

Statement of Basis

Tier I Operating Permit No. T1-2018.0023

Project ID 62021

Idaho Power Company - Langley Gulch Power Plant

New Plymouth, Idaho

Facility ID 075-00012

Final

October 19, 2018

Morrie Lewis 

Permit Writer

The purpose of this Statement of Basis is to set forth the legal and factual basis for the Tier I operating permit terms and conditions, including references to the applicable statutory or regulatory provisions for the terms and conditions, as required by IDAPA 58.01.01.362

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1. ACRONYMS, UNITS, AND CHEMICAL NOMENCLATURE

| | |
|-------------------|--|
| acfm | actual cubic feet per minute |
| ASTM | American Society for Testing and Materials |
| BACT | Best Available Control Technology |
| BHP | brake horsepower |
| Btu | British thermal units |
| CAA | Clean Air Act |
| CAM | Compliance Assurance Monitoring |
| CatOx | catalytic oxidation |
| CEMS | continuous emission monitoring systems |
| cfm | cubic feet per minute |
| CFR | Code of Federal Regulations |
| CI | compression ignition |
| CMS | continuous monitoring systems |
| CO | carbon monoxide |
| CO ₂ | carbon dioxide |
| CO ₂ e | CO ₂ equivalent emissions |
| COMS | continuous opacity monitoring systems |
| CT | combustion turbine |
| CT1 | combustion turbine and duct burner |
| DAHS | data acquisition and handling system |
| DEQ | Department of Environmental Quality |
| dscf | dry standard cubic feet |
| EPA | United States Environmental Protection Agency |
| g | grams |
| gal | gallons |
| GHG | greenhouse gases |
| gph | gallons per hour |
| gpm | gallons per minute |
| gr | grains (1 lb = 7,000 grains) |
| HAP | hazardous air pollutants |
| HHV | higher heating value |
| HP | horsepower |
| hr | hours |
| hr/yr | hours per consecutive 12-calendar-month period |
| HRS | heat recovery steam generating unit |
| ICE | internal combustion engines |
| ID No. | identification number |
| IDAPA | a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act |
| J | Joules |
| kW | kilowatts |
| L | liters |
| lb | pounds |
| MACT | Maximum Achievable Control Technology |
| mg | milligrams |
| MMBtu | million British thermal units |
| MM lb/yr | million pounds per consecutive 12-calendar-month period |
| MRRR | Monitoring, Recordkeeping and Reporting Requirements |
| MW | megawatts of electrical output |
| MWh | megawatt-hours |
| NAAQS | National Ambient Air Quality Standards |
| NESHAP | National Emission Standards for Hazardous Air Pollutants |
| ng | nanograms |

| | |
|-------------------|---|
| NH ₃ | ammonia |
| NMHC | non-methane hydrocarbons |
| No. | number |
| NO | nitrogen oxide |
| NO _x | nitrogen oxides |
| NO ₂ | nitrogen dioxide |
| NSPS | New Source Performance Standards |
| O&M | operation and maintenance |
| O ₂ | oxygen |
| PAH | polycyclic aromatic hydrocarbons |
| PM | particulate matter |
| PM _{2.5} | particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers |
| PM ₁₀ | particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers |
| POM | polycyclic organic matter |
| ppm | parts per million by volume |
| ppmw | parts per million by weight |
| PSD | Prevention of Significant Deterioration |
| PTC | permit to construct |
| PTE | potential to emit |
| QA | quality assurance |
| QC | quality control |
| RATA | relative accuracy test audits |
| RICE | reciprocating internal combustion engines |
| Rules | Rules for the Control of Air Pollution in Idaho |
| scf | standard cubic feet |
| SCR | selective catalytic reduction |
| SIP | State Implementation Plan |
| SO ₂ | sulfur dioxide |
| TAP | toxic air pollutants |
| TDS | total dissolved solids |
| T1 | Tier I operating permit |
| T/yr | tons per consecutive 12-calendar-month period |
| ULSD | ultra-low-sulfur diesel |
| U.S.C. | United States Code |
| VOC | volatile organic compounds |

2. INTRODUCTION AND APPLICABILITY

The Idaho Power Company - Langley Gulch Power Plant operates as a one-on-one, combined-cycle plant, consisting of a natural gas-fired combustion turbine and a steam turbine. The plant is classified as a major facility, as defined by IDAPA 58.01.01.008.10 because the facility emits or has the potential to emit (PTE) carbon monoxide (CO) in an amount greater than or equal to 100 tons per year (T/yr). The plant is not classified as a major source of hazardous air pollutant (HAP) emissions as defined in IDAPA 58.01.01.008.10.a, because it does not have HAP PTE above the major source thresholds of 10 T/yr for any single HAP or above 25 T/yr for any combination of HAP. As a designated facility defined in IDAPA 58.01.01.006.30, fugitive emissions are required to be included when determining the major facility classification in accordance with IDAPA 58.01.01.008.10.c.i.

IDAPA 58.01.01.362 requires that as part of its review of the Tier I application, DEQ shall prepare a technical memorandum (i.e. statement of basis) that sets forth the legal and factual basis for the draft Tier I operating permit terms and conditions including reference to the applicable statutory provisions or the draft denial. This document provides the basis for the draft Tier I operating permit for Idaho Power Company - Langley Gulch Power Plant.

The format of this Statement of Basis follows that of the permit. Idaho Power Company - Langley Gulch Power Plant's Tier I operating permit is organized into sections. They are as follows:

Section 1 – Acronyms, Units, and Chemical Nomenclature

The acronyms, units, and chemical nomenclature used in the permit are defined in this section.

Section 2 – Permit Scope

The scope describes this permitting action.

Section 3 – Facility-Wide Conditions

The Facility-Wide Conditions section contains the applicable requirements (permit conditions) that apply facility-wide. Where required, monitoring, recordkeeping and reporting requirements (MRRR) sufficient to assure compliance with a permit condition follows the permit condition.

Sections 4 through 7 – Emissions Unit-Specific Conditions

The emissions unit-specific sections of the permit contain the applicable requirements that specifically apply to each regulated emissions unit. Some requirements that apply to an emissions unit (e.g. opacity limits) may be contained in the facility-wide conditions section. As with the facility-wide conditions, monitoring, recordkeeping and reporting requirements (MRRR) sufficient to assure compliance with an applicable requirement follows the applicable requirement.

Section 8 – Insignificant Activities

This section contains a list of units or activities that are insignificant on the basis of size or production rate. Units and activities listed in this section must be listed in the permit application. The regulatory citation for units and activities that are insignificant on the basis of size or production rate is IDAPA 58.01.01.317.01.b.

Section 9 – Acid Rain Conditions

This section contains Acid Rain permit requirements pursuant to 40 CFR 72 through 78 (Title IV).

Section 10 – General Provisions

The final section of the permit contains standard terms and conditions that apply to all major facilities subject to IDAPA 58.01.01.300. This section is the same for all Tier I facilities. The General Provisions have been reviewed by EPA and contain all terms and conditions required by IDAPA 58.01.01 et al as well as requirements from other air quality laws, rules and regulations. Each general provision has been paraphrased so it is more easily understood by the general public; however, there is no intent to alter the effect of the requirement. Should there be a discrepancy between a paraphrased general provision in this statement of basis and a rule or permit, the rule or permit shall govern.

3. FACILITY INFORMATION

3.1 Facility Description

The Idaho Power Company - Langley Gulch Power Plant operates as a one-on-one, combined-cycle plant, consisting of a natural gas-fired combustion turbine and a steam turbine. The combustion turbine is equipped with a heat recovery steam generator, which uses the exhaust heat to produce steam for the steam turbine. Supplemental natural gas duct firing within the HRSG provides additional heat in the exhaust gases, which increases steam production and steam turbine output for peak loads.

Ancillary equipment includes a diesel-fired emergency pump house generator engine, a diesel-fired emergency generator, a diesel-fired fire pump, a wet cooling tower, and three dry chemical storage silos. Dry chemicals for cooling water treatment may include magnesium oxide, soda ash, and lime.

3.2 Facility Permitting History

Tier I Operating Permit History - Previous 5-year permit term November 8, 2013 to October 19, 2018

The following information is the permitting history of this Tier I facility during the previous five-year permit term which was from November 8, 2013 to October 19, 2018. This information was derived from a review of the permit files available to DEQ. Permit status is noted as active and in effect (A) or superseded (S).

Table 3.1 PERMITTING HISTORY DURING PERMIT TERM

| Issue Date | Permit Number | Project | Status | History Explanation |
|------------------|-------------------------|---|--------|---|
| October 19, 2018 | T1-2018.0023 PROJ 62021 | Renewal T1. | A | Replaced T1-2013.0017 PROJ 61165. |
| July 11, 2018 | P-2009.0092 PROJ 62085 | DEQ-initiated revision to correct typographical errors. | A | Replaced P-2009.0092 PROJ 61199. |
| November 8, 2013 | T1-2013.0017 PROJ 61165 | Initial T1. | S | Initial permit. Replaced by T1-2018.0023 PROJ 62021. |

Underlying Permit History - Includes every underlying permit issued to this facility

The following information is the comprehensive permitting history of all underlying applicable permits issued to this Tier I facility. This information was derived from a review of the permit files available to DEQ. Permit status is noted as active and in effect (A) or superseded (S).

The following permitting history information is the comprehensive permitting history of all underlying applicable permits issued to this facility. This information was derived from a review of the permit files available to DEQ. Permit status is noted as "active and in effect" (A) or "superseded" (S).

Table 3.2 PERMITTING HISTORY

| Issue Date | Permit Number | Project | Status | History Explanation |
|------------------|-------------------------|---|--------|--|
| October 19, 2018 | T1-2018.0023 PROJ 62021 | Renewal T1. | A | Replaced T1-2013.0017 PROJ 61165. |
| July 11, 2018 | P-2009.0092 PROJ 62085 | DEQ-initiated revision to correct typographical errors. | A | Replaced P-2009.0092 PROJ 61199. |
| November 8, 2013 | T1-2013.0017 PROJ 61165 | Initial T1. | S | Initial permit. Replaced by T1-2018.0023 PROJ 62021. |
| August 14, 2013 | P-2009.0092 PROJ 61199 | Modification to ancillary equipment nameplate information and permit limits, including hours of operation and flow rate limits. | S | Replaced P-2009.0092. Replaced by P-2009.0092 PROJ 62085. |
| June 25, 2010 | P-2009.0092 | Initial PSD PTC for a power plant and ancillary equipment. | S | Initial permit. Replaced by P-2009.0092 PROJ 61199. |

4. APPLICATION SCOPE AND CHRONOLOGY

4.1 Application Scope

This permit is the renewal of the facility's currently effective Tier I operating permit.

4.2 Application Chronology

Table 4.1 APPLICATION CHRONOLOGY

| Date | Description |
|------------------------------|---|
| February 28, 2018 | DEQ received an application (2018AAG436). |
| March 9, 2018 | DEQ determined that the Tier I application was incomplete. Additional information was requested to address requirements applicable to the emergency pump house generator engine. (2018AAG470) |
| March 22, 2018 | DEQ received supplemental information, which included regulatory applicability analysis concerning the emergency pump house generator engine. (2018AAG772). |
| April 18, 2018 | DEQ determined that the Tier I application was incomplete. Additional information was requested regarding the request to align CO CEMS quality assurance (QA) requirements. (2018AAG470) |
| April 19, 2018 | DEQ received supplemental information supporting concerning QA requirement requests. (2018AAG929) |
| May 18, 2018 | DEQ determined that the Tier I application was complete (2018AAG465). |
| May 25, 2018 | DEQ made available the draft Tier I and supporting documents for peer and regional office review. |
| June 22, 2018 | DEQ made available the draft Tier I and supporting documents for applicant review (2018AAG466, 2018AAG469[v1], 2018AAG468[v1]). |
| June 29, 2018 | DEQ received comments from the applicant regarding the draft Tier I and an updated copy of the O&M manual (2018AAG1402). |
| July 25 – August 24, 2018 | DEQ provided a public comment period on the draft Tier I permit, statement of basis, and application. (2018AAG437, 2018AAG469[v2], 2018AAG468[v2]) |
| August 31 – October 15, 2018 | DEQ provided a review and comment period to EPA on the proposed Tier I permit, statement of basis, and application (2018AAG472, 2018AAG469[v3], 2018AAG468[v3]). |
| October 19, 2018 | DEQ issued the final T1 permit (2018AAG471, 2018AAG469[v4], 2018AAG468[v4]). |

5. EMISSIONS UNITS, PROCESS DESCRIPTIONS, AND EMISSIONS INVENTORIES

This section lists the emissions units and provides the emissions inventory for this facility. The information presented was provided by the applicant in its permit application. Also listed in this section are the insignificant activities based on size or production rate.

5.1 Process No. 1 - PROCESS DESCRIPTION

Table 5.1 lists the emissions units and control equipment associated with the Idaho Power Company - Langley Gulch Power Plant.

Table 5.1 EMISSIONS UNITS AND CONTROL EQUIPMENT

| Emissions Unit | Control Equipment |
|---|---|
| <p><u>Combustion turbine and duct burner (CT1)</u> <u>Combustion turbine (CT)</u> Manufacturer: Siemens Model: SGT6-5000F Configuration: 1x1 combined cycle Manufacture date: 2010 Maximum capacity: 2,134 MMBtu/hr^(a) Maximum energy output: ≥190 MW Fuel: natural gas Fuel consumption: 2,146,600 scf/hr 793.1 MM lb/yr^(b)</p> <p><u>Duct burner</u> Manufacturer: Hamworthy Peabody Manufacture date: 2010 Maximum capacity: 241.28 MMBtu/hr^(a) Fuel: natural gas Fuel consumption: 242,739 scf/hr 793.1 MM lb/yr^(b)</p> | <p>Dry low NO_x combustors Selective catalytic reduction system Catalytic oxidation system Good combustion practices</p> |
| <p><u>Emergency generator engine</u> Manufacturer: Caterpillar Model: C27 Manufacture date: 2010 Maximum capacity: 1,214 BHP (750 kW) 2.25 L/cylinder Maximum operation: 4 hr/day and 60 hr/yr^(c) Fuel: ultra-low sulfur diesel Fuel consumption: 53.6 gph</p> | <p>EPA Tier 2 technologies Good combustion practices</p> |
| <p><u>Emergency pump house generator engine</u> Manufacturer: Caterpillar Model: XQ350 Manufacture date: 2013 Maximum capacity: 569 BHP (350 kW) 2.08 L/cylinder Maximum operation: 50 hr/yr^(c) Fuel: ultra-low sulfur diesel Fuel consumption: 23.1 gph</p> | <p>EPA Tier 4 technologies</p> |
| <p><u>Fire pump engine</u> Manufacturer: Cummins Model: CFP9E-F30 Manufacture date: 2010 Maximum capacity: 305 BHP (235 kW) 1.48 L/cylinder Maximum operation: 2 hr/day and 40 hr/yr^(c) Fuel: ultra-low sulfur diesel Fuel consumption: 15.8 gph</p> | <p>EPA Tier 3 technologies Good combustion practices</p> |
| <p><u>Cooling tower</u> Manufacturer: GEA Model: 7-cell, counterflow wet Manufacture date: 2010 Maximum water flow: 76,151 gpm Maximum TDS: 5,000 mg/L</p> | <p>Drift eliminators Good operating practices</p> |

Table 5.1 (continued)

| Emissions Unit | Control Equipment |
|--|--|
| <u>Dry chemical storage silos (3)</u> Manufacturer: Chemco Systems Manufacture date: 2010 Maximum capacities: 6500, 2200, and 2090 ft ³ Maximum loading operation: 2 hr/day and 48 hr/yr per silo | Bin vent filters Good operating practices |
| <u>Above-ground fuel storage tanks (2)</u> Manufacture date: 2013 Maximum capacity: 250 gal each (diesel/gasoline) | Lids or other appropriate closure |

- a) At higher heating value (HHV), 100 percent load, and 0°F.
- b) Combined fuel usage of the CT and duct burner.
- c) For maintenance and testing activities.

5.2 Insignificant Emissions Units Based on Size or Production Rate

This section contains a list of units or activities that are insignificant on the basis of size or production rate. Units and activities listed in this section must be listed in the permit application. Table 5.2 lists the units and activities which have been determined to be insignificant on the basis of size or production rate. The regulatory authority for emissions units and activities that are insignificant on the basis of size or production rate is IDAPA 58.01.01.317.01.b.

Table 5.2 INSIGNIFICANT EMISSION UNITS AND REGULATORY AUTHORITY/JUSTIFICATION

| Emissions Unit / Activity | Regulatory Authority / Justification |
|--|---|
| Operation, loading and unloading of VOC storage tanks, 10,000 gallons capacity or less, with lids or other appropriate closure, vapor pressure not greater than 80 mmHg at 21 °C. Operation, loading and unloading of gasoline storage tanks, 10,000 gallons capacity or less, with lids or other appropriate closure. | IDAPA 58.01.01.317.01(b)(i)(3) |
| Welding using not more than one ton per day of welding rod. | IDAPA 58.01.01.317.01(b)(i)(9) |
| Surface coating, using less than two gallons per day. | IDAPA 58.01.01.317.01(b)(i)(17) |
| Space heaters and hot water heaters using natural gas, propane or kerosene and generating less than 5 MMBtu/hr. | IDAPA 58.01.01.317.01(b)(i)(18) |
| Cleaning and stripping activities and equipment, using solutions having less than 1% VOC by weight. On metallic substrates, acid solutions are not considered for listing as insignificant. | IDAPA 58.01.01.317.01(b)(i)(26) |

5.3 Emissions Inventories

Table 5.3 and Table 5.4 summarize the emissions inventories for this major facility. Emissions in tons-per-year (T/yr) represent the annual facility-wide potential to emit. Potential to emit is defined as the maximum capacity of a facility or stationary source to emit an air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the facility or source to emit an air 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 emission is state or federally enforceable. The use of the control equipment, fuels, and operational schedules listed in Table 5.1 were assumed in the development of the emission inventories. The documentation provided by the applicant for the emissions inventory and emission factors is provided as Appendix A – Emissions Inventories of this statement of basis.

Table 5.3 POTENTIAL TO EMIT REGULATED AIR POLLUTANTS (a)

| Emissions Units | NO _x | | CO | | VOC | | PM _{2.5} ^(b) /PM ₁₀ ^(c) | | SO ₂ | | Pb | | GHG CO ₂ e |
|---|---|---------------------|--|-----------------------|-------------------------|---------------------|---|---------------------|-----------------|---------------------|-------------|---------------------|-----------------------|
| | lb/hr | T/yr ^(d) | lb/hr | T/yr ^(d) | lb/hr | T/yr ^(d) | lb/hr | T/yr ^(d) | lb/hr | T/yr ^(d) | lb/hr | T/yr ^(d) | T/yr ^(d) |
| CT and duct burner ^(e) | peak ^(f) 20.10 LL ^(g) 452.78 SU/SD ^(h) 304.56 | 88.0 ⁽ⁿ⁾ | 12.24 70.35 2510.00 ⁽ⁿ⁾ | 278.10 ⁽ⁿ⁾ | 7.01 18.91 186.60 | 74.90 | 12.55 ⁽ⁿ⁾ | 48.5 | 3.41 | 12.50 | 0.02 | 0.05 | 1,029,050 |
| Emergency generator ⁽ⁱ⁾ | 12.80 | 0.39 | 7.00 | 0.21 | 0.80 | 0.02 | 0.40 | 0.01 | 0.01 | 0.01 | | | 42 |
| Fire pump ^(j) | 2.00 | 0.03 | 1.70 | 0.03 | 0.10 | 0.00 | 0.10 | 0.00 | 0.00 | 0.01 | | | 7 |
| Cooling tower ^(k) | | | | | | | 0.81 | 3.50 | | | | | |
| Dry chemical storage silos ^(l) | | | | | | | 0.13 | 0.01 | | | | | |
| Above-ground fuel storage tanks | | | | | 0.03 | 0.15 | | | | | | | |
| Paved roads ^(m) | | | | | | | 0.20 | 0.01 | | | | | |
| Unpaved roads ^(m) | | | | | | | 0.27 | 0.01 | | | | | |
| Facility Totals | 467.58 | 88.42 | 2518.70 | 278.35 | 187.53 | 75.07 | 14.46 | 52.04 | 3.42 | 12.53 | 0.02 | 0.05 | 1,029,099 |

- a) Short-term (lb/hr) and annual (T/yr) emission estimates assumed the use of BACT and were based on daily and annual limits on hours of operation. Emission estimates were derived from the application and statement of basis for PTC No. P-2009.0092, issued June 25, 2010, and from updated estimates provided in the Tier I application.
- b) Particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers, including condensable particulate as defined in IDAPA 58.01.01.006.
- c) Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers, including condensable particulate as defined in IDAPA 58.01.01.006.
- d) Tons per any consecutive 12-calendar-month period.
- e) Annual totals assume a maximum fuel usage of 793.1 MM lb/yr, which accounts for continuous duct-firing under full-load for 6,902 hours, 253 hot startups, 45 warm startups, 7 cold startups, and 305 shutdowns annually.
- f) At steady-state and ≥ 60% of full-load operating conditions.
- g) At steady-state and < 60% of full-load operating conditions.
- h) At startup or shutdown (SU/SD) operating conditions. Emissions were estimated as the total emissions divided by the duration of each event. Annual totals include 253 hot startup, 45 warm startup, 7 cold startup, and 305 shutdown events per year (equivalent to 982 hr/yr of operation).
- i) Limited to 4 hr/day and 60 hr/yr operation for maintenance and testing purposes.
- j) Limited to 2 hr/day and 40 hr/yr operation for maintenance and testing purposes.
- k) Assumes total dissolved solids (TDS) of blowdown of less than or equal to 5,000 mg/L and a circulating flow rate of 76,151 gpm.
- l) Total emissions from the dry chemical storage silos. Annual totals assume each silo is loaded up to 48 hours per year.
- m) Fugitive emission sources.
- n) Permitted emission limit (PTC No. P-2009.0092).

Table 5.4 POTENTIAL TO EMIT HAZARDOUS AND TOXIC AIR POLLUTANTS

| Pollutant | Category TAP/HAP | PTE | HAP PTE |
|----------------------------------|--------------------------------|----------------------|---------------------|
| | | lb/hr ^(a) | T/yr ^(d) |
| 1,3-Butadiene | HAP, 586 TAP ^(c) | 8.26E-04 | 3.62E-03 |
| 2-Methylnaphthalene | HAP, 586 TAP ^{(c)(e)} | 5.24E-06 | |
| 3-Methylcholanthrene | HAP, 586 TAP ^{(c)(e)} | 3.93E-07 | |
| 7,12-Dimethylbenz(a)anthracene | HAP, 586 TAP ^{(c)(e)} | 3.49E-06 | |
| Acenaphthene | HAP, 586 TAP ^{(c)(e)} | 8.25E-07 | |
| Acenaphthylene | HAP, 586 TAP ^{(c)(e)} | 1.27E-06 | |
| Acetaldehyde | HAP, 586 TAP ^(c) | 7.68E-02 | 3.37E-01 |
| Acrolein | HAP, 585 TAP ^(b) | 1.37E-02 | 5.38E-02 |
| Ammonia | 585 TAP ^(b) | 1.86E+01 | |
| Anthracene | HAP, 586 TAP ^{(c)(e)} | 6.51E-07 | |
| Arsenic | HAP, 586 TAP ^(c) | 4.36E-05 | 1.91E-04 |
| Barium | 585 TAP ^(b) | 1.07E-03 | |
| Benzene | HAP, 586 TAP ^(c) | 2.36E-02 | 1.03E-01 |
| Benzo(a)pyrene | HAP, 586 TAP ^{(c)(e)} | 2.87E-07 | |
| Benzo(g,h,i)perylene | HAP, 586 TAP ^{(c)(e)} | 3.16E-07 | |
| Beryllium | HAP, 586 TAP ^(c) | 2.62E-06 | 1.15E-05 |
| Cadmium | HAP, 586 TAP ^(c) | 2.40E-04 | 1.05E-03 |
| Chromium | HAP, 585 TAP ^(b) | 3.39E-04 | 1.34E-03 |
| Cobalt | HAP, 585 TAP ^(b) | 2.04E-05 | 8.03E-05 |
| Copper | 585 TAP ^(b) | 2.06E-04 | |
| Cyclohexane | 585 TAP ^(b) | 4.57E-05 | |
| Dichlorobenzene (o- and 1,4-) | HAP, 585 TAP ^(b) | 2.91E-04 | 1.15E-03 |
| Ethyl alcohol | 585 TAP ^(b) | 5.48E-04 | |
| Ethyl benzene | HAP, 585 TAP ^(b) | 6.83E-02 | 2.69E-01 |
| Fluoranthene | HAP, 586 TAP ^{(c)(e)} | 7.26E-07 | |
| Fluorene | HAP, 586 TAP ^{(c)(e)} | 2.03E-06 | |
| Formaldehyde | HAP, 586 TAP ^(c) | 1.38E+00 | 6.04E+00 |
| Hexane | HAP, 585 TAP ^(b) | 4.36E-01 | 1.72E+00 |
| Manganese | HAP, 585 TAP ^(b) | 9.21E-05 | 3.63E-04 |
| Mercury | HAP | 6.30E-05 | 2.48E-04 |
| Molybdenum | 585 TAP ^(b) | 2.67E-04 | |
| Naphthalene | 585 TAP ^(b) | 3.16E-03 | 1.15E-02 |
| Naphthalene (as PAH) | HAP, 586 TAP ^{(c)(e)} | 2.64E-03 | |
| Nickel | HAP, 586 TAP ^(c) | 4.58E-04 | 2.01E-03 |
| Nitrous oxide | 585 TAP ^(b) | 6.94E+00 | |
| Pentane | 585 TAP ^(b) | 6.30E-01 | |
| Phenanthrene | HAP, 586 TAP ^{(c)(e)} | 7.64E-06 | |
| Propylene oxide | HAP, 585 TAP ^(b) | 6.71E-02 | 2.44E-01 |
| POM (7-PAH Group) ^(e) | HAP, 586 TAP ^{(c)(e)} | 2.72E-06 | |
| Pyrene | HAP, 586 TAP ^{(c)(e)} | 1.47E-06 | |
| Selenium | HAP, 585 TAP ^(b) | 5.82E-06 | 2.29E-05 |
| Sulfuric acid mist | 585 TAP ^(b) | 2.61E-01 | |
| Toluene | HAP, 585 TAP ^(b) | 2.79E-01 | 1.10E+00 |
| 1,2,4-Trimethylbenzene | 585 TAP ^(b) | 1.03E-05 | |
| Vanadium | 585 TAP ^(b) | 9.53E-04 | |
| Xylenes | HAP, 585 TAP ^(b) | 1.37E-01 | 5.38E-01 |
| Zinc | 585 TAP ^(b) | 7.03E-03 | |
| Total POM | HAP | 6.89E-03 | 1.75E-05 |
| Individual HAP | | | 6.0 |
| Total HAP | | | 10.4 |

- a) Short-term (lb/hr) and annual (T/yr) emission estimates assumed the use of BACT and were based on daily and annual limits on hours of operation. Emission estimates were derived from the application and statement of basis for PTC No. P-2009.0092, issued June 25, 2010, and from updated estimates provided in the Tier I application.
- b) Non-carcinogenic substance listed in IDAPA 58.01.01.585.
- c) Carcinogenic substance listed in IDAPA 58.01.01.586.
- d) Tons per consecutive 12-calendar-month period.
- e) Polycyclic aromatic hydrocarbons (PAH) and polycyclic organic matter (POM) are defined in IDAPA 58.01.01.586.

6. EMISSIONS LIMITS AND MRRR

This section contains the applicable requirements for this T1 facility.

This section is divided into the following subsections.

- Facility-Wide Conditions;
- Combustion turbine (CT) and duct burner conditions
- Emergency generator engine and fire pump engine conditions
- Cooling tower conditions
- Dry chemical storage silo conditions
- Insignificant activities
- Acid Rain conditions
- General Provisions

MRRR

Monitoring, recordkeeping and reporting requirements (MRRR) are the means with which compliance with an applicable requirement is demonstrated. In this section, the applicable requirement (permit condition) is provided first followed by the MRRR. Should an applicable requirement not include sufficient MRRR to satisfy IDAPA 58.01.01.322.06, 07, and 08, then the permit must establish adequate monitoring, recordkeeping and reporting sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the permit (i.e. gap filling). In addition to the specific MRRR provided for each applicable requirement, generally applicable facility-wide conditions and general provisions may also be provided, such as performance testing, reporting, and certification requirements.

The legal and factual basis for each permit condition is provided for in this document. If a permit condition was changed due to facility draft comments or public comments, an explanation of the changes is provided.

State Enforceability

An applicable requirement that is not required by the federal CAA and has not been approved by EPA as a SIP-approved requirement is identified as a "State-only" requirement and is enforceable only under state law. State-only requirements are not enforceable by the EPA or citizens under the CAA. State-only requirements are identified in the permit within the citation of the legal authority for the permit condition.

Federal Enforceability

Unless identified as "State-only," all applicable requirements, including MRRR, are state and federally enforceable. It should be noted that while a violation of a MRRR is a violation of the permit, it is not necessarily a violation of the underlying applicable requirement (e.g. emissions limit).

To minimize the length of this document, the following permit conditions and MRRR have been paraphrased. Refer to the permit for the complete requirements.¹

¹ Additional regulatory review is provided in the Statement of Basis for the preconstruction permit PTC No. P-2009.0092, Idaho DEQ, June 25, 2010 (2009AAG5203[v4]).

6.1 Facility-Wide Conditions

Permit Condition 3.1 - Fugitive Dust

All reasonable precautions shall be taken to prevent PM from becoming airborne in accordance with IDAPA 58.01.01.650-651.

[IDAPA 58.01.01.650-651, 3/30/07]

MRRR (Permit Conditions 3.2-3.4)

- Monitor and maintain records of the frequency and the methods used to control fugitive dust emissions;
- Maintain records of all fugitive dust complaints received and the corrective action taken in response to the complaint;
- Conduct facility-wide inspections of all sources of fugitive emissions. If any of the sources of fugitive dust are not being reasonably controlled, corrective action is required.

[IDAPA 58.01.01.322.06, 07, 08, 4/5/2000]

Permit Condition 3.5 - Odors

The permittee shall not allow, suffer, cause, or permit the emission of odorous gases, liquids, or solids to the atmosphere in such quantities as to cause air pollution.

[IDAPA 58.01.01.775-776 (State-only), 5/1/94]

MRRR (Permit Condition 3.6)

- Maintain records of all odor complaints received and the corrective action taken in response to the complaint;
- Take appropriate corrective action if the complaint has merit, and log the date and corrective action taken.

[IDAPA 58.01.01.322.06, 07 (State only), 5/1/94]

Permit Condition 3.7 - Visible Emissions

The permittee shall not discharge any air pollutant to the atmosphere from any point of emission for a period or periods aggregating more than three minutes in any 60-minute period which is greater than 20% opacity as determined by procedures contained in IDAPA 58.01.01.625. These provisions shall not apply when the presence of uncombined water, nitrogen oxides, and/or chlorine gas is the only reason for the failure of the emission to comply with the requirements of this section.

[IDAPA 58.01.01.625, 4/5/00]

MRRR (Permit Conditions 3.8-3.9)

- Conduct facility-wide inspections of all emissions units subject to the visible emissions standards (or rely on continuous opacity monitoring);
- If visible emissions are observed, take appropriate corrective action and/or perform a Method 9 opacity test;
- Maintain records of the results of each visible emissions inspection.

[IDAPA 58.01.01.322.06, 07, 5/1/94]

Permit Condition 3.10

This permit condition incorporates process weight-based PM standards for process equipment in accordance with IDAPA 58.01.01.700-703. Process equipment (as defined in IDAPA 58.01.01.006) includes the cooling tower and dry chemical storage silos. Compliance with design and operational requirements for this equipment was considered adequate to ensure compliance with the minimum allowable process weight-based PM emission limit (1 lb/hr) specified in IDAPA 58.01.01.700.02.

MRRR (Permit Conditions 6.1-6.5 and 7.1-7.3)

- Use drift eliminators (Permit Condition 6.2).
- Monitor cooling water solids content and flow rate (Permit Conditions 6.4 and 6.5).
- Use of bin vent filters (Permit Condition 7.2).

Permit Condition 3.11 – Fuel-Burning Equipment PM Standards

The permittee shall not discharge to the atmosphere from any fuel-burning equipment PM in excess of 0.015 grains per dry standard cubic foot (gr/dscf) of effluent gas corrected to 3% oxygen (O₂) by volume for gas, and 0.050 gr/dscf of effluent gas corrected to 3% oxygen by volume for liquid, in accordance with IDAPA 58.01.01.676.

[IDAPA 58.01.01.676-677, 5/1/94]

The duct burner is used for the primary purpose of producing heat and power by indirect heat transfer when operating as a combined cycle. Compliance with the PM₁₀ emission limit was deemed adequate to ensure compliance with this limit; the PM₁₀ emission limit for the CT and the duct burner (combined) was previously determined to be the more stringent limitation.

MRRR

No specific monitoring is required for this facility-wide condition. Refer to discussion concerning MRRR for Permit Condition 4.8 for relevant MRRR. (Although compliance with the PM₁₀ emission limit was deemed adequate to ensure compliance with this limit, Permit Conditions 3.11 and 4.8 were not requested to be streamlined into a single permit condition.)

MRRR include the following:

- Comply with the PM₁₀ emission limit (Permit Condition 4.8).
- Perform compliance testing (Permit Conditions 4.34-4.35, and 3.23-3.26).

As with all permit conditions, the permittee must certify compliance with this condition annually, which includes making a reasonable inquiry to determine if this requirement was met during the reporting period.

Permit Condition 3.12 - Sulfur Content Limits

The permittee shall not sell, distribute, use, or make available for use any of the following:

- Distillate fuel oil containing more than the following percentages of sulfur:
 - ASTM Grade 1 fuel oil, 0.3% by weight.
 - ASTM Grade 2 fuel oil, 0.5% by weight.
- Coal containing greater than 1.0% sulfur by weight.
- DEQ may approve an exemption from these fuel sulfur content requirements (IDAPA 58.01.01.725.01 725.04) if the permittee demonstrates that, through control measures or other means, SO₂ emissions are equal to or less than those resulting from the combustion of fuels complying with these limitations.

[IDAPA 58.01.01.725, 3/29/10]

MRRR - (Permit Condition 3.13)

The permittee shall maintain documentation of supplier verification of fuel sulfur content on an as received basis.

[IDAPA 58.01.01.322.06, 5/1/94]

Permit Conditions 3.14-3.16 – Operation and Maintenance

These permit conditions require MRRR to ensure compliance with BACT emission limits (Permit Conditions 4.2-4.4), BACT work practices (Permit Conditions 4.12, 5.7, 6.3, and 7.3), the ammonia injection flow rate limit (Permit Condition 4.20), and manufacturer's specifications (Permit Conditions 5.6 and 5.8).

MRRR

No specific monitoring is required for these facility-wide conditions. As with all permit conditions, the permittee must certify compliance with this condition annually, which includes making a reasonable inquiry to determine if this requirement was met during the reporting period.

Permit Conditions 3.17-3.22 – Excess Emissions

The permittee shall comply with the procedures and requirements of IDAPA 58.01.01.130-136 for excess emissions. The provisions of IDAPA 58.01.01.130-136 shall govern in the event of conflicts between the excess emissions facility wide conditions and the regulations of IDAPA 58.01.01.130-136.

MRRR (Permit Conditions 3.17-3.22)

Monitoring, recordkeeping and reporting requirements for excess emissions are provided in Sections 131 through 136.

- Record, notify, and report excess emission events, including any assessed during CEMS monitoring (Permit Conditions 4.21-4.28 and 4.37-4.40, Section 9 – Acid Rain Conditions) or during testing (Permit Conditions 3.8, 4.34-4.36, and 5.13).
- Take appropriate action to correct, reduce, and minimize emissions from excess emissions events;
- Prohibit excess emissions during any DEQ Atmospheric Stagnation Advisory or Wood Stove Curtailment Advisory;
- Notify DEQ of each excess emissions event as soon as possible, including information regarding upset, breakdown, or safety events.
- Submit a report for each excess emissions event to DEQ;
- Maintain records of each excess emissions event.

Permit Condition 3.23-3.26 – Performance Testing

If performance testing is required, the permittee shall provide notice of intent to test to DEQ at least 15 days prior to the scheduled test or shorter time period as provided in a permit, order, consent decree, or by DEQ approval. DEQ may, at its option, have an observer present at any emissions tests conducted on a source. DEQ requests such testing not be performed on weekends or state holidays.

All testing shall be conducted in accordance with the procedures in IDAPA 58.01.01.157. Without prior DEQ approval, any alternative testing is conducted solely at the permittee's risk. If the permittee fails to obtain prior written approval by DEQ for any testing deviations, DEQ may determine that the testing does not satisfy the testing requirements. Therefore, prior to conducting any performance test, the permittee is encouraged to submit in writing to DEQ, at least 30 days in advance, the following for approval:

- The type of method to be used
- Any extenuating or unusual circumstances regarding the proposed test
- The proposed schedule for conducting and reporting the test
[IDAPA 58.01.01.157, 4/5/00; IDAPA 58.01.01.322.06, 08.a, 09, 5/1/94]

MRRR (Permit Condition 3.26)

The permittee shall submit compliance test report(s) to DEQ following testing.

[IDAPA 58.01.01.157, 4/5/00; IDAPA 58.01.01.322.06, 08.a, 09, 5/1/94]

Permit Condition 3.27 – NSPS General Provisions

This facility is subject to NSPS Subparts KKKK and IIII, and is therefore required to comply with applicable General Provisions.

[40 CFR 60, Subpart A]

MRRR

No specific monitoring is required for this facility-wide condition. As with all permit conditions, the permittee must certify compliance with this condition annually, which includes making a reasonable inquiry to determine if this requirement was met during the reporting period.

Permit Condition 3.28 - Incorporation of Federal Requirements by Reference

Unless expressly provided otherwise, any reference in this permit to any document identified in IDAPA 58.01.01.107.03 shall constitute the full incorporation into this permit of that document for the purposes of the reference, including any notes and appendices therein.

[IDAPA 58.01.01.107, 4/7/11]

MRRR

No specific monitoring is required for this facility-wide condition. As with all permit conditions, the permittee must certify compliance with this condition annually, which includes making a reasonable inquiry to determine if this requirement was met during the reporting period.

Permit Conditions 3.29-3.30 – Monitoring and Recordkeeping

The permittee shall maintain sufficient records to assure compliance with all of the terms and conditions of this operating permit. Records of monitoring information shall include, but not be limited to, the following: (a) the date, place, and times of sampling or measurements; (b) the date analyses were performed; (c) the company or entity that performed the analyses; (d) the analytical techniques or methods used; (e) the results of such analyses; and (f) the operating conditions existing at the time of sampling or measurement. All monitoring records and support information shall be retained for a period of at least five years from the date of the monitoring sample, measurement, report, or application. Supporting information includes, but is not limited to, all calibration and maintenance records, all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. All records required to be maintained by this permit shall be made available in either hard copy or electronic format to DEQ representatives upon request.

[IDAPA 58.01.01.322.06, 07, 5/1/94]

Unless the source is subject to and the owner or operator complies with Section 385, the owner or operator of the source, except for those sources listed in IDAPA 58.01.01.222.02.a through 222.02.g, the permittee shall maintain documentation onsite which identifies the exemption determined to apply to the exempt source. The records and documentation shall be kept for a period of time not less than five years from the date the exemption determination has been made or for the life of the source for which the exemption has been determined to apply, whichever is greater. The permittee shall submit the documentation to DEQ upon request.

[IDAPA 58.01.01.220.02, 4/5/00]

MRRR

No specific monitoring is required for these facility-wide conditions. As with all permit conditions, the permittee must certify compliance with this condition annually, which includes making a reasonable inquiry to determine if this requirement was met during the reporting period.

Permit Condition 3.31-3.33 – Reports and Certifications

This permit condition establishes generally applicable MRRR for submittal of reports, certifications, and notifications to DEQ and/or EPA as specified.

[IDAPA 58.01.01.322.08, 11, 5/1/94]

MRRR

No specific monitoring is required for these facility-wide conditions. As with all permit conditions, the permittee must certify compliance with this condition annually, which includes making a reasonable inquiry to determine if this requirement was met during the reporting period.

Permit Condition 3.34 – Open Burning

The permittee shall comply with the *Rules for Control of Open Burning*, IDAPA 58.01.01.600-623.
[IDAPA 58.01.01.600-623, 5/08/09]

MRRR

No specific monitoring is required for this facility-wide condition. As with all permit conditions, the permittee must certify compliance with this condition annually, which includes making a reasonable inquiry to determine if this requirement was met during the reporting period.

Permit Condition 3.35 – Asbestos

The permittee shall comply with all applicable requirements of 40 CFR 61, Subpart M—“National Emission Standard for Asbestos.”
[40 CFR 61, Subpart M]

MRRR

No specific monitoring is required for this facility-wide condition. As with all permit conditions, the permittee must certify compliance with this condition annually, which includes making a reasonable inquiry to determine if this requirement was met during the reporting period.

Permit Condition 3.36 – Accidental Release Prevention

An owner or operator of a stationary source that has more than a threshold quantity of a regulated substance in a process, as determined under 40 CFR 68.115, shall comply with the requirements of the Chemical Accident Prevention Provisions at 40 CFR 68 no later than the latest of the following dates:

- Three years after the date on which a regulated substance present above a threshold quantity is first listed under 40 CFR 68.130.
- The date on which a regulated substance is first present above a threshold quantity in a process.
[40 CFR 68.10 (a)]

MRRR

No specific monitoring is required for this facility-wide condition. As with all permit conditions, the permittee must certify compliance with this condition annually, which includes making a reasonable inquiry to determine if this requirement was met during the reporting period.

Permit Condition 3.37 – Recycling and Emissions Reductions

The permittee shall comply with applicable standards for recycling and emissions reduction of refrigerants and their substitutes pursuant to 40 CFR 82, Subpart F, Recycling and Emissions Reduction.
[40 CFR 82, Subpart F]

MRRR

No specific monitoring is required for this facility-wide condition. As with all permit conditions, the permittee must certify compliance with this condition annually, which includes making a reasonable inquiry to determine if this requirement was met during the reporting period.

6.2 Emissions-Unit Specific Emissions Limits and MRRR

Section 4 – Combustion Turbine and Duct Burner

Permit Conditions 4.1, 4.2-4.4, and 4.5 – Emission Limits

Permit Condition 4.1 defines startup, shutdown, and low-load events, in terms of percent load and event duration, for the purposes of determining the applicable BACT emission limit (Permit Conditions 4.2-4.4) for the CT and duct burner over each averaging period, and for blending BACT emission limits when appropriate. A maximum duration was not defined for low-load events; operation at low-load is inherently limited by the annual NO_x and CO emission limits (Permit Condition 4.5) and the annual fuel usage limit (Permit Condition 4.18).

Permit Conditions 4.2-4.4 establish BACT emission limits for the CT and the duct burner (combined).

Permit Condition 4.5 establishes annual emission limits for the CT and the duct burner. These limits correspond to the potential emission rates (PTE) used in preconstruction modeling compliance demonstrations.

MRRR (Permit Conditions 4.10-4.15, 4.21-4.23, 4.24-4.26, 4.27-4.28, 4.34-4.35)

- Monitor and record startup, shutdown, and low-load events (Permit Condition 4.21).
- Install, operate, and maintain SCR and CatOx control equipment (Permit Conditions 4.10-4.11).
- Install, certify, operate, and maintain NO_x and CO CEMS (Permit Conditions 4.13-4.15).
- Continuously monitor and record NO_x and CO CEMS data, assess and report excess emissions, and comply with O&M manual requirements (Permit Conditions 4.21-4.28, 3.17-3.22, and 9.8-9.19).
- Comply with BACT work practices (Permit Condition 4.12).
- Perform compliance testing (Permit Conditions 4.34-4.35, and 3.23-3.26).

Permit Condition 4.15 establishes CEMS RATA frequencies. The O&M manual, CEMS methodology, and QA/QC plan have not changed substantively from the prior T1 application.

Permit Condition 4.6 – NO_x Emission Limits

This permit condition incorporates NO_x emission limits for the CT and the duct burner from NSPS Subpart KKKK.

MRRR

No specific monitoring is required for this facility-wide condition. As with all permit conditions, the permittee must certify compliance with this condition annually, which includes making a reasonable inquiry to determine if this requirement was met during the reporting period.

Permit Condition 4.7 – SO₂ Emission Limits

This permit condition incorporates SO₂ emission limits from NSPS Subpart KKKK.

MRRR

No specific monitoring is required for this facility-wide condition. As with all permit conditions, the permittee must certify compliance with this condition annually, which includes making a reasonable inquiry to determine if this requirement was met during the reporting period.

Permit Condition 4.8 – PM₁₀ Emission Limit

This permit condition establishes a PM₁₀ emission limit for the CT and the duct burner (combined). This limit corresponds to the potential emission rate (PTE) used in preconstruction modeling compliance demonstrations.

MRRR

- Perform compliance testing (Permit Conditions 4.34-4.35, and 3.23-3.26).

Permit Conditions 4.9 – Ammonia Slip Emission Limit

This permit condition incorporates an ammonia emission limit for the CT and the duct burner, based on the manufacturer's emission guarantee for ammonia slip and to ensure proper SCR control equipment maintenance and operation (Permit Condition 3.14).

MRRR (Permit Conditions 4.19, 4.20, and 4.33)

- Monitor and record the ammonia injection flow rate (Permit Conditions 4.19, 4.20, and 4.33).
- Comply with O&M manual requirements (Permit Conditions 3.14-3.16), and with monitoring protocols and methodologies (Permit Condition 4.33) for ammonia injection flow rate monitoring.
- Perform compliance testing (Permit Conditions 4.34-4.35, and 3.23-3.26).

Permit Condition 4.16 – General Compliance Requirements

This permit condition incorporates general compliance requirements from NSPS Subpart KKKK.

MRRR

No specific monitoring is required for this facility-wide condition. As with all permit conditions, the permittee must certify compliance with this condition annually, which includes making a reasonable inquiry to determine if this requirement was met during the reporting period.

Permit Condition 4.17 – Fuel Specifications

This permit condition specifies the fuel to be used in the CT and the duct burner and limits the fuel sulfur content.

MRRR (Permit Condition 4.31)

- Monitor fuel sulfur content (Permit Condition 4.31).

Permit Condition 4.18 – Fuel Usage

This permit condition incorporates annual limits on fuel usage for the CT and the duct burner. These limits correspond to the potential emission rates (PTE) used in preconstruction modeling compliance demonstrations.

MRRR (Permit Condition 4.32)

MRRR include the following:

- Monitor and record fuel usage (Permit Condition 4.32).

Permit Conditions 4.29-4.30 – Fuel Total Sulfur Content Monitoring

These permit conditions incorporate sulfur content monitoring requirements from NSPS Subpart KKKK.

MRRR

No specific monitoring is required for this facility-wide condition. As with all permit conditions, the permittee must certify compliance with this condition annually, which includes making a reasonable inquiry to determine if this requirement was met during the reporting period.

Permit Conditions 4.34-4.35 – Performance Testing

These permit conditions require performance testing to demonstrate compliance with BACT emission limits (Permit Condition 4.2 -4.4), the PM₁₀ emission limit (Permit Condition 4.8), the ammonia emission limit (Permit Condition 4.9), and the visible emission limit (Permit Condition 3.7), in accordance with IDAPA 58.01.01.211.04.

MRRR

Test conditions are specified and test methods are referenced (Permit Conditions 4.34-4.35, and 3.23-3.26). Alternative test conditions or methods may be approved by DEQ in accordance with IDAPA 58.01.01.157. The permittee is encouraged to submit performance test protocol to DEQ for approval prior to any performance testing (Permit Condition 3.25).

Permit Condition 4.36 – SO₂ Performance Tests

This permit condition incorporates SO₂ performance test requirements from NSPS Subpart KKKK.

MRRR

No specific monitoring is required for these facility-wide conditions. As with all permit conditions, the permittee must certify compliance with this condition annually, which includes making a reasonable inquiry to determine if this requirement was met during the reporting period.

Permit Condition 4.37-4.40 – Reporting

These permit conditions incorporate reporting requirements from NSPS Subpart KKKK.

MRRR

No specific monitoring is required for this facility-wide condition. As with all permit conditions, the permittee must certify compliance with this condition annually, which includes making a reasonable inquiry to determine if this requirement was met during the reporting period.

Section 5 – Emergency Generator Engine and Fire Pump Engine

Permit Conditions 5.1-5.2 – Emission Limits

These permit conditions incorporate BACT emission limits and work practices for the emergency generator engine and the fire pump engine. These limits correspond to the potential emission rates (PTE) used in preconstruction modeling compliance demonstrations.

MRRR (Permit Condition 5.7)

- Comply with the monitoring, recordkeeping, and other requirements set forth in NSPS Subpart IIII (Permit Conditions 5.3-5.4, 5.6, 5.8-5.9, and 5.13).
- Comply with O&M manual requirements for minimizing emissions (Permit Conditions 5.7 and 3.14-3.16).

Permit Condition 5.3 – Emission Standards for Emergency Generators

This permit condition incorporates emission standards for the emergency generator engine and the emergency pump house generator engine from NSPS Subpart IIII.

MRRR

No specific monitoring is required for this facility-wide condition. As with all permit conditions, the permittee must certify compliance with this condition annually, which includes making a reasonable inquiry to determine if this requirement was met during the reporting period.

Permit Condition 5.4 – Emission Standards for Fire Pump Engine

This permit condition incorporates emission standards for the fire pump engine from NSPS Subpart IIII.

MRRR

No specific monitoring is required for these facility-wide conditions. As with all permit conditions, the permittee must certify compliance with this condition annually, which includes making a reasonable inquiry to determine if this requirement was met during the reporting period.

Permit Condition 5.5 – Hours of Operation for Maintenance and Testing

Permit Condition 5.5 incorporates limits on hours of operation for the emergency generator engine and fire pump engine for purposes of maintenance and testing. These limits correspond to the potential emission rates (PTE) used in preconstruction modeling compliance demonstrations.

MRRR (Permit Conditions 5.11-5.12)

- Monitor and record hours of operation (Permit Conditions 5.6, 5.9, 5.11-5.12).

Permit Condition 5.6 – Compliance Requirements

This permit condition incorporates compliance requirements for the emergency generator engine and fire pump engine from NSPS Subpart IIII.

MRRR

No specific monitoring is required for this facility-wide condition. As with all permit conditions, the permittee must certify compliance with this condition annually, which includes making a reasonable inquiry to determine if this requirement was met during the reporting period.

Permit Condition 5.8 – Operating and Maintenance Requirements

This permit condition incorporates operating and maintenance requirements for the emergency pump house generator engine, the emergency generator engine, and the fire pump engine from NSPS Subpart IIII.

MRRR

No specific monitoring is required for this facility-wide condition. As with all permit conditions, the permittee must certify compliance with this condition annually, which includes making a reasonable inquiry to determine if this requirement was met during the reporting period.

Permit Condition 5.9 – Monitoring Requirements

This permit condition incorporates monitoring requirements for the emergency pump house generator engine, the emergency generator engine, and the fire pump engine from NSPS Subpart IIII.

MRRR

No specific monitoring is required for this facility-wide condition. As with all permit conditions, the permittee must certify compliance with this condition annually, which includes making a reasonable inquiry to determine if this requirement was met during the reporting period.

Permit Condition 5.10 – Fuel Specifications

This permit condition incorporates fuel specifications for the emergency generator engine and fire pump engine from NSPS Subpart IIII.

BACT determinations assumed the use of fuel meeting these specifications. These limits correspond to the potential emission rates (PTE) used in preconstruction modeling compliance demonstrations.

MRRR

No specific monitoring is required for this facility-wide condition. As with all permit conditions, the permittee must certify compliance with this condition annually, which includes making a reasonable inquiry to determine if this requirement was met during the reporting period.

Permit Condition 5.13 – Testing Requirements

This permit condition incorporates testing requirements for the emergency generator engine and fire pump engine from NSPS Subpart IIII.

The permittee is encouraged to submit performance test protocol to DEQ for approval prior to any performance testing (Permit Condition 3.26).

MRRR

No specific monitoring is required for these facility-wide conditions. As with all permit conditions, the permittee must certify compliance with this condition annually, which includes making a reasonable inquiry to determine if this requirement was met during the reporting period.

Section 6 – Cooling Tower

Permit Conditions 6.1-6.4 – Operating Requirements

Permit Conditions 6.1 and 6.3 incorporate BACT requirements for minimizing emissions from the cooling tower.

Permit Condition 6.2 requires operation of the drift eliminators to ensure compliance with BACT and process weight rate emission limits (Permit Conditions 3.10, 6.1, and 6.3).

MRRR (Permit Conditions 6.1-6.5)

- Comply with manufacturer's recommendations and O&M manual requirements (Permit Conditions 6.1, 6.3, and 3.14-3.16).
- Monitor cooling water solids content and flow rate (Permit Conditions 6.4-6.5). These limits correspond to the potential emission rates (PTE) used in preconstruction modeling compliance demonstrations. BACT determinations assumed the use of cooling tower water meeting these specifications.

Section 7 – Dry Chemical Storage Silos

Permit Conditions 7.1-7.3 – Operating Requirements

Permit Conditions 7.1 and 7.3 incorporate BACT requirements for minimizing emissions from the dry chemical storage silos.

Permit Condition 7.2 requires operation of the bin vent filters to ensure compliance with BACT and process weight rate emission limits (Permit Conditions 3.10, 7.1, and 7.3).

MRRR (Permit Conditions 7.1-7.3)

- Comply with manufacturer's recommendations and O&M manual requirements (Permit Conditions 7.1, 7.3, and 3.14-3.16).

Section 8 – Insignificant Activities

This section lists emissions units and pollutant-emitting activities determined to be insignificant activities based on size or production, in accordance with IDAPA 58.01.01.317.01.b.

Section 9 – Acid Rain Conditions

Permit Conditions 9.1-9.3 – SO₂ Emission Limits

These permit conditions incorporate SO₂ requirements and allowance requirements under the Acid Rain Program and in accordance with IDAPA 58.01.01.322.12 for the CT and the duct burner.

MRRR

No specific monitoring is required for this facility-wide condition. As with all permit conditions, the permittee must certify compliance with this condition annually, which includes making a reasonable inquiry to determine if this requirement was met during the reporting period.

Permit Condition 9.4 – SO₂ Requirements

This permit condition incorporates SO₂ requirements under the Acid Rain Program.

MRRR

No specific monitoring is required for this facility-wide condition. As with all permit conditions, the permittee must certify compliance with this condition annually, which includes making a reasonable inquiry to determine if this requirement was met during the reporting period.

Permit Conditions 9.1, 9.5-9.6 – NO_x Emission Limits

These permit conditions incorporate NO_x requirements under the Acid Rain Program.

MRRR

No specific monitoring is required for this facility-wide condition. As with all permit conditions, the permittee must certify compliance with this condition annually, which includes making a reasonable inquiry to determine if this requirement was met during the reporting period.

Permit Condition 9.7 – Operating and Maintenance Requirements

This permit condition incorporates MRRR under the Acid Rain Program.

MRRR

No specific monitoring is required for this facility-wide condition. As with all permit conditions, the permittee must certify compliance with this condition annually, which includes making a reasonable inquiry to determine if this requirement was met during the reporting period.

Permit Conditions 9.8-9.19 – Monitoring, Recordkeeping, and Reporting

These permit conditions incorporate MRRR under the Acid Rain Program.

MRRR

No specific monitoring is required for this facility-wide condition. As with all permit conditions, the permittee must certify compliance with this condition annually, which includes making a reasonable inquiry to determine if this requirement was met during the reporting period.

Permit Condition 9.20-9.21 – Liability and Prohibitions

These permit conditions incorporate general liability and prohibition provisions under the Acid Rain program.

MRRR

No specific monitoring is required for this facility-wide condition. As with all permit conditions, the permittee must certify compliance with this condition annually, which includes making a reasonable inquiry to determine if this requirement was met during the reporting period.

6.3 General Provisions

Unless expressly stated, there are no MRRR for the general provisions.

General Compliance, Duty to Comply

The permittee must comply with the terms and conditions of the permit.

[IDAPA 58.01.01.322.15.a, 5/1/94; 40 CFR 70.6(a)(6)(i)]

General Compliance, Need to Halt or Reduce Activity Not a Defense

The permittee cannot use the fact that it would have been necessary to halt or reduce an activity as a defense in an enforcement action.

[IDAPA 58.01.01.322.15.b, 5/1/94; 40 CFR 70.6(a)(6)(ii)]

General Compliance, Duty to Supplement or Correct Application

The permittee must promptly submit such supplementary facts or corrected information upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application. The permittee must also provide information as necessary to address any new requirements

that become applicable after the date a complete application has been filed but prior to the release of a draft permit.

[IDAPA 58.01.01.315.01, 5/1/94; 40 CFR 70.5(b)]

Reopening, Additional Requirements, Material Mistakes, Etc.

This term lists the instances when the permit must be reopened and revised, including times when additional requirements become applicable, when the permit contains mistakes, or when revision or revocation is necessary to assure compliance with applicable requirements.

[IDAPA 58.01.01.322.15.c, 5/1/94; IDAPA 58.01.01.386, 3/19/99; 40 CFR 70.7(f)(1), (2); 40 CFR 70.6(a)(6)(iii)]

Reopening, Permitting Actions

This term discusses modification, revocation, reopening, and/or reissuance of the permit for cause. If the permittee files a request to modify, revoke, reissue, or terminate the permit, the request does not stay any permit condition, nor does notification of planned changes or anticipated noncompliance.

[IDAPA 58.01.01.322.15.d, 5/1/94; 40 CFR 70.6(a)(6)(iii)]

Property Rights

This permit does not convey any property rights of any sort, or any exclusive privilege.

[IDAPA 58.01.01.322.15.e, 5/1/94; 40 CFR 70.6(a)(6)(iv)]

Information Requests

The permittee must furnish, within a reasonable time to DEQ, any information, including records required by the permit, that is requested in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit.

[Idaho Code §39-108; IDAPA 58.01.01.122, 4/5/00; IDAPA 58.01.01.322.15.f, 4/5/00; 40 CFR 70.6(a)(6)(v)]

Information Requests, Confidential Business Information

Upon request, the permittee must furnish to DEQ copies of records required to be kept by this permit. For information claimed to be confidential, the permittee may furnish such records along with a claim of confidentiality in accordance with Idaho Code §9-342A and applicable implementing regulations including IDAPA 58.01.01.128.

[IDAPA 58.01.01.322.15.g, 5/1/94; IDAPA 58.01.01.128, 4/5/00; 40 CFR 70.6(a)(6)(v)]

Severability

If any provision of the permit is held to be invalid, all unaffected provisions of the permit will remain in effect and enforceable.

[IDAPA 58.01.01.322.15.h, 5/1/94; 40 CFR 70.6(a)(5)]

Changes Requiring Permit Revision or Notice

The permittee may not commence construction or modification of any stationary source, facility, major facility, or major modification without first obtaining all necessary permits to construct or an approval under IDAPA 58.01.01.213, or complying with IDAPA 58.01.01.220 through 223. The permittee must comply with IDAPA 58.01.01.380 through 386 as applicable.

[IDAPA 58.01.01.200-223, 4/2/08; IDAPA 58.01.01.322.15.i, 3/19/99; IDAPA 58.01.01.380-386, 7/1/02; 40 CFR 70.4(b)(12), (14), (15), and 70.7(d), (e)]

Changes that are not addressed or prohibited by the Tier I operating permit require a Tier I operating permit revision if such changes are subject to any requirement under Title IV of the CAA, 42 U.S.C. Section 7651 through 7651c, or are modifications under Title I of the CAA, 42 U.S.C. Section 7401 through 7515. Administrative amendments (IDAPA 58.01.01.381), minor permit modifications (IDAPA 58.01.01.383), and significant permit modifications (IDAPA 58.01.01.382) require a revision to the Tier I operating permit. IDAPA 58.01.01.502(b)(10) changes are authorized in accordance with IDAPA 58.01.01.384. Off permit changes and required notice are authorized in accordance with IDAPA 58.01.01.385.

[IDAPA 58.01.01.381-385, 7/1/02; IDAPA 58.01.01.209.05, 4/11/06; 40 CFR 70.4(b)(14) and (15)]

Federal and State Enforceability

All permit conditions are federally enforceable unless specified in the permit as a state or local only requirement. State and local only requirements are not required under the CAA and are not enforceable by EPA or by citizens.

[IDAPA 58.01.01.322.15.j, 5/1/94; IDAPA 58.01.01.322.15.k, 3/23/98;
Idaho Code §39-108; 40 CFR 70.6(b)(1), (2)]

Inspection and Entry

Upon presentation of credentials, the facility shall allow DEQ or an authorized representative of DEQ to do the following:

- Enter upon the permittee's premises where a Tier I source is located or emissions related activity is conducted, or where records are kept under conditions of this permit;
- Have access to and copy, at reasonable times, any records that are kept under the conditions of this permit;
- Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit; and
- As authorized by the Idaho Environmental Protection and Health Act, sample or monitor, at reasonable times, substances or parameters for the purpose of determining or ensuring compliance with this permit or applicable requirements.

[Idaho Code §39-108; IDAPA 58.01.01.322.15.l, 5/1/94; 40 CFR 70.6(c)(2)]

New Applicable Requirements

The permittee must continue to comply with all applicable requirements and must comply with new requirements on a timely basis.

[IDAPA 58.01.01.322.10, 4/5/00; IDAPA 58.01.01.314.10.a.ii, 5/1/94; 40 CFR 70.6(c)(3) citing 70.5(c)(8)]

Fees

The owner or operator of a Tier I source shall pay annual registration fees to DEQ in accordance with IDAPA 58.01.01.387 through IDAPA 58.01.01.397.

[IDAPA 58.01.01.387, 4/2/03; 40 CFR 70.6(a)(7)]

Certification

All documents submitted to DEQ shall be certified in accordance with IDAPA 58.01.01.123 and comply with IDAPA 58.01.01.124.

[IDAPA 58.01.01.322.15.o, 5/1/94; 40 CFR 70.6(a)(3)(iii)(A); 40 CFR 70.5(d)]

Renewal

The permittee shall submit an application to DEQ for a renewal of this permit at least six months before, but no earlier than 18 months before, the expiration date of this operating permit. To ensure that the term of the operating permit does not expire before the permit is renewed, the owner or operator is encouraged to submit a renewal application nine months prior to the date of expiration.

[IDAPA 58.01.01.313.03, 4/5/00; 40 CFR 70.5(a)(1)(iii)]

If a timely and complete application for a Tier I operating permit renewal is submitted, but DEQ fails to issue or deny the renewal permit before the end of the term of this permit, then all the terms and conditions of this permit including any permit shield that may have been granted pursuant to IDAPA 58.01.01.325 shall remain in effect until the renewal permit has been issued or denied.

[IDAPA 58.01.01.322.15.p, 5/1/94; 40 CFR 70.7(b)]

Permit Shield

Compliance with the terms and conditions of the Tier I operating permit, including those applicable to all alternative operating scenarios and trading scenarios, shall be deemed compliance with any applicable requirements as of the date of permit issuance, provided that:

- Such applicable requirements are included and are specifically identified in the Tier I operating permit; or
 - DEQ has determined that other requirements specifically identified are not applicable and all of the criteria set forth in IDAPA 58.01.01.325.01(b) have been met.
- The permit shield shall apply to permit revisions made in accordance with IDAPA 58.01.01.381.04 (administrative amendments incorporating the terms of a permit to construct), IDAPA 58.01.01.382.04 (significant modifications), and IDAPA 58.01.01.384.03 (trading under an emissions cap).
- Nothing in this permit shall alter or affect the following:
 - Any administrative authority or judicial remedy available to prevent or terminate emergencies or imminent and substantial dangers;
 - 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;
 - The applicable requirements of the acid rain program, consistent with 42 U.S.C. Section 7651(g)(a); and
 - The ability of EPA to obtain information from a source pursuant to Section 114 of the CAA; or the ability of DEQ to obtain information from a source pursuant to Idaho Code §39-108 and IDAPA 58.01.01.122.

[Idaho Code §39-108 and 112; IDAPA 58.01.01.122, 4/5/00;
IDAPA 58.01.01.322.15.m, 325.01, 5/1/94; IDAPA 58.01.01.325.02, 3/19/99;
IDAPA 58.01.01.381.04, 382.04, 383.05, 384.03, 385.03, 3/19/99; 40 CFR 70.6(f)]

Compliance Schedule and Progress Reports

- For each applicable requirement for which the source is not in compliance, the permittee shall comply with the compliance schedule incorporated in this permit.
- For each applicable requirement that will become effective during the term of this permit and that provides a detailed compliance schedule, the permittee shall comply with such requirements in accordance with the detailed schedule.
- For each applicable requirement that will become effective during the term of this permit that does not contain a more detailed schedule, the permittee shall meet such requirements on a timely basis.
- For each applicable requirement with which the permittee is in compliance, the permittee shall continue to comply with such requirements.

[IDAPA 58.01.01.322.10, 4/5/00; IDAPA 58.01.01.314.9, 5/1/94; IDAPA 58.01.01.314.10, 4/5/00;
40 CFR 70.6(c)(3) and (4)]

Periodic Compliance Certification

The permittee shall submit compliance certifications during the term of the permit for each emissions unit to DEQ and the EPA as specified.

- Compliance certifications for all emissions units shall be submitted annually unless otherwise specified;
- All original compliance certifications shall be submitted to DEQ and a copy of all compliance certifications shall be submitted to the EPA.

[IDAPA 58.01.01.322.11, 4/6/05; 40 CFR 70.6(c)(5)(iii) as amended, 62 Fed. Reg. 54900, 54946 (10/22/97); 40 CFR 70.6(c)(5)(iv)]

False Statements

The permittee may not make any false statement, representation, or certification in any form, notice, or report required under this permit, or any applicable rule or order in force pursuant thereto.

[IDAPA 58.01.01.125, 3/23/98]

No Tampering

The permittee may not render inaccurate any monitoring device or method required under this permit or any applicable rule or order in force pursuant thereto.

[IDAPA 58.01.01.126, 3/23/98]

Semiannual Monitoring Reports.

In addition to all applicable reporting requirements identified in this permit, the permittee shall submit reports of any required monitoring at least every six months as specified.

[IDAPA 58.01.01.322.15.q, 3/23/98; IDAPA 58.01.01.322.08.c, 4/5/00; 40 CFR 70.6(a)(3)(iii)]

Reporting Deviations and Excess Emissions

Each and every applicable requirement, including MRRR, is subject to prompt deviation reporting. Deviations due to excess emissions must be reported in accordance Sections 130-136. All instances of deviation from Tier I operating permit requirements must be included in the deviation reports. The reports must describe the probable cause of the deviation and any corrective action or preventative measures taken. Deviation reports must be submitted at least every six months unless the permit specifies a different time period as required by IDAPA 58.01.01.322.08.c. Examples of deviations include, but are not limited to, the following:

- Any situation in which an emissions unit fails to meet a permit term or condition
- Emission control device does not meet a required operating condition
- Observations or collected data that demonstrate noncompliance with an emissions standard
- Failure to comply with a permit term that requires a report

[IDAPA 58.01.01.322.15.q, 3/23/98; IDAPA 58.01.01.135, 4/11/06; 40 CFR 70.6(a)(3)(iii)]

Permit Revision Not Required, Emissions Trading

No permit revision will be required, under any approved, economic incentives, marketable permits, emissions trading, and other similar programs or processes, for changes that are provided for in the permit.

[IDAPA 58.01.01.322.05.b, 4/5/00; 40 CFR 70.6(a)(8)]

Emergency

In accordance with IDAPA 58.01.01.332, an “emergency” as defined in IDAPA 58.01.01.008, constitutes an affirmative defense to an action brought for noncompliance with such technology-based emissions limitation if the conditions of IDAPA 58.01.01.332.02 are met.

[IDAPA 58.01.01.332.01, 4/5/00; 40 CFR 70.6(g)]

7. REGULATORY REVIEW

7.1 Attainment Designation (40 CFR 81.313)

The facility is located in Payette County, which is designated as attainment or unclassifiable for PM_{2.5}, PM₁₀, SO₂, NO₂, CO, and ozone. Reference 40 CFR 81.313.

7.2 Title V Classification (IDAPA 58.01.01.300, 40 CFR Part 70)

The facility is classified as a major facility as defined in IDAPA 58.01.01.008.10, because the facility has the potential to emit 100 tons per year or more of CO.

Because the proposed facility is a fossil fuel-fired steam electric plant of more than 250 MMBtu/hr, it is a designated facility as defined in IDAPA 58.01.01.006, and fugitive emissions were included when determining the major facility classification in accordance with IDAPA 58.01.01.008.10.c.i.

7.3 PSD Classification (40 CFR 52.21)

Because the proposed facility is a fossil fuel-fired steam electric plant of more than 250 million British thermal units per hour heat input (designated facility) which has the potential to emit 100 tons per year or more of CO, it is classified as an existing major stationary source as defined in §52.21(b)(1)(i)(a) and in accordance with IDAPA 58.01.01.205.01.

Because the proposed facility is a fossil fuel-fired steam electric plant of more than 250 MMBtu/hr, it is a designated facility as defined in IDAPA 58.01.01.006, and fugitive emissions were included when determining the major facility classification in accordance with IDAPA 58.01.01.008.10.c.i.

7.4 NSPS Applicability (40 CFR 60)

The facility is subject to 40 CFR 60, Subpart KKKK – Standards of Performance for Stationary Combustion Turbines, Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines, and Subpart A – General Provisions.

In accordance with 40 CFR 60.4305(a), the CT, HRSG, and duct burner are affected sources subject to Subpart KKKK, because the CT has a heat input at peak load greater than 10 MMBtu/hr (HHV), and because the construction date was after February 18, 2005.

In accordance with 40 CFR 60.4200(a)(2), the emergency pump house generator engine, emergency generator and fire pump are affected sources subject to 40 CFR 60, Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines, because the construction dates were after July 1, 2006.

In accordance with 40 CFR 60.4305(b), the CT is exempt from the requirements of Subpart GG, and the HRSG and duct burner are exempt from the requirements of 40 CFR 60, Subparts Da, Db, and Dc – Standards of Performance for Steam Generating Units, because the CT, HRSG, and duct burner are regulated under Subpart KKKK.

Refer to Table 5.1 for the manufacture dates of each emissions unit.

Applicable requirements for the emergency pump house generator engine have been incorporated into this T1 permit, and an analysis of regulatory applicability follows.

NSPS Subpart IIII

40 CFR 60, Subpart IIII *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*

40 CFR 60.4200 *Am I subject to this subpart?*

(a) *The provisions of this subpart are applicable to manufacturers, owners, and operators of stationary compression ignition (CI) internal combustion engines (ICE) as specified in paragraphs (a)(1) through (4) 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 CI ICE with a displacement of less than 30 liters per cylinder where the model year is:*
 - (i) *2007 or later, for engines that are not fire pump engines,*
 - (ii) *The model year listed in table 3 to this subpart or later model year, for fire pump engines.*
- (2) *Owners and operators of stationary CI ICE that commence construction after July 11, 2005 where the stationary CI ICE are:*
 - (i) *Manufactured after April 1, 2006 and are not fire pump engines, or*
 - (ii) *Manufactured as a certified National Fire Protection Association (NFPA) fire pump engine after July 1, 2006.*
- (3) *Owners and operators of any stationary CI ICE that are modified or reconstructed after July 11, 2005 and any person that modifies or reconstructs any stationary CI ICE after July 11, 2005.*
- (4) *The provisions of §60.4208 of this subpart are applicable to all owners and operators of stationary CI ICE that commence construction after July 11, 2005.*

Because commencement of construction (the date the engine is ordered) of the emergency pump house generator engine has been proposed after July 11, 2005, and manufactured after April 1, 2006, the requirements of this subpart are applicable to the permittee.

- (b) *The provisions of this subpart are not applicable to stationary CI ICE being tested at a stationary CI ICE 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 part 70 or 40 CFR part 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 applicable to area sources.*

Because the emergency pump house generator engine has not been proposed to be operated at a stationary CI ICE test cell/stand at the facility, and because the permittee will be required to obtain a permit for a reason other than the area source status of the stationary CI ICE (refer to the Title V Classification (IDAPA 58.01.01.300, 40 CFR Part 70) section for additional information), the requirements of §60.4200(b) through (c) are not applicable.

- (d) *Stationary CI ICE may be eligible for exemption from the requirements of this subpart as described in 40 CFR part 1068, subpart C (or the exemptions described in 40 CFR part 89, subpart J and 40 CFR part 94, subpart J, 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.*

§60.4200(d) contains elective compliance exemption options which may require approval and which were not included as a permit condition. The permittee has not requested or qualified for exemption pursuant to the subparts provided.

40 CFR 60.4201 *What emission standards must I meet for non-emergency engines if I am a stationary CI internal combustion engine manufacturer?*

Because the permittee has not proposed to manufacture stationary CI ICE, the requirements of §60.4201 are not applicable and were not included as a permit condition.

40 CFR 60.4202 *What emission standards must I meet for emergency engines if I am a stationary CI internal combustion engine manufacturer?*

Because the permittee has not proposed to manufacture stationary CI ICE, the requirements of §60.4202 are not applicable to the permittee as a manufacturer and were not included as a permit condition. However in accordance with §60.4205, as an owner or operator the permittee must comply with the applicable emission standards for new nonroad CI engines, as discussed below:

- (a) *Stationary CI internal combustion engine manufacturers must certify their 2007 model year and later emergency stationary CI ICE with a maximum engine power less than or equal to 2,237 kW (3,000 HP) and a displacement*

of less than 10 liters per cylinder that are not fire pump engines to the emission standards specified in paragraphs (a)(1) through (2) of this section.

- (1) For engines with a maximum engine power less than 37 kW (50 HP):*
 - (i) The certification emission standards for new nonroad CI engines for the same model year and maximum engine power in 40 CFR 89.112 and 40 CFR 89.113 for all pollutants for model year 2007 engines, and*
 - (ii) The certification emission standards for new nonroad CI engines in 40 CFR 1039.104, 40 CFR 1039.105, 40 CFR 1039.107, 40 CFR 1039.115, and table 2 to this subpart, for 2008 model year and later engines.*
- (2) For engines with a maximum engine power greater than or equal to 37 kW (50 HP), the certification emission standards for new nonroad CI engines for the same model year and maximum engine power in 40 CFR 89.112 and 40 CFR 89.113 for all pollutants beginning in model year 2007.*
- (b) Stationary CI internal combustion engine manufacturers must certify their 2007 model year and later emergency stationary CI ICE with a maximum engine power greater than 2,237 kW (3,000 HP) and a displacement of less than 10 liters per cylinder that are not fire pump engines to the emission standards specified in paragraphs (b)(1) through (2) of this section.*
 - (1) For 2007 through 2010 model years, the emission standards in table 1 to this subpart, for all pollutants, for the same maximum engine power.*
 - (2) For 2011 model year and later, the certification emission standards for new nonroad CI engines for engines of the same model year and maximum engine power in 40 CFR 89.112 and 40 CFR 89.113 for all pollutants.*
- (c) Stationary CI internal combustion engine manufacturers must certify their 2007 model year and later emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder that are not fire pump engines to the certification emission standards for new marine CI engines in 40 CFR 94.8, as applicable, for all pollutants, for the same displacement and maximum engine power.*
- (d) Beginning with the model years in table 3 to this subpart, stationary CI internal combustion engine manufacturers must certify their fire pump stationary CI ICE to the emission standards in table 4 to this subpart, for all pollutants, for the same model year and NFPA nameplate power.*

Table 1 to 40 CFR 89.112–Emission Standards (g/kW-hr)

| Rated Power (kW) | Tier | Model Year ¹ | NO _x | HC | NMHC + NO _x | CO | PM |
|------------------|---------------|-------------------------|-----------------|-----|------------------------|------------|------|
| kW < 8 | Tier 1 | 2000 | — | — | 10.5 | 8.0 | 1.0 |
| | Tier 2 | 2005 | — | — | 7.5 | 8.0 | 0.80 |
| 8 ≤ kW < 19 | Tier 1 | 2000 | — | — | 9.5 | 6.6 | 0.80 |
| | Tier 2 | 2005 | — | — | 7.5 | 6.6 | 0.80 |
| 19 ≤ kW < 37 | Tier 1 | 1999 | — | — | 9.5 | 5.5 | 0.80 |
| | Tier 2 | 2004 | — | — | 7.5 | 5.5 | 0.60 |
| 37 ≤ kW < 75 | Tier 1 | 1998 | 9.2 | — | — | — | — |
| | Tier 2 | 2004 | — | — | 7.5 | 5.0 | 0.40 |
| | Tier 3 | 2008 | — | — | 4.7 | 5.0 | |
| 75 ≤ kW < 130 | Tier 1 | 1997 | 9.2 | — | — | — | — |
| | Tier 2 | 2003 | — | — | 6.6 | 5.0 | 0.30 |
| | Tier 3 | 2007 | — | — | 4.0 | 5.0 | |
| 130 ≤ kW < 225 | Tier 1 | 1996 | 9.2 | 1.3 | — | 11.4 | 0.54 |
| | Tier 2 | 2003 | — | — | 6.6 | 3.5 | 0.20 |
| | Tier 3 | 2006 | — | — | 4.0 | 3.5 | |
| 225 ≤ kW < 450 | Tier 1 | 1996 | 9.2 | 1.3 | — | 11.4 | 0.54 |
| | Tier 2 | 2001 | — | — | 6.4 | 3.5 | 0.20 |
| | Tier 3 | 2006 | — | — | 4.0 | 3.5 | |
| 450 ≤ kW ≤ 560 | Tier 1 | 1996 | 9.2 | 1.3 | — | 11.4 | 0.54 |
| | Tier 2 | 2002 | — | — | 6.4 | 3.5 | 0.20 |
| | Tier 3 | 2006 | — | — | 4.0 | 3.5 | |
| kW > 560 | Tier 1 | 2000 | 9.2 | 1.3 | — | 11.4 | 0.54 |
| | Tier 2 | 2006 | — | — | 6.4 | 3.5 | 0.20 |

a. The model years listed indicate the model years for which the specified tier of standards takes effect.

In accordance with 40 CFR 89.113(a), exhaust opacity from compression-ignition nonroad engines shall not exceed:

20 percent during the acceleration mode;

15 percent during the lugging mode; and

50 percent during the peaks in either the acceleration or lugging modes.

Because the proposed emergency generator engine is 2006 model year or later and between 225 and 450 kW, the applicable emission standards are Tier 3, as provided in §60.4202(a)(2) and 40 CFR 89.112 and 40 CFR 89.113.

Permit Condition 5.3 includes the requirements of this section.

40 CFR 60.4203 *How long must my engines meet the emission standards if I am a stationary CI internal combustion engine manufacturer?*

Engines manufactured by stationary CI internal combustion engine manufacturers must meet the emission standards as required in §§60.4201 and 60.4202 during the useful life of the engines.

Because the permittee has not proposed to manufacture stationary CI ICE, the requirements of §60.4203 are not applicable and were not included as a permit condition.

40 CFR 60.4204 *What emission standards must I meet for non-emergency engines if I am an owner or operator of a stationary CI internal combustion engine?*

Because the permittee has not proposed the use of the stationary CI ICE for non-emergency purposes, the requirements of §60.4204 are not applicable and were not included as a permit condition.

40 CFR 60.4205 *What emission standards must I meet for emergency engines if I am an owner or operator of a stationary CI internal combustion engine?*

(a) Owners and operators of pre-2007 model year emergency stationary CI ICE with a displacement of less than 10 liters per cylinder that are not fire pump engines must comply with the emission standards in table 1 to this subpart. Owners and operators of pre-2007 model year non-emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder that are not fire pump engines must comply with the emission standards in 40 CFR 94.8(a)(1).

Because the stationary CI ICE is post-2007 model year (2013 model year), the requirements of §60.4205(a) are not applicable and were not included as a permit condition.

(b) Owners and operators of 2007 model year and later emergency stationary CI ICE with a displacement of less than 30 liters per cylinder that are not fire pump engines must comply with the emission standards for new nonroad CI engines in §60.4202, for all pollutants, for the same model year and maximum engine power for their 2007 model year and later emergency stationary CI ICE.

(c) Owners and operators of fire pump engines with a displacement of less than 30 liters per cylinder must comply with the emission standards in table 4 to this subpart, for all pollutants.

(d) Owners and operators of emergency stationary CI ICE with a displacement of greater than or equal to 30 liters per cylinder must meet the requirements in this section.

...

(e) Owners and operators of emergency stationary CI ICE with a displacement of less than 30 liters per cylinder who conduct performance tests in-use must meet the NTE standards as indicated in §60.4212.

(f) Owners and operators of any modified or reconstructed emergency stationary CI ICE subject to this subpart must meet the emission standards applicable to the model year, maximum engine power, and displacement of the modified or reconstructed CI ICE that are specified in paragraphs (a) through (e) of this section.

Because the emergency generator engine is post-2007 model year that has not been modified or reconstructed, with a displacement of less than 30 liters per cylinder (2.08 L/cyl), the permittee must comply with the applicable emission standards for new nonroad CI engines in §60.4202. Refer to §60.4202 for additional discussion regarding the referenced emission standards.

40 CFR 60.4206 *How long must I meet the emission standards if I am an owner or operator of a stationary CI internal combustion engine?*

Owners and operators of stationary CI ICE must operate and maintain stationary CI ICE that achieve the emission standards as required in §§60.4204 and 60.4205 according to the manufacturer's written instructions or procedures developed by the owner or operator that are approved by the engine manufacturer, over the entire life of the engine.

Permit Condition 5.8 includes the requirements of this section.

40 CFR 60.4207 *What fuel requirements must I meet if I am an owner or operator of a stationary CI internal combustion engine subject to this subpart?*

(a) Beginning October 1, 2007, owners and operators of stationary CI ICE subject to this subpart that use diesel fuel must use diesel fuel that meets the requirements of 40 CFR 80.510(a).

(b) Beginning October 1, 2010, owners and operators of stationary CI ICE subject to this subpart with a displacement of less than 30 liters per cylinder that use diesel fuel must use diesel fuel that meets the requirements of 40 CFR 80.510(b) for nonroad diesel fuel.

In accordance with 40 CFR 80.510(b), all NR and LM diesel fuel is subject to the following per-gallon standards:

- (1) Sulfur content.
 - (i) 15 ppm maximum for NR diesel fuel.
- (2) Cetane index or aromatic content, as follows:
 - (i) A minimum cetane index of 40; or
 - (ii) A maximum aromatic content of 35 volume percent.

Permit Condition 5.10 includes the requirements of this section. Because the fuel requirements of 40 CFR 80.510(b) are more stringent than 40 CFR 80.510(a) and will apply after October 2010, the standards of 40 CFR 80.510(a) were referenced but were not included as a permit condition.

- (c) Owners and operators of pre-2011 model year stationary CI ICE subject to this subpart may petition the Administrator for approval to use remaining non-compliant fuel that does not meet the fuel requirements of paragraphs (a) and (b) of this section beyond the dates required for the purpose of using up existing fuel inventories. If approved, the petition will be valid for a period of up to 6 months. If additional time is needed, the owner or operator is required to submit a new petition to the Administrator.
- (d) Owners and operators of pre-2011 model year stationary CI ICE subject to this subpart that are located in areas of Alaska not accessible by the Federal Aid Highway System may petition the Administrator for approval to use any fuels mixed with used lubricating oil that do not meet the fuel requirements of paragraphs (a) and (b) of this section. Owners and operators must demonstrate in their petition to the Administrator that there is no other place to use the lubricating oil. If approved, the petition will be valid for a period of up to 6 months. If additional time is needed, the owner or operator is required to submit a new petition to the Administrator.
- (e) Stationary CI ICE that have a national security exemption under §60.4200(d) are also exempt from the fuel requirements in this section.

§60.4207(c) and (e) include compliance options for which approval is required, and which were not included as permit conditions. Because the emergency pump house generator engine will not be located in Alaska, the requirements of §60.4207(d) are not applicable and were not included as a permit condition.

40 CFR 60.4208 What is the deadline for importing or installing stationary CI ICE produced in the previous model year?

(a) After December 31, 2008, owners and operators may not install stationary CI ICE (excluding fire pump engines) that do not meet the applicable requirements for 2007 model year engines.

Installation of stationary CI ICE that do not meet the applicable requirements for 2007 model year engines has not been proposed (the proposed stationary CI ICE are model year 2009). Because only the stationary CI ICE emissions units identified in Table 5.1 are permitted as a result of this permitting action, this requirement was not included as a permit condition.

(b) After December 31, 2009, owners and operators may not install stationary CI ICE with a maximum engine power of less than 19 kW (25 HP) (excluding fire pump engines) that do not meet the applicable requirements for 2008 model year engines.

Because the emergency pump house generator engine is greater than 25 HP (569 BHP), the requirements of §60.4208(b) are not applicable and were not included as a permit condition.

(c) After December 31, 2014, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 19 kW (25 HP) and less than 56 kW (75 HP) that do not meet the applicable requirements for 2013 model year non-emergency engines.

(d) After December 31, 2013, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 56 kW (75 HP) and less than 130 kW (175 HP) that do not meet the applicable requirements for 2012 model year non-emergency engines.

- (e) After December 31, 2012, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 130 kW (175 HP), including those above 560 kW (750 HP), that do not meet the applicable requirements for 2011 model year non-emergency engines.
- (f) After December 31, 2016, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 560 kW (750 HP) that do not meet the applicable requirements for 2015 model year non-emergency engines.
- (g) In addition to the requirements specified in §§60.4201, 60.4202, 60.4204, and 60.4205, it is prohibited to import stationary CI ICE with a displacement of less than 30 liters per cylinder that do not meet the applicable requirements specified in paragraphs (a) through (f) of this section after the dates specified in paragraphs (a) through (f) of this section.

Because the stationary CI ICE has not been proposed for non-emergency use, the requirements of §60.4208(c) through (f) are not applicable and were not included as a permit condition. Because the permittee has not proposed importation of CI ICE, §60.4208(g) was not included as a permit condition.

- (h) The requirements of this section do not apply to owners or operators of stationary CI ICE that have been modified, reconstructed, and do not apply to engines that were removed from one existing location and reinstalled at a new location.

Because the stationary CI ICE is not an existing unit which has been modified, reconstructed, or reinstalled, the requirements of §60.4208(h) are not applicable and were not included as a permit condition.

40 CFR 60.4209 What are the monitoring requirements if I am an owner or operator of a stationary CI internal combustion engine?

If you are an owner or operator, you must meet the monitoring requirements of this section. In addition, you must also meet the monitoring requirements specified in §60.4211.

- (a) If you are an owner or operator of an emergency stationary CI internal combustion engine, you must install a non-resettable hour meter prior to startup of the engine.
- (b) If you are an owner or operator of a stationary CI internal combustion engine equipped with a diesel particulate filter to comply with the emission standards in §60.4204, the diesel particulate filter must be installed with a backpressure monitor that notifies the owner or operator when the high backpressure limit of the engine is approached.

Permit Condition 5.9 includes the requirements of this section.

40 CFR 60.4210 What are my compliance requirements if I am a stationary CI internal combustion engine manufacturer?

Because the permittee has not proposed to manufacture stationary CI ICE, the requirements of §60.4210 are not applicable and were not included as a permit condition.

40 CFR 60.4211 What are my compliance requirements if I am an owner or operator of a stationary CI internal combustion engine?

- (a) If you are an owner or operator and must comply with the emission standards specified in this subpart, you must do all of the following, except as permitted under paragraph (g) of this section:
 - (1) Operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's emission-related written instructions;
 - (2) Change only those emission-related settings that are permitted by the manufacturer; and
 - (3) Meet the requirements of 40 CFR parts 89, 94 and/or 1068, as they apply to you.

In accordance with 40 CFR 94.1(d), 40 CFR 94 applies to the permittee as specified in NSPS Subpart IIII, to CI engines subject to the standards of NSPS Subpart IIII.

In accordance with 40 CFR 1068.1(a)(3), 40 CFR 1068 applies to the permittee with respect to stationary CI engines certified using the provisions of 40 CFR 1039, as indicated in NSPS Subpart IIII.

Because the permittee has not proposed the use of the emergency pump house generator engine for nonroad use (as defined in 40 CFR 89.2), and the engines are regulated by NSPS Subpart IIII, the requirements of Part 89 are not applicable.

§60.4211(a) incorporates applicable requirements from 40 CFR parts 89, 94, and 1068 by reference. Permit Condition 5.6 references and includes the requirements of this section.

(b) If you are an owner or operator of a pre-2007 model year stationary CI internal combustion engine and must comply with the emission standards specified in §§60.4204(a) or 60.4205(a), or if you are an owner or operator of a CI fire pump engine that is manufactured prior to the model years in table 3 to this subpart and must comply with the emission standards specified in §60.4205(c), you must demonstrate compliance according to one of the methods specified in paragraphs (b)(1) through (5) of this section.

- (1) Purchasing an engine certified according to 40 CFR part 89 or 40 CFR part 94, as applicable, for the same model year and maximum engine power. 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.*
- (5) Conducting an initial performance test to demonstrate compliance with the emission standards according to the requirements specified in §60.4212, as applicable.*

Because the stationary CI ICE is 2013 model year, the requirements of §60.4211(b) are not applicable and were not included as a permit condition.

(c) If you are an owner or operator of a 2007 model year and later stationary CI internal combustion engine and must comply with the emission standards specified in §60.4204(b) or §60.4205(b), or if you are an owner or operator of a CI fire pump engine that is manufactured during or after the model year that applies to your fire pump engine power rating in table 3 to this subpart and must comply with the emission standards specified in §60.4205(c), you must comply by purchasing an engine certified to the emission standards in §60.4204(b), or §60.4205(b) or (c), as applicable, for the same model year and maximum (or in the case of fire pumps, NFPA nameplate) engine power. The engine must be installed and configured according to the manufacturer's specifications, except as permitted in paragraph (g) of this section.

(d) If you are an owner or operator and must comply with the emission standards specified in §60.4204(c) or §60.4205(d), you must demonstrate compliance according to the requirements specified in paragraphs (d)(1) through (3) of this section.

- (1) Conducting an initial performance test to demonstrate initial compliance with the emission standards as specified in §60.4213.*
- (2) Establishing operating parameters to be monitored continuously to ensure the stationary internal combustion engine continues to meet the emission standards. The owner or operator must petition the Administrator for approval of operating parameters to be monitored continuously. The petition must include the information described in paragraphs (d)(2)(i) through (v) of this section.*
 - (i) Identification of the specific parameters you propose to monitor continuously;*
 - (ii) A discussion of the relationship between these parameters and NO_x and PM emissions, identifying how the emissions of these pollutants change with changes in these parameters, and how limitations on these parameters will serve to limit NO_x and PM emissions;*
 - (iii) 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;*
 - (iv) A discussion identifying the methods and the instruments you will use to monitor these parameters, as well as the relative accuracy and precision of these methods and instruments; and*
 - (v) A discussion identifying the frequency and methods for recalibrating the instruments you will use for monitoring these parameters.*

- (3) For non-emergency engines with a displacement of greater than or equal to 30 liters per cylinder, conducting annual performance tests to demonstrate continuous compliance with the emission standards as specified in §60.4213.
- (e) If you are an owner or operator of a modified or reconstructed stationary CI internal combustion engine and must comply with the emission standards specified in §60.4204(e) or §60.4205(f), you must demonstrate compliance according to one of the methods specified in paragraphs (e)(1) or (2) of this section.
- (1) Purchasing, or otherwise owning or operating, an engine certified to the emission standards in §60.4204(e) or §60.4205(f), as applicable.
- (2) Conducting a performance test to demonstrate initial compliance with the emission standards according to the requirements specified in §60.4212 or §60.4213, as appropriate. The test must be conducted within 60 days after the engine commences operation after the modification or reconstruction.
- (f) If you own or operate an emergency stationary ICE, you must operate the emergency stationary ICE according to the requirements in paragraphs (f)(1) through (3) of this section. In order for the engine to be considered an emergency stationary ICE under this subpart, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (f)(1) through (3) of this section, is prohibited. If you do not operate the engine according to the requirements in paragraphs (f)(1) through (3) of this section, the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines.
- (1) There is no time limit on the use of emergency stationary ICE in emergency situations.
- (2) You may operate your emergency stationary ICE for any combination of the purposes specified in paragraphs (f)(2)(i) through (iii) of this section for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraph (f)(3) of this section counts as part of the 100 hours per calendar year allowed by this paragraph (f)(2).
- (i) Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. 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 calendar year.
- (ii) Emergency stationary ICE may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (incorporated by reference, see §60.17), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3.
- (iii) Emergency stationary ICE may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency.
- (3) Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in paragraph (f)(2) of this section. Except as provided in paragraph (f)(3)(i) of this section, the 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.
- (i) The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met:
- (A) The engine is dispatched by the local balancing authority or local transmission and distribution system operator;
- (B) The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region.

- (C) *The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines.*
- (D) *The power is provided only to the facility itself or to support the local transmission and distribution system.*
- (E) *The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator.*

(g) *If you do not install, configure, operate, and maintain your engine and control device according to the manufacturer's emission-related written instructions, or you change emission-related settings in a way that is not permitted by the manufacturer, you must demonstrate compliance as follows:*

- (1) *If you are an owner or operator of a stationary CI internal combustion engine with maximum engine power 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. In addition, if you do not install and configure the engine and control device according to the manufacturer's emission-related written instructions, or you change the emission-related settings in a way that is not permitted by the manufacturer, you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of such action.*
- (2) *If you are an owner or operator of a stationary CI 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 to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission-related settings in a way that is not permitted by the manufacturer.*
- (3) *If you are an owner or operator of a stationary CI 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 to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission-related settings in a way that is not permitted by the manufacturer. You must conduct subsequent performance testing every 8,760 hours of engine operation or 3 years, whichever comes first, thereafter to demonstrate compliance with the applicable emission standards.*

(h) *The requirements for operators and prohibited acts specified in 40 CFR 1039.665 apply to owners or operators of stationary CI ICE equipped with AECs for qualified emergency situations as allowed by 40 CFR 1039.665.*

Because the referenced emission standards were not applicable, because operation for the purposes of §60.4211(f)(2)(ii) and (iii) and (3)(i) is not proposed, and because configuration outside of manufacturer's specifications under §60.4211(g) has not been proposed, these were not included as permit conditions.

Permit Condition 5.6 references and includes the requirements of this section.

40 CFR 60.4212 *What test methods and other procedures must I use if I am an owner or operator of a stationary CI internal combustion engine with a displacement of less than 30 liters per cylinder?*

Owners and operators of stationary CI ICE with a displacement of less than 30 liters per cylinder who conduct performance tests pursuant to this subpart must do so according to paragraphs (a) through (e) of this section.

Permit Condition 5.13 includes the requirements of this section.

(a) *The performance test must be conducted according to the in-use testing procedures in 40 CFR part 1039, subpart F, for stationary CI ICE with a displacement of less than 10 liters per cylinder, and according to 40*

CFR part 1042, subpart F, for stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder.

(b) Exhaust emissions from stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR part 1039 must not exceed the not-to-exceed (NTE) standards for the same model year and maximum engine power as required in 40 CFR 1039.101(e) and 40 CFR 1039.102(g)(1), except as specified in 40 CFR 1039.104(d). This requirement starts when NTE requirements take effect for nonroad diesel engines under 40 CFR part 1039.

(c) Exhaust emissions from stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR 89.112 or 40 CFR 94.8, as applicable, must not exceed the NTE numerical requirements, rounded to the same number of decimal places as the applicable standard in 40 CFR 89.112 or 40 CFR 94.8, as applicable, determined from the following equation:

$$\text{NTE requirement for each pollutant} = (1.25) \times (\text{STD}) \quad (\text{Eq. 1})$$

Where:

STD = The standard specified for that pollutant in 40 CFR 89.112 or 40 CFR 94.8, as applicable.

Alternatively, stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR 89.112 or 40 CFR 94.8 may follow the testing procedures specified in §60.4213 of this subpart, as appropriate.

(d) Exhaust emissions from stationary CI ICE that are complying with the emission standards for pre-2007 model year engines in §60.4204(a), §60.4205(a), or §60.4205(c) must not exceed the NTE numerical requirements, rounded to the same number of decimal places as the applicable standard in §60.4204(a), §60.4205(a), or §60.4205(c), determined from the equation in paragraph (c) of this section.

Where:

STD = The standard specified for that pollutant in §60.4204(a), §60.4205(a), or §60.4205(c).

Alternatively, stationary CI ICE that are complying with the emission standards for pre-2007 model year engines in §60.4204(a), §60.4205(a), or §60.4205(c) may follow the testing procedures specified in §60.4213, as appropriate.

(e) Exhaust emissions from stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR part 1042 must not exceed the NTE standards for the same model year and maximum engine power as required in 40 CFR 1042.101(c).

§60.4212(a) through (e) contain applicable performance testing methodologies which were referenced but not included as a permit condition. In accordance with the permit general provisions, the permittee is encouraged to submit performance test protocol to DEQ for approval prior to any performance testing.

40 CFR 60.4213 What test methods and other procedures must I use if I am an owner or operator of a stationary CI internal combustion engine with a displacement of greater than or equal to 30 liters per cylinder?

Because the permittee has not proposed the use of a stationary CI ICE with a displacement of greater than or equal to 30 L/cylinder, the requirements of §60.4213 are not applicable and were not included as a permit condition.

40 CFR 60.4214 What are my notification, reporting, and recordkeeping requirements if I am an owner or operator of a stationary CI internal combustion engine?

(a) Owners and operators of non-emergency stationary CI ICE that are greater than 2,237 kW (3,000 HP), or have a displacement of greater than or equal to 10 liters per cylinder, or are pre-2007 model year engines that are greater than 130 kW (175 HP) and not certified, must meet the requirements of paragraphs (a)(1) and (2) of this section.

(1) Submit an initial notification as required in §60.7(a)(1). The notification must include the information in paragraphs (a)(1)(i) through (v) of this section.

(i) Name and address of the owner or operator;

- (ii) The address of the affected source;
 - (iii) Engine information including make, model, engine family, serial number, model year, maximum engine power, and engine displacement;
 - (iv) Emission control equipment; and
 - (v) Fuel used.
- (2) Keep records of the information in paragraphs (a)(2)(i) through (iv) of this section.
- (i) All notifications submitted to comply with this subpart and all documentation supporting any notification.
 - (ii) Maintenance conducted on the engine.
 - (iii) If the stationary CI internal combustion is a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards.
 - (iv) If the stationary CI internal combustion is not a certified engine, documentation that the engine meets the emission standards.

Because the permittee has not proposed the use of the stationary CI ICE for non-emergency purposes, the requirements of §60.4214 are not applicable and were not included as a permit condition.

- (b) If the stationary CI internal combustion engine is an emergency stationary internal combustion engine, the owner or operator is not required to submit an initial notification. Starting with the model years in table 5 to this subpart, if the emergency engine does not meet the standards applicable to non-emergency engines in the applicable model year, the owner or operator must keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The owner must record the time of operation of the engine and the reason the engine was in operation during that time.

Table 5 to Subpart IIII of Part 60—Labeling and Recordkeeping Requirements for New Stationary Emergency Engines

[You must comply with the labeling requirements in §60.4210(f) and the recordkeeping requirements in §60.4214(b) for new emergency stationary CI ICE beginning in the following model years:]

| <i>Engine power</i> | <i>Starting model year</i> |
|---|----------------------------|
| $19 \leq kW < 56$ ($25 \leq HP < 75$) | 2013 |
| $56 \leq kW < 130$ ($75 \leq HP < 175$) | 2012 |
| $kW \geq 130$ ($HP \geq 175$) | 2011 |

- (c) If the stationary CI internal combustion engine is equipped with a diesel particulate filter, the owner or operator must keep records of any corrective action taken after the backpressure monitor has notified the owner or operator that the high backpressure limit of the engine is approached.

Permit Condition 5.9 includes the requirements of this section.

40 CFR 60.4215 *What requirements must I meet for engines used in Guam, American Samoa, or the Commonwealth of the Northern Mariana Islands?*

Because the facility will not be located in Guam, American Samoa, or the Commonwealth of the Northern Mariana Islands, the requirements of §60.4215 are not applicable and were not included as a permit condition.

40 CFR 60.4216 *What requirements must I meet for engines used in Alaska?*

Because the facility will not be located in Alaska, the requirements of §60.4215 are not applicable and were not included as a permit condition.

40 CFR 60.4217 *What emission standards must I meet if I am an owner or operator of a stationary internal combustion engine using special fuels?*

- (a) Owners and operators of stationary CI ICE that do not use diesel fuel, or who have been given authority by the Administrator under §60.4207(d) of this subpart to use fuels that do not meet the fuel requirements of

paragraphs (a) and (b) of §60.4207, may petition the Administrator for approval of alternative emission standards, if they can demonstrate that they use a fuel that is not the fuel on which the manufacturer of the engine certified the engine and that the engine cannot meet the applicable standards required in §60.4202 or §60.4203 using such fuels.

(b) [Reserved]

§60.4217 contains alternative compliance options for special fuels which require approval and which were not included as a permit condition.

40 CFR 60.4218 What parts of the General Provisions apply to me?

Table 8 to this subpart shows which parts of the General Provisions in §§60.1 through 60.19 apply to you.

Table 8 to Subpart III of Part 60—Applicability of General Provisions to Subpart III

[As stated in §60.4218, you must comply with the following applicable General Provisions:]

| General Provisions citation | Subject of citation | Applies to subpart | Explanation |
|------------------------------------|--|---------------------------|--|
| §60.1 | General applicability of the General Provisions | Yes | |
| §60.2 | Definitions | Yes | Additional terms defined in §60.4219. |
| §60.3 | Units and abbreviations | Yes | |
| §60.4 | Address | Yes | |
| §60.5 | Determination of construction or modification | Yes | |
| §60.6 | Review of plans | Yes | |
| §60.7 | Notification and Recordkeeping | Yes | Except that §60.7 only applies as specified in §60.4214(a). |
| §60.8 | Performance tests | Yes | Except that §60.8 only applies to stationary CI ICE with a displacement of ≥ 30 liters per cylinder and engines that are not certified. |
| §60.9 | Availability of information | Yes | |
| §60.10 | State Authority | Yes | |
| §60.11 | Compliance with standards and maintenance requirements | No | Requirements are specified in subpart III. |
| §60.12 | Circumvention | Yes | |
| §60.13 | Monitoring requirements | Yes | Except that §60.13 only applies to stationary CI ICE with a displacement of ≥ 30 liters per cylinder. |
| §60.14 | Modification | Yes | |
| §60.15 | Reconstruction | Yes | |
| §60.16 | Priority list | Yes | |
| §60.17 | Incorporations by reference | Yes | |
| §60.18 | General control device requirements | No | |
| §60.19 | General notification and reporting requirements | Yes | |

§60.4218 contains a table identifying applicable and non-applicable general provisions. This table was referenced but not included as a permit condition.

Permit Condition 3.27 includes the requirements of this section.

40 CFR 60.4219 What definitions apply to this subpart?

§60.4219 contains applicable definitions which were not included as a permit condition.

NSPS Subpart A

40 CFR 60, Subpart A General Provisions

40 CFR 60.1 Applicability.

- (a) *Except as provided in subparts B and C, the provisions of this part apply to the owner or operator of any stationary source which contains an affected facility, the construction or modification of which is commenced after the date of publication in this part of any standard (or, if earlier, the date of publication of any proposed standard) applicable to that facility.*
- (b) *Any new or revised standard of performance promulgated pursuant to section 111(b) of the Act shall apply to the owner or operator of any stationary source which contains an affected facility, the construction or modification of which is commenced after the date of publication in this part of such new or revised standard (or, if earlier, the date of publication of any proposed standard) applicable to that facility.*

Because the proposed facility contains affected facilities (the CT and the duct burner, the emergency generator engine, the emergency pump house generator engine, and the fire pump engine) which have been proposed to commence construction after the date of publication of the relevant applicable NSPS standards (Subparts KKKK and IIII), the general provisions in Subpart A are applicable.

40 CFR 60, Subpart A contains applicable requirements which have been summarized in the summary table provided in Permit Condition 3.27.

7.5 NESHAP Applicability (40 CFR 61)

The facility and emission sources are not subject to NESHAP requirements in 40 CFR 61.

7.6 MACT Applicability (40 CFR 63)

The stationary RICE (emergency generator, emergency generator and fire pump) are area sources subject to 40 CFR 63, Subpart ZZZZ because they commenced construction after June 12, 2006. Because these sources are subject to regulation under 40 CFR 60, Subpart IIII, no further requirements are applicable under 40 CFR 63, Subpart ZZZZ. Refer to Table 5.1 for the manufacture dates of each emissions unit.

The facility is not subject to 40 CFR 63, Subpart Q – NESHAP for Industrial Process Cooling Towers or to 40 CFR 63, Subpart YYYYY – NESHAP for Stationary Combustion Turbines, because the facility was not proposed as a major source of HAP emissions.

Subpart ZZZZ

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.

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 part 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 part 1068, subpart C.*

Because the permittee has proposed to operate the emergency pump house generator engine at an area source of HAP emissions (the facility is not major for HAP emissions), the permittee is subject to this subpart.

§63.6585(e) contains elective compliance exemption options which may require approval and which were not included as a permit condition.

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 §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 §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 §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 paragraph (b)(1)(i) through (ii) of this section does not have to meet the requirements of this subpart and of subpart A of this part except for the initial notification requirements of §63.6645(h).*

(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; or*

- (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 §63.6645(h) and the requirements of §§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) *A stationary RICE which is an existing spark ignition 4 stroke rich burn (4SRB) stationary RICE located at an area source of HAP emissions; an existing spark ignition 4SRB stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions; an existing spark ignition 2 stroke lean burn (2SLB) stationary RICE; an existing spark ignition 4 stroke lean burn (4SLB) stationary RICE; an existing compression ignition emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions; an existing spark ignition emergency or limited use stationary RICE; an existing limited use stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions; an existing stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis; or an existing stationary residential, commercial, or institutional emergency stationary RICE located at an area source of HAP emissions, does not have to meet the requirements of this subpart and of subpart A of this part. No initial notification is necessary.*
- (c) *Stationary RICE subject to Regulations under 40 CFR part 60. An affected source that is a new or reconstructed stationary RICE located at an area source, or is a new or reconstructed stationary RICE located at a major source of HAP emissions and is a spark ignition 2 stroke lean burn (2SLB) stationary RICE with a site rating of less than 500 brake HP, a spark ignition 4 stroke lean burn (4SLB) stationary RICE with a site rating of less than 250 brake HP, or a 4 stroke rich burn (4SRB) stationary RICE with a site rating of less than or equal to 500 brake HP, a stationary RICE with a site rating of less than or equal to 500 brake HP which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, an emergency or limited use stationary RICE with a site rating of less than or equal to 500 brake HP, or a compression ignition (CI) stationary RICE with a site rating of less than or equal to 500 brake HP, must meet the requirements of this part by meeting the requirements of 40 CFR part 60 subpart IIII, for compression ignition engines or 40 CFR part 60 subpart JJJJ, for spark ignition engines. No further requirements apply for such engines under this part.*

The stationary RICE were classified as new affected sources, commencing construction after June 12, 2006. Because the proposed stationary RICE have been proposed at an area source, and subject to regulations under 40 CFR 60, Subpart IIII, no further requirements apply for the emergency pump house generator engine under 40 CFR 63, Subpart ZZZZ.

7.7 CAM Applicability (40 CFR 64)

The facility is a major source that is required to obtain a Part 70 permit (T1 operating permit); refer to the Title V Classification (IDAPA 58.01.01.300, 40 CFR Part 70) section for additional information. Although potential pre-control device emissions of NO_x and CO exceed major source thresholds, the CT and duct burner are exempt from Compliance Assurance Monitoring (CAM) requirements in accordance with 40 CFR 64.2(b)(1) because applicable emission limits were either:

- Section 111 limits or standards established after November 15, 1990 (i.e., NSPS Subpart KKKK), and/or
- BACT emissions limits or standards for which continuous compliance is required in the Tier I permit.

Table 7.1 CT and Duct Burner Compliance Assurance Monitoring Applicability

| Description | Parameters | Potentially-Applicable Limits / Standards | Exemption | Continuous Compliance Determination Method |
|------------------------|-------------------|--|--|---|
| BACT (40 CFR 52.21) | NO _x | 2.0 ppm, except 96 ppm during low-load/startup/shutdown | 40 CFR 64.2(b)(1)(vi) | NO _x CEMS |
| | CO | 2.0 ppm, except 24.5 ppm during low-load and 2,510 lb/hr during startup/shutdown | | CO CEMS |
| Annual | NO _x | 88 T/yr | 40 CFR 64.2(b)(1)(vi) | NO _x CEMS |
| | CO | 278.1 T/yr | | CO CEMS |
| NSPS (Section 111) | NO _x | 15 ppm, except 96 ppm during low-load | 40 CFR 64.2(b)(1)(i); 40 CFR 64.2(b)(1)(vi) | NO _x CEMS |

The CT and duct burner emissions units share potentially-applicable emission limitations and standards for regulated air pollutants (i.e., NO_x and CO emission limits), use control devices to achieve compliance with the relevant limitations and standards (SCR for NO_x and CatOx for CO), and have pre-control device emissions (NO_x and CO) equal to or greater than 100 percent of the amount required for a source to be classified as a major source.

7.8 Acid Rain Permit (40 CFR 72-75)

Because the combustion turbine and the duct burner are units which commenced commercial operation after November 15, 1990, these units are subject to Acid Rain Program requirements. The combustion turbine and the duct burner (CT1) qualify as an affected source, as a facility, as utility units, and as new units as defined under 40 CFR 72.2. Applicable requirements from the Acid Rain permit application, which has and from 40 CFR 72-75 have been incorporated into Section 9 – Acid Rain Conditions of the permit. The Acid Rain application has not changed substantively from the prior T1 application.

8. PUBLIC COMMENT

As required by IDAPA 58.01.01.364, a public comment period was made available to the public. During this time, comments were submitted in response to DEQ's proposed action. Refer to the Application Chronology section for a listing of relevant dates. A response to public comments document has been crafted by DEQ based on comments submitted during the public comment period. That document is part of the final permit package for this permitting action.

9. EPA REVIEW OF PROPOSED PERMIT

As required by IDAPA 58.01.01.366, DEQ provided the proposed permit to EPA Region 10 for review and comment via e-mail. Refer to the Application Chronology section for a listing of relevant dates.

Appendix A – Emissions Inventories

Langley Gulch Power Plant
 Tier 1 Operating Permit
 Emission Calculation Worksheet

Combustion Turbine & Duct Burner (Maximum Emission Case)

Criteria Pollutants

| Inputs (Constants) | Units | Value | Source |
|---------------------|------------------------|-------|--------------------------------|
| Full Load Operation | [hrs] | 6,902 | PTC Application |
| Startup & Shutdown | [hrs] | 982 | PTC Application |
| Heat Input | [MMBtu/hr] | 2,375 | Vendor Information |
| Fuel Heating Value | [Btu/ft ³] | 994 | PTC Application |
| F-Factor | [dscf/MMBtu] | 8,710 | 40 CFR 75, Appendix F, Table 1 |
| Ideal Gas Density | [scf/lb-mol] | 335.6 | |

NOx

| | | | |
|------------------------|-------------|-------|-----------------|
| NOx Concentration | [ppm] | 2 | PTC Limit, BACT |
| NOx Molecular Weight | [lb/lb-mol] | 46.01 | |
| NOx Startup & Shutdown | [tons/yr] | 18.4 | PTC Application |

$$NOx \left[\frac{lb}{hr} \right] = \frac{NOx[ppm] * NOx[MW] * FFactor \left[\frac{dscf}{MMBtu} \right] * Fuel Flow \left[\frac{MMBtu}{hr} \right]}{10^6 * 335.6} * \left(\frac{20.9}{20.9 - 15} \right)$$

NOx Emission Rate [lb/hr] **20.1**

$$NOx \left[\frac{ton}{yr} \right] = \frac{NOx \left[\frac{lb}{hr} \right] * 6,902 \left[\frac{hr}{yr} \right]}{2000 \frac{lb}{ton}} + NOx \left[\frac{tons}{Startup \& Shutdown} \right]$$

NOx Emissions [ton/yr] **87.7**

CO

| | | | |
|-----------------------|-------------|-------|-----------------|
| CO Concentration | [ppm] | 2 | PTC Limit, BACT |
| CO Molecular Weight | [lb/lb-mol] | 28.01 | |
| CO Startup & Shutdown | [tons/yr] | 235.9 | PTC Application |

$$CO \left[\frac{lb}{hr} \right] = \frac{CO[ppm] * CO[MW] * FFactor \left[\frac{dscf}{MMBtu} \right] * Fuel Flow \left[\frac{MMBtu}{hr} \right]}{10^6 * 335.6} * \left(\frac{20.9}{20.9 - 15} \right)$$

CO Emission Rate [lb/hr] **12.2**

$$CO \left[\frac{ton}{yr} \right] = \frac{CO \left[\frac{lb}{hr} \right] * 6,902 \left[\frac{hr}{yr} \right]}{2000 \frac{lb}{ton}} + CO \left[\frac{tons}{Startup \& Shutdown} \right]$$

CO Emissions [ton/yr] **278.1**

VOC

| | | |
|------------------------|-------------|----------------------|
| VOC Concentration | [ppm] | 2 PTC Limit, BACT |
| VOC Molecular Weight | [lb/lb-mol] | 16.04 |
| VOC Startup & Shutdown | [tons/yr] | 50.7 PTC Application |

$$VOC \left[\frac{lb}{hr} \right] = \frac{VOC [ppm] * VOC [MW] * FFactor \left[\frac{dscf}{MMBtu} \right] * Fuel Flow \left[\frac{MMBtu}{hr} \right]}{10^6 * 335.6} * \left(\frac{20.9}{20.9 - 15} \right)$$

| | | |
|-------------------|---------|-----|
| VOC Emission Rate | [lb/hr] | 7.0 |
|-------------------|---------|-----|

$$VOC \left[\frac{ton}{yr} \right] = \frac{VOC \left[\frac{lb}{hr} \right] * 6,902 \left[\frac{hr}{yr} \right]}{2000 \frac{lb}{ton}} + VOC \left[\frac{tons}{Startup \& Shutdown} \right]$$

| | | |
|---------------|----------|------|
| VOC Emissions | [ton/yr] | 74.9 |
|---------------|----------|------|

SO2

| | | |
|------------------------|-------------|--|
| SO2 Concentration | [gr/hscf] | 0.5 40 CFR 72.2; "Pipeline Natural Gas" Definition |
| SO2 Molecular Weight | [lb/lb-mol] | 64.04 |
| S Molecular Weight | [lb/lb-mol] | 32.07 |
| SO2 Startup & Shutdown | [tons/yr] | 0.7 PTC Application |

$$SO2 \left[\frac{lb}{hr} \right] = \frac{Fuel Flow \left[\frac{100scf}{hr} \right] * Sulfur Content \left[\frac{gr}{100scf} \right]}{7000 \left[\frac{gr}{lb} \right]} * \frac{SO2 [MW]}{S [MW]}$$

| | | |
|-------------------|---------|-----|
| SO2 Emission Rate | [lb/hr] | 3.4 |
|-------------------|---------|-----|

$$SO2 \left[\frac{ton}{yr} \right] = \frac{SO2 \left[\frac{lb}{hr} \right] * 6,902 \left[\frac{hr}{yr} \right]}{2000 \frac{lb}{ton}} + SO2 \left[\frac{tons}{Startup \& Shutdown} \right]$$

| | | |
|---------------|----------|------|
| SO2 Emissions | [ton/yr] | 12.5 |
|---------------|----------|------|

PM-10

| | | |
|--------------------------|-----------|-----------------------------------|
| PM-10 Concentration | [lb/hr] | 12.55 PTC Limit; Vendor Guarantee |
| PM-10 Startup & Shutdown | [tons/yr] | 5.2 PTC Application |

| | | |
|---------------------|---------|------|
| PM-10 Emission Rate | [lb/hr] | 12.6 |
|---------------------|---------|------|

$$PM10 \left[\frac{ton}{yr} \right] = \frac{PM10 \left[\frac{lb}{hr} \right] * 6,902 \left[\frac{hr}{yr} \right]}{2000 \frac{lb}{ton}} + PM10 \left[\frac{tons}{Startup \& Shutdown} \right]$$

| | | |
|-----------------|----------|------|
| PM-10 Emissions | [ton/yr] | 48.5 |
|-----------------|----------|------|

CO₂

CO₂ Emission Factor [kg/MMBtu] 53.02 40 CFR 98, Table C-1

$$CO_2 \left[\frac{lb}{hr} \right] = Fuel\ Flow \left[\frac{MMBtu}{hr} \right] * Emission\ Factor \left[\frac{kg}{MMBtu} \right] * 2.2 \left[\frac{lb}{kg} \right]$$

CO Emission Rate [lb/hr] 277,030

$$CO_2 \left[\frac{ton}{yr} \right] = \frac{CO_2 \left[\frac{lb}{hr} \right] * (6,902 \left[\frac{hr}{yr} \right] + 982 \left[\frac{hr}{yr} \right])}{2000 \frac{lb}{ton}}$$

CO Emissions [ton/yr] 1,092,050

CH₄

CH₄ Emission Factor [kg/MMBtu] 1.00E-03 40 CFR 98, Table C-1

$$CH_4 \left[\frac{lb}{hr} \right] = Fuel\ Flow \left[\frac{MMBtu}{hr} \right] * Emission\ Factor \left[\frac{kg}{MMBtu} \right] * 2.2 \left[\frac{lb}{kg} \right]$$

CO Emission Rate [lb/hr] 5.2

$$CH_4 \left[\frac{ton}{yr} \right] = \frac{CH_4 \left[\frac{lb}{hr} \right] * (6,902 \left[\frac{hr}{yr} \right] + 982 \left[\frac{hr}{yr} \right])}{2000 \frac{lb}{ton}}$$

CO Emissions [ton/yr] 20.6

N₂O

N₂O Emission Factor [kg/MMBtu] 1.00E-04 40 CFR 98, Table C-1

$$N_2O \left[\frac{lb}{hr} \right] = Fuel\ Flow \left[\frac{MMBtu}{hr} \right] * Emission\ Factor \left[\frac{kg}{MMBtu} \right] * 2.2 \left[\frac{lb}{kg} \right]$$

CO Emission Rate [lb/hr] 0.5

$$N_2O \left[\frac{ton}{yr} \right] = \frac{N_2O \left[\frac{lb}{hr} \right] * (6,902 \left[\frac{hr}{yr} \right] + 982 \left[\frac{hr}{yr} \right])}{2000 \frac{lb}{ton}}$$

CO Emissions [ton/yr] 2.1

Langley Gulch Power Plant
 Tier 1 Operating Permit
 Emission Calculation Worksheet

Emergency Generator 1

Criteria Pollutants

| Inputs (Constants) | Units | Value | Source |
|---------------------|---------------|---------|-------------------------------------|
| Engine Rating | [bhp] | 1214 | Vendor Advertised Maximum hp Rating |
| Annual Operation | [hrs] | 60 | PTC Application |
| Daily Operation | [hrs] | 4 | PTC Application |
| Heat Input | [gal/hr] | 53.6 | Vendor Information |
| Fuel Heating Value | [Btu/gal] | 137,030 | AP-42; Chapter 3 |
| Fuel Sulfur Content | [% by weight] | 0.0015 | Ultra Low Sulfur Diesel (ULSD) |

NOx

| | | | |
|---------------------|-----------|-----|---------------------|
| NOx Emission Factor | [g/hr-hr] | 4.8 | EPA Tier 2 Standard |
|---------------------|-----------|-----|---------------------|

$$NOx \left[\frac{lb}{hr} \right] = Rating[hp] * NOx EF \left[\frac{g}{hp * hr} \right] * \frac{[lb]}{453.6[g]}$$

| | | |
|-------------------|---------|------|
| NOx Emission Rate | [lb/hr] | 12.8 |
|-------------------|---------|------|

$$NOx \left[\frac{ton}{yr} \right] = NOx \left[\frac{lb}{hr} \right] * Annual Ops[hr] * \frac{[ton]}{2000[lb]}$$

| | | |
|---------------|----------|------|
| NOx Emissions | [ton/yr] | 0.39 |
|---------------|----------|------|

CO

| | | | |
|--------------------|-----------|-----|---------------------|
| CO Emission Factor | [g/hr-hr] | 2.6 | EPA Tier 2 Standard |
|--------------------|-----------|-----|---------------------|

$$CO \left[\frac{lb}{hr} \right] = Rating[hp] * CO EF \left[\frac{g}{hp * hr} \right] * \frac{[lb]}{453.6[g]}$$

| | | |
|------------------|---------|-----|
| CO Emission Rate | [lb/hr] | 7.0 |
|------------------|---------|-----|

$$CO \left[\frac{ton}{yr} \right] = CO \left[\frac{lb}{hr} \right] * Annual Ops[hr] * \frac{[ton]}{2000[lb]}$$

| | | |
|--------------|----------|------|
| CO Emissions | [ton/yr] | 0.21 |
|--------------|----------|------|

VOC

| | | |
|---------------------|-----------|--|
| VOC Emission Factor | [g/hp-hr] | 0.3 EPA Tier 2 Standard (HC Emission Factor) |
|---------------------|-----------|--|

$$VOC \left[\frac{lb}{hr} \right] = Rating[hp] * VOC EF \left[\frac{g}{hp * hr} \right] * \frac{[lb]}{453.6[g]}$$

| | | |
|-------------------|---------|-----|
| VOC Emission Rate | [lb/hr] | 0.8 |
|-------------------|---------|-----|

$$VOC \left[\frac{ton}{yr} \right] = VOC \left[\frac{lb}{hr} \right] * Annual Ops[hr] * \frac{[ton]}{2000[lb]}$$

| | | |
|---------------|----------|------|
| VOC Emissions | [ton/yr] | 0.02 |
|---------------|----------|------|

SO2

| | | |
|---------------------|------------|---------------------------------|
| SO2 Emission Factor | [lb/hp-hr] | 0.000012 EPA AP-42, Table 3.4-1 |
|---------------------|------------|---------------------------------|

$$SO2 \left[\frac{lb}{hr} \right] = Rating[hp] * SO2 EF \left[\frac{lb}{hp * hr} \right]$$

| | | |
|-------------------|---------|------|
| SO2 Emission Rate | [lb/hr] | 0.01 |
|-------------------|---------|------|

$$SO2 \left[\frac{ton}{yr} \right] = SO2 \left[\frac{lb}{hr} \right] * Annual Ops[hr] * \frac{[ton]}{2000[lb]}$$

| | | |
|---------------|----------|------|
| SO2 Emissions | [ton/yr] | 0.00 |
|---------------|----------|------|

PM-10

| | | |
|-----------------------|-----------|--------------------------|
| PM-10 Emission Factor | [g/hp-hr] | 0.15 EPA Tier 2 Standard |
|-----------------------|-----------|--------------------------|

$$PM10 \left[\frac{lb}{hr} \right] = Rating[hp] * PM10 EF \left[\frac{g}{hp * hr} \right] * \frac{[lb]}{453.6[g]}$$

| | | |
|---------------------|---------|-----|
| PM-10 Emission Rate | [lb/hr] | 0.4 |
|---------------------|---------|-----|

$$PM10 \left[\frac{ton}{yr} \right] = PM10 \left[\frac{lb}{hr} \right] * Annual Ops[hr] * \frac{[ton]}{2000[lb]}$$

| | | |
|-----------------|----------|------|
| PM-10 Emissions | [ton/yr] | 0.01 |
|-----------------|----------|------|

Langley Gulch Power Plant
 Tier 1 Operating Permit
 Emission Calculation Worksheet

Emergency Generator 2 (Pump House)

Criteria Pollutants

| Inputs (Constants) | Units | Value | Source |
|---------------------|---------------|---------|-------------------------------------|
| Engine Rating | [bhp] | 569 | Vendor Advertised Maximum hp Rating |
| Annual Operation | [hrs] | 100 | NSPS Subpart IIII / NESHAP ZZZZ |
| Daily Operation | [hrs] | 4 | PTC Exemption |
| Heat Input | [gal/hr] | 25.1 | Vendor Information |
| Fuel Heating Value | [Btu/gal] | 137,030 | AP-42; Chapter 3 |
| Fuel Sulfur Content | [% by weight] | 0.0015 | Ultra Low Sulfur Diesel (ULSD) |

NOx

| | | | |
|---------------------|-----------|------|---------------------|
| NOx Emission Factor | [g/hr-hr] | 1.49 | EPA Tier 4 Standard |
|---------------------|-----------|------|---------------------|

$$NOx \left[\frac{lb}{hr} \right] = Rating[hp] * NOx EF \left[\frac{g}{hp * hr} \right] * \frac{[lb]}{453.6[g]}$$

| | | |
|-------------------|---------|-----|
| NOx Emission Rate | [lb/hr] | 1.9 |
|-------------------|---------|-----|

$$NOx \left[\frac{ton}{yr} \right] = NOx \left[\frac{lb}{hr} \right] * Annual Ops[hr] * \frac{[ton]}{2000[lb]}$$

| | | |
|---------------|----------|------|
| NOx Emissions | [ton/yr] | 0.09 |
|---------------|----------|------|

CO

| | | | |
|--------------------|-----------|-----|---------------------|
| CO Emission Factor | [g/hr-hr] | 2.6 | EPA Tier 4 Standard |
|--------------------|-----------|-----|---------------------|

$$CO \left[\frac{lb}{hr} \right] = Rating[hp] * CO EF \left[\frac{g}{hp * hr} \right] * \frac{[lb]}{453.6[g]}$$

| | | |
|------------------|---------|-----|
| CO Emission Rate | [lb/hr] | 3.3 |
|------------------|---------|-----|

$$CO \left[\frac{ton}{yr} \right] = CO \left[\frac{lb}{hr} \right] * Annual Ops[hr] * \frac{[ton]}{2000[lb]}$$

| | | |
|--------------|----------|------|
| CO Emissions | [ton/yr] | 0.16 |
|--------------|----------|------|

VOC

VOC Emission Factor [g/hp-hr] 0.142 EPA Tier 4 Standard (HC Emission Factor)

$$VOC \left[\frac{lb}{hr} \right] = Rating[hp] * VOC EF \left[\frac{g}{hp * hr} \right] * \frac{[lb]}{453.6[g]}$$

VOC Emission Rate [lb/hr] 0.18

$$VOC \left[\frac{ton}{yr} \right] = VOC \left[\frac{lb}{hr} \right] * Annual Ops[hr] * \frac{[ton]}{2000[lb]}$$

VOC Emissions [ton/yr] 0.01

SO2

SO2 Emission Factor [lb/hp-hr] 0.00012 EPA AP-42, Table 3.4-1

$$SO2 \left[\frac{lb}{hr} \right] = Rating[hp] * SO2 EF \left[\frac{lb}{hp * hr} \right]$$

SO2 Emission Rate [lb/hr] 0.007

$$SO2 \left[\frac{ton}{yr} \right] = SO2 \left[\frac{lb}{hr} \right] * Annual Ops[hr] * \frac{[ton]}{2000[lb]}$$

SO2 Emissions [ton/yr] 0.000

PM-10

PM-10 Emission Factor [g/hp-hr] 0.015 EPA Tier 4 Standard

$$PM10 \left[\frac{lb}{hr} \right] = Rating[hp] * PM10 EF \left[\frac{g}{hp * hr} \right] * \frac{[lb]}{453.6[g]}$$

PM-10 Emission Rate [lb/hr] 0.019

$$PM10 \left[\frac{ton}{yr} \right] = PM10 \left[\frac{lb}{hr} \right] * Annual Ops[hr] * \frac{[ton]}{2000[lb]}$$

PM-10 Emissions [ton/yr] 0.001

Langley Gulch Power Plant
 Tier 1 Operating Permit
 Emission Calculation Worksheet

Fire Pump Engine

Criteria Pollutants

| Inputs (Constants) | Units | Value | Source |
|---------------------|---------------|---------|---|
| Engine Rating | [bhp] | | 305 Vendor Advertised Maximum hp Rating |
| Annual Operation | [hrs] | | 40 PTC Application |
| Daily Operation | [hrs] | | 1 PTC Application |
| Heat Input | [gal/hr] | | 15.8 Vendor Information |
| Fuel Heating Value | [Btu/gal] | 137,030 | AP-42; Chapter 3 |
| Fuel Sulfur Content | [% by weight] | 0.0015 | Ultra Low Sulfur Diesel (ULSD) |

NOx

| | | | |
|---------------------|-----------|--|-------------------------|
| NOx Emission Factor | [g/hr-hr] | | 3.0 EPA Tier 3 Standard |
|---------------------|-----------|--|-------------------------|

$$NOx \left[\frac{lb}{hr} \right] = Rating[hp] * NOx EF \left[\frac{g}{hp * hr} \right] * \frac{[lb]}{453.6[g]}$$

| | | |
|-------------------|---------|-----|
| NOx Emission Rate | [lb/hr] | 2.0 |
|-------------------|---------|-----|

$$NOx \left[\frac{ton}{yr} \right] = NOx \left[\frac{lb}{hr} \right] * Annual Ops[hr] * \frac{[ton]}{2000[lb]}$$

| | | |
|---------------|----------|------|
| NOx Emissions | [ton/yr] | 0.04 |
|---------------|----------|------|

CO

| | | | |
|--------------------|-----------|--|-------------------------|
| CO Emission Factor | [g/hr-hr] | | 2.6 EPA Tier 3 Standard |
|--------------------|-----------|--|-------------------------|

$$CO \left[\frac{lb}{hr} \right] = Rating[hp] * CO EF \left[\frac{g}{hp * hr} \right] * \frac{[lb]}{453.6[g]}$$

| | | |
|------------------|---------|-----|
| CO Emission Rate | [lb/hr] | 1.7 |
|------------------|---------|-----|

$$CO \left[\frac{ton}{yr} \right] = CO \left[\frac{lb}{hr} \right] * Annual Ops[hr] * \frac{[ton]}{2000[lb]}$$

| | | |
|--------------|----------|------|
| CO Emissions | [ton/yr] | 0.03 |
|--------------|----------|------|

VOC

VOC Emission Factor [g/hp-hr] 0.14 EPA Tier 3 Standard (HC Emission Factor)

$$VOC \left[\frac{lb}{hr} \right] = Rating[hp] * VOC EF \left[\frac{g}{hp * hr} \right] * \frac{[lb]}{453.6[g]}$$

VOC Emission Rate [lb/hr] 0.1

$$VOC \left[\frac{ton}{yr} \right] = VOC \left[\frac{lb}{hr} \right] * Annual Ops[hr] * \frac{[ton]}{2000[lb]}$$

VOC Emissions [ton/yr] 0.00

SO2

SO2 Emission Factor [lb/hp-hr] 0.000003 EPA AP-42, Table 3.4-1

$$SO2 \left[\frac{lb}{hr} \right] = Rating[hp] * SO2 EF \left[\frac{lb}{hp * hr} \right]$$

SO2 Emission Rate [lb/hr] 0.00

$$SO2 \left[\frac{ton}{yr} \right] = SO2 \left[\frac{lb}{hr} \right] * Annual Ops[hr] * \frac{[ton]}{2000[lb]}$$

SO2 Emissions [ton/yr] 0.00

PM-10

PM-10 Emission Factor [g/hp-hr] 0.15 EPA Tier 3 Standard

$$PM10 \left[\frac{lb}{hr} \right] = Rating[hp] * PM10 EF \left[\frac{g}{hp * hr} \right] * \frac{[lb]}{453.6[g]}$$

PM-10 Emission Rate [lb/hr] 0.1

$$PM10 \left[\frac{ton}{yr} \right] = PM10 \left[\frac{lb}{hr} \right] * Annual Ops[hr] * \frac{[ton]}{2000[lb]}$$

PM-10 Emissions [ton/yr] 0.00

Langley Gulch Power Plant
 Tier 1 Operating Permit
 Emission Calculation Worksheet

Cooling Tower

Criteria Pollutants

| Inputs (Constants) | Units | Value | Source |
|-----------------------------|---------|---------|---|
| Annual Operation | {hr} | 8,760 | PTC Application |
| Flow Rate | {gpm} | 76,151 | Equipment Design Parameter |
| TDS Concentration | {ppm} | 5,000 | PTC Application |
| TDS Flow | {lb/hr} | 190,530 | Calculation |
| Flow Producing PM-10 | {%} | 84% | "Calculating Realistic PM-10 Emissions from Cooling Towers" |
| Drift Eliminator Efficiency | {%} | 0.0005% | Vendor Guarantee |

PM-10 (Cooling Tower)

$$PM10 \left[\frac{lb}{hr} \right] = TDS\ Flow \left[\frac{lb}{hr} \right] \cdot Control\ Eff[\%] \cdot PM10\ Factor[\%]$$

| | | |
|---------------------|---------|------|
| PM-10 Emission Rate | {lb/hr} | 0.80 |
|---------------------|---------|------|

$$PM10 \left[\frac{ton}{yr} \right] = PM10 \left[\frac{lb}{hr} \right] \cdot Annual\ Ops[hr] \cdot \frac{[ton]}{2000[lb]}$$

| | | |
|-----------------|----------|------|
| PM-10 Emissions | {ton/yr} | 3.50 |
|-----------------|----------|------|

Dry Chemical Storage Silos

| Inputs (Constants) | Units | Value | Source |
|--------------------|-----------|-------|----------------------------|
| Annual Operation | {hr/silo} | 48 | PTC Application |
| Daily Operation | {hr/silo} | 2 | PTC Application |
| Blower Flowrate | {cfm} | 1,500 | Equipment Design Parameter |
| Loading Emissions | {gr/scf} | 0.01 | Vendor Guarantee |
| Number of Silos | | 3 | Contractor Design |

PM-10 (Storage Silos)

$$PM10 \left[\frac{lb}{hr} \right] = Blower\ Flow[cfm] \cdot Loading\ Emissions[gr/scf] \cdot \left[\frac{60min}{hr} \right] \cdot \left[\frac{lb}{7000gr} \right]$$

| | | |
|---------------------|---------|------|
| PM-10 Emission Rate | {lb/hr} | 0.13 |
|---------------------|---------|------|

$$PM10 \left[\frac{ton}{yr} \right] = PM10 \left[\frac{lb}{hr} \right] \cdot Annual\ Ops \left[\frac{hr}{silo} \right] \cdot 6[silos] \cdot \frac{[ton]}{2000[lb]}$$

| | | |
|-----------------|----------|------|
| PM-10 Emissions | {ton/yr} | 0.01 |
|-----------------|----------|------|

| | | | | |
|---------------------------------|-----------------|---------------|--|--|
| Langley Gulch Power Plant | | | | |
| Tier 1 Operating Permit | | | | |
| Emission Calculation Worksheet | | | | |
| | | | | |
| Hazardous Air Pollutants | | | | |
| | | Facility Wide | | |
| | Pollutant | Ton/yr | | |
| | 1,3-Butadiene | 3.62E-03 | | |
| | Acetaldehyde | 3.37E-01 | | |
| | Acrolein | 5.38E-02 | | |
| | Arsenic | 1.91E-04 | | |
| | Benzene | 1.03E-01 | | |
| | Beryllium | 1.15E-05 | | |
| | Cadmium | 1.05E-03 | | |
| | Chromium | 1.34E-03 | | |
| | Cobalt | 8.03E-05 | | |
| | Dichlorobenzene | 1.15E-03 | | |
| | Ethyl Benzene | 2.69E-01 | | |
| | Formaldehyde | 6.04E+00 | | |
| | Hexane | 1.72E+00 | | |
| | Manganese | 3.63E-04 | | |
| | Mercury | 2.48E-04 | | |
| | Naphthalene | 1.15E-02 | | |
| | Nickel | 2.01E-03 | | |
| | Propylene Oxide | 2.44E-01 | | |
| | POM | 1.75E-05 | | |
| | Selenium | 2.29E-05 | | |
| | Toluene | 1.10E+00 | | |
| | Xylenes | 5.38E-01 | | |
| | Total | 10.4 | | |
| | | | | |

| Combustion Turbine | | | |
|--|------------------|--------------------|------------------------|
| Inputs (Constants) | Units | Value | Source |
| Full Load Operation | [hrs] | 6,902 | PTC Application |
| Startup & Shutdown | [hrs] | 982 | PTC Application |
| Heat Input | [MMBtu/hr] | 2,134 | Vendor Information |
| HAP Emission Factors | [lb/MMBtu] | See Below | EPA AP-42; Table 3.1-3 |
| $HAP \left[\frac{ton}{yr} \right] = EF \left[\frac{lb}{MMBtu} \right] * Heat\ Input \left[\frac{MMBtu}{hr} \right] * AnnualOps \left[\frac{hr}{yr} \right] * \frac{[ton]}{2000[lb]}$ | | | |
| HAP Pollutant | Emission Factors | Emissions [ton/yr] | |
| 1,3-Butadiene | 4.30E-07 | 3.62E-03 | |
| Acetaldehyde | 4.00E-05 | 3.36E-01 | |
| Acrolein | 6.40E-06 | 5.38E-02 | |
| Benzene | 1.20E-05 | 1.01E-01 | |
| Ethylbenzene | 3.20E-05 | 2.69E-01 | |
| Formaldehyde | 7.10E-04 | 5.97E+00 | |
| Naphthalene | 1.30E-06 | 1.09E-02 | |
| Propylene Oxide | 2.90E-05 | 2.44E-01 | |
| Toluene | 1.30E-04 | 1.09E+00 | |
| Xylenes | 6.40E-05 | 5.38E-01 | |

| Duct Burners | | | | |
|--|--------------------------|--------------------|------------------------|--|
| Inputs (Constants) | Units | Value | Source | |
| Full Load Operation | [hrs] | 6,902 | PTC Application | |
| Startup & Shutdown | [hrs] | 982 | PTC Application | |
| Heat Input | [MMBtu/hr] | 241 | Vendor Information | |
| Fuel Heating Value | [Btu/scf] | 994 | 40 CFR 98, Table C-1 | |
| Organic HAP Emission Factors | [lb/10 ⁶ scf] | See Below | EPA AP-42; Table 1.4-3 | |
| Metal HAP Emission Factors | [lb/10 ⁶ scf] | See Below | EPA AP-42; Table 1.4-4 | |
| $HAP \left[\frac{ton}{yr} \right] = EF \left[\frac{lb}{10^6 scf} \right] * HI \left[\frac{MMBtu}{hr} \right] * \left[\frac{10^6 scf}{994 MMBtu} \right] * AnnualOps \left[\frac{hr}{yr} \right] * \frac{[ton]}{2000[lb]}$ | | | | |
| HAP Pollutant | Emission Factors | Emissions [ton/yr] | | |
| 1,3-Butadiene | | | | |
| Acetaldehyde | | | | |
| Acrolein | | | | |
| Arsenic | 2.00E-04 | 1.91E-04 | | |
| Benzene | 2.10E-03 | 2.01E-03 | | |
| Beryllium | 1.20E-05 | 1.15E-05 | | |
| Cadmium | 1.10E-03 | 1.05E-03 | | |
| Chromium | 1.40E-03 | 1.34E-03 | | |
| Cobalt | 8.40E-05 | 8.03E-05 | | |
| Dichlorobenzene | 1.20E-03 | 1.15E-03 | | |
| Ethylbenzene | | 0.00E+00 | | |
| Formaldehyde | 7.50E-02 | 7.17E-02 | | |
| Hexane | 1.80E+00 | 1.72E+00 | | |
| Manganese | 3.80E-04 | 3.63E-04 | | |
| Mercury | 2.60E-04 | 2.48E-04 | | |
| Naphthalene | 6.10E-04 | 5.83E-04 | | |
| Nickel | 2.10E-03 | 2.01E-03 | | |
| Propylene Oxide | | 0.00E+00 | | |
| POM* | 1.14E-05 | 1.09E-05 | | |
| Selenium | 2.40E-05 | 2.29E-05 | | |
| Toluene | 3.40E-03 | 3.25E-03 | | |
| Xylenes | | | | |
| * POM Emission Factor is the sum of 7-PAH Group emission factors | | | | |

| Emergency Generator 1 | | | | |
|---|------------------|--------------------|------------------------|--|
| Inputs (Constants) | Units | Value | Source | |
| Full Load Operation | [hrs] | 60 | PTC Application | |
| Fuel Use | [gal/hr] | 53.6 | Vendor Information | |
| Fuel Heating Value | [MMBtu/gal] | 0.137 | AP-42; Chapter 3 | |
| Organic HAP Emission Factors | [lb/MMBtu] | See Below | EPA AP-42; Table 3.4-3 | |
| PAH HAP Emission Factors | [lb/MMBtu] | See Below | EPA AP-42; Table 3.4-4 | |
| $HAP \left[\frac{ton}{yr} \right] = EF \left[\frac{lb}{MMBtu} \right] * Fuel \left[\frac{gal}{hr} \right] * \left[.137 \frac{MMBtu}{gal} \right] * AnnualOps \left[\frac{hr}{yr} \right] * \frac{[ton]}{2000[lb]}$ | | | | |
| HAP Pollutant | Emission Factors | Emissions [ton/yr] | | |
| 1,3-Butadiene | | | | |
| Acetaldehyde | 2.52E-05 | 5.55E-06 | | |
| Acrolein | 7.88E-06 | 1.74E-06 | | |
| Arsenic | | | | |
| Benzene | 7.76E-04 | 1.71E-04 | | |
| Beryllium | | | | |
| Cadmium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Dichlorobenzene | | | | |
| Ethylbenzene | | | | |
| Formaldehyde | 7.89E-05 | 1.74E-05 | | |
| Hexane | | | | |
| Manganese | | | | |
| Mercury | | | | |
| Naphthalene | | | | |
| Nickel | | | | |
| Propylene Oxide | | | | |
| POM | 4.50E-06 | 9.92E-07 | | |
| Selenium | | | | |
| Toluene | 2.81E-04 | 6.19E-05 | | |
| Xylenes | 1.93E-04 | 4.25E-05 | | |

| Emergency Generator 2 (Pump House) | | | | |
|---|------------------|--------------------|------------------------|--|
| Inputs (Constants) | Units | Value | Source | |
| Full Load Operation | [hrs] | 100 | PTC Application | |
| Fuel Use | [gal/hr] | 25.1 | Vendor Information | |
| Fuel Heating Value | [MMBtu/gal] | 0.137 | AP-42; Chapter 3 | |
| Organic HAP Emission Factors | [lb/MMBtu] | See Below | EPA AP-42; Table 3.4-3 | |
| PAH HAP Emission Factors | [lb/MMBtu] | See Below | EPA AP-42; Table 3.4-4 | |
| $HAP \left[\frac{ton}{yr} \right] = EF \left[\frac{lb}{MMBtu} \right] * Fuel \left[\frac{gal}{hr} \right] * \left[.137 \frac{MMBtu}{gal} \right] * AnnualOps \left[\frac{hr}{yr} \right] * \frac{[ton]}{2000[lb]}$ | | | | |
| HAP Pollutant | Emission Factors | Emissions [ton/yr] | | |
| 1,3-Butadiene | | | | |
| Acetaldehyde | 2.52E-05 | 4.33E-06 | | |
| Acrolein | 7.88E-06 | 1.36E-06 | | |
| Arsenic | | | | |
| Benzene | 7.76E-04 | 1.33E-04 | | |
| Beryllium | | | | |
| Cadmium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Dichlorobenzene | | | | |
| Ethylbenzene | | | | |
| Formaldehyde | 7.89E-05 | 1.36E-05 | | |
| Hexane | | | | |
| Manganese | | | | |
| Mercury | | | | |
| Naphthalene | | | | |
| Nickel | | | | |
| Propylene Oxide | | | | |
| POM | 4.50E-06 | 7.74E-07 | | |
| Selenium | | | | |
| Toluene | 2.81E-04 | 4.83E-05 | | |
| Xylenes | 1.93E-04 | 3.32E-05 | | |

| Fire Pump | | | | |
|---|-------------|------------------|------------------------|--|
| Inputs (Constants) | Units | Value | Source | |
| Full Load Operation | [hrs] | 40 | PTC Application | |
| Fuel Use | [gal/hr] | 15.8 | Vendor Information | |
| Fuel Heating Value | [MMBtu/gal] | 0.137 | AP-42, Chapter 3 | |
| Organic HAP Emission Factors | [lb/MMBtu] | See Below | EPA AP-42; Table 3.4-3 | |
| PAH HAP Emission Factors | [lb/MMBtu] | See Below | EPA AP-42; Table 3.4-4 | |
| $HAP \left[\frac{ton}{yr} \right] = EF \left[\frac{lb}{MMBtu} \right] * Fuel \left[\frac{gal}{hr} \right] * \left[.137 \frac{MMBtu}{gal} \right] * AnnualOps \left[\frac{hr}{yr} \right] * \frac{[ton]}{2000[lb]}$ | | | | |
| | | Emission Factors | Emissions [ton/yr] | |
| HAP Pollutant | | | | |
| 1,3-Butadiene | | 3.91E-05 | 1.69E-06 | |
| Acetaldehyde | | 7.67E-04 | 3.32E-05 | |
| Acrolein | | 9.25E-05 | 4.01E-06 | |
| Arsenic | | | | |
| Benzene | | 9.33E-04 | 4.04E-05 | |
| Beryllium | | | | |
| Cadmium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Dichlorobenzene | | | | |
| Ethylbenzene | | | | |
| Formaldehyde | | 1.18E-03 | 5.11E-05 | |
| Hexane | | | | |
| Manganese | | | | |
| Mercury | | | | |
| Naphthalene | | 8.48E-05 | 3.67E-06 | |
| Nickel | | | | |
| Propylene Oxide | | | | |
| POM | | 1.30E-04 | 5.63E-06 | |
| Selenium | | | | |
| Toluene | | 4.09E-04 | 1.77E-05 | |
| Xylenes | | 2.85E-04 | 1.23E-05 | |

| Langley Gulch Power Plant | | | | | | |
|--------------------------------|--------------------------------|---------------|------------------|----------------------------|----------------|-----------------|
| Tier 1 Operating Permit | | | | | | |
| Emission Calculation Worksheet | | | | | | |
| | | | | | | |
| Toxic Air Pollutants | | | | | | |
| | Pollutant | Category | Averaging Period | Screening Level [lb/hr] | Annual Average | 24-Hour Average |
| | 1,3-Butadiene | HAP / TAP-586 | Annual | 2.40E-05 | 8.26E-04 | 9.21E-04 |
| | 2-Methylnaphthalene | HAP / TAP-586 | Annual | 9.10E-05 | 5.24E-06 | 5.82E-06 |
| | 3-Methylcholanthrene | HAP / TAP-586 | Annual | 2.50E-06 | 3.93E-07 | 4.36E-07 |
| | 7,12-Dimethylbenz(a)anthracene | HAP / TAP-586 | Annual | 9.10E-05 | 3.49E-06 | 3.88E-06 |
| | Acenaphthene | HAP / TAP-586 | Annual | 9.10E-05 | 8.25E-07 | 8.97E-06 |
| | Acenaphthylene | HAP / TAP-586 | Annual | 9.10E-05 | 1.27E-06 | 1.75E-05 |
| | Acetaldehyde | HAP / TAP-586 | Annual | 3.00E-03 | 7.68E-02 | 8.55E-02 |
| | Acrolein | HAP / TAP-585 | 24-hour | 1.70E-02 | 1.23E-02 | 1.37E-02 |
| | Ammonia | TAP-585 | 24-hour | 1.20E+00 | 1.67E+01 | 1.86E+01 |
| | Anthracene | HAP / TAP-586 | Annual | 9.10E-05 | 6.51E-07 | 2.95E-06 |
| | Arsenic | HAP / TAP-586 | Annual | 1.50E-06 | 4.36E-05 | 4.85E-05 |
| | Barium | TAP-585 | 24-hour | 3.30E-02 | 9.60E-04 | 1.07E-03 |
| | Benz(a)anthracene | TAP-586 | | | 4.64E-07 | 1.70E-06 |
| | Benzene | HAP / TAP-586 | Annual | 8.00E-04 | 2.36E-02 | 2.76E-02 |
| | Benzo(a)pyrene | HAP / TAP-586 | Annual | 2.00E-06 | 2.87E-07 | 7.69E-07 |
| | Benzo(b)fluoranthene | | | | 4.93E-07 | 2.44E-06 |
| | Benzo(g,h,i)perylene | HAP / TAP-586 | Annual | 9.10E-05 | 3.16E-07 | 1.33E-06 |
| | Benzo(k)fluoranthene | | | | 4.14E-07 | 8.42E-07 |
| | Beryllium | HAP / TAP-586 | Annual | 2.80E-05 | 2.62E-06 | 2.91E-06 |
| | Cadmium | HAP / TAP-586 | Annual | 3.70E-06 | 2.40E-04 | 2.67E-04 |
| | Chromium | HAP / TAP-585 | 24-hour | 3.30E-02 | 3.05E-04 | 3.39E-04 |
| | Chrysene | | | | 5.33E-07 | 3.22E-06 |
| | Cobalt | HAP / TAP-585 | 24-hour | 3.30E-03 | 1.83E-05 | 2.04E-05 |
| | Copper | TAP-585 | 24-hour | 1.30E-02 | 1.85E-04 | 2.06E-04 |
| | Dibenzo(a,h)anthracene | | | | 2.98E-07 | 9.63E-07 |
| | Dichlorobenzene (o-and 1,4-) | HAP / TAP-585 | 24-hour | 2.00E+01 | 2.62E-04 | 2.91E-04 |
| | Ethyl benzene | HAP / TAP-585 | 24-hour | 2.90E+01 | 6.15E-02 | 6.83E-02 |
| | Fluoranthene | HAP / TAP-586 | Annual | 9.10E-05 | 7.26E-07 | 1.38E-06 |
| | Fluorene | HAP / TAP-586 | Annual | 9.10E-05 | 2.03E-06 | 2.62E-05 |
| | Formaldehyde | HAP / TAP-586 | Annual | 5.10E-04 | 1.38E+00 | 1.53E+00 |
| | Hexane | HAP / TAP-585 | 24-hour | 1.20E+01 | 3.93E-01 | 4.36E-01 |
| | Indenol(1,2,3,-cd)pyrene | | | | 4.33E-07 | 1.21E-06 |
| | Manganese | HAP / TAP-585 | 24-hour | 6.70E-02 | 8.29E-05 | 9.21E-05 |
| | Mercury | HAP / TAP-585 | 24-hour | 1.00E-03 | 5.67E-05 | 6.30E-05 |
| | Molybdenum | TAP-585 | 24-hour | 3.33E-01 | 2.40E-04 | 2.67E-04 |
| | Naphthalene | TAP-585 | 24-hour | 3.33E+00 | 2.64E-03 | 3.16E-03 |
| | Naphthalene (as PAH) | HAP / TAP-586 | Annual | 9.10E-05 | 0.00E+00 | 0.00E+00 |
| | Nickel | HAP / TAP-586 | Annual | 2.75E-05 | 4.58E-04 | 5.09E-04 |
| | Nitrous oxide | TAP-585 | 24-hour | 6.00E+00 | 6.24E+00 | 6.94E+00 |
| | Pentane | TAP-585 | 24-hour | 1.18E+02 | 5.67E-01 | 6.30E-01 |
| | Phenanthrene | HAP / TAP-586 | Annual | 9.10E-05 | 7.64E-06 | 8.00E-05 |
| | Propylene oxide | HAP / TAP-585 | 24-hour | 3.20E+00 | 5.60E-02 | 6.71E-02 |
| | POM (7-PAH Group) | HAP / TAP-586 | Annual | 2.00E-06 | 2.72E-06 | 9.73E-06 |
| | Pyrene | HAP / TAP-586 | Annual | 9.10E-05 | 1.47E-06 | 8.29E-06 |
| | Selenium | HAP / TAP-585 | 24-hour | 1.30E-02 | 5.24E-06 | 5.82E-06 |
| | Sulfuric acid mist | TAP-585 | 24-hour | 6.70E-02 | 2.35E-01 | 2.61E-01 |
| | Toluene | HAP / TAP-585 | 24-hour | 2.50E+01 | 2.50E-01 | 2.79E-01 |
| | Total PAH | | | 2.60E+01 | 7.34E-03 | 7.64E-03 |
| | Vanadium | TAP-585 | 24-hour | 2.70E+01 | 5.22E-04 | 9.53E-04 |
| | Xylenes | HAP / TAP-585 | 24-hour | 2.80E+01 | 1.23E-01 | 1.37E-01 |
| | Zinc | TAP-585 | 24-hour | 2.90E+01 | 6.33E-03 | 7.03E-03 |

| Emission Source | Units | Value | Source | | | | | |
|---|---------------|------------------|------------------------------------|-----------------------------|----------------------|------------------------|-------------------------|------------------------|
| Combustion Turbine & Duct Burners | | | | | | | | |
| Full Load Operation | [hrs] | 6,902 | PTC Application | | | | | |
| Startup & Shutdown | [hrs] | 982 | PTC Application | | | | | |
| Turbine Heat Input | [MMBtu/hr] | 2,134 | Vendor Information | | | | | |
| Duct Burner Heat Input | [MMBtu/hr] | 241 | Vendor Information | | | | | |
| TAP-585/586 Equation | | | | | | | | |
| $TAP \left[\frac{lb}{hr} \right] = CT \cdot EF \left[\frac{lb}{MMBtu} \right] \cdot CT \text{ Fuel Use} \left[\frac{MMBtu}{hr} \right] + \frac{DB \cdot EF \left[\frac{lb}{10^6 scf} \right] \cdot DB \text{ Fuel Use} \left[\frac{MMBtu}{hr} \right]}{\text{Heating Value} \left[\frac{Btu}{scf} \right]}$ | | | | | | | | |
| Ammonia Equation | | | | | | | | |
| $NH_3 \left[\frac{lb}{hr} \right] = \frac{NH_3 [ppm] \cdot NH_3 [MW] \cdot FFactor \left[\frac{dscf}{MMBtu} \right] \cdot Fuel Flow \left[\frac{MMBtu}{hr} \right]}{10^4 \cdot 335.6} \cdot \left(\frac{20.9}{20.9 - 15} \right)$ | | | | | | | | |
| Sulfuric Acid Equation | | | | | | | | |
| $H_2SO_4 \left[\frac{lb}{hr} \right] = \frac{\left(0.5 \left[\frac{\theta^2}{100scf} \right] \cdot 5\% \right) \cdot HI \left[\frac{MMBtu}{hr} \right] \cdot \frac{100scf}{0.994 \text{ MMBtu}} \cdot H_2SO_4 [MW]}{7000 \left[\frac{\theta^2}{lb} \right]}$ | | | | | | | | |
| Pollutant | Category | Averaging Period | Combustion Turbine Emission Factor | Duct Burner Emission Factor | Maximum Rate [lb/hr] | Annual Average [lb/hr] | 24-Hour Average [lb/hr] | Annual Emissions [tpy] |
| 1,3-Butadiene | HAP / TAP-586 | Annual | 4.30E-07 | | 9.18E-04 | 8.26E-04 | 9.18E-04 | 3.62E-03 |
| 2-Methylnaphthalene | HAP / TAP-586 | Annual | | 2.40E-05 | 5.82E-06 | 5.24E-06 | 5.82E-06 | 2.29E-05 |
| 3-Methylcholanthrene | HAP / TAP-586 | Annual | | | 1.80E-06 | 4.36E-07 | 3.93E-07 | 4.36E-07 |
| 7,12-Dimethylbenz(a)anthracene | HAP / TAP-586 | Annual | | | 1.60E-05 | 3.88E-06 | 3.49E-06 | 3.88E-06 |
| Acenaphthene | HAP / TAP-586 | Annual | | | 1.80E-06 | 4.36E-07 | 3.93E-07 | 4.36E-07 |
| Acenaphthylene | HAP / TAP-586 | Annual | | | 1.80E-06 | 4.36E-07 | 3.93E-07 | 4.36E-07 |
| Acetaldehyde | HAP / TAP-586 | Annual | 4.00E-05 | | 2.52E-05 | 8.54E-02 | 7.68E-02 | 8.54E-02 |
| Acrolein | HAP / TAP-585 | 24-hour | 6.40E-06 | | 7.88E-06 | 1.37E-02 | 1.23E-02 | 1.37E-02 |
| Ammonia | TAP-585 | 24-hour | 5.0 [ppm] | | 1.86E+01 | 1.67E+01 | 1.86E+01 | 7.32E+01 |
| Anthracene | HAP / TAP-586 | Annual | | | 2.40E-06 | 5.82E-07 | 5.24E-07 | 5.82E-07 |
| Arsenic | HAP / TAP-586 | Annual | | | 2.00E-04 | 4.85E-05 | 4.36E-05 | 4.85E-05 |
| Barium | TAP-585 | 24-hour | | | 4.40E-03 | 1.07E-03 | 9.60E-04 | 1.07E-03 |
| Benz(a)anthracene | TAP-586 | | | | 1.80E-06 | 4.36E-07 | 3.93E-07 | 4.36E-07 |
| Benzene | HAP / TAP-586 | Annual | 1.20E-05 | | 2.10E-03 | 2.61E-02 | 2.35E-02 | 2.61E-02 |
| Benzo(a)pyrene | HAP / TAP-586 | Annual | | | 1.20E-06 | 2.91E-07 | 2.62E-07 | 2.91E-07 |
| Benzo(b)fluoranthene | | | | | 1.80E-06 | 4.36E-07 | 3.93E-07 | 4.36E-07 |
| Benzo(g,h,i)perylene | HAP / TAP-586 | Annual | | | 1.20E-06 | 2.91E-07 | 2.62E-07 | 2.91E-07 |
| Benzo(k)fluoranthene | | | | | 1.80E-06 | 4.36E-07 | 3.93E-07 | 4.36E-07 |
| Beryllium | HAP / TAP-586 | Annual | | | 1.20E-05 | 2.91E-06 | 2.62E-06 | 2.91E-06 |
| Cadmium | HAP / TAP-586 | Annual | | | 1.10E-03 | 2.67E-04 | 2.40E-04 | 2.67E-04 |
| Chromium | HAP / TAP-585 | 24-hour | | | 1.40E-03 | 3.39E-04 | 3.05E-04 | 3.39E-04 |
| Chrysene | | | | | 1.80E-06 | 4.36E-07 | 3.93E-07 | 4.36E-07 |
| Cobalt | HAP / TAP-585 | 24-hour | | | 8.40E-05 | 2.04E-05 | 1.83E-05 | 2.04E-05 |
| Copper | TAP-585 | 24-hour | | | 8.50E-04 | 2.06E-04 | 1.85E-04 | 2.06E-04 |
| Dibenzo(a,h)anthracene | | | | | 1.20E-06 | 2.91E-07 | 2.62E-07 | 2.91E-07 |
| Dichlorobenzene (o-and 1,4-) | HAP / TAP-585 | 24-hour | | | 1.20E-03 | 2.91E-04 | 2.62E-04 | 2.91E-04 |
| Ethyl benzene | HAP / TAP-585 | 24-hour | 3.20E-05 | | 6.83E-02 | 6.15E-02 | 6.93E-02 | 6.83E-02 |
| Fluoranthene | HAP / TAP-586 | Annual | | | 3.00E-06 | 7.27E-07 | 6.55E-07 | 7.27E-07 |
| Fluorene | HAP / TAP-586 | Annual | | | 2.80E-06 | 6.79E-07 | 6.11E-07 | 6.79E-07 |
| Formaldehyde | HAP / TAP-586 | Annual | 7.10E-04 | | 7.50E-02 | 1.53E+00 | 1.38E+00 | 1.53E+00 |
| Hexane | HAP / TAP-585 | 24-hour | | | 1.80E+00 | 4.36E-01 | 3.93E-01 | 4.36E-01 |
| Indeno(1,2,3-cd)pyrene | | | | | 1.80E-06 | 4.36E-07 | 3.93E-07 | 4.36E-07 |
| Manganese | HAP / TAP-585 | 24-hour | | | 3.80E-04 | 9.21E-05 | 8.29E-05 | 9.21E-05 |
| Mercury | HAP / TAP-585 | 24-hour | | | 2.60E-04 | 6.30E-05 | 5.67E-05 | 6.30E-05 |
| Molybdenum | TAP-585 | 24-hour | | | 1.10E-03 | 2.67E-04 | 2.40E-04 | 2.67E-04 |
| Naphthalene | TAP-585 | 24-hour | 1.30E-06 | | 6.10E-04 | 2.92E-03 | 2.63E-03 | 2.92E-03 |
| Nickel | HAP / TAP-586 | Annual | | | 2.10E-03 | 5.09E-04 | 4.58E-04 | 5.09E-04 |
| Nitrous oxide | TAP-585 | 24-hour | 3.00E-03 | | 2.20E+00 | 6.94E+00 | 6.24E+00 | 6.94E+00 |
| Pentane | TAP-585 | 24-hour | | | 2.60E+00 | 6.30E-01 | 5.67E-01 | 6.30E-01 |
| Phenanthrene | HAP / TAP-586 | Annual | | | 1.70E-05 | 4.12E-06 | 3.71E-06 | 4.12E-06 |
| Propylene oxide | HAP / TAP-585 | 24-hour | 2.90E-05 | | 6.19E-02 | 5.57E-02 | 6.19E-02 | 5.57E-02 |
| POM (7-PAH Group) | HAP / TAP-586 | Annual | | | 2.62E-06 | 2.36E-06 | 2.62E-06 | 1.03E-05 |
| Pyrene | HAP / TAP-586 | Annual | | | 5.00E-06 | 1.21E-06 | 1.09E-06 | 1.21E-06 |
| Selenium | HAP / TAP-585 | 24-hour | | | 2.40E-05 | 5.82E-06 | 5.24E-06 | 5.82E-06 |
| Sulfuric acid mist | TAP-585 | 24-hour | 5% of Fuel S Content | | 2.61E-01 | 2.35E-01 | 2.61E-01 | 1.03E+00 |
| Toluene | HAP / TAP-585 | 24-hour | 1.30E-04 | | 3.40E-03 | 2.78E-01 | 2.50E-01 | 2.78E-01 |
| Total PAH | | | 2.20E-06 | | 7.64E-03 | 7.34E-03 | 7.64E-03 | 1.63E-02 |
| Vanadium | TAP-585 | 24-hour | | | 2.30E-03 | 5.58E-04 | 5.02E-04 | 5.58E-04 |
| Xylenes | HAP / TAP-585 | 24-hour | 6.40E-05 | | 1.37E-01 | 1.23E-01 | 1.37E-01 | 5.38E-01 |
| Zinc | TAP-585 | 24-hour | | | 2.90E-02 | 7.03E-03 | 6.33E-03 | 7.03E-03 |

| Emission Source | | Units | Value | Source | | | | |
|--|---------------|------------------|---------------------|----------------------|------------------------|-------------------------|------------------------|--|
| Emergency Diesel Generator 1 | | | | | | | | |
| Annual Operation | [hrs] | | 60 | PTC Application | | | | |
| Daily Operations | [hrs] | | 4 | PTC Application | | | | |
| Fuel Usage | [gph] | | 53.6 | Vendor Information | | | | |
| Engine Rating | [bhp] | | 1214 | Vendor Information | | | | |
| Fuel Heating Value | [btu/gal] | | 137030 | AP-42; Chapter 3 | | | | |
| TAP-585/586 Equation | | | | | | | | |
| $TAP \left[\frac{lb}{hr} \right] = \frac{EF \left[\frac{lb}{MMBtu} \right] * Fuel Use \left[\frac{gal}{hr} \right] * Heating Value \left[\frac{Btu}{gal} \right]}{1e6 \left[\frac{Btu}{MMBtu} \right]}$ | | | | | | | | |
| Pollutant | Category | Averaging Period | EDG Emission Factor | Maximum Rate [lb/hr] | Annual Average [lb/hr] | 24-Hour Average [lb/hr] | Annual Emissions [tpy] | |
| 1,3-Butadiene | HAP / TAP-586 | Annual | | | | | | |
| 2-Methylnaphthalene | HAP / TAP-586 | Annual | | | | | | |
| 3-Methylcholanthrene | HAP / TAP-586 | Annual | | | | | | |
| 7,12-Dimethylbenz(a)anthracene | HAP / TAP-586 | Annual | | | | | | |
| Acenaphthene | HAP / TAP-586 | Annual | 4.68E-06 | 3.44E-05 | 2.35E-07 | 5.73E-06 | 1.03E-06 | |
| Acenaphthylene | HAP / TAP-586 | Annual | 9.23E-06 | 6.78E-05 | 4.64E-07 | 1.13E-05 | 2.03E-06 | |
| Acetaldehyde | HAP / TAP-586 | Annual | 2.52E-05 | 1.85E-04 | 1.27E-06 | 3.08E-05 | 5.55E-06 | |
| Acrolein | HAP / TAP-585 | 24-hour | 7.88E-06 | 5.79E-05 | 3.96E-07 | 9.65E-06 | 1.74E-06 | |
| Ammonia | TAP-585 | 24-hour | | | | | | |
| Anthracene | HAP / TAP-586 | Annual | 1.23E-06 | 9.03E-06 | 6.19E-08 | 1.51E-06 | 2.71E-07 | |
| Arsenic | HAP / TAP-586 | Annual | | | | | | |
| Barium | TAP-585 | 24-hour | | | | | | |
| Benz(a)anthracene | TAP-586 | | 6.22E-07 | 4.57E-06 | 3.13E-08 | 7.61E-07 | 1.37E-07 | |
| Benzene | HAP / TAP-586 | Annual | 7.76E-04 | 5.70E-03 | 3.90E-05 | 9.50E-04 | 1.71E-04 | |
| Benzo(a)pyrene | HAP / TAP-586 | Annual | 2.57E-07 | 1.89E-06 | 1.29E-08 | 3.15E-07 | 5.66E-08 | |
| Benzo(b)fluoranthene | | | 1.11E-06 | 8.15E-06 | 5.58E-08 | 1.36E-06 | 2.45E-07 | |
| Benzo(g,h,i)perylene | HAP / TAP-586 | Annual | 5.56E-07 | 4.08E-06 | 2.80E-08 | 6.81E-07 | 1.23E-07 | |
| Benzo(k)fluoranthene | | | 2.18E-07 | 1.60E-06 | 1.10E-08 | 2.67E-07 | 4.80E-08 | |
| Beryllium | HAP / TAP-586 | Annual | | | | | | |
| Cadmium | HAP / TAP-586 | Annual | | | | | | |
| Chromium | HAP / TAP-585 | 24-hour | | | | | | |
| Chrysene | | | 1.53E-06 | 1.12E-05 | 7.70E-08 | 1.87E-06 | 3.37E-07 | |
| Cobalt | HAP / TAP-585 | 24-hour | | | | | | |
| Copper | TAP-585 | 24-hour | | | | | | |
| Dibenzo(a,h)anthracene | | | 3.46E-07 | 2.54E-06 | 1.74E-08 | 4.24E-07 | 7.62E-08 | |
| Dichlorobenzene (o-and 1,4-) | HAP / TAP-585 | 24-hour | | | | | | |
| Ethyl benzene | HAP / TAP-585 | 24-hour | | | | | | |
| Fluoranthene | HAP / TAP-586 | Annual | | | | | | |
| Fluorene | HAP / TAP-586 | Annual | 1.28E-05 | 9.40E-05 | 6.44E-07 | 1.57E-05 | 2.82E-06 | |
| Formaldehyde | HAP / TAP-586 | Annual | 7.89E-05 | 5.80E-04 | 3.97E-06 | 9.66E-05 | 1.74E-05 | |
| Hexane | HAP / TAP-585 | 24-hour | | | | | | |
| Indenol(1,2,3,-cd)pyrene | | | 4.14E-07 | 3.04E-06 | 2.08E-08 | 5.07E-07 | 9.12E-08 | |
| Manganese | HAP / TAP-585 | 24-hour | | | | | | |
| Mercury | HAP / TAP-585 | 24-hour | | | | | | |
| Molybdenum | TAP-585 | 24-hour | | | | | | |
| Naphthalene | TAP-585 | 24-hour | 1.30E-04 | 9.55E-04 | 6.54E-06 | 1.59E-04 | 2.86E-05 | |
| Naphthalene (as PAH) | HAP / TAP-586 | Annual | | | | | | |
| Nickel | HAP / TAP-586 | Annual | | | | | | |
| Nitrous oxide | TAP-585 | 24-hour | | | | | | |
| Pentane | TAP-585 | 24-hour | | | | | | |
| Phenanthrene | HAP / TAP-586 | Annual | 4.08E-05 | 3.00E-04 | 2.05E-06 | 4.99E-05 | 8.99E-06 | |
| Propylene oxide | HAP / TAP-585 | 24-hour | 2.79E-03 | 2.05E-02 | 1.40E-04 | 3.42E-03 | 6.15E-04 | |
| POM (7-PAH Group) | HAP / TAP-586 | Annual | | 2.85E-05 | 1.95E-07 | 4.74E-06 | 8.54E-07 | |
| Pyrene | HAP / TAP-586 | Annual | 3.71E-06 | 2.72E-05 | 1.87E-07 | 4.54E-06 | 8.17E-07 | |
| Selenium | HAP / TAP-585 | 24-hour | | | | | | |
| Sulfuric acid mist | TAP-585 | 24-hour | | | | | | |
| Toluene | HAP / TAP-585 | 24-hour | 2.81E-04 | 2.06E-03 | 1.41E-05 | 3.44E-04 | 6.19E-05 | |
| Vanadium | TAP-585 | 24-hour | | | | | | |
| Total PAH | | | 2.12E-04 | 1.56E-03 | 1.07E-05 | 2.60E-04 | 4.67E-05 | |
| Xylenes | HAP / TAP-585 | 24-hour | 1.93E-04 | 1.42E-03 | 9.71E-06 | 2.36E-04 | 4.25E-05 | |
| Zinc | TAP-585 | 24-hour | | | | | | |
| Total POM | HAP | Annual | | | | | | |

| Emission Source | Units | Value | Source | | | | | |
|--|---------------|------------------|---------------------|----------------------|------------------------|-------------------------|------------------------|--|
| Emergency Diesel Generator 2 (Pump House) | | | | | | | | |
| Annual Operation | [hrs] | | 100 | PTC Application | | | | |
| Daily Operations | [hrs] | | 4 | PTC Application | | | | |
| Fuel Usage | [gph] | | 25.1 | Vendor Information | | | | |
| Engine Rating | [bhp] | | 569 | Vendor Information | | | | |
| Fuel Heating Value | [btu/gal] | | 137030 | AP-42; Chapter 3 | | | | |
| TAP-585/586 Equation | | | | | | | | |
| $TAP \left[\frac{lb}{hr} \right] = \frac{EF \left[\frac{lb}{MMBtu} \right] * Fuel Use \left[\frac{gal}{hr} \right] * Heating Value \left[\frac{Btu}{gal} \right]}{1e6 \left[\frac{Btu}{MMBtu} \right]}$ | | | | | | | | |
| Pollutant | Category | Averaging Period | EDG Emission Factor | Maximum Rate [lb/hr] | Annual Average [lb/hr] | 24-Hour Average [lb/hr] | Annual Emissions [tpy] | |
| 1,3-Butadiene | HAP / TAP-586 | Annual | | | | | | |
| 2-Methylnaphthalene | HAP / TAP-586 | Annual | | | | | | |
| 3-Methylcholanthrene | HAP / TAP-586 | Annual | | | | | | |
| 7,12-Dimethylbenz(a)anthracene | HAP / TAP-586 | Annual | | | | | | |
| Acenaphthene | HAP / TAP-586 | Annual | 4.68E-06 | 1.61E-05 | 1.84E-07 | 2.68E-06 | 8.05E-07 | |
| Acenaphthylene | HAP / TAP-586 | Annual | 9.23E-06 | 3.17E-05 | 3.62E-07 | 5.29E-06 | 1.59E-06 | |
| Acetaldehyde | HAP / TAP-586 | Annual | 2.52E-05 | 8.67E-05 | 9.89E-07 | 1.44E-05 | 4.33E-06 | |
| Acrolein | HAP / TAP-585 | 24-hour | 7.88E-06 | 2.71E-05 | 3.09E-07 | 4.52E-06 | 1.36E-06 | |
| Ammonia | TAP-585 | 24-hour | | | | | | |
| Anthracene | HAP / TAP-586 | Annual | 1.23E-06 | 4.23E-06 | 4.83E-08 | 7.05E-07 | 2.12E-07 | |
| Arsenic | HAP / TAP-586 | Annual | | | | | | |
| Barium | TAP-585 | 24-hour | | | | | | |
| Benz(a)anthracene | TAP-586 | | 6.22E-07 | 2.14E-06 | 2.44E-08 | 3.57E-07 | 1.07E-07 | |
| Benzene | HAP / TAP-586 | Annual | 7.76E-04 | 2.67E-03 | 3.05E-05 | 4.45E-04 | 1.33E-04 | |
| Benzo(a)pyrene | HAP / TAP-586 | Annual | 2.57E-07 | 8.84E-07 | 1.01E-08 | 1.47E-07 | 4.42E-08 | |
| Benzo(b)fluoranthene | | | 1.11E-06 | 3.82E-06 | 4.36E-08 | 6.36E-07 | 1.91E-07 | |
| Benzo(g,h,i)perylene | HAP / TAP-586 | Annual | 5.56E-07 | 1.91E-06 | 2.18E-08 | 3.19E-07 | 9.56E-08 | |
| Benzo(k)fluoranthene | | | 2.18E-07 | 7.50E-07 | 8.56E-09 | 1.25E-07 | 3.75E-08 | |
| Beryllium | HAP / TAP-586 | Annual | | | | | | |
| Cadmium | HAP / TAP-586 | Annual | | | | | | |
| Chromium | HAP / TAP-585 | 24-hour | | | | | | |
| Chrysene | | | 1.53E-06 | 5.26E-06 | 6.01E-08 | 8.77E-07 | 2.63E-07 | |
| Cobalt | HAP / TAP-585 | 24-hour | | | | | | |
| Copper | TAP-585 | 24-hour | | | | | | |
| Dibenzo(a,h)anthracene | | | 3.46E-07 | 1.19E-06 | 1.36E-08 | 1.98E-07 | 5.95E-08 | |
| Dichlorobenzene (o-and 1,4-) | HAP / TAP-585 | 24-hour | | | | | | |
| Ethyl benzene | HAP / TAP-585 | 24-hour | | | | | | |
| Fluoranthene | HAP / TAP-586 | Annual | | | | | | |
| Fluorene | HAP / TAP-586 | Annual | 1.28E-05 | 4.40E-05 | 5.03E-07 | 7.34E-06 | 2.20E-06 | |
| Formaldehyde | HAP / TAP-586 | Annual | 7.89E-05 | 2.71E-04 | 3.10E-06 | 4.52E-05 | 1.36E-05 | |
| Hexane | HAP / TAP-585 | 24-hour | | | | | | |
| Indenol(1,2,3,-cd)pyrene | | | 4.14E-07 | 1.42E-06 | 1.63E-08 | 2.37E-07 | 7.12E-08 | |
| Manganese | HAP / TAP-585 | 24-hour | | | | | | |
| Mercury | HAP / TAP-585 | 24-hour | | | | | | |
| Molybdenum | TAP-585 | 24-hour | | | | | | |
| Naphthalene | TAP-585 | 24-hour | 1.30E-04 | 4.47E-04 | 5.10E-06 | 7.45E-05 | 2.24E-05 | |
| Naphthalene (as PAH) | HAP / TAP-586 | Annual | | | | | | |
| Nickel | HAP / TAP-586 | Annual | | | | | | |
| Nitrous oxide | TAP-585 | 24-hour | | | | | | |
| Pentane | TAP-585 | 24-hour | | | | | | |
| Phenanthrene | HAP / TAP-586 | Annual | 4.08E-05 | 1.40E-04 | 1.60E-06 | 2.34E-05 | 7.02E-06 | |
| Propylene oxide | HAP / TAP-585 | 24-hour | 2.79E-03 | 9.60E-03 | 1.10E-04 | 1.60E-03 | 4.80E-04 | |
| POM (7-PAH Group) | HAP / TAP-586 | Annual | | 1.33E-05 | 1.52E-07 | 2.22E-06 | 6.66E-07 | |
| Pyrene | HAP / TAP-586 | Annual | 3.71E-06 | 1.28E-05 | 1.46E-07 | 2.13E-06 | 6.38E-07 | |
| Selenium | HAP / TAP-585 | 24-hour | | | | | | |
| Sulfuric acid mist | TAP-585 | 24-hour | | | | | | |
| Toluene | HAP / TAP-585 | 24-hour | 2.81E-04 | 9.66E-04 | 1.10E-05 | 1.61E-04 | 4.83E-05 | |
| Vanadium | TAP-585 | 24-hour | | | | | | |
| Total PAH | | | 2.12E-04 | 7.29E-04 | 8.32E-06 | 1.22E-04 | 3.65E-05 | |
| Xylenes | HAP / TAP-585 | 24-hour | 1.93E-04 | 6.64E-04 | 7.58E-06 | 1.11E-04 | 3.32E-05 | |
| Zinc | TAP-585 | 24-hour | | | | | | |
| Total POM | HAP | Annual | | | | | | |

| Emission Source | Units | Value | Source | | | | | |
|--|---------------|------------------|--------------------|----------------------|------------------------|-------------------------|------------------------|--|
| Fire Pump Engine | | | | | | | | |
| Annual Operation | [hrs] | | 40 | PTC Application | | | | |
| Daily Operations | [hrs] | | 1 | PTC Application | | | | |
| Fuel Usage | [gph] | | 15 | Vendor Information | | | | |
| Engine Rating | [bhp] | | 305 | Vendor Information | | | | |
| Fuel Heating Value | [btu/gal] | | 137030 | AP-42; Chapter 3 | | | | |
| TAP-585/586 Equation | | | | | | | | |
| $TAP \left(\frac{lb}{hr} \right) = \frac{EF \left[\frac{lb}{MMBtu} \right] * Fuel Use \left[\frac{gal}{hr} \right] * Heating Value \left[\frac{Btu}{gal} \right]}{1e6 \left[\frac{Btu}{MMBtu} \right]}$ | | | | | | | | |
| Pollutant | Category | Averaging Period | FP Emission Factor | Maximum Rate [lb/hr] | Annual Average [lb/hr] | 24-Hour Average [lb/hr] | Annual Emissions [tpy] | |
| 1,3-Butadiene | HAP / TAP-586 | Annual | 3.91E-05 | 8.04E-05 | 3.67E-07 | 3.35E-06 | 1.61E-06 | |
| 2-Methylnaphthalene | HAP / TAP-586 | Annual | | | | | | |
| 3-Methylcholanthrene | HAP / TAP-586 | Annual | | | | | | |
| 7,12-Dimethylbenz(a)anthracene | HAP / TAP-586 | Annual | | | | | | |
| Acenaphthene | HAP / TAP-586 | Annual | 1.42E-06 | 2.92E-06 | 1.33E-08 | 1.22E-07 | 5.84E-08 | |
| Acenaphthylene | HAP / TAP-586 | Annual | 5.06E-06 | 1.04E-05 | 4.75E-08 | 4.33E-07 | 2.08E-07 | |
| Acetaldehyde | HAP / TAP-586 | Annual | 7.67E-04 | 1.58E-03 | 7.20E-06 | 6.57E-05 | 3.15E-05 | |
| Acrolein | HAP / TAP-585 | 24-hour | 9.25E-05 | 1.90E-04 | 8.68E-07 | 7.92E-06 | 3.80E-06 | |
| Ammonia | TAP-585 | 24-hour | | | | | | |
| Anthracene | HAP / TAP-586 | Annual | 1.87E-06 | 3.84E-06 | 1.76E-08 | 1.60E-07 | 7.69E-08 | |
| Arsenic | HAP / TAP-586 | Annual | | | | | | |
| Barium | TAP-585 | 24-hour | | | | | | |
| Benz(a)anthracene | TAP-586 | | 1.68E-06 | 3.45E-06 | 1.58E-08 | 1.44E-07 | 6.91E-08 | |
| Benzene | HAP / TAP-586 | Annual | 9.33E-04 | 1.92E-03 | 8.76E-06 | 7.99E-05 | 3.84E-05 | |
| Benzo(a)pyrene | HAP / TAP-586 | Annual | 1.88E-07 | 3.86E-07 | 1.76E-09 | 1.61E-08 | 7.73E-09 | |
| Benzo(b)fluoranthene | | | 9.91E-08 | 2.04E-07 | 9.30E-10 | 8.49E-09 | 4.07E-09 | |
| Benzo(g,h,i)perylene | HAP / TAP-586 | Annual | 4.89E-07 | 1.01E-06 | 4.59E-09 | 4.19E-08 | 2.01E-08 | |
| Benzo(k)fluoranthene | | | 1.55E-07 | 3.19E-07 | 1.45E-09 | 1.33E-08 | 6.37E-09 | |
| Beryllium | HAP / TAP-586 | Annual | | | | | | |
| Cadmium | HAP / TAP-586 | Annual | | | | | | |
| Chromium | HAP / TAP-585 | 24-hour | | | | | | |
| Chrysene | | | 3.53E-07 | 7.26E-07 | 3.31E-09 | 3.02E-08 | 1.45E-08 | |
| Cobalt | HAP / TAP-585 | 24-hour | | | | | | |
| Copper | TAP-585 | 24-hour | | | | | | |
| Dibenzo(a,h)anthracene | | | 5.83E-07 | 1.20E-06 | 5.47E-09 | 4.99E-08 | 2.40E-08 | |
| Dichlorobenzene (o- and 1,4-) | HAP / TAP-585 | 24-hour | | | | | | |
| Ethyl benzene | HAP / TAP-585 | 24-hour | | | | | | |
| Fluoranthene | HAP / TAP-586 | Annual | 7.61E-06 | 1.56E-05 | 7.14E-08 | 6.52E-07 | 3.13E-07 | |
| Fluorene | HAP / TAP-586 | Annual | 2.92E-05 | 6.00E-05 | 2.74E-07 | 2.50E-06 | 1.20E-06 | |
| Formaldehyde | HAP / TAP-586 | Annual | 1.18E-03 | 2.43E-03 | 1.11E-05 | 1.01E-04 | 4.85E-05 | |
| Hexane | HAP / TAP-585 | 24-hour | | | | | | |
| Indenol(1,2,3,-cd)pyrene | | | 3.75E-07 | 7.71E-07 | 3.52E-09 | 3.21E-08 | 1.54E-08 | |
| Manganese | HAP / TAP-585 | 24-hour | | | | | | |
| Mercury | HAP / TAP-585 | 24-hour | | | | | | |
| Molybdenum | TAP-585 | 24-hour | | | | | | |
| Naphthalene | TAP-585 | 24-hour | 8.48E-05 | 1.74E-04 | 7.96E-07 | 7.26E-06 | 3.49E-06 | |
| Naphthalene (as PAH) | HAP / TAP-586 | Annual | | | | | | |
| Nickel | HAP / TAP-586 | Annual | | | | | | |
| Nitrous oxide | TAP-585 | 24-hour | | | | | | |
| Pentane | TAP-585 | 24-hour | | | | | | |
| Phenanthrene | HAP / TAP-586 | Annual | 2.94E-05 | 6.04E-05 | 2.76E-07 | 2.52E-06 | 1.21E-06 | |
| Propylene oxide | HAP / TAP-585 | 24-hour | 2.58E-03 | 5.30E-03 | 2.42E-05 | 2.21E-04 | 1.06E-04 | |
| POM (7-PAH Group) | HAP / TAP-586 | Annual | | 3.60E-06 | 1.65E-08 | 1.50E-07 | 7.21E-08 | |
| Pyrene | HAP / TAP-586 | Annual | 4.78E-06 | 9.83E-06 | 4.49E-08 | 4.09E-07 | 1.97E-07 | |
| Selenium | HAP / TAP-585 | 24-hour | | | | | | |
| Sulfuric acid mist | TAP-585 | 24-hour | | | | | | |
| Toluene | HAP / TAP-585 | 24-hour | 4.09E-04 | 8.41E-04 | 3.84E-06 | 3.50E-05 | 1.68E-05 | |
| Vanadium | TAP-585 | 24-hour | | | | | | |
| Total PAH | | | 1.68E-04 | 3.45E-04 | 1.58E-06 | 1.44E-05 | 6.91E-06 | |
| Xylenes | HAP / TAP-585 | 24-hour | 2.85E-04 | 5.86E-04 | 2.67E-06 | 2.44E-05 | 1.17E-05 | |
| Zinc | TAP-585 | 24-hour | | | | | | |
| Total POM | HAP | Annual | | | | | | |

**Appendix B – Subpart III Regulatory Applicability
for Emergency Pump House Generator Engine**

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Title 40: Protection of Environment

PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES (CONTINUED)

Subpart III—Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

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SOURCE: 71 FR 39172, July 11, 2006, unless otherwise noted.

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WHAT THIS SUBPART COVERS

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§60.4200 Am I subject to this subpart?

(a) The provisions of this subpart are applicable to manufacturers, owners, and operators of stationary compression ignition (CI) internal combustion engines (ICE) and other persons as specified in paragraphs (a)(1) through (4) 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 CI ICE with a displacement of less than 30 liters per cylinder where the model year is:~~

(i) 2007 or later, for engines that are not fire pump engines;

(ii) The model year listed in Table 3 to this subpart or later model year, for fire pump engines.

(2) Owners and operators of stationary CI ICE that commence construction after July 11, 2005, where the stationary CI ICE are:

(i) Manufactured after April 1, 2006, and are not fire pump engines, or

(ii) Manufactured as a certified National Fire Protection Association (NFPA) fire pump engine after July 1, 2006.

(3) Owners and operators of any stationary CI ICE that are modified or reconstructed after July 11, 2005 and any person that modifies or reconstructs any stationary CI ICE after July 11, 2005.

(4) The provisions of §60.4208 of this subpart are applicable to all owners and operators of stationary CI ICE that commence construction after July 11, 2005.

(b) The provisions of this subpart are not applicable to stationary CI ICE being tested at a stationary CI ICE 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 part 70 or 40 CFR part 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 applicable to area sources.

(d) Stationary CI ICE may be eligible for exemption from the requirements of this subpart as described in 40 CFR part 1068, subpart C (or the exemptions described in 40 CFR part 89, subpart J and 40 CFR part 94, subpart J, 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.

(e) Owners and operators of facilities with CI ICE 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 nonroad engine provisions, are not required to meet any other provisions under this subpart with regard to such engines.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37967, June 28, 2011]

This subpart is applicable because 60.4200(a)(2)(i) and 60.4200(a)(4) apply to the emergency diesel generator. The model year for the generator is 2013, and it was constructed in 2013.

EMISSION STANDARDS FOR MANUFACTURERS

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§60.4201—What emission standards must I meet for non-emergency engines if I am a stationary CI internal combustion engine manufacturer?

(a) Stationary CI internal combustion engine manufacturers must certify their 2007 model year and later non-emergency stationary CI ICE with a maximum engine power less than or equal to 2,237 kilowatt (KW) (3,000 horsepower (HP)) and a displacement of less than 10 liters per cylinder to the certification emission standards for new nonroad CI engines in 40 CFR 89.112, 40 CFR 89.113, 40 CFR 1039.101, 40 CFR 1039.102, 40 CFR 1039.104, 40 CFR 1039.105, 40 CFR 1039.107, and 40 CFR 1039.115, as applicable, for all pollutants, for the same model year and maximum engine power.

(b) Stationary CI internal combustion engine manufacturers must certify their 2007 through 2010 model year non-emergency stationary CI ICE with a maximum engine power greater than 2,237 KW (3,000 HP) and a displacement of less than 10 liters per cylinder to the emission standards in table 1 to this subpart, for all pollutants, for the same maximum engine power.

(c) Stationary CI internal combustion engine manufacturers must certify their 2011 model year and later non-emergency stationary CI ICE with a maximum engine power greater than 2,237 KW (3,000 HP) and a displacement of less than 10 liters per cylinder to the certification emission standards for new nonroad CI engines in 40 CFR 1039.101, 40 CFR 1039.102, 40 CFR 1039.104, 40 CFR 1039.105, 40 CFR 1039.107, and 40 CFR 1039.115, as applicable, for all pollutants, for the same maximum engine power.

(d) Stationary CI internal combustion engine manufacturers must certify the following non-emergency stationary CI ICE to the certification emission standards for new marine CI engines in 40 CFR 94.8, as applicable, for all pollutants, for the same displacement and maximum engine power:

- (1) Their 2007 model year through 2012 non-emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder;
- (2) Their 2013 model year non-emergency stationary CI ICE with a maximum engine power greater than or equal to 3,700 KW (4,958 HP) and a displacement of greater than or equal to 10 liters per cylinder and less than 15 liters per cylinder; and
- (3) Their 2013 model year non-emergency stationary CI ICE with a displacement of greater than or equal to 15 liters per cylinder and less than 30 liters per cylinder.

(e) Stationary CI internal combustion engine manufacturers must certify the following non-emergency stationary CI ICE to the certification emission standards and other requirements for new marine CI engines in 40 CFR 1042.101, 40 CFR 1042.107, 40 CFR 1042.110, 40 CFR 1042.115, 40 CFR 1042.120, and 40 CFR 1042.145, as applicable, for all pollutants, for the same displacement and maximum engine power:

- (1) Their 2013 model year non-emergency stationary CI ICE with a maximum engine power less than 3,700 KW (4,958 HP) and a displacement of greater than or equal to 10 liters per cylinder and less than 15 liters per cylinder; and

(2) Their 2014 model year and later non-emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder.

(f) Notwithstanding the requirements in paragraphs (a) through (c) of this section, stationary non-emergency CI ICE identified in paragraphs (a) and (c) may be certified to the provisions of 40 CFR part 94 or, if Table 1 to 40 CFR 1042.1 identifies 40 CFR part 1042 as being applicable, 40 CFR part 1042, if the engines will be used solely in either or both of the following locations:

(1) Remote areas of Alaska; and

(2) Marine offshore installations.

(g) Notwithstanding the requirements in paragraphs (a) through (f) of this section, stationary CI internal combustion engine manufacturers are not required to certify reconstructed engines; however manufacturers may elect to do so. The reconstructed engine must be certified to the emission standards specified in paragraphs (a) through (e) of this section that are applicable to the model year, maximum engine power, and displacement of the reconstructed stationary CI ICE.

(h) Stationary CI ICE certified to the standards in 40 CFR part 1039 and equipped with auxiliary emission control devices (AECDs) as specified in 40 CFR 1039.665 must meet the Tier 1 certification emission standards for new nonroad CI engines in 40 CFR 89.112 while the AECD is activated during a qualified emergency situation. A qualified emergency situation is defined in 40 CFR 1039.665. When the qualified emergency situation has ended and the AECD is deactivated, the engine must resume meeting the otherwise applicable emission standard specified in this section.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37967, June 28, 2011; 81 FR 44219, July 7, 2016]

This subsection does not apply. Idaho Power is not an engine manufacturer, rather Idaho Power is an owner and operator of an affected unit under this subpart.

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§60.4202 What emission standards must I meet for emergency engines if I am a stationary CI internal combustion engine manufacturer?

(a) Stationary CI internal combustion engine manufacturers must certify their 2007 model year and later emergency stationary CI ICE with a maximum engine power less than or equal to 2,237 KW (3,000 HP) and a displacement of less than 10 liters per cylinder that are not fire pump engines to the emission standards specified in paragraphs (a)(1) through (2) of this section.

(1) For engines with a maximum engine power less than 37 KW (50 HP):

(i) The certification emission standards for new nonroad CI engines for the same model year and maximum engine power in 40 CFR 89.112 and 40 CFR 89.113 for all pollutants for model year 2007 engines, and

(ii) The certification emission standards for new nonroad CI engines in 40 CFR 1039.104, 40 CFR 1039.105, 40 CFR 1039.107, 40 CFR 1039.115, and table 2 to this subpart, for 2008 model year and later engines.

(2) For engines with a maximum engine power greater than or equal to 37 KW (50 HP), the certification emission standards for new nonroad CI engines for the same model year and maximum engine power in 40 CFR 89.112 and 40 CFR 89.113 for all pollutants beginning in model year 2007.

(b) ~~Stationary CI internal combustion engine manufacturers must certify their 2007 model year and later emergency stationary CI ICE with a maximum engine power greater than 2,237 KW (3,000 HP) and a displacement of less than 10 liters per cylinder that are not fire pump engines to the emission standards specified in paragraphs (b)(1) through (2) of this section.~~

~~(1) For 2007 through 2010 model years, the emission standards in table 1 to this subpart, for all pollutants, for the same maximum engine power.~~

~~(2) For 2011 model year and later, the certification emission standards for new nonroad CI engines for engines of the same model year and maximum engine power in 40 CFR 89.112 and 40 CFR 89.113 for all pollutants.~~

(c) {Reserved}

~~(d) Beginning with the model years in table 3 to this subpart, stationary CI internal combustion engine manufacturers must certify their fire pump stationary CI ICE to the emission standards in table 4 to this subpart, for all pollutants, for the same model year and NFPA nameplate power.~~

~~(e) Stationary CI internal combustion engine manufacturers must certify the following emergency stationary CI ICE that are not fire pump engines to the certification emission standards for new marine CI engines in 40 CFR 94.8, as applicable, for all pollutants, for the same displacement and maximum engine power:~~

~~(1) Their 2007 model year through 2012 emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder;~~

~~(2) Their 2013 model year and later emergency stationary CI ICE with a maximum engine power greater than or equal to 3,700 KW (4,958 HP) and a displacement of greater than or equal to 10 liters per cylinder and less than 15 liters per cylinder;~~

~~(3) Their 2013 model year emergency stationary CI ICE with a displacement of greater than or equal to 15 liters per cylinder and less than 30 liters per cylinder; and~~

~~(4) Their 2014 model year and later emergency stationary CI ICE with a maximum engine power greater than or equal to 2,000 KW (2,682 HP) and a displacement of greater than or equal to 15 liters per cylinder and less than 30 liters per cylinder.~~

~~(f) Stationary CI internal combustion engine manufacturers must certify the following emergency stationary CI ICE to the certification emission standards and other requirements applicable to Tier 3 new~~

marine CI engines in 40 CFR 1042.101, 40 CFR 1042.107, 40 CFR 1042.115, 40 CFR 1042.120, and 40 CFR 1042.145, for all pollutants, for the same displacement and maximum engine power:

(1) Their 2013 model year and later emergency stationary CI ICE with a maximum engine power less than 3,700 KW (4,958 HP) and a displacement of greater than or equal to 10 liters per cylinder and less than 15 liters per cylinder; and

(2) Their 2014 model year and later emergency stationary CI ICE with a maximum engine power less than 2,000 KW (2,682 HP) and a displacement of greater than or equal to 15 liters per cylinder and less than 30 liters per cylinder.

(g) Notwithstanding the requirements in paragraphs (a) through (d) of this section, stationary emergency CI internal combustion engines identified in paragraphs (a) and (c) may be certified to the provisions of 40 CFR part 94 or, if Table 2 to 40 CFR 1042.101 identifies Tier 3 standards as being applicable, the requirements applicable to Tier 3 engines in 40 CFR part 1042, if the engines will be used solely in either or both of the following locations:

(1) Remote areas of Alaska; and

(2) Marine offshore installations.

(h) Notwithstanding the requirements in paragraphs (a) through (f) of this section, stationary CI internal combustion engine manufacturers are not required to certify reconstructed engines; however manufacturers may elect to do so. The reconstructed engine must be certified to the emission standards specified in paragraphs (a) through (f) of this section that are applicable to the model year, maximum engine power and displacement of the reconstructed emergency stationary CI ICE.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37968, June 28, 2011; 81 FR 44219, July 7, 2016]

Idaho Power is not an engine manufacturer, however 60.4205(b) below requires compliance with applicable sections of 60.4202 which requires compliance with 60.4202(a)(2). This subsection requires compliance with 40 CFR 89.112 and 40 CFR 89.113 for all pollutants.

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Title 40: Protection of Environment

PART 89—CONTROL OF EMISSIONS FROM NEW AND IN-USE NONROAD COMPRESSION-IGNITION ENGINES
Subpart B—Emission Standards and Certification Provisions

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

(a) Exhaust emission from nonroad engines to which this subpart is applicable shall not exceed the applicable exhaust emission standards contained in Table 1, as follows:

Table 1.—Emission Standards (g/kW-hr)

| Rated Power (kW) | Tier | Model Year ¹ | NO _x | HC | NMHC + NO _x | CO | PM |
|------------------|--------|-------------------------|-----------------|-----|------------------------|------|------|
| kW<8 | Tier 1 | 2000 | — | — | 10.5 | 8.0 | 1.0 |
| | Tier 2 | 2005 | — | — | 7.5 | 8.0 | 0.80 |
| 8≤kW<19 | Tier 1 | 2000 | — | — | 9.5 | 6.6 | 0.80 |
| | Tier 2 | 2005 | — | — | 7.5 | 6.6 | 0.80 |
| 19≤kW<37 | Tier 1 | 1999 | — | — | 9.5 | 5.5 | 0.80 |
| | Tier 2 | 2004 | — | — | 7.5 | 5.5 | 0.60 |
| 37≤kW<75 | Tier 1 | 1998 | 9.2 | — | — | — | — |
| | Tier 2 | 2004 | — | — | 7.5 | 5.0 | 0.40 |
| | Tier 3 | 2008 | — | — | 4.7 | 5.0 | |
| 75≤kW<130 | Tier 1 | 1997 | 9.2 | — | — | — | — |
| | Tier 2 | 2003 | — | — | 6.6 | 5.0 | 0.30 |
| | Tier 3 | 2007 | — | — | 4.0 | 5.0 | |
| 130≤kW<225 | Tier 1 | 1996 | 9.2 | 1.3 | — | 11.4 | 0.54 |
| | Tier 2 | 2003 | — | — | 6.6 | 3.5 | 0.20 |
| | Tier 3 | 2006 | — | — | 4.0 | 3.5 | |
| 225≤kW<450 | Tier 1 | 1996 | 9.2 | 1.3 | — | 11.4 | 0.54 |
| | Tier 2 | 2001 | — | — | 6.4 | 3.5 | 0.20 |
| | Tier 3 | 2006 | — | — | 4.0 | 3.5 | |
| 450≤kW≤560 | Tier 1 | 1996 | 9.2 | 1.3 | — | 11.4 | 0.54 |
| | Tier 2 | 2002 | — | — | 6.4 | 3.5 | 0.20 |
| | Tier 3 | 2006 | — | — | 4.0 | 3.5 | |
| kW>560 | Tier 1 | 2000 | 9.2 | 1.3 | — | 11.4 | 0.54 |
| | Tier 2 | 2006 | — | — | 6.4 | 3.5 | 0.20 |

¹ The model years listed indicate the model years for which the specified tier of standards take effect.

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(b) Exhaust emissions of oxides of nitrogen, carbon monoxide, hydrocarbon, and nonmethane hydrocarbon are measured using the procedures set forth in subpart E of this part.

(c) Exhaust emission of particulate matter is measured using the California Regulations for New 1996 and Later Heavy-Duty Off-Road Diesel Cycle Engines. This procedure is incorporated by reference. See §89.6.

(d) In lieu of the NO_x standards, NMHC + NO_x standards, and PM standards specified in paragraph (a) of this section, manufacturers may elect to include engine families in the averaging, banking, and trading program, the provisions of which are specified in subpart C of this part. The manufacturer must set a family emission limit (FEL) not to exceed the levels contained in Table 2. The FEL established by the manufacturer serves as the standard for that engine family. Table 2 follows:

Table 2.—Upper Limit for Family Emission Limits (g/kW-hr)

| Rated Power (kW) | Tier | Model Year ¹ | NO _x FEL | NMHC+ NO _x FEL | PM FEL |
|------------------|--------|-------------------------|---------------------|---------------------------|--------|
| kW<8 | Tier 1 | 2010 | — | 16.0 | 1.2 |
| | Tier 2 | 2005 | — | 10.5 | 1.0 |
| 8≤kW<19 | Tier 1 | 2000 | — | 16.0 | 1.2 |
| | Tier 2 | 2005 | — | 9.5 | 0.80 |
| 19≤kW<37 | Tier 1 | 1999 | — | 16.0 | 1.2 |
| | Tier 2 | 2004 | — | 9.5 | 0.80 |
| 37≤kW<75 | Tier 1 | 1998 | 14.6 | — | — |
| | Tier 2 | 2004 | — | 11.5 | 1.2 |
| | Tier 3 | 2008 | — | 7.5 | |
| 75≤kW<130 | Tier 1 | 1997 | 14.6 | — | — |
| | Tier 2 | 2003 | — | 11.5 | 1.2 |
| | Tier 3 | 2007 | — | 6.6 | |
| 130≤kW<225 | Tier 1 | 1996 | 14.6 | — | — |
| | Tier 2 | 2003 | — | 10.5 | 0.54 |
| | Tier 3 | 2006 | — | 6.6 | |
| 225≤kW<450 | Tier 1 | 1996 | 14.6 | — | — |
| | Tier 2 | 2001 | — | 10.5 | 0.54 |
| | Tier 3 | 2006 | — | 6.4 | |
| 450≤kW≤560 | Tier 1 | 1996 | 14.6 | — | — |
| | Tier 2 | 2002 | — | 10.5 | 0.54 |
| | Tier 3 | 2006 | — | 6.4 | |
| kW>560 | Tier 1 | 2000 | 14.6 | — | — |
| | Tier 2 | 2006 | — | 10.5 | 0.54 |

¹ The model years listed indicate the model years for which the specified tier of limits take effect.

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(e) Naturally aspirated nonroad engines to which this subpart is applicable shall not discharge crankcase emissions into the ambient atmosphere, unless such crankcase emissions are

permanently routed into the exhaust and included in all exhaust emission measurements. This provision applies to all Tier 2 engines and later models. This provision does not apply to engines using turbochargers, pumps, blowers, or superchargers for air induction.

(f) The following paragraphs define the requirements for low-emitting Blue Sky Series engines:

(1) *Voluntary standards.* Engines may be designated "Blue Sky Series" engines by meeting the voluntary standards listed in Table 3, which apply to all certification and in-use testing, as follows:

TABLE 3—VOLUNTARY EMISSION STANDARDS (G/KW-HR)

| Rated Brake Power (kW) | | |
|------------------------|------------------------|------|
| | NMHC + NO _x | PM |
| kW < 8 | 4.6 | 0.48 |
| 8 ≤ kW < 19 | 4.5 | 0.48 |
| 19 ≤ kW < 37 | 4.5 | 0.36 |
| 37 ≤ kW < 75 | 4.7 | 0.24 |
| 75 ≤ kW < 130 | 4.0 | 0.18 |
| 130 ≤ kW ≤ 560 | 4.0 | 0.12 |
| kW > 560 | 3.8 | 0.12 |

(2) *Additional standards.* Blue Sky Series engines are subject to all provisions that would otherwise apply under this part, except as specified in paragraph (f)(3) of this section.

(3) *Test procedures.* NO_x, NMHC, and PM emissions are measured using the procedures set forth in 40 CFR part 1065, in lieu of the procedures set forth in subpart E of this part. CO emissions may be measured using the procedures set forth either in 40 CFR part 1065 or in subpart E of this part. Manufacturers may use an alternate procedure to demonstrate the desired level of emission control if approved in advance by the Administrator. Engines meeting the requirements to qualify as Blue Sky Series engines must be capable of maintaining a comparable level of emission control when tested using the procedures set forth in paragraph (c) of this section and subpart E of this part. The numerical emission levels measured using the procedures from subpart E of this part may be up to 20 percent higher than those measured using the procedures from 40 CFR part 1065 and still be considered comparable.

(g) Manufacturers of engines at or above 37 kW and below 56 kW from model years 2008 through 2012 that are subject to the standards of this section under 40 CFR 1039.102 must take the following additional steps:

(1) State the applicable PM standard on the emission control information label.

(2) Add information to the emission-related installation instructions to clarify the equipment manufacturer's obligations under 40 CFR 1039.104(f).

[59 FR 31335, June 17, 1994. Redesignated and amended at 63 FR 56995, 57000, Oct. 23, 1998; 69 FR 39212, June 29, 2004; 70 FR 40444, July 13, 2005]

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Title 40: Protection of Environment

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

Subpart B—Emission Standards and Certification Provisions

§89.113 Smoke emission standard.

(a) Exhaust opacity from compression-ignition nonroad engines for which this subpart is applicable must not exceed:

(1) 20 percent during the acceleration mode;

(2) 15 percent during the lugging mode; and

(3) 50 percent during the peaks in either the acceleration or lugging modes.

(b) Opacity levels are to be measured and calculated as set forth in 40 CFR part 86, subpart I. Notwithstanding the provisions of 40 CFR part 86, subpart I, two-cylinder nonroad engines may be tested using an exhaust muffler that is representative of exhaust mufflers used with the engines in use.

(c) The following engines are exempt from the requirements of this section:

(1) Single-cylinder engines;

(2) Propulsion marine diesel engines; and

(3) Constant-speed engines.

[59 FR 31335, June 17, 1994. Redesignated and amended at 63 FR 56995, 57003, Oct. 23, 1998]

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560.4203—How long must my engines meet the emission standards if I am a manufacturer of stationary CI internal combustion engines?

Engines manufactured by stationary CI internal combustion engine manufacturers must meet the emission standards as required in §§60.4201 and 60.4202 during the certified emissions life of the engines.

[76 FR 37968, June 28, 2011]

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EMISSION STANDARDS FOR OWNERS AND OPERATORS

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560.4204 What emission standards must I meet for non-emergency engines if I am an owner or operator of a stationary CI internal combustion engine?

(a) Owners and operators of pre-2007 model year non-emergency stationary CI ICE with a displacement of less than 10 liters per cylinder must comply with the emission standards in table 1 to this subpart. Owners and operators of pre-2007 model year non-emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder must comply with the emission standards in 40 CFR 94.8(a)(1).

(b) Owners and operators of 2007 model year and later non-emergency stationary CI ICE with a displacement of less than 30 liters per cylinder must comply with the emission standards for new CI engines in §60.4201 for their 2007 model year and later stationary CI ICE, as applicable.

(c) Owners and operators of non-emergency stationary CI engines with a displacement of greater than or equal to 30 liters per cylinder must meet the following requirements:

(1) For engines installed prior to January 1, 2012, limit the emissions of NO_x in the stationary CI internal combustion engine exhaust to the following:

(i) 17.0 grams per kilowatt-hour (g/KW-hr) (12.7 grams per horsepower-hr (g/HP-hr)) when maximum engine speed is less than 130 revolutions per minute (rpm);

(ii) $45 \cdot n^{-0.2}$ g/KW-hr ($34 \cdot n^{-0.2}$ g/HP-hr) when maximum engine speed is 130 or more but less than 2,000 rpm, where n is maximum engine speed; and

(iii) 9.8 g/KW-hr (7.3 g/HP-hr) when maximum engine speed is 2,000 rpm or more.

(2) For engines installed on or after January 1, 2012 and before January 1, 2016, limit the emissions of NO_x in the stationary CI internal combustion engine exhaust to the following:

(i) 14.4 g/KW-hr (10.7 g/HP-hr) when maximum engine speed is less than 130 rpm;

(ii) $44 \cdot n^{-0.23}$ g/KW-hr ($33 \cdot n^{-0.23}$ g/HP-hr) when maximum engine speed is greater than or equal to 130 but less than 2,000 rpm and where n is maximum engine speed; and

(iii) 7.7 g/KW-hr (5.7 g/HP-hr) when maximum engine speed is greater than or equal to 2,000 rpm.

(3) For engines installed on or after January 1, 2016, limit the emissions of NO_x in the stationary CI internal combustion engine exhaust to the following:

(i) 3.4 g/KW-hr (2.5 g/HP-hr) when maximum engine speed is less than 130 rpm;

(ii) $9.0 \cdot n^{-0.70}$ g/KW-hr ($6.7 \cdot n^{-0.70}$ g/HP-hr) where n (maximum engine speed) is 130 or more but less than 2,000 rpm; and

(iii) 2.0 g/KW-hr (1.5 g/HP-hr) where maximum engine speed is greater than or equal to 2,000 rpm.

(4) Reduce particulate matter (PM) emissions by 60 percent or more, or limit the emissions of PM in the stationary CI internal combustion engine exhaust to 0.15 g/KW-hr (0.11 g/HP-hr).

(d) Owners and operators of non-emergency stationary CI ICE with a displacement of less than 30 liters per cylinder who conduct performance tests in-use must meet the not-to-exceed (NTE) standards as indicated in §60.4212.

(e) Owners and operators of any modified or reconstructed non-emergency stationary CI ICE subject to this subpart must meet the emission standards applicable to the model year, maximum engine power, and displacement of the modified or reconstructed non-emergency stationary CI ICE that are specified in paragraphs (a) through (d) of this section.

(f) Owners and operators of stationary CI ICE certified to the standards in 40 CFR part 1039 and equipped with AECDs as specified in 40 CFR 1039.665 must meet the Tier 1 certification emission standards for new nonroad CI engines in 40 CFR 89.112 while the AECD is activated during a qualified emergency situation. A qualified emergency situation is defined in 40 CFR 1039.665. When the qualified emergency situation has ended and the AECD is deactivated, the engine must resume meeting the otherwise applicable emission standard specified in this section.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37968, June 28, 2011; 81 FR 44219, July 7, 2016]

This subsection is not applicable because the CI ICE is classified as an emergency generator.

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§60.4205 What emission standards must I meet for emergency engines if I am an owner or operator of a stationary CI internal combustion engine?

(a) Owners and operators of pre-2007 model year emergency stationary CI ICE with a displacement of less than 10 liters per cylinder that are not fire pump engines must comply with the emission standards in Table 1 to this subpart. Owners and operators of pre-2007 model year emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder that are not fire pump engines must comply with the emission standards in 40 CFR 94.8(a)(1).

(b) Owners and operators of 2007 model year and later emergency stationary CI ICE with a displacement of less than 30 liters per cylinder that are not fire pump engines must comply with the emission standards for new nonroad CI engines in §60.4202, for all pollutants, for the same model year and maximum engine power for their 2007 model year and later emergency stationary CI ICE.

(c) Owners and operators of fire pump engines with a displacement of less than 30 liters per cylinder must comply with the emission standards in table 4 to this subpart, for all pollutants.

(d) Owners and operators of emergency stationary CI engines with a displacement of greater than or equal to 30 liters per cylinder must meet the requirements in this section.

(1) For engines installed prior to January 1, 2012, limit the emissions of NO_x in the stationary CI internal combustion engine exhaust to the following:

(i) 17.0 g/KW-hr (12.7 g/HP-hr) when maximum engine speed is less than 130 rpm;

(ii) $45 \cdot n^{-0.2}$ g/KW-hr ($34 \cdot n^{-0.2}$ g/HP-hr) when maximum engine speed is 130 or more but less than 2,000 rpm, where n is maximum engine speed; and

(iii) 9.8 g/kW-hr (7.3 g/HP-hr) when maximum engine speed is 2,000 rpm or more.

(2) For engines installed on or after January 1, 2012, limit the emissions of NO_x in the stationary CI internal combustion engine exhaust to the following:

(i) 14.4 g/KW-hr (10.7 g/HP-hr) when maximum engine speed is less than 130 rpm;

(ii) $44 \cdot n^{-0.23}$ g/KW-hr ($33 \cdot n^{-0.23}$ g/HP-hr) when maximum engine speed is greater than or equal to 130 but less than 2,000 rpm and where n is maximum engine speed; and

(iii) 7.7 g/KW-hr (5.7 g/HP-hr) when maximum engine speed is greater than or equal to 2,000 rpm.

(3) Limit the emissions of PM in the stationary CI internal combustion engine exhaust to 0.40 g/KW-hr (0.30 g/HP-hr).

(e) Owners and operators of emergency stationary CI ICE with a displacement of less than 30 liters per cylinder who conduct performance tests in-use must meet the NTE standards as indicated in §60.4212.

(f) Owners and operators of any modified or reconstructed emergency stationary CI ICE subject to this subpart must meet the emission standards applicable to the model year, maximum engine power, and displacement of the modified or reconstructed CI ICE that are specified in paragraphs (a) through (e) of this section.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37969, June 28, 2011]

This subsection is applicable because the CI ICE is classified as an emergency generator. The generator includes a CI ICE with a displacement of less than 30 liters per cylinder of 2007 model year or later.

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§60.4206 How long must I meet the emission standards if I am an owner or operator of a stationary CI internal combustion engine?

Owners and operators of stationary CI ICE must operate and maintain stationary CI ICE that achieve the emission standards as required in §§60.4204 and 60.4205 over the entire life of the engine.

[76 FR 37969, June 28, 2011]

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FUEL REQUIREMENTS FOR OWNERS AND OPERATORS

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§60.4207 What fuel requirements must I meet if I am an owner or operator of a stationary CI internal combustion engine subject to this subpart?

(a) Beginning October 1, 2007, owners and operators of stationary CI ICE subject to this subpart that use diesel fuel must use diesel fuel that meets the requirements of 40 CFR 80.510(a).

(b) Beginning October 1, 2010, owners and operators of stationary CI ICE subject to this subpart with a displacement of less than 30 liters per cylinder that use diesel fuel must use diesel fuel that meets the requirements of 40 CFR 80.510(b) for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to October 1, 2010, may be used until depleted.

(c) [Reserved]

(d) Beginning June 1, 2012, owners and operators of stationary CI ICE subject to this subpart with a displacement of greater than or equal to 30 liters per cylinder are no longer subject to the requirements of paragraph (a) of this section, and must use fuel that meets a maximum per-gallon sulfur content of 1,000 parts per million (ppm).

(e) Stationary CI ICE that have a national security exemption under §60.4200(d) are also exempt from the fuel requirements in this section.

This subsection is applicable because the generator includes a CI ICE with a displacement of less than 30 liters per cylinder of 2007 model year or later and therefor the CI ICE must use fuel that meets requirements of 40 CFR 80.510(b).

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

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

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

(2) Cetane index or aromatic content, as follows:

(i) A minimum cetane index of 40; or

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

(b) Beginning June 1, 2010. Except as otherwise specifically provided in this subpart, all NR and LM diesel fuel is subject to the following per-gallon standards:

(1) Sulfur content.

(i) 15 ppm maximum for NR diesel fuel.

(ii) 500 ppm maximum for LM diesel fuel.

(2) Cetane index or aromatic content, as follows:

(i) A minimum cetane index of 40; or

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

(c) Beginning June 1, 2012. Except as otherwise specifically provided in this subpart, all NRLM diesel fuel is subject to the following per-gallon standards:

(1) Sulfur content. 15 ppm maximum.

(2) Cetane index or aromatic content, as follows:

(i) A minimum cetane index of 40; or

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

(d) Marking provisions. From June 1, 2007 through May 31, 2010:

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

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

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

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

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

(e) Marking provisions. From June 1, 2010 through May 31, 2012:

(1) Except as provided for in paragraph (i) of this section, prior to distribution from a truck loading terminal, all heating oil and diesel fuel designated as 500 ppm sulfur LM diesel fuel shall contain six milligrams per liter of solvent yellow 124.

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

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

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

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

(f) Marking provisions. From June 1, 2012 through November 30, 2014:

(1) Except as provided for in paragraph (i) of this section, prior to distribution from a truck loading terminal, all heating oil shall contain six milligrams per liter of marker solvent yellow 124 from June 1, 2012 through May 31, 2014.

(2) All motor vehicle and NR diesel fuel shall be free of marker solvent yellow 124, and all LM diesel fuel shall be free of marker solvent yellow 124 beginning December 1, 2012.

(3) From June 1, 2012 through November 30, 2012, any diesel fuel that contains greater than or equal to 0.10 milligrams per liter of marker solvent yellow 124 shall be deemed to be either heating oil or 500 ppm sulfur LM diesel fuel and shall be prohibited from use in any motor vehicle or nonroad diesel engine (excluding locomotive, or marine diesel engines).

(4) From December 1, 2012 through November 30, 2014, any diesel fuel that contains greater than or equal to 0.10 milligrams per liter of marker solvent yellow 124 shall be deemed to be heating oil and shall be prohibited from use in any motor vehicle or nonroad diesel engine (including locomotive, or marine diesel engines).

(5) Except as provided for in paragraph (i) of this section, from June 1, 2012 through November 30, 2014, any diesel fuel, other than jet fuel or kerosene that is downstream of a truck loading terminal, that contains less than 0.10 milligrams per liter of marker solvent yellow 124 shall be considered motor vehicle diesel fuel or NRLM diesel fuel, as appropriate.

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

(7) Beginning December 1, 2014 there are no requirements or restrictions on the use of marker solvent yellow 124 under this subpart.

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

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

(2) Alaska.

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

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

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

(i) The marking requirements of paragraphs (d)(1), (d)(4), (e)(1), (e)(4), (f)(1), and (f)(4) of this section do not apply to heating oil, or, for paragraphs (e)(1) and (e)(4) of this section, diesel fuel

designated as LM diesel fuel that is distributed from a truck loading terminal located within the areas listed in paragraphs (g)(1) and (g)(2) of this section and is for sale or intended for sale within these areas, or that is distributed from any other truck loading terminal and is for sale or intended for sale within the area listed in (g)(2) of this section.

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

(k) Beginning June 1, 2014, all ECA marine fuel is subject to a maximum per-gallon sulfur content of 1,000 ppm. Note that ECA marine fuel does not include fuel used in exempted steamships (or other exempted or excluded vessels) or fuel that exceeds the fuel-sulfur limits while operating in an ECA or an ECA associated area as allowed by the U.S. government consistent with MARPOL Annex VI Regulation 3 or Regulation 4 (see §80.2(ttt)).

[69 FR 39168, June 29, 2004, as amended at 70 FR 40895, July 15, 2005; 75 FR 22969, Apr. 30, 2010; 77 FR 61293, Oct. 9, 2012; 80 FR 9096, Feb. 19, 2015]

This standard requires all purchases of fuel to have a sulfur content less than 15 ppm.

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OTHER REQUIREMENTS FOR OWNERS AND OPERATORS

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§60.4208 What is the deadline for importing or installing stationary CI ICE produced in previous model years?

(a) After December 31, 2008, owners and operators may not install stationary CI ICE (excluding fire pump engines) that do not meet the applicable requirements for 2007 model year engines.

CI ICE was installed in 2013 and complied with requirements for 2013 model year engines.

(b) After December 31, 2009, owners and operators may not install stationary CI ICE with a maximum engine power of less than 19 KW (25 HP) (excluding fire pump engines) that do not meet the applicable requirements for 2008 model year engines.

(c) After December 31, 2014, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 19 KW (25 HP) and less than 56 KW (75 HP) that do not meet the applicable requirements for 2013 model year non-emergency engines.

~~(d) After December 31, 2013, owners and operators may not install non-emergency stationary CIICE with a maximum engine power of greater than or equal to 56 KW (75 HP) and less than 130 KW (175 HP) that do not meet the applicable requirements for 2012 model year non-emergency engines.~~

~~(e) After December 31, 2012, owners and operators may not install non-emergency stationary CIICE with a maximum engine power of greater than or equal to 130 KW (175 HP), including those above 560 KW (750 HP), that do not meet the applicable requirements for 2011 model year non-emergency engines.~~

~~(f) After December 31, 2016, owners and operators may not install non-emergency stationary CIICE with a maximum engine power of greater than or equal to 560 KW (750 HP) that do not meet the applicable requirements for 2015 model year non-emergency engines.~~

~~(g) After December 31, 2018, owners and operators may not install non-emergency stationary CIICE with a maximum engine power greater than or equal to 600 KW (804 HP) and less than 2,000 KW (2,680 HP) and a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder that do not meet the applicable requirements for 2017 model year non-emergency engines.~~

~~(h) In addition to the requirements specified in §§60.4201, 60.4202, 60.4204, and 60.4205, it is prohibited to import stationary CIICE with a displacement of less than 30 liters per cylinder that do not meet the applicable requirements specified in paragraphs (a) through (g) of this section after the dates specified in paragraphs (a) through (g) of this section.~~

~~(i) The requirements of this section do not apply to owners or operators of stationary CIICE that have been modified, reconstructed, and do not apply to engines that were removed from one existing location and reinstalled at a new location.~~

[71 FR 39172, July 11, 2006, as amended at 76 FR 37969, June 28, 2011]

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§60.4209 What are the monitoring requirements if I am an owner or operator of a stationary CI internal combustion engine?

If you are an owner or operator, you must meet the monitoring requirements of this section. In addition, you must also meet the monitoring requirements specified in §60.4211.

(a) If you are an owner or operator of an emergency stationary CI internal combustion engine that does not meet the standards applicable to non-emergency engines, you must install a non-resettable hour meter prior to startup of the engine.

(b) If you are an owner or operator of a stationary CI internal combustion engine equipped with a diesel particulate filter to comply with the emission standards in §60.4204, the diesel particulate filter must be installed with a backpressure monitor that notifies the owner or operator when the high backpressure limit of the engine is approached.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37969, June 28, 2011]

The CI ICE had a non-resettable hour meter prior to startup of the engine. The engine includes a periodic trap oxidizer or a diesel particulate filter.

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COMPLIANCE REQUIREMENTS

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560.4210 What are my compliance requirements if I am a stationary CI internal combustion engine manufacturer?

(a) Stationary CI internal combustion engine manufacturers must certify their stationary CI ICE with a displacement of less than 10 liters per cylinder to the emission standards specified in §60.4201(a) through (c) and §60.4202(a), (b) and (d) using the certification procedures required in 40 CFR part 89, subpart B, or 40 CFR part 1039, subpart C, as applicable, and must test their engines as specified in those parts. For the purposes of this subpart, engines certified to the standards in table 1 to this subpart shall be subject to the same requirements as engines certified to the standards in 40 CFR part 89. For the purposes of this subpart, engines certified to the standards in table 4 to this subpart shall be subject to the same requirements as engines certified to the standards in 40 CFR part 89, except that engines with NFPA nameplate power of less than 37 KW (50 HP) certified to model year 2011 or later standards shall be subject to the same requirements as engines certified to the standards in 40 CFR part 1039.

(b) Stationary CI internal combustion engine manufacturers must certify their stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder to the emission standards specified in §60.4201(d) and (e) and §60.4202(e) and (f) using the certification procedures required in 40 CFR part 94, subpart C, or 40 CFR part 1042, subpart C, as applicable, and must test their engines as specified in 40 CFR part 94 or 1042, as applicable.

(c) Stationary CI internal combustion engine manufacturers must meet the requirements of 40 CFR 1039.120, 1039.125, 1039.130, and 1039.135, and 40 CFR part 1068 for engines that are certified to the emission standards in 40 CFR part 1039. Stationary CI internal combustion engine manufacturers must meet the corresponding provisions of 40 CFR part 89, 40 CFR part 94 or 40 CFR part 1042 for engines that would be covered by that part if they were nonroad (including marine) engines. Labels on such engines must refer to stationary engines, rather than or in addition to nonroad or marine engines, as appropriate. Stationary CI internal combustion engine manufacturers must label their engines according to paragraphs (c)(1) through (3) of this section.

(1) Stationary CI internal combustion engines manufactured from January 1, 2006 to March 31, 2006 (January 1, 2006 to June 30, 2006 for fire pump engines), other than those that are part of certified engine families under the nonroad CI engine regulations, must be labeled according to 40 CFR 1039.20.

(2) Stationary CI internal combustion engines manufactured from April 1, 2006 to December 31, 2006 (or, for fire pump engines, July 1, 2006 to December 31 of the year preceding the year listed in table 3 to this subpart) must be labeled according to paragraphs (c)(2)(i) through (iii) of this section:

(i) Stationary CI internal combustion engines that are part of certified engine families under the nonroad regulations must meet the labeling requirements for nonroad CI engines, but do not have to meet the labeling requirements in 40 CFR 1039.20.

(ii) Stationary CI internal combustion engines that meet Tier 1 requirements (or requirements for fire pumps) under this subpart, but do not meet the requirements applicable to nonroad CI engines must be labeled according to 40 CFR 1039.20. The engine manufacturer may add language to the label clarifying that the engine meets Tier 1 requirements (or requirements for fire pumps) of this subpart.

(iii) Stationary CI internal combustion engines manufactured after April 1, 2006 that do not meet Tier 1 requirements of this subpart, or fire pumps engines manufactured after July 1, 2006 that do not meet the requirements for fire pumps under this subpart, may not be used in the U.S. If any such engines are manufactured in the U.S. after April 1, 2006 (July 1, 2006 for fire pump engines), they must be exported or must be brought into compliance with the appropriate standards prior to initial operation. The export provisions of 40 CFR 1068.230 would apply to engines for export and the manufacturers must label such engines according to 40 CFR 1068.230.

(3) Stationary CI internal combustion engines manufactured after January 1, 2007 (for fire pump engines, after January 1 of the year listed in table 3 to this subpart, as applicable) must be labeled according to paragraphs (c)(3)(i) through (iii) of this section.

(i) Stationary CI internal combustion engines that meet the requirements of this subpart and the corresponding requirements for nonroad (including marine) engines of the same model year and HP must be labeled according to the provisions in 40 CFR parts 89, 94, 1039 or 1042, as appropriate.

(ii) Stationary CI internal combustion engines that meet the requirements of this subpart, but are not certified to the standards applicable to nonroad (including marine) engines of the same model year and HP must be labeled according to the provisions in 40 CFR parts 89, 94, 1039 or 1042, as appropriate, but the words "stationary" must be included instead of "nonroad" or "marine" on the label. In addition, such engines must be labeled according to 40 CFR 1039.20.

(iii) Stationary CI internal combustion engines 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.

(d) An engine manufacturer certifying an engine family or families to standards under this subpart that are identical to standards applicable under 40 CFR parts 89, 94, 1039 or 1042 for that model year may certify any such family that contains both nonroad (including marine) 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.

(e) Manufacturers of engine families discussed in paragraph (d) of this section may meet the labeling requirements referred to in paragraph (c) of this section for stationary CI ICE by either adding a separate label containing the information required in paragraph (c) of this section or by adding the words "and stationary" after the word "nonroad" or "marine," as appropriate, to the label.

(f) Starting with the model years shown in table 5 to this subpart, stationary CI internal combustion engine manufacturers must add a permanent label stating that the engine is for stationary emergency use

only to each new emergency stationary CI internal combustion engine greater than or equal to 19 KW (25 HP) that meets all the emission standards for emergency engines in §60.4202 but does not meet all the emission standards for non-emergency engines in §60.4201. The label must be added according to the labeling requirements specified in 40 CFR 1039.135(b). Engine manufacturers must specify in the owner's manual that operation of emergency engines is limited to emergency operations and required maintenance and testing.

(g) Manufacturers of fire pump engines may use the test cycle in table 6 to this subpart for testing fire pump engines and may test at the NFPA-certified nameplate HP, provided that the engine is labeled as "Fire Pump Applications Only".

(h) Engine manufacturers, including importers, may introduce into commerce uncertified engines or engines certified to earlier standards that were manufactured before the new or changed standards took effect until inventories are depleted, as long as such engines are part of normal inventory. For example, if the engine manufacturers' normal industry practice is to keep on hand a one-month supply of engines based on its projected sales, and a new tier of standards starts to apply for the 2009 model year, the engine manufacturer may manufacture engines based on the normal inventory requirements late in the 2008 model year, and sell those engines for installation. The engine manufacturer may not circumvent the provisions of §60.4201 or §60.4202 by stockpiling engines that are built before new or changed standards take effect. Stockpiling of such engines beyond normal industry practice is a violation of this subpart.

(i) The replacement engine provisions of 40 CFR 89.1003(b)(7), 40 CFR 94.1103(b)(3), 40 CFR 94.1103(b)(4) and 40 CFR 1068.240 are applicable to stationary CI engines replacing existing equipment that is less than 15 years old.

(j) Stationary CI ICE manufacturers may equip their stationary CI internal combustion engines certified to the emission standards in 40 CFR part 1039 with AECDs for qualified emergency situations according to the requirements of 40 CFR 1039.665. Manufacturers of stationary CI ICE equipped with AECDs as allowed by 40 CFR 1039.665 must meet all of the requirements in 40 CFR 1039.665 that apply to manufacturers. Manufacturers must document that the engine complies with the Tier 1 standard in 40 CFR 89.112 when the AECD is activated. Manufacturers must provide any relevant testing, engineering analysis, or other information in sufficient detail to support such statement when applying for certification (including amending an existing certificate) of an engine equipped with an AECD as allowed by 40 CFR 1039.665.

IPC is not an CI ICE manufacturer.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37969, June 28, 2011; 81 FR 44219, July 7, 2016]

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§60.4211 What are my compliance requirements if I am an owner or operator of a stationary CI internal combustion engine?

(a) If you are an owner or operator and must comply with the emission standards specified in this subpart, you must do all of the following, except as permitted under paragraph (g) of this section:

(1) Operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's emission-related written instructions;

(2) Change only those emission-related settings that are permitted by the manufacturer; and

(3) Meet the requirements of 40 CFR parts 89, 94 and/or 1068, as they apply to you.

(b) If you are an owner or operator of a pre-2007 model year stationary CI internal combustion engine and must comply with the emission standards specified in §60.4204(a) or 60.4205(a), or if you are an owner or operator of a CI fire pump engine that is manufactured prior to the model years in table 3 to this subpart and must comply with the emission standards specified in §60.4205(c), you must demonstrate compliance according to one of the methods specified in paragraphs (b)(1) through (5) of this section.

(1) Purchasing an engine certified according to 40 CFR part 89 or 40 CFR part 94, as applicable, for the same model year and maximum engine power. 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.

(5) Conducting an initial performance test to demonstrate compliance with the emission standards according to the requirements specified in §60.4212, as applicable.

(c) If you are an owner or operator of a 2007 model year and later stationary CI internal combustion engine and must comply with the emission standards specified in §60.4204(b) or §60.4205(b), or if you are an owner or operator of a CI fire pump engine that is manufactured during or after the model year that applies to your fire pump engine power rating in table 3 to this subpart and must comply with the emission standards specified in §60.4205(c), you must comply by purchasing an engine certified to the emission standards in §60.4204(b), or §60.4205(b) or (c), as applicable, for the same model year and maximum (or in the case of fire pumps, NFPA nameplate) engine power. The engine must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in paragraph (g) of this section.

(d) If you are an owner or operator and must comply with the emission standards specified in §60.4204(c) or §60.4205(d), you must demonstrate compliance according to the requirements specified in paragraphs (d)(1) through (3) of this section.

(1) Conducting an initial performance test to demonstrate initial compliance with the emission standards as specified in §60.4213.

(2) Establishing operating parameters to be monitored continuously to ensure the stationary internal combustion engine continues to meet the emission standards. The owner or operator must petition the

Administrator for approval of operating parameters to be monitored continuously. The petition must include the information described in paragraphs (d)(2)(i) through (v) of this section.

(i) Identification of the specific parameters you propose to monitor continuously;

(ii) A discussion of the relationship between these parameters and NO_x and PM emissions, identifying how the emissions of these pollutants change with changes in these parameters, and how limitations on these parameters will serve to limit NO_x and PM emissions;

(iii) 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;

(iv) A discussion identifying the methods and the instruments you will use to monitor these parameters, as well as the relative accuracy and precision of these methods and instruments; and

(v) A discussion identifying the frequency and methods for recalibrating the instruments you will use for monitoring these parameters.

(3) For non-emergency engines with a displacement of greater than or equal to 30 liters per cylinder, conducting annual performance tests to demonstrate continuous compliance with the emission standards as specified in §60.4213.

(e) If you are an owner or operator of a modified or reconstructed stationary CI internal combustion engine and must comply with the emission standards specified in §60.4204(e) or §60.4205(f), you must demonstrate compliance according to one of the methods specified in paragraphs (e)(1) or (2) of this section.

(1) Purchasing, or otherwise owning or operating, an engine certified to the emission standards in §60.4204(e) or §60.4205(f), as applicable.

(2) Conducting a performance test to demonstrate initial compliance with the emission standards according to the requirements specified in §60.4212 or §60.4213, as appropriate. The test must be conducted within 60 days after the engine commences operation after the modification or reconstruction.

(f) If you own or operate an emergency stationary ICE, you must operate the emergency stationary ICE according to the requirements in paragraphs (f)(1) through (3) of this section. In order for the engine to be considered an emergency stationary ICE under this subpart, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (f)(1) through (3) of this section, is prohibited. If you do not operate the engine according to the requirements in paragraphs (f)(1) through (3) of this section, the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines.

(1) There is no time limit on the use of emergency stationary ICE in emergency situations.

(2) You may operate your emergency stationary ICE for any combination of the purposes specified in paragraphs (f)(2)(i) through (iii) of this section for a maximum of 100 hours per calendar year. Any

operation for non-emergency situations as allowed by paragraph (f)(3) of this section counts as part of the 100 hours per calendar year allowed by this paragraph (f)(2).

(i) Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. 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 calendar year.

(ii) Emergency stationary ICE may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (incorporated by reference, see §60.17), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3.

(iii) Emergency stationary ICE may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency.

(3) Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in paragraph (f)(2) of this section. Except as provided in paragraph (f)(3)(i) of this section, the 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

(i) The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met:

(A) The engine is dispatched by the local balancing authority or local transmission and distribution system operator;

(B) The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region.

(C) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines.

(D) The power is provided only to the facility itself or to support the local transmission and distribution system.

(E) The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator.

(ii) [Reserved]

(g) If you do not install, configure, operate, and maintain your engine and control device according to the manufacturer's emission-related written instructions, or you change emission-related settings in a way that is not permitted by the manufacturer, you must demonstrate compliance as follows:

(1) If you are an owner or operator of a stationary CI internal combustion engine with maximum engine power 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. In addition, if you do not install and configure the engine and control device according to the manufacturer's emission-related written instructions, or you change the emission-related settings in a way that is not permitted by the manufacturer, you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of such action.

(2) If you are an owner or operator of a stationary CI 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 to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission-related settings in a way that is not permitted by the manufacturer.

(3) If you are an owner or operator of a stationary CI 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 to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission-related settings in a way that is not permitted by the manufacturer. You must conduct subsequent performance testing every 8,760 hours of engine operation or 3 years, whichever comes first, thereafter to demonstrate compliance with the applicable emission standards.

(h) The requirements for operators and prohibited acts specified in 40 CFR 1039.665 apply to owners or operators of stationary CI ICE equipped with AECs for qualified emergency situations as allowed by 40 CFR 1039.665.

Stationary CI ICE is greater than 500 HP, however IPC has demonstrated compliance by installing, configuring, operating and maintaining the certified engine in accordance with manufacturer's emission-related written instructions.

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TESTING REQUIREMENTS FOR OWNERS AND OPERATORS

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§60.4212 What test methods and other procedures must I use if I am an owner or operator of a stationary CI internal combustion engine with a displacement of less than 30 liters per cylinder?

Owners and operators of stationary CI ICE with a displacement of less than 30 liters per cylinder who conduct performance tests pursuant to this subpart must do so according to paragraphs (a) through (e) of this section.

(a) The performance test must be conducted according to the in-use testing procedures in 40 CFR part 1039, subpart F, for stationary CI ICE with a displacement of less than 10 liters per cylinder, and according to 40 CFR part 1042, subpart F, for stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder.

(b) Exhaust emissions from stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR part 1039 must not exceed the not-to-exceed (NTE) standards for the same model year and maximum engine power as required in 40 CFR 1039.101(e) and 40 CFR 1039.102(g)(1), except as specified in 40 CFR 1039.104(d). This requirement starts when NTE requirements take effect for nonroad diesel engines under 40 CFR part 1039.

(c) Exhaust emissions from stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR 89.112 or 40 CFR 94.8, as applicable, must not exceed the NTE numerical requirements, rounded to the same number of decimal places as the applicable standard in 40 CFR 89.112 or 40 CFR 94.8, as applicable, determined from the following equation:

$$\text{NTE requirement for each pollutant} = 1.25 \times \text{STD} \quad \text{Eq. 1}$$

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Where:

STD = The standard specified for that pollutant in 40 CFR 89.112 or 40 CFR 94.8, as applicable.

Alternatively, stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR 89.112 or 40 CFR 94.8 may follow the testing procedures specified in §60.4213 of this subpart, as appropriate.

~~(d) Exhaust emissions from stationary CI ICE that are complying with the emission standards for pre-2007 model year engines in §60.4204(a), §60.4205(a), or §60.4205(c) must not exceed the NTE numerical requirements, rounded to the same number of decimal places as the applicable standard in §60.4204(a), §60.4205(a), or §60.4205(c), determined from the equation in paragraph (c) of this section.~~

Where:

STD = The standard specified for that pollutant in §60.4204(a), §60.4205(a), or §60.4205(c).

Alternatively, stationary CI ICE that are complying with the emission standards for pre-2007 model year engines in §60.4204(a), §60.4205(a), or §60.4205(c) may follow the testing procedures specified in §60.4213, as appropriate.

(e) Exhaust emissions from stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR part 1042 must not exceed the NTE standards for the same model year and maximum engine power as required in 40 CFR 1042.101(c).

[71 FR 39172, July 11, 2006, as amended at 76 FR 37971, June 28, 2011]

Idaho Power does not expect to trigger the requirement to conduct performance tests on the emergency generator.

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§60.4213—What test methods and other procedures must I use if I am an owner or operator of a stationary CI internal combustion engine with a displacement of greater than or equal to 30 liters per cylinder?

Owners and operators of stationary CI ICE with a displacement of greater than or equal to 30 liters per cylinder must conduct performance tests according to paragraphs (a) through (f) of this section.

(a) Each performance test must be conducted according to the requirements in §60.8 and under the specific conditions that this subpart specifies in table 7. The test must be conducted within 10 percent of 100 percent peak (or the highest achievable) load.

(b) You may not conduct performance tests during periods of startup, shutdown, or malfunction, as specified in §60.8(c).

(c) You must conduct three separate test runs for each performance test required in this section, as specified in §60.8(f). Each test run must last at least 1 hour.

(d) To determine compliance with the percent reduction requirement, you must follow the requirements as specified in paragraphs (d)(1) through (3) of this section.

(1) You must use Equation 2 of this section to determine compliance with the percent reduction requirement:

$$C = \frac{C_{in} - C_{out}}{C_{in}} \times 100 = R \quad \text{Eq. 2}$$

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Where:

C = concentration of NO_x or PM at the control device inlet;

C_o = concentration of NO_x or PM at the control device outlet, and

R = percent reduction of NO_x or PM emissions.

(2) You must normalize the NO_x or PM concentrations at the inlet and outlet of the control device to a dry basis and to 15 percent oxygen (O_2) using Equation 3 of this section, or an equivalent percent carbon dioxide (CO_2) using the procedures described in paragraph (d)(3) of this section.

$$C_c = C_o \frac{5.9}{20.9 - \%O_2} \quad (14)$$

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Where:

C_c = Calculated NO_x or PM concentration adjusted to 15 percent O_2 .

C_o = Measured concentration of NO_x or PM, uncorrected.

5.9 = 20.9 percent O_2 - 15 percent O_2 , the defined O_2 correction value, percent.

$\%O_2$ = Measured O_2 concentration, dry basis, percent.

(3) If pollutant concentrations are to be corrected to 15 percent O_2 and CO_2 concentration is measured in lieu of O_2 concentration measurement, a CO_2 correction factor is needed. Calculate the CO_2 correction factor as described in paragraphs (d)(3)(i) through (iii) of this section.

(i) Calculate the fuel-specific F_o value for the fuel burned during the test using values obtained from Method 19, Section 5.2, and the following equation:

$$F_o = \frac{19.219 F_1}{F_2} \quad (15)$$

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Where:

F_o = Fuel factor based on the ratio of O_2 volume to the ultimate CO_2 volume produced by the fuel at zero percent excess air.

0.209 = Fraction of air that is O_2 , percent/100.

F_1 = Ratio of the volume of dry effluent gas to the gross calorific value of the fuel from Method 19, $\text{dscf}/10^6$ Btu).

F_2 = Ratio of the volume of CO_2 produced to the gross calorific value of the fuel from Method 19, $\text{dscf}/10^6$ Btu).

(ii) Calculate the CO_2 correction factor for correcting measurement data to 15 percent O_2 , as follows:

$$X_{CO_2} = \frac{5.9}{F_o} \quad (\text{Eq. 5})$$

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Where:

X_{CO_2} = CO₂ correction factor, percent.

5.9 = 20.9 percent O₂ - 15 percent O₂, the defined O₂ correction value, percent.

(iii) Calculate the NO_x and PM gas concentrations adjusted to 15 percent O₂ using CO₂ as follows:

$$C_{adj} = C_d \frac{X_{CO_2}}{\%CO_2} \quad (\text{Eq. 6})$$

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Where:

C_{adj} = Calculated NO_x or PM concentration adjusted to 15 percent O₂.

C_d = Measured concentration of NO_x or PM, uncorrected.

%CO₂ = Measured CO₂ concentration, dry basis, percent.

(e) To determine compliance with the NO_x mass per unit output emission limitation, convert the concentration of NO_x in the engine exhaust using Equation 7 of this section:

$$ER = \frac{C_o \cdot 1.912 \cdot 10^{-3} \cdot Q \cdot T}{KW\text{-hour}} \quad (\text{Eq. 7})$$

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Where:

ER = Emission rate in grams per KW-hour.

C_o = Measured NO_x concentration in ppm.

1.912×10^{-3} = Conversion constant for ppm NO_x to grams per standard cubic meter at 25 degrees Celsius.

Q = Stack gas volumetric flow rate, in standard cubic meter per hour.

T = Time of test run, in hours.

KW-hour = Brake work of the engine, in KW-hour.

(f) To determine compliance with the PM mass per unit output emission limitation, convert the concentration of PM in the engine exhaust using Equation 8 of this section:

$$ER = \frac{C_{adj} \times Q \times T}{KW\text{-hour}} \quad (\text{Eq. 8})$$

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Where:

ER = Emission rate in grams per KW-hour.

C_{adj} = Calculated PM concentration in grams per standard cubic meter.

Q = Stack gas volumetric flow rate, in standard cubic meter per hour.

T = Time of test run, in hours.

KW-hour = Energy output of the engine, in KW.

Stationary CI ICE does not have a displacement of greater than or equal to 30 liters per cylinder.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37971, June 28, 2011]

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NOTIFICATION, REPORTS, AND RECORDS FOR OWNERS AND OPERATORS

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§60.4214 What are my notification, reporting, and recordkeeping requirements if I am an owner or operator of a stationary CI internal combustion engine?

(a) Owners and operators of non-emergency stationary CI ICE that are greater than 2,237 KW (3,000 HP), or have a displacement of greater than or equal to 10 liters per cylinder, or are pre-2007 model year engines that are greater than 130 KW (175 HP) and not certified, must meet the requirements of paragraphs (a)(1) and (2) of this section.

(1) Submit an initial notification as required in §60.7(a)(1). The notification must include the information in paragraphs (a)(1)(i) through (v) of this section.

(i) Name and address of the owner or operator;

(ii) The address of the affected source;

(iii) Engine information including make, model, engine family, serial number, model year, maximum engine power, and engine displacement;

(iv) Emission control equipment; and

(v) Fuel used.

(2) Keep records of the information in paragraphs (a)(2)(i) through (iv) of this section.

(i) All notifications submitted to comply with this subpart and all documentation supporting any notification.

(ii) Maintenance conducted on the engine.

(iii) If the stationary CI internal combustion is a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards.

(iv) If the stationary CI internal combustion is not a certified engine, documentation that the engine meets the emission standards.

Stationary CI ICE is not pre-2007 model year and not greater than 2,237KW (3,000HP) and does not have a displacement of greater than or equal to 10 liters per cylinder.

(b) If the stationary CI internal combustion engine is an emergency stationary internal combustion engine, the owner or operator is not required to submit an initial notification. Starting with the model years in table 5 to this subpart, if the emergency engine does not meet the standards applicable to non-emergency engines in the applicable model year, the owner or operator must keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The owner must record the time of operation of the engine and the reason the engine was in operation during that time.

(c) If the stationary CI internal combustion engine is equipped with a diesel particulate filter, the owner or operator must keep records of any corrective action taken after the backpressure monitor has notified the owner or operator that the high backpressure limit of the engine is approached.

Subpart 60.4214(b) and (c) is applicable, however initial notification was not required because the CI ICE is an emergency stationary internal combustion engine.

(d) If you own or operate an emergency stationary CI ICE with a maximum engine power more than 100 HP that operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §60.4211(f)(2)(ii) and (iii) or that operates for the purposes specified in §60.4211(f)(3)(i), you must submit an annual report according to the requirements in paragraphs (d)(1) through (3) of this section.

(1) The report must contain the following information:

(i) Company name and address where the engine is located.

(ii) Date of the report and beginning and ending dates of the reporting period.

(iii) Engine site rating and model year.

(iv) Latitude and longitude of the engine in decimal degrees reported to the fifth decimal place.

(v) Hours operated for the purposes specified in §60.4211(f)(2)(ii) and (iii), including the date, start time, and end time for engine operation for the purposes specified in §60.4211(f)(2)(ii) and (iii).

(vi) Number of hours the engine is contractually obligated to be available for the purposes specified in §60.4211(f)(2)(ii) and (iii).

(vii) Hours spent for operation for the purposes specified in §60.4211(f)(3)(i), including the date, start time, and end time for engine operation for the purposes specified in §60.4211(f)(3)(i). The report must also identify the entity that dispatched the engine and the situation that necessitated the dispatch of the engine.

(2) The first annual report must cover the calendar year 2015 and must be submitted no later than March 31, 2016. Subsequent annual reports for each calendar year must be submitted no later than March 31 of the following calendar year.

(3) The annual report must be submitted electronically using the subpart specific reporting form in the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (www.epa.gov/cdx). However, if the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, the written report must be submitted to the Administrator at the appropriate address listed in §60.4.

(e) Owners or operators of stationary CIICE equipped with AECDs pursuant to the requirements of 40 CFR 1039.665 must report the use of AECDs as required by 40 CFR 1039.665(e).

Stationary CIICE will not be operated for the purposes specified in §60.4211(f)(2)(ii) and (iii) or operated for the purposes specified in §60.4211(f)(3)(i).

[71 FR 39172, July 11, 2006, as amended at 78 FR 6696, Jan. 30, 2013; 81 FR 44219, July 7, 2016]

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SPECIAL REQUIREMENTS

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§60.4215 What requirements must I meet for engines used in Guam, American Samoa, or the Commonwealth of the Northern Mariana Islands?

(a) Stationary CIICE with a displacement of less than 30 liters per cylinder that are used in Guam, American Samoa, or the Commonwealth of the Northern Mariana Islands are required to meet the applicable emission standards in §§60.4202 and 60.4205.

(b) Stationary CIICE that are used in Guam, American Samoa, or the Commonwealth of the Northern Mariana Islands are not required to meet the fuel requirements in §60.4207.

(c) Stationary CIICE with a displacement of greater than or equal to 30 liters per cylinder that are used in Guam, American Samoa, or the Commonwealth of the Northern Mariana Islands are required to meet the following emission standards:

(1) For engines installed prior to January 1, 2012, limit the emissions of NO_x in the stationary CI internal combustion engine exhaust to the following:

(i) 17.0 g/KW-hr (12.7 g/HP-hr) when maximum engine speed is less than 130 rpm;

(ii) $45 \cdot n^{-0.2}$ g/KW-hr ($34 \cdot n^{-0.2}$ g/HP-hr) when maximum engine speed is 130 or more but less than 2,000 rpm, where n is maximum engine speed; and

(iii) 9.8 g/KW-hr (7.3 g/HP-hr) when maximum engine speed is 2,000 rpm or more.

(2) For engines installed on or after January 1, 2012, limit the emissions of NO_x in the stationary CI internal combustion engine exhaust to the following:

(i) 14.4 g/KW-hr (10.7 g/HP-hr) when maximum engine speed is less than 130 rpm;

(ii) $44 \cdot n^{-0.23}$ g/KW-hr ($33 \cdot n^{-0.23}$ g/HP-hr) when maximum engine speed is greater than or equal to 130 but less than 2,000 rpm and where n is maximum engine speed; and

(iii) 7.7 g/KW-hr (5.7 g/HP-hr) when maximum engine speed is greater than or equal to 2,000 rpm.

(3) Limit the emissions of PM in the stationary CI internal combustion engine exhaust to 0.40 g/KW-hr (0.30 g/HP-hr).

[71 FR 39172, July 11, 2006, as amended at 76 FR 37971, June 28, 2011]

This section is not applicable to the emergency diesel generator because the engine is located in New Plymouth, Idaho.

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560.4216 What requirements must I meet for engines used in Alaska?

(a) Prior to December 1, 2010, owners and operators of stationary CI ICE with a displacement of less than 30 liters per cylinder located in areas of Alaska not accessible by the FAHS should refer to 40 CFR part 69 to determine the diesel fuel requirements applicable to such engines.

(b) Except as indicated in paragraph (c) of this section, manufacturers, owners and operators of stationary CI ICE with a displacement of less than 10 liters per cylinder located in remote areas of Alaska may meet the requirements of this subpart by manufacturing and installing engines meeting the requirements of 40 CFR parts 94 or 1042, as appropriate, rather than the otherwise applicable requirements of 40 CFR parts 89 and 1039, as indicated in §§60.4201(f) and 60.4202(g).

(c) Manufacturers, owners and operators of stationary CI ICE that are located in remote areas of Alaska may choose to meet the applicable emission standards for emergency engines in §§60.4202 and 60.4205, and not those for non-emergency engines in §§60.4201 and 60.4204, except that for 2014 model year and later non-emergency CI ICE, the owner or operator of any such engine that was not certified as meeting Tier 4 PM standards, must meet the applicable requirements for PM in §§60.4201 and 60.4204 or install a PM emission control device that achieves PM emission reductions of 85 percent, or 60 percent for

engines with a displacement of greater than or equal to 30 liters per cylinder, compared to engine-out emissions.

(d) The provisions of §60.4207 do not apply to owners and operators of pre-2014 model year stationary CI ICE subject to this subpart that are located in remote areas of Alaska.

(e) The provisions of §60.4208(a) do not apply to owners and operators of stationary CI ICE subject to this subpart that are located in areas of Alaska not accessible by the FAHS until after December 31, 2009.

(f) The provisions of this section and §60.4207 do not prevent owners and operators of stationary CI ICE subject to this subpart that are located in remote areas of Alaska from using fuels mixed with used lubricating oil, in volumes of up to 1.75 percent of the total fuel. The sulfur content of the used lubricating oil must be less than 200 parts per million. The used lubricating oil must meet the on-specification levels and properties for used oil in 40 CFR 279.11.

[76 FR 37971, June 28, 2011, as amended at 81 FR 44219, July 7, 2016]

This section is not applicable to the emergency diesel generator because the engine is located in New Plymouth, Idaho.

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§60.4217 What emission standards must I meet if I am an owner or operator of a stationary internal combustion engine using special fuels?

Owners and operators of stationary CI ICE that do not use diesel fuel may petition the Administrator for approval of alternative emission standards, if they can demonstrate that they use a fuel that is not the fuel on which the manufacturer of the engine certified the engine and that the engine cannot meet the applicable standards required in §60.4204 or §60.4205 using such fuels and that use of such fuel is appropriate and reasonably necessary, considering cost, energy, technical feasibility, human health and environmental, and other factors, for the operation of the engine.

[76 FR 37972, June 28, 2011]

This section is not applicable to the emergency diesel generator because the engine will only use ultra-low sulfur diesel.

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GENERAL PROVISIONS

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§60.4218 What parts of the General Provisions apply to me?

Table 8 to this subpart shows which parts of the General Provisions in §§60.1 through 60.19 apply to you.

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DEFINITIONS

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§60.4219 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 this part.

Alaska Railbelt Grid means the service areas of the six regulated public utilities that extend from Fairbanks to Anchorage and the Kenai Peninsula. These utilities are Golden Valley Electric Association; Chugach Electric Association; Matanuska Electric Association; Homer Electric Association; Anchorage Municipal Light & Power; and the City of Seward Electric System.

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 CI ICE with a displacement of less than 10 liters per cylinder are given in 40 CFR 1039.101(g). The values for certified emissions life for stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder are given in 40 CFR 94.9(a).

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.

Date of manufacture means one of the following things:

(1) For freshly manufactured engines and modified engines, date of manufacture means the date the engine is originally produced.

(2) For reconstructed engines, date of manufacture means the date the engine was originally produced, except as specified in paragraph (3) of this definition.

(3) Reconstructed engines are assigned a new date of manufacture if the fixed capital cost of the new and refurbished components exceeds 75 percent of the fixed capital cost of a comparable entirely new facility. An engine that is produced from a previously used engine block does not retain the date of manufacture of the engine in which the engine block was previously used if the engine is produced using all new components except for the engine block. In these cases, the date of manufacture is the date of reconstruction or the date the new engine is produced.

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.

Diesel particulate filter means an emission control technology that reduces PM emissions by trapping the particles in a flow filter substrate and periodically removes the collected particles by either physical action or by oxidizing (burning off) the particles in a process called regeneration.

Emergency stationary internal combustion engine means any stationary reciprocating internal combustion engine that meets all of the criteria in paragraphs (1) through (3) of this definition. All emergency stationary ICE must comply with the requirements specified in §60.4211(f) in order to be considered emergency stationary ICE. If the engine does not comply with the requirements specified in §60.4211(f), then it is not considered to be an emergency stationary ICE under this subpart.

(1) The stationary ICE is operated to provide electrical power or mechanical work during an emergency situation. 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.

(2) The stationary ICE is operated under limited circumstances for situations not included in paragraph (1) of this definition, as specified in §60.4211(f).

(3) The stationary ICE operates as part of a financial arrangement with another entity in situations not included in paragraph (1) of this definition only as allowed in §60.4211(f)(2)(ii) or (iii) and §60.4211(f)(3)(i).

Engine manufacturer means the manufacturer of the engine. See the definition of "manufacturer" in this section.

Fire pump engine means an emergency stationary internal combustion engine certified to NFPA requirements that is used to provide power to pump water for fire suppression or protection.

Freshly manufactured engine means an engine that has not been placed into service. An engine becomes freshly manufactured when it is originally produced.

Installed means the engine is placed and secured at the location where it is intended to be operated.

Manufacturer has the meaning given in section 216(1) of the 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 sale or resale.

Maximum engine power means maximum engine power as defined in 40 CFR 1039.801.

Model year means the calendar year in which an engine is manufactured (see "date of manufacture"), except as follows:

(1) Model year means the annual new model production period of the engine manufacturer in which an engine is manufactured (see "date of manufacture"), if the annual new model production period is different than the calendar year and includes 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.

(2) For an engine that is converted to a stationary engine after being placed into service as a nonroad or other non-stationary engine, model year means the calendar year or new model production period in which the engine was manufactured (see "date of manufacture").

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.

Reciprocating internal combustion engine means any internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work.

Remote areas of Alaska means areas of Alaska that meet either paragraph (1) or (2) of this definition.

(1) Areas of Alaska that are not accessible by the Federal Aid Highway System (FAHS).

(2) Areas of Alaska that meet all of the following criteria:

(i) The only connection to the FAHS is through the Alaska Marine Highway System, or the stationary CI ICE operation is within an isolated grid in Alaska that is not connected to the statewide electrical grid referred to as the Alaska Railbelt Grid.

(ii) At least 10 percent of the power generated by the stationary CI ICE on an annual basis is used for residential purposes.

(iii) The generating capacity of the source is less than 12 megawatts, or the stationary CI ICE is used exclusively for backup power for renewable energy.

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 a gasoline, natural gas, or liquefied petroleum gas 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 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 nonroad engine as defined at 40 CFR 1068.30 (excluding paragraph (2)(ii) of that definition), and is not used to propel a motor vehicle, aircraft,

or a vehicle used solely for competition. Stationary ICE include reciprocating ICE, rotary ICE, and other ICE, except combustion turbines.

Subpart means 40 CFR part 60, subpart III.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37972, June 28, 2011; 78 FR 6696, Jan. 30, 2013; 81 FR 44219, July 7, 2016]

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Table 1 to Subpart III of Part 60—Emission Standards for Stationary Pre-2007 Model Year Engines With a Displacement of <10 Liters per Cylinder and 2007-2010 Model Year Engines >2,237 KW (3,000 HP) and With a Displacement of <10 Liters per Cylinder

{As stated in §§60.4201(b), 60.4202(b), 60.4204(a), and 60.4205(a), you must comply with the following emission standards}

| Maximum engine power | Emission standards for stationary pre-2007 model year engines with a displacement of <10 liters per cylinder and 2007-2010 model year engines >2,237 KW (3,000 HP) and with a displacement of <10 liters per cylinder in g/KW-hr (g/HP-hr) | | | | |
|----------------------------|--|-----------|-----------------|------------|-------------|
| | NMHC + NO _x | HC | NO _x | CO | PM |
| KW<8 (HP<11) | 10.5 (7.8) | | | 8.0 (6.0) | 1.0 (0.75) |
| 8≤KW<19 (11≤HP<25) | 9.5 (7.1) | | | 6.6 (4.9) | 0.80 (0.60) |
| 19≤KW<37 (25≤HP<50) | 9.5 (7.1) | | | 5.5 (4.1) | 0.80 (0.60) |
| 37≤KW<56 (50≤HP<75) | | | 9.2 (6.9) | | |
| 56≤KW<75 (75≤HP<100) | | | 9.2 (6.9) | | |
| 75≤KW<130 (100≤HP<175) | | | 9.2 (6.9) | | |
| 130≤KW<225 (175≤HP<300) | | 1.3 (1.0) | 9.2 (6.9) | 11.4 (8.5) | 0.54 (0.40) |
| 225≤KW<450 (300≤HP<600) | | 1.3 (1.0) | 9.2 (6.9) | 11.4 (8.5) | 0.54 (0.40) |
| 450≤KW≤560 (600≤HP≤750) | | 1.3 (1.0) | 9.2 (6.9) | 11.4 (8.5) | 0.54 (0.40) |
| KW>560 (HP>750) | | 1.3 (1.0) | 9.2 (6.9) | 11.4 (8.5) | 0.54 (0.40) |

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Table 2 to Subpart IIII of Part 60—Emission Standards for 2008 Model Year and Later Emergency Stationary CI ICE <37 KW (50 HP) With a Displacement of <10 Liters per Cylinder

{As stated in §60.4202(a)(1), you must comply with the following emission standards}

| Engine power | Emission standards for 2008 model year and later emergency stationary CI ICE <37 KW (50 HP) with a displacement of <10 liters per cylinder in g/KW-hr (g/HP-hr) | | | |
|--------------------------------|---|------------------------|-----------|-------------|
| | Model year(s) | NO _x + NMHC | CO | PM |
| KW < 8 (HP < 11) | 2008 + | 7.5 (5.6) | 8.0 (6.0) | 0.40 (0.30) |
| 8 ≤ KW < 19 (11 ≤ HP < 25) | 2008 + | 7.5 (5.6) | 6.6 (4.9) | 0.40 (0.30) |
| 19 ≤ KW < 37 (25 ≤ HP < 50) | 2008 + | 7.5 (5.6) | 5.5 (4.1) | 0.30 (0.22) |

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Table 3 to Subpart IIII of Part 60—Certification Requirements for Stationary Fire Pump Engines

As stated in §60.4202(d), you must certify new stationary fire pump engines beginning with the following model years:

| Engine power | Starting model year engine manufacturers must certify new stationary fire pump engines according to §60.4202(d) ¹ |
|------------------------------------|--|
| KW < 75 (HP < 100) | 2011 |
| 75 ≤ KW < 130 (100 ≤ HP < 175) | 2010 |
| 130 ≤ KW ≤ 560 (175 ≤ HP ≤ 750) | 2009 |
| KW > 560 (HP > 750) | 2008 |

¹Manufacturers of fire pump stationary CI ICE with a maximum engine power greater than or equal to 37 kW (50 HP) and less than 450 kW (600 HP) and a rated speed of greater than 2,650 revolutions per

minute (rpm) are not required to certify such engines until three model years following the model year indicated in this Table 3 for engines in the applicable engine power category.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37972, June 28, 2011]

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Table 4 to Subpart IIII of Part 60—Emission Standards for Stationary Fire Pump Engines

[As stated in §§60.4202(d) and 60.4205(c), you must comply with the following emission standards for stationary fire pump engines]

| Maximum engine power | Model year(s) | NMHC + NO _x | CO | PM |
|-------------------------|---------------------|------------------------|-----------|-------------|
| KW<8 (HP<11) | 2010 and earlier | 10.5 (7.8) | 8.0 (6.0) | 1.0 (0.75) |
| — | 2011 + | 7.5 (5.6) | | 0.40 (0.30) |
| 8≤KW<19 (11≤HP<25) | 2010 and earlier | 9.5 (7.1) | 6.6 (4.9) | 0.80 (0.60) |
| — | 2011 + | 7.5 (5.6) | | 0.40 (0.30) |
| 19≤KW<37 (25≤HP<50) | 2010 and earlier | 9.5 (7.1) | 5.5 (4.1) | 0.80 (0.60) |
| — | 2011 + | 7.5 (5.6) | | 0.30 (0.22) |
| 37≤KW<56 (50≤HP<75) | 2010 and earlier | 10.5 (7.8) | 5.0 (3.7) | 0.80 (0.60) |
| — | 2011 + ¹ | 4.7 (3.5) | | 0.40 (0.30) |
| 56≤KW<75 (75≤HP<100) | 2010 and earlier | 10.5 (7.8) | 5.0 (3.7) | 0.80 (0.60) |
| — | 2011 + ¹ | 4.7 (3.5) | | 0.40 (0.30) |
| 75≤KW<130 (100≤HP<175) | 2009 and earlier | 10.5 (7.8) | 5.0 (3.7) | 0.80 (0.60) |
| — | 2010 + ² | 4.0 (3.0) | | 0.30 (0.22) |
| 130≤KW<225 (175≤HP<300) | 2008 and earlier | 10.5 (7.8) | 3.5 (2.6) | 0.54 (0.40) |
| — | 2009 + ³ | 4.0 (3.0) | | 0.20 (0.15) |
| 225≤KW<450 (300≤HP<600) | 2008 and earlier | 10.5 (7.8) | 3.5 (2.6) | 0.54 (0.40) |
| — | 2009 + ³ | 4.0 (3.0) | | 0.20 (0.15) |
| 450≤KW≤560 (600≤HP≤750) | 2008 and earlier | 10.5 (7.8) | 3.5 (2.6) | 0.54 (0.40) |
| — | 2009 + | 4.0 (3.0) | | 0.20 (0.15) |
| KW>560 (HP>750) | 2007 and earlier | 10.5 (7.8) | 3.5 (2.6) | 0.54 (0.40) |
| — | 2008 + | 6.4 (4.8) | | 0.20 (0.15) |

¹For model years 2011-2013, manufacturers, owners and operators of fire pump stationary CI ICE in this engine power category with a rated speed of greater than 2,650 revolutions per minute (rpm) may comply with the emission limitations for 2010 model year engines.

²For model years 2010-2012, manufacturers, owners and operators of fire pump stationary CI ICE in this engine power category with a rated speed of greater than 2,650 rpm may comply with the emission limitations for 2009 model year engines.

³In model years 2009-2011, manufacturers of fire pump stationary CI ICE in this engine power category with a rated speed of greater than 2,650 rpm may comply with the emission limitations for 2008 model year engines.

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Table 5 to Subpart III of Part 60—Labeling and Recordkeeping Requirements for New Stationary Emergency Engines

[You must comply with the labeling requirements in §60.4210(f) and the recordkeeping requirements in §60.4214(b) for new emergency stationary CI ICE beginning in the following model years:]

| Engine power | Starting model year |
|-----------------------|---------------------|
| 19≤KW<56 (25≤HP<75) | 2013 |
| 56≤KW<130 (75≤HP<175) | 2012 |
| KW≥130 (HP≥175) | 2011 |

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Table 6 to Subpart III of Part 60—Optional 3-Mode Test Cycle for Stationary Fire Pump Engines

[As stated in §60.4210(g), manufacturers of fire pump engines may use the following test cycle for testing fire pump engines:]

| Mode No. | Engine speed ¹ | Torque (percent) ² | Weighting factors |
|----------|---------------------------|-------------------------------|-------------------|
| 1 | Rated | 100 | 0.30 |
| 2 | Rated | 75 | 0.50 |
| 3 | Rated | 50 | 0.20 |

¹Engine speed: ±2 percent of point.

²Torque: NFPA certified nameplate HP for 100 percent point. All points should be ±2 percent of engine percent load value.

Table 7 to Subpart IIII of Part 60—Requirements for Performance Tests for Stationary CI ICE With a Displacement of ≥ 30 Liters per Cylinder

As stated in §60.4213, you must comply with the following requirements for performance tests for stationary CI ICE with a displacement of ≥ 30 liters per cylinder:

| Each | Complying with the requirement to | You must | Using | According to the following requirements |
|--|--|--|---|--|
| 1. Stationary CI internal combustion engine with a displacement of ≥ 30 liters per cylinder | a. Reduce NO_x emissions by 90 percent or more; | i. Select the sampling port location and number/location of traverse points at the inlet and outlet of the control device; | | (a) For NO_x , O_2 , and moisture measurement, ducts ≤ 6 inches in diameter may be sampled at a single point located at the duct centroid and ducts > 6 and ≤ 12 inches in diameter may be sampled at 3 traverse points located at 16.7, 50.0, and 83.3% of the measurement line ('3-point long line'). If the duct is > 12 inches in diameter and the sampling port location meets the two and half-diameter criterion of Section 11.1.1 of Method 1 of 40 CFR part 60, appendix A-1, the duct may be sampled at '3-point long line'; otherwise, conduct the stratification testing and select sampling points according to Section 8.1.2 of Method 7E of 40 CFR part 60, appendix A-4. |
| — | | ii. Measure O_2 at the inlet and outlet of the control device; | (1) Method 3, 3A, or 3B of 40 CFR part 60, appendix A-2 | (b) Measurements to determine O_2 concentration must be made at the same time as the measurements for NO_x concentration. |
| — | | iii. If necessary, measure moisture content at the inlet and outlet of the control device; and | (2) Method 4 of 40 CFR part 60, appendix A-3, Method 320 of 40 CFR part 63, | (c) Measurements to determine moisture content must be made at the same time as the measurements for NO_x concentration. |

| | | | | |
|--|--|--|--|---|
| | | | appendix A, or ASTM D 6348-03 (incorporated by reference, see §60.17) | |
| | | iv. Measure NO _x at the inlet and outlet of the control device. | (3) Method 7E of 40 CFR part 60, appendix A-4, Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03 (incorporated by reference, see §60.17) | (d) NO _x concentration must be at 15 percent O ₂ , dry basis. Results of this test consist of the average of the three 1-hour or longer runs. |
| | b. Limit the concentration of NO _x in the stationary CI internal combustion engine exhaust. | i. Select the sampling port location and number/location of traverse points at the exhaust of the stationary internal combustion engine; | | (a) For NO _x , O ₂ , and moisture measurement, ducts ≤6 inches in diameter may be sampled at a single point located at the duct centroid and ducts >6 and ≤12 inches in diameter may be sampled at 3 traverse points located at 16.7, 50.0, and 83.3% of the measurement line ('3-point long line'). If the duct is >12 inches in diameter <i>and</i> the sampling port location meets the two and half-diameter criterion of Section 11.1.1 of Method 1 of 40 CFR part 60, appendix A-1, the duct may be sampled at '3-point long line'; otherwise, conduct the stratification testing and select sampling points according to Section 8.1.2 of Method 7E of 40 CFR part 60, appendix A-4. |
| | | ii. Determine the O ₂ concentration of the stationary internal combustion engine exhaust at the sampling port location; | (1) Method 3, 3A, or 3B of 40 CFR part 60, appendix A-2 | (b) Measurements to determine O ₂ concentration must be made at the same time as the measurement for NO _x concentration. |

| | | | | |
|--|---|--|--|---|
| | | iii. If necessary, measure moisture content of the stationary internal combustion engine exhaust at the sampling port location; and | (2) Method 4 of 40 CFR part 60, appendix A-3; Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03 (incorporated by reference, see §60.17) | (c) Measurements to determine moisture content must be made at the same time as the measurement for NO _x concentration. |
| | | iv. Measure NO _x at the exhaust of the stationary internal combustion engine; if using a control device, the sampling site must be located at the outlet of the control device. | (3) Method 7E of 40 CFR part 60, appendix A-4, Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03 (incorporated by reference, see §60.17) | (d) NO _x concentration must be at 15 percent O ₂ , dry basis. Results of this test consist of the average of the three 1-hour or longer runs. |
| | c. Reduce PM emissions by 60 percent or more | i. Select the sampling port location and the number of traverse points; | (1) Method 1 or 1A of 40 CFR part 60, appendix A-1 | (a) Sampling sites must be located at the inlet and outlet of the control device. |
| | | ii. Measure O ₂ at the inlet and outlet of the control device; | (2) Method 3, 3A, or 3B of 40 CFR part 60, appendix A-2 | (b) Measurements to determine O ₂ concentration must be made at the same time as the measurements for PM concentration. |
| | | iii. If necessary, measure moisture content at the inlet and outlet of the control device; and | (3) Method 4 of 40 CFR part 60, appendix A-3 | (c) Measurements to determine and moisture content must be made at the same time as the measurements for PM concentration. |
| | | iv. Measure PM at the inlet and outlet of the control device. | (4) Method 5 of 40 CFR part 60, appendix A-3 | (d) PM concentration must be at 15 percent O ₂ , dry basis. Results of this test consist of the average of the three 1-hour or longer runs. |
| | d. Limit the concentration of PM in the stationary CI | i. Select the sampling port location and the number of traverse points; | (1) Method 1 or 1A of 40 CFR part 60, appendix A-1 | (a) If using a control device, the sampling site must be located at the outlet of the control device. |

| | | | | |
|---|------------------------------------|---|---|--|
| | internal combustion engine exhaust | | | |
| — | | ii. Determine the O ₂ concentration of the stationary internal combustion engine exhaust at the sampling port location; | (2) Method 3, 3A, or 3B of 40 CFR part 60, appendix A-2 | (b) Measurements to determine O ₂ concentration must be made at the same time as the measurements for PM concentration. |
| — | | iii. If necessary, measure moisture content of the stationary internal combustion engine exhaust at the sampling port location; and | (3) Method 4 of 40 CFR part 60, appendix A-3 | (c) Measurements to determine moisture content must be made at the same time as the measurements for PM concentration. |
| — | | iv. Measure PM at the exhaust of the stationary internal combustion engine. | (4) Method 5 of 40 CFR part 60, appendix A-3 | (d) PM concentration must be at 15 percent O ₂ , dry basis. Results of this test consist of the average of the three 1-hour or longer runs. |

[79 FR 11251, Feb. 27, 2014]

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Table 8 to Subpart III of Part 60—Applicability of General Provisions to Subpart III

[As stated in §60.4218, you must comply with the following applicable General Provisions:]

| General Provisions citation | Subject of citation | Applies to subpart | Explanation |
|-----------------------------|---|--------------------|---------------------------------------|
| §60.1 | General applicability of the General Provisions | Yes | |
| §60.2 | Definitions | Yes | Additional terms defined in §60.4219. |
| §60.3 | Units and abbreviations | Yes | |
| §60.4 | Address | Yes | |
| §60.5 | Determination of construction or modification | Yes | |
| §60.6 | Review of plans | Yes | |

| | | | |
|--------|--|-----|--|
| §60.7 | Notification and Recordkeeping | Yes | Except that §60.7 only applies as specified in §60.4214(a). |
| §60.8 | Performance tests | Yes | Except that §60.8 only applies to stationary CI ICE with a displacement of (≥ 30 liters per cylinder and engines that are not certified. |
| §60.9 | Availability of information | Yes | |
| §60.10 | State Authority | Yes | |
| §60.11 | Compliance with standards and maintenance requirements | No | Requirements are specified in subpart IIII. |
| §60.12 | Circumvention | Yes | |
| §60.13 | Monitoring requirements | Yes | Except that §60.13 only applies to stationary CI ICE with a displacement of (≥ 30 liters per cylinder. |
| §60.14 | Modification | Yes | |
| §60.15 | Reconstruction | Yes | |
| §60.16 | Priority list | Yes | |
| §60.17 | Incorporations by reference | Yes | |
| §60.18 | General control device requirements | No | |
| §60.19 | General notification and reporting requirements | Yes | |

These general provisions are applicable to the emergency diesel.

Electronic Code of Federal Regulations

e-CFR data is current as of March 20, 2018

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Title 40: Protection of Environment

[PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES \(CONTINUED\)](#)

Subpart ZZZZ—National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

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SOURCE: 69 FR 33506, June 15, 2004, unless otherwise noted.

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WHAT THIS SUBPART COVERS

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§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]

Idaho Power owns and operates a stationary RICE located at an area source of HAP emissions. Idaho Power is therefore subject to the requirements of this subpart.

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§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 part 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 part 1068, subpart C.

(f) The emergency stationary RICE listed in paragraphs (f)(1) through (3) of this section are not subject to this subpart. The stationary RICE must meet the definition of an emergency stationary RICE in §63.6675, which includes operating according to the provisions specified in §63.6640(f).

(1) Existing residential emergency stationary RICE located at an area source of HAP emissions that do not operate or are not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §63.6640(f)(2)(ii) and (iii) and that do not operate for the purpose specified in §63.6640(f)(4)(ii).

~~(2) Existing commercial emergency stationary RICE located at an area source of HAP emissions that do not operate or are not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §63.6640(f)(2)(ii) and (iii) and that do not operate for the purpose specified in §63.6640(f)(4)(ii).~~

~~(3) Existing institutional emergency stationary RICE located at an area source of HAP emissions that do not operate or are not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §63.6640(f)(2)(ii) and (iii) and that do not operate for the purpose specified in §63.6640(f)(4)(ii).~~

[69 FR 33506, June 15, 2004, as amended at 73 FR 3603, Jan. 18, 2008; 78 FR 6700, Jan. 30, 2013]

Idaho Power owns and operates a new emergency stationary RICE located at an area source of HAP emissions and is subject to this subpart.

Definition of Emergency stationary RICE from 63.6675

Emergency stationary RICE means any stationary reciprocating internal combustion engine that meets all of the criteria in paragraphs (1) through (3) of this definition. All emergency stationary RICE must comply with the requirements specified in §63.6640(f) in order to be considered emergency stationary RICE. If the engine does not comply with the requirements specified in §63.6640(f), then it is not considered to be an emergency stationary RICE under this subpart.

(1) The stationary RICE is operated to provide electrical power or mechanical work during an emergency situation. 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.

(2) The stationary RICE is operated under limited circumstances for situations not included in paragraph (1) of this definition, as specified in §63.6640(f).

(3) The stationary RICE operates as part of a financial arrangement with another entity in situations not included in paragraph (1) of this definition only as allowed in §63.6640(f)(2)(ii) or (iii) and §63.6640(f)(4)(i) or (ii).

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§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 §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 §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 §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 this part except for the initial notification requirements of §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 that does not operate or is not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §63.6640(f)(2)(ii) and (iii).

(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 §63.6645(f) and the requirements of §§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 of this part, 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 that does not operate or is not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §63.6640(f)(2)(ii) and (iii).

(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;

(c) *Stationary RICE subject to Regulations under 40 CFR Part 60.* An affected source that meets any of the criteria in paragraphs (c)(1) through (7) of this section must meet the requirements of this part by meeting the requirements of 40 CFR part 60 subpart III, for compression ignition engines or 40 CFR part 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;

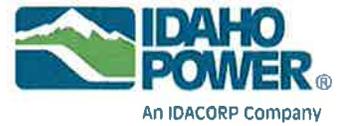
~~(7) A new or reconstructed compression ignition (CI) stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions.~~

[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; 78 FR 6700, Jan. 30, 2013]

Idaho Power owns and operates a new emergency stationary RICE located at an area source of HAP emissions and must meet the requirements of this part by meeting the requirements of 40 CFR part 60 subpart IIII for compression ignition engines. No further requirements apply for such engines under this part.

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Appendix C – Emission Source Operations & Maintenance Manual



LANGLEY GULCH POWER PLANT

EMISSION SOURCE OPERATIONS AND MAINTENANCE MANUAL

Langley Gulch

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Overview

The Langley Gulch Power Plant is a power generation facility, comprised of a natural gas-fired combustion turbine (CT) and a steam-driven steam turbine (ST). The combustion turbine burns natural gas as a fuel source which drives a 4-stage axial turbine for generating electricity. The waste heat from the turbine is exhausted through a heat recovery steam generator (HRSG), where the heat from the flue gas is transferred to the boiler feedwater to produce steam. The steam is routed to the ST where it drives the turbine blades to generate additional electricity.

The auxiliary equipment onsite which supports the gas and steam turbine operations include a water treatment facility, a cooling tower, a diesel-fired firewater pump, a diesel-fired emergency generator, as well as a duct burner which is integrated into the HRSG.

Operating Requirements

Combustion Turbine

Control Equipment

- **Dry Low NO_x Combustors:** The dry low NO_x (DLN) combustors are an integral part of Siemens' combustion system. The combustors are permanently installed in the turbine and do not have the capability to be turned off. The combustors achieve low NO_x emissions through a 4-stage fuel supply system. The stages have varying degrees of fuel/air mixing prior to combustion. This staging of the fuel allows the turbine to operate at a lean fuel-to-air mixture, which reduces the NO_x emissions.
- **Selective Catalytic Reduction:** The selective catalytic reduction (SCR) is a system installed within the HRSG which reacts with the CT exhaust NO_x emissions. The CT exhaust passes through the HRSG and when it reaches the SCR, vaporized ammonia (NH₃) is sprayed into the exhaust gas. The ammonia mixes with the exhaust and travels downstream into catalyst grid. The ammonia/exhaust mixture reacts on the catalyst grid where the NO_x and NH₃ react forming nitrogen gas (N₂) and water vapor (H₂O) which is exhausted through the stack.
- **Catalytic Oxidation:** The oxidation catalyst is a system installed within the HRSG which reacts with the CT exhaust carbon monoxide (CO) and volatile organic compounds (VOCs). The catalyst grid is located in the HRSG and when the exhaust gases pass through it, the CO molecules are oxidized and exhaust as carbon dioxide (CO₂) through the stack.
- **Good Combustion Practices:** The combustion turbine shall be operated in accordance with the recommended limits provided by the manufacturer. No control changes that will intentionally increase the emissions above the permitted levels shall be allowed. In addition, the CT and duct burners will be operated exclusively with pipeline quality natural gas.

Operational Procedures

- **CT BACT Emission Limits:** The combustion turbine shall be operated exclusively on natural gas, through the DLN combustion system. The DLN system shall be operated in accordance with the vendor's fuel fractioning schedules and recommendations. To meet the BACT emission levels, the CT exhaust gas shall pass through both the oxidation catalyst and the SCR during operations. These systems shall remain operable during normal operating conditions; however, during startup, shutdown, and low-load operations, these systems may have reduced effectiveness or may not be allowed to operate due to potential fouling/damage at low temperatures. During these conditions, the secondary BACT limits will be complied with.
- **Ammonia Flow:** The ammonia flow to the SCR shall be electronically archived at all times when the system is in service. The data shall be reduced to hourly averages to ensure the permit limit is not exceeded. A high flow alarm shall be programmed into the plant control system to alert the operations staff of abnormal conditions, in which case, action shall be taken to reduce the flow.
- **Control Equipment Maintenance & Operation:** The DLN combustion system will be inspected during each of the scheduled combustion turbine maintenance intervals. The oxidation catalyst and SCR will be inspected for fouling or physical damage no less than every two years. The CEMS and plant control system will be utilized to monitor for good combustion practices. Emissions above the permitted levels are indicative of either abnormal combustion practices or faulty equipment and will be investigated by the onsite operator. Any excess emissions will be reported in accordance with Permit Conditions 19-26.

Emergency Diesel Generator

Control Equipment

- **EPA Tier 2 Technologies:** The emergency engine was manufactured to the Tier 2 requirements and certified by the EPA under certificate #CPX-NRCI-10-03. Certificate available in generator O&M manual located in the plant control room.
- **Good Combustion Practices:** The emergency generator will be operated in accordance with the O&M manual distributed by the vendor. The engine shall be limited to 60 hrs/yr of operation for maintenance and readiness checks; operating no more than 4 hrs/day. Operation during emergency use is unlimited; however, excess emission evaluations may be required for operations in excess of permit limits. The engine will be operated exclusively on low sulfur diesel fuel. A non-resettable meter is installed on the engine and logs will be maintained of the operational hours.

Operational Procedures

- **Work Practices:** The emergency generator will be operated and maintained in accordance with prudent industry standards and applicable vendor instructions. No physical modifications which could increase emissions will be made to the engine without prior analysis

Emergency Pump House Diesel Generator

Control Equipment

- **EPA Tier 3 Technologies:** The emergency engine was manufactured to the Tier 3 requirements.
- **Good Combustion Practices:** The emergency generator will be operated in accordance with the O&M manual distributed by the vendor. The engine shall be limited to 50 hrs/yr of operation for maintenance and readiness checks. Operation during emergency use is unlimited. The engine will be operated exclusively on low sulfur diesel fuel. A non-resettable meter is installed on the engine and logs will be maintained of the operational hours.

Operational Procedures

- **Work Practices:** The emergency generator will be operated and maintained in accordance with prudent industry standards and applicable vendor instructions. No physical modifications which could increase emissions will be made to the engine without prior analysis.

Diesel Fire Pump

Control Equipment

- **EPA Tier 3 Technologies:** The diesel fire pump engine was manufactured to the Tier 3 requirements and certified by the EPA under the engine family #9CEXL0540AAB. Emission data sheet available in the fire pump O&M manual located in the plant control room.
- **Good Combustion Practices:** The diesel fire pump will be operated in accordance with the O&M manual distributed by the vendor. The engine shall be limited to 30 hrs/yr of operation for maintenance and readiness checks; operating no more than 1 hr/day. Operation during emergency use is unlimited; however, excess emission evaluations may be required for operations in excess of permit limits. The engine will be operated exclusively on low sulfur diesel fuel. A non-resettable hour meter is installed on the engine and logs will be maintained of the operational hours.

Operational Procedures

- **Work Practices:** The diesel fire pump will be operated and maintained in accordance with prudent industry standards and applicable vendor instructions. No physical modifications which could increase emissions will be made to the engine without prior analysis.

Cooling Tower

Control Equipment

- **Drift Eliminators:** The drift eliminators are installed above the water distribution sprayers and prevent water droplets from being carried airborne with the air passing through the fans. They are constructed of cellular PVC and force the air through

direction changes which allow the entrained water droplets to coalesce on the surface and drop back into the tower basin.

- **Good Operating Practices:** The tower will be operated in accordance with prudent industry standards and applicable vendor instructions. The chemistry of the cooling tower will be maintained within the permitted levels.

Operational Procedures

- **Work Practices:** The drift eliminators are permanently installed in the cooling tower are in-service at all times the tower is operating. Along with maintaining the chemistry of the cooling water, the drift eliminators will be inspected for fouling and/or damage to ensure their effectiveness is not compromised

Dry Chemical Storage Silos

Control Equipment

- **Bin Vent Filters:** The bin vent filters are installed on the roof of the storage silos. The vents have a filter installed which prevents the chemical from escaping into the atmosphere during loading operations. The bin vent filter is also equipped with an exhaust fan which pulls the air out of the silo and through the filter to maintain a vacuum within the silo. The fan pulls the air through the filter, which prevents air entrained with dry chemical from escaping through any other ports in the silo.
- **Good Operating Practices:** The storage silos will be operated in accordance with prudent industry standards and applicable vendor instructions. The bin vent filters will be operational during all loading operations.

Operational Procedures

- **Work Practices:** The bin vent filters will be installed and maintained in accordance with the written instructions included in the vendor's O&M manual. The filters and fan will be inspected and replaced as required.