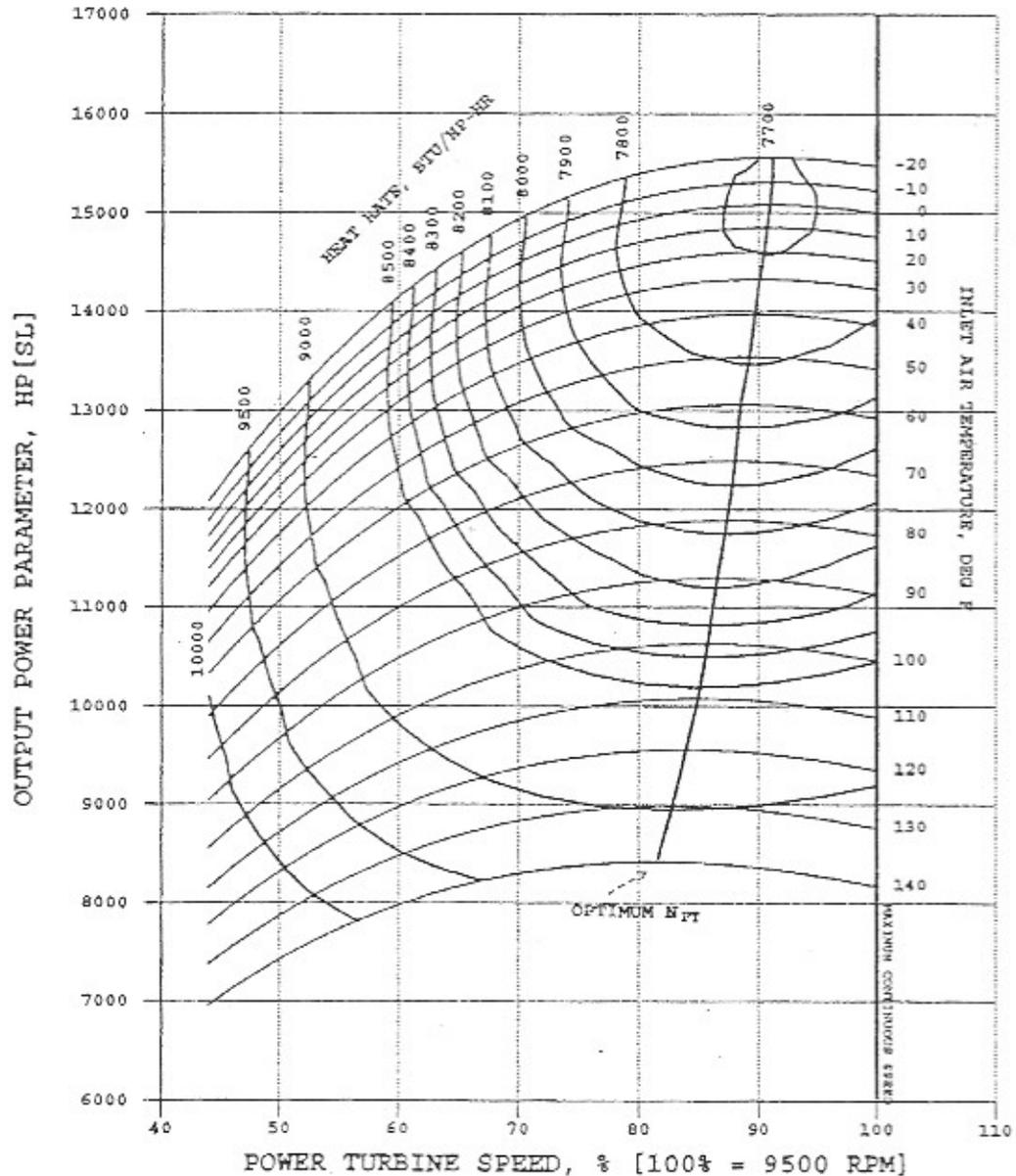


This curve was used to generate  
Heat Input vs Air Inlet Curve and Power Output  
Curve No. 1.

MARS 90-T13002S TME-2S REV. 2.1  
CS/MD GAS TURBINE  
122F MATCH  
REF: SD-27393(S) SHT. 2  
[DATE: 4-MAY-2001]

.NOMINAL PERFORMANCE  
.ELEVATION SEA LEVEL  
.RELATIVE HUMIDITY 60 PERCENT  
.ZERO INLET DUCT PRESSURE LOSS  
.ZERO EXHAUST DUCT PRESSURE LOSS  
.NO GAS PRODUCER POWER EXTRACTION  
.NO WATER INJECTION  
.NO OUTPUT GEARBOX  
.[LHV: 20610 BTU/LB]

NATURAL GAS FUEL



**Unit 1407 Emissions Data**  
**Table of Allowable Emissions below 59°F**  
**FDEP EU ID No. 0390029-008**

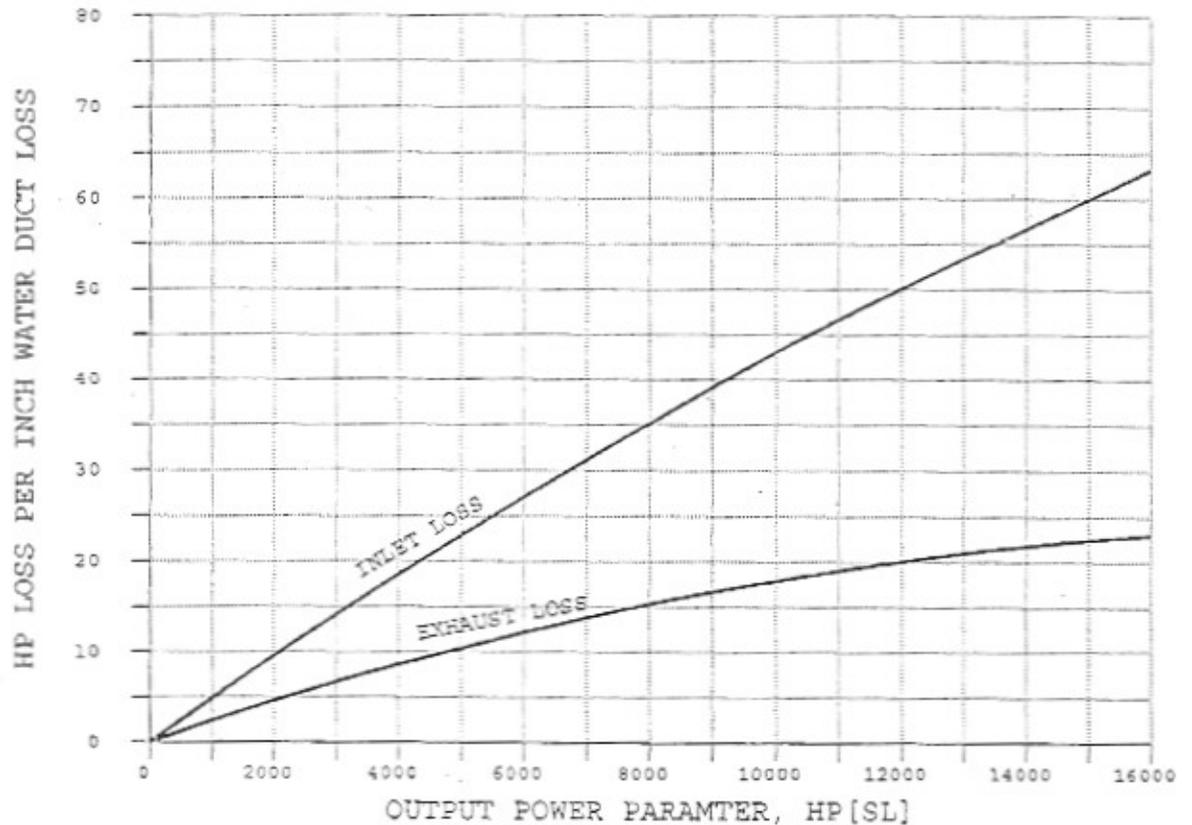
| Inlet Air Temp (°F) | NO <sub>x</sub> Emission Limit (lbs/hr) | CO Emission Limit (lbs/hr) | SO <sub>2</sub> Emission Limit (lbs/hr) |
|---------------------|---|----------------------------|---|
| 0                   | 11.24                                   | 13.66                      | 3.41                                    |
| 2                   | 11.24                                   | 13.67                      | 3.42                                    |
| 4                   | 11.24                                   | 13.67                      | 3.42                                    |
| 6                   | 11.24                                   | 13.67                      | 3.42                                    |
| 8                   | 11.24                                   | 13.66                      | 3.41                                    |
| 10                  | 11.23                                   | 13.65                      | 3.41                                    |
| 12                  | 11.22                                   | 13.64                      | 3.41                                    |
| 14                  | 11.20                                   | 13.62                      | 3.40                                    |
| 16                  | 11.18                                   | 13.59                      | 3.40                                    |
| 18                  | 11.16                                   | 13.57                      | 3.39                                    |
| 20                  | 11.14                                   | 13.54                      | 3.38                                    |
| 22                  | 11.11                                   | 13.50                      | 3.38                                    |
| 24                  | 11.08                                   | 13.47                      | 3.37                                    |
| 26                  | 11.04                                   | 13.43                      | 3.36                                    |
| 28                  | 11.01                                   | 13.38                      | 3.35                                    |
| 30                  | 10.97                                   | 13.34                      | 3.33                                    |
| 32                  | 10.93                                   | 13.29                      | 3.32                                    |
| 34                  | 10.89                                   | 13.24                      | 3.31                                    |
| 36                  | 10.84                                   | 13.18                      | 3.30                                    |
| 38                  | 10.80                                   | 13.12                      | 3.28                                    |
| 40                  | 10.75                                   | 13.06                      | 3.27                                    |
| 42                  | 10.70                                   | 13.00                      | 3.25                                    |
| 44                  | 10.64                                   | 12.94                      | 3.23                                    |
| 46                  | 10.59                                   | 12.87                      | 3.22                                    |
| 48                  | 10.53                                   | 12.80                      | 3.20                                    |
| 50                  | 10.47                                   | 12.73                      | 3.18                                    |
| 52                  | 10.42                                   | 12.66                      | 3.17                                    |
| 54                  | 10.36                                   | 12.59                      | 3.15                                    |
| 56                  | 10.29                                   | 12.51                      | 3.13                                    |
| 58                  | 10.23                                   | 12.44                      | 3.11                                    |
| 59                  | 10.20                                   | 12.40                      | 3.10                                    |
| 59 +                | 10.20                                   | 12.40                      | 3.10                                    |

Note: These equivalent mass emission rates reflect the current permit requirement based upon the original vendor data of expected fuel and exhaust flow rates. They do not correspond precisely to the potential mass emission rates based upon actual fuel and exhaust flow conditions and the permitted concentrations of 25 ppmv NO<sub>x</sub> @ 15% O<sub>2</sub>, 50 ppmv CO @ 15% O<sub>2</sub>, and 10 gr S/100 SCF in the fuel gas.

This curve was used to generate  
Power Output Curve No. 2 for  
Inlet Losses

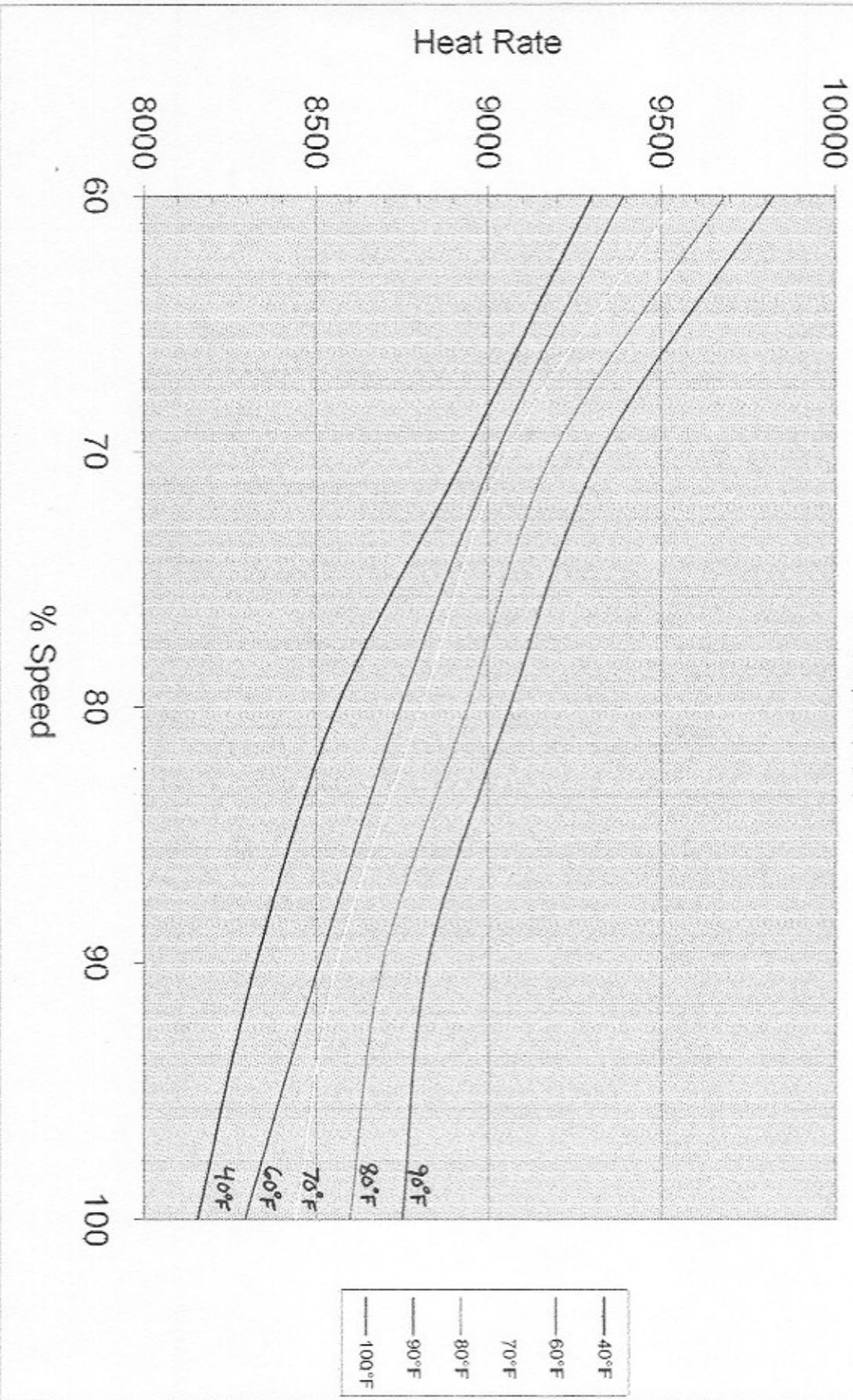
MARS 90 GAS TURBINE ENGINE  
CS/MD APPLICATIONS 122P MATCH

EFFECT OF INLET AND EXHAUST SYSTEM  
PRESSURE LOSSES ON OUTPUT POWER



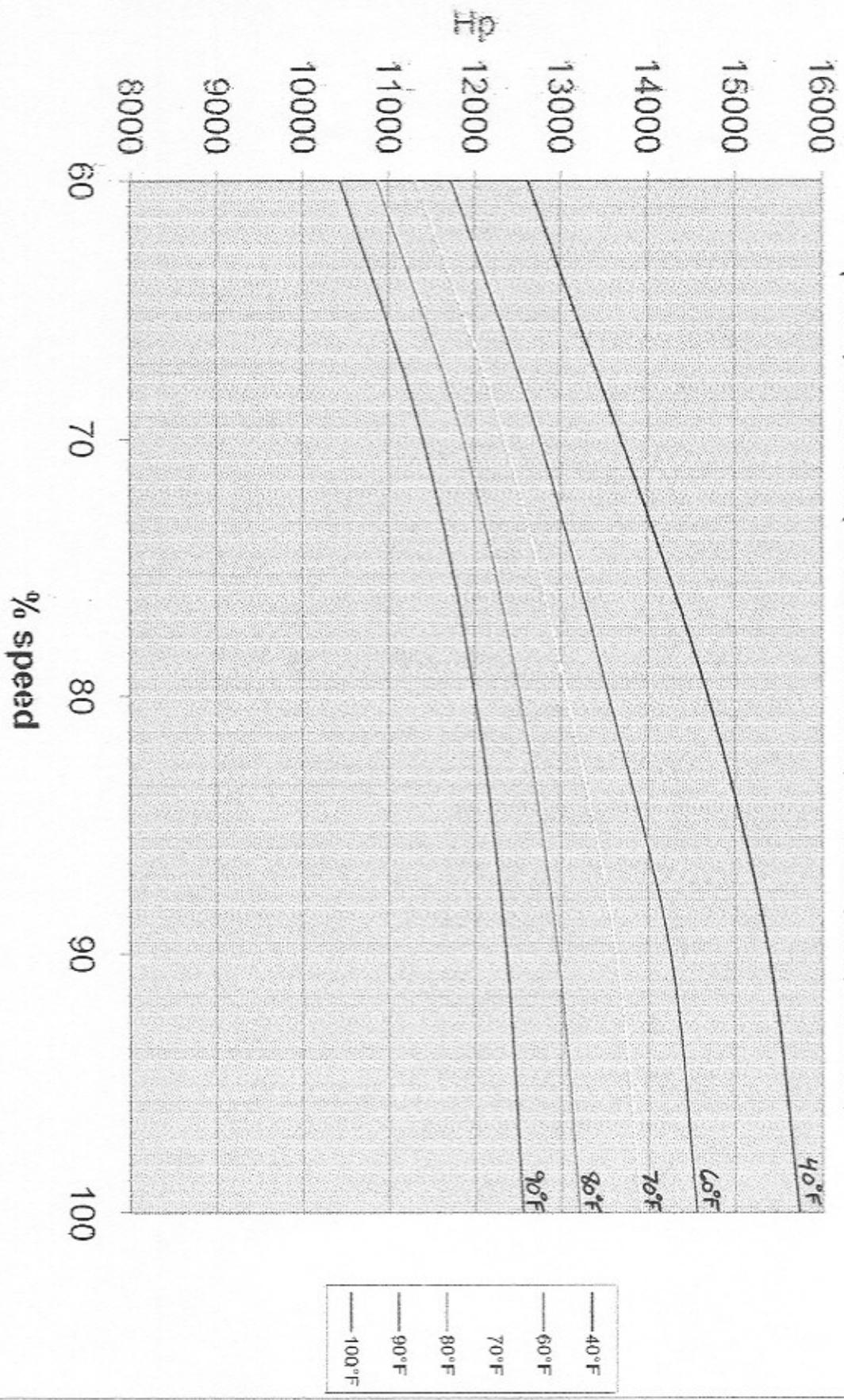
MR177

Heat Rate at full Load PGT10B - 8201 ISO, 100' Elevation 2.4" inlet and 4" outlet loss



# Max Hp PGT10B - 15700 ISO, 100' Elevation 2.4" inlet and 4" outlet loss

(Note: Hp will increase by as much as 9% at low speed after step#2 implementation)



15700 ISO, 8201 Btu/Bhp/HR ISO, 100' Elevation, 2.4" inlet loss, 4" outlet loss, 5% degraded

| Ambient<br>°F | % LP Speed<br>7900 RPM | Hp        | Heat Rate ( btu/bhp-hr) |
|---------------|------------------------|-----------|-------------------------|
|               |                        | 15700 ISO | 8201 ISO                |
| 40            | 100                    | 15748     | 8158                    |
|               | 90                     | 15402     | 8328                    |
|               | 80                     | 14700     | 8562                    |
|               | 70                     | 13700     | 8940                    |
|               | 60                     | 12634     | 9303                    |
| 60            | 100                    | 14569     | 8296                    |
|               | 90                     | 14264     | 8512                    |
|               | 80                     | 13561     | 8746                    |
|               | 70                     | 12765     | 9027                    |
|               | 60                     | 11740     | 9395                    |
| 70            | 100                    | 13911     | 8438                    |
|               | 90                     | 13626     | 8558                    |
|               | 80                     | 13065     | 8806                    |
|               | 70                     | 12347     | 9055                    |
|               | 60                     | 11325     | 9552                    |
| 80            | 100                    | 13220     | 8600                    |
|               | 90                     | 12976     | 8696                    |
|               | 80                     | 12537     | 8944                    |
|               | 70                     | 11883     | 9193                    |
|               | 60                     | 10878     | 9690                    |
| 90            | 100                    | 12561     | 8751                    |
|               | 90                     | 12368     | 8825                    |
|               | 80                     | 12008     | 9064                    |
|               | 70                     | 11410     | 9331                    |
|               | 60                     | 10447     | 9828                    |
| 100           | 100                    | 11952     | 8889                    |
|               | 90                     | 11823     | 8940                    |
|               | 80                     | 11480     | 9156                    |
|               | 70                     | 10922     | 9469                    |
|               | 60                     | 10041     | 9966                    |