



STATE OF IDAHO  
DEPARTMENT OF  
ENVIRONMENTAL QUALITY

1410 North Hilton • Boise, Idaho 83706 • (208) 373-0502

C.L. "Butch" Otter, Governor  
Toni Hardesty, Director

June 25, 2010

Trevor Mahlum  
Engineer, Power Production  
Idaho Power Company  
1221 West Idaho Street  
Boise, Idaho 83702

RE: Facility ID No. 075-00012, Langley Gulch Power Plant, New Plymouth  
Final Permit Letter

Dear Mr. Mahlum:

The Department of Environmental Quality (DEQ) is issuing Permit to Construct (PTC) No. P-2009.0092 to Idaho Power Company – Langley Gulch Power Plant, for the construction of a combined-cycle gas turbine power plant to be located approximately 5 miles south of New Plymouth, in accordance with IDAPA 58.01.01.200 through 228 (Rules for the Control of Air Pollution in Idaho).

This permit is based on your permit application received on July 8, 2009, revision 4 to the permit application received on April 28, 2010, and on the relevant comments received during the public comment period. This permit is effective immediately. This permit does not release Idaho Power Company from compliance with all other applicable federal, state, or local laws, regulations, permits, or ordinances.

In accordance with IDAPA 58.01.01.313.01.b, you are required to submit a complete application to DEQ for an initial Tier I operating permit within 12 months of becoming a Tier I source or commencing operation. Pursuant to General Provision 5 of your permit, it is required that Construction and Operation Notification be provided. Please provide this information as listed to DEQ's Boise Regional Office, 1445 N. Orchard St., Boise, ID 87306, Fax (208) 373-0287.

In order to fully understand the compliance requirements of this permit, DEQ highly recommends that you schedule a meeting with Tom Krinke, Air Quality Compliance Officer, at (208) 373-0419 to review and discuss the terms and conditions of this permit. Should you choose to schedule this meeting, DEQ recommends the following representatives attend the meeting: your facility's plant manager, responsible official, environmental contact, and any other staff responsible for day-to-day compliance with permit conditions.

Pursuant to IDAPA 58.01.23, you, as well as any other entity, may have the right to appeal this final agency action within 35 days of the date of this decision. However, prior to filing a petition for a contested case, I encourage you to contact Morrie Lewis at (208) 373-0502 or [Morrie.Lewis@deq.idaho.gov](mailto:Morrie.Lewis@deq.idaho.gov) to address any questions or concerns you may have with the enclosed permit.

Sincerely,

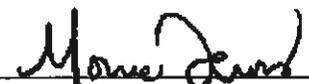
A handwritten signature in black ink that reads "Mike Simon". The signature is written in a cursive, flowing style.

Mike Simon  
Stationary Source Program Manager  
Air Quality Division

MSML

Project No. P-2009.0092

Enclosures

<p style="text-align: center;">Air Quality  <b>PERMIT TO CONSTRUCT</b>  State of Idaho  Department of Environmental Quality</p>	<b>PERMIT NUMBER</b>	<b>CLASS</b>	<b>SIC</b>
	P-2009.0092	A	4911
	<b>FACILITY ID</b>	<b>AQCR</b>	<b>NAICS</b>
	075-00012	63	221112
	<b>ZONE</b>	<b>UTM COORDINATES (km)</b>	
11	514.6	4861.2	
<b>PERMITTEE</b>			
Idaho Power Company			
<b>PROJECT</b>			
Initial permit to construct – Langley Gulch Power Plant			
<b>MAILING ADDRESS</b>	<b>CITY</b>	<b>STATE</b>	<b>ZIP</b>
1221 West Idaho Street	Boise	ID	83702
<b>FACILITY CONTACT</b>	<b>TITLE</b>	<b>TELEPHONE</b>	
Trevor Mahlum	Engineer, Power Production	(208) 388-2426	
<b>RESPONSIBLE OFFICIAL</b>	<b>TITLE</b>	<b>TELEPHONE</b>	
Dale Koger	Manager, Power Production	(208) 388-5820	
<b>EXACT PLANT LOCATION</b>			<b>COUNTY</b>
Interstate 84 and State Highway 30; 5 miles south of New Plymouth			Payette
<b>GENERAL NATURE OF BUSINESS &amp; KINDS OF PRODUCTS</b>			
Electric power generation			
<b>PERMIT AUTHORITY</b>			
<p>This permit is issued according to the Rules for the Control of Air Pollution in Idaho, IDAPA 58.01.01.200 through 228, and pertains only to emissions of air contaminants regulated by the state of Idaho and to the sources specifically allowed to be constructed or modified by this permit.</p> <p>This permit (a) does not affect the title of the premises upon which the equipment is to be located; (b) does not release the permittee from any liability for any loss due to damage to person or property caused by, resulting from, or arising out of the design, installation, maintenance, or operation of the proposed equipment; (c) does not release the permittee from compliance with other applicable federal, state, tribal, or local laws, regulations, or ordinances; (d) in no manner implies or suggests that the Department of Environmental Quality (DEQ) or its officers, agents, or employees, assume any liability, directly or indirectly, for any loss due to damage to person or property caused by, resulting from, or arising out of design, installation, maintenance, or operation of the proposed equipment.</p> <p>In accordance with 40 CFR 52.21(r)(2), this permit will expire if construction has not begun within 18 months of its issue date, if construction is suspended for 18 months or more, or if construction is not completed in a reasonable time. DEQ may extend the 18-month period upon a satisfactory showing that an extension is justified.</p> <p>This permit has been granted on the basis of design information presented with its application. Changes in design, equipment or operations may be considered a modification. Modifications are subject to DEQ review in accordance with IDAPA 58.01.01.200 through 228 of the Rules for the Control of Air Pollution in Idaho.</p>			
 <b>MORRIE LEWIS, PERMIT WRITER</b>		<b>DATE ISSUED</b>	<b>June 25, 2010</b>
 <b>MIKE SIMON, STATIONARY SOURCE MANAGER</b>			

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## PERMIT TO CONSTRUCT SCOPE

### Purpose

1. This is a Prevention of Significant Deterioration (PSD) initial permit to construct (PTC) for a new major New Source Review (NSR) combined-cycle gas turbine power plant.
2. The emission sources regulated by this permit are listed in the following table:

**REGULATED EMISSION POINT SOURCES**

Emissions Unit Descriptions	Control Equipment Descriptions
<u>Combustion turbine (CT)</u> Manufacturer: Siemens Model: SGT6-5000F Configuration: 1X1 combined cycle Manufacture date: 2010 Nominal output: 269 MW Maximum capacity: 2,134 MMBtu/hr <sup>a</sup> Maximum operation: 7,884 hr/yr Fuel: natural gas Fuel consumption: 2,146,600 scf/hr	Dry low NO <sub>x</sub> combustors Selective catalytic reduction system Catalytic oxidation system Good combustion practices
<u>Duct burner</u> Manufacturer: Hamworthy Peabody Manufacture date: 2010 Maximum capacity: 241.28 MMBtu/hr <sup>a</sup> Maximum operation: 7,884 hr/yr Fuel: natural gas Fuel consumption: 242,739 scf/hr	
<u>Emergency generator engine</u> Manufacturer: Cummins Model: DQFAA Manufacture date: 2009 Maximum capacity: 1,102 BHP (750 kW) 2.54 L/cylinder Maximum operation: 4 hr/day and 60hr/yr <sup>b</sup> Fuel: diesel Fuel consumption: 51.3 gph	EPA Tier 2 technologies Good combustion practices
<u>Fire pump engine</u> Manufacturer: John Deere Model: JU6H-UFAD98 Manufacture date: 2009 Maximum capacity: 315 HP (235 kW) 1.14 L/cylinder, 1760 rpm Maximum operation: 1 hr/day and 30hr/yr <sup>b</sup> Fuel: diesel Fuel consumption: 15 gph	EPA Tier 3 technologies Good combustion practices
<u>Cooling tower</u> Manufacturer: GEA Power Cooling Model: 7-cell, counterflow wet Manufacture date: 2010 Maximum water flow: 63,200 gpm Maximum operation: 8,760 hr/yr Maximum TDS: 5,000 mg/L	Drift eliminators Good operating practices
<u>Dry chemical storage silos (no more than 6)</u> Manufacturer: Seneca Manufacture date: 2010 Maximum capacity: 4,072 ft <sup>3</sup> (10,500 gal) Maximum loading operation: 2 hr/day and 24 hr/yr per silo	Bin vent filters Good operating practices

a) At higher heating value (HHV), 100 percent of peak load, and 0 F.

b) For maintenance and testing activities.

## **FACILITY-WIDE CONDITIONS**

### ***Fugitive Dust***

3. All reasonable precautions shall be taken to prevent PM from becoming airborne in accordance with IDAPA 58.01.01.650-651.
4. The permittee shall monitor and maintain records of the frequency and the method(s) used (e.g., water, chemical dust suppressants) to reasonably control fugitive dust emissions.
5. The permittee shall maintain records of all fugitive dust complaints received. The permittee shall take appropriate corrective action as expeditiously as practicable after receipt of a valid complaint. The records shall include, at a minimum, the date that each complaint was received and a description of the following: the complaint, the permittee's assessment of the validity of the complaint, any corrective action taken, and the date the corrective action was taken.
6. The permittee shall conduct a quarterly facility-wide inspection of potential sources of fugitive dust emissions, during daylight hours and under normal operating conditions to ensure that the methods used to reasonably control fugitive dust emissions are effective. If fugitive dust emissions are not being reasonably controlled, the permittee shall take corrective action as expeditiously as practicable. The permittee shall maintain records of the results of each fugitive dust emissions inspection. The records shall include, at a minimum, the date of each inspection and a description of the following: the permittee's assessment of the conditions existing at the time fugitive emissions were present (if observed), any corrective action taken in response to the fugitive dust emissions, and the date the corrective action was taken.

### ***Odors***

7. 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, in accordance with IDAPA 58.01.01.776.01.
8. The permittee shall maintain records of all odor complaints received. The permittee shall take appropriate corrective action as expeditiously as practicable. The records shall include, at a minimum, the date each complaint was received and a description of the following: the complaint, the permittee's assessment of the validity of the complaint, any corrective action taken, and the date the corrective action was taken.

### ***Visible Emissions***

9. 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 the test methods and 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 this permit condition.
10. The permittee shall conduct a quarterly facility-wide inspection of potential sources of visible emissions, during daylight hours and under normal operating conditions. Sources that are monitored using a continuous opacity monitoring system (COMS) are not required to comply with this permit condition. The inspection shall consist of a see/no see evaluation for each potential source of visible emissions. If any visible emissions are present from any point of emission, the permittee shall either:
  - Take appropriate corrective action as expeditiously as practicable to eliminate the visible emissions. Within 24 hours of the initial see/no see evaluation and after the corrective action, the permittee shall conduct a see/no see evaluation of the emissions point in question. If the visible emissions are not eliminated, the permittee shall comply with the following; or

- Perform a Method 9 opacity test in accordance with the procedures outlined in IDAPA 58.01.01.625. A minimum of 30 observations shall be recorded when conducting the opacity test. If opacity is greater than 20% for a period or periods aggregating more than three minutes in any 60-minute period, the permittee shall take all necessary corrective action and report the exceedance in the annual compliance certification and in accordance with IDAPA 58.01.01.130-136.
11. The permittee shall maintain records of the results of each visible emission inspection and each opacity test when conducted. The records shall include, at a minimum, the date and results of each inspection and test and a description of the following: the permittee's assessment of the conditions existing at the time visible emissions are present (if observed), any corrective action taken in response to the visible emissions, and the date corrective action was taken.

### ***Process Weight Limitations***

12. The permittee shall not emit PM to the atmosphere from any process or process equipment in excess of the amount shown by the equations in IDAPA 58.01.01.700-703.
- The cooling tower and dry chemical storage silos are process or process equipment as defined in IDAPA 58.01.01.006.

### ***Fuel-Burning Equipment***

13. The permittee shall not discharge PM into the atmosphere from any fuel-burning equipment in excess of 0.015 gr/dscf of effluent gas corrected to 3% oxygen (O<sub>2</sub>) by volume for gas, and 0.050 gr/dscf of effluent gas corrected to 3% O<sub>2</sub> by volume for liquid, in accordance with IDAPA 58.01.01.676.
- The duct burner is fuel-burning equipment as defined in IDAPA 58.01.01.006.

### ***Fuel Sulfur Content***

14. The permittee shall not sell, distribute, use, or make available for use any distillate fuel oil containing more than the following percentages of sulfur, in accordance with IDAPA 58.01.01.725:
- ASTM Grade 1 fuel oil - 0.3% by weight.
  - ASTM Grade 2 fuel oil - 0.5% by weight.
15. The permittee shall maintain documentation of supplier verification of fuel oil sulfur content on an as-received basis to ensure compliance with the fuel sulfur content (Permit Condition 14) requirement.

### ***Operation and Maintenance Manual***

16. Within 60 days after initial startup of the combustion turbine (CT), the permittee shall develop and submit to DEQ an Operation and Maintenance (O&M) manual for review and comment at the address provided (Permit Condition 31). Any changes to the O&M manual shall be submitted to DEQ for review and comment within 15 days of the change.
17. The O&M manual shall describe for each of the control equipment described in the Regulated Emission Point Sources Table (Permit Condition 2) procedures that will be followed to ensure compliance with the BACT emission limits (Permit Condition 33), the BACT secondary emission limits (Permit Conditions 34 and 35), the BACT work practices (Permit Conditions 43, 79, 89, and 94), the ammonia injection flow rate limit (Permit Condition 49), the control equipment maintenance and operation general provision (Permit Condition 96), and manufacturer's specifications. The O&M manual shall be a permittee developed document based upon, but independent from, the manufacturer supplied operating manual(s).
18. The permittee shall operate the control equipment in accordance with the O&M manual. The procedures specified in the O&M manual are incorporated by reference into this permit and are enforceable permit conditions. The O&M manual and copies of any manufacturer's manual(s) and recommendations shall remain on site at all times and shall be made available to DEQ representatives upon request.

## **Excess Emissions**

### *Excess Emissions - General*

19. 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 permit conditions (Permit Conditions 19 through 26) and the regulations of IDAPA 58.01.01.130-136.
20. The permittee shall, with all practicable speed, initiate and complete appropriate and reasonable action to correct the conditions causing the excess emissions event; to reduce the frequency of occurrence of such events; to minimize the amount by which the emission standard is exceeded; and shall, as provided below or upon request of DEQ, submit a full report of such occurrence, including a statement of all known causes, and of the scheduling and nature of the actions to be taken.

### *Excess Emissions – Startup, Shutdown, Scheduled Maintenance*

21. In all cases where startup, shutdown, or scheduled maintenance of any equipment or emission unit is expected to result or results in an excess emissions event, the permittee shall demonstrate compliance with IDAPA 58.01.01.133.01(a) through (d), including, but not limited to, the following:
  - A prohibition of any scheduled startup, shutdown, or maintenance resulting in excess emissions shall occur during any period in which an Atmospheric Stagnation Advisory or a Wood Stove Curtailment Advisory has been declared by DEQ.
  - Notifying DEQ of the excess emissions event as soon as reasonably possible, but no later than two hours prior to, the start of the event, unless the permittee demonstrates to DEQ's satisfaction that a shorter advance notice was necessary.
  - The permittee shall report and record the information required pursuant to the excess emissions reporting and recordkeeping requirements (Permit Conditions 25 and 26) and IDAPA 58.01.01.135 and 136 for each excess emissions event due to startup, shutdown, or scheduled maintenance.

### *Excess Emissions – Upset, Breakdown, or Safety Measures*

22. In all cases where upset or breakdown of equipment or an emissions unit, or the initiation of safety measures, results or may result in an excess emissions event, the permittee shall demonstrate compliance with IDAPA 58.01.01.134.01(a) and (b) and the following:
23. For all equipment or emissions units from which excess emissions result during upset or breakdown conditions, or for other situations that may necessitate the implementation of safety measures which cause excess emissions, the permittee shall comply with the following:
  - The permittee shall immediately undertake all appropriate measures to reduce and, to the extent possible, eliminate excess emissions resulting from the event and to minimize the impact of such excess emissions on the ambient air quality and public health.
  - The permittee shall notify DEQ of any upset, breakdown, or safety event that results in excess emissions. Such notification shall identify the time, specific location, equipment or emissions unit involved, and (to the extent known) the cause(s) of the occurrence. The notification shall be given as soon as reasonably possible, but no later than 24 hours after the event, unless the permittee demonstrates to DEQ's satisfaction that the longer reporting period was necessary.
  - The permittee shall report and record the information required pursuant to the excess emissions reporting and recordkeeping requirements (Permit Conditions 25 and 26) and IDAPA 58.01.01.135 and 136 for each excess emissions event caused by an upset, breakdown, or safety measure.

24. During any period of excess emissions caused by upset, breakdown, or operation under facility safety measures, DEQ may require the permittee to immediately reduce or cease operation of the equipment or emissions unit causing the period until such time as the condition causing the excess has been corrected or brought under control. Such action by DEQ shall be taken upon consideration of the factors listed in IDAPA 58.01.01.134.03 and after consultation with the permittee.

*Excess Emissions – Reporting and Recordkeeping*

25. A written report for each excess emissions event shall be submitted to DEQ by the permittee no later than 15 days after the beginning of such an event. Each report shall contain the information specified in IDAPA 58.01.01.135.02.
26. The permittee shall maintain excess emissions records at the facility for the most recent five-calendar-year period. The excess emissions records shall be made available to DEQ upon request and shall include the information requested by IDAPA 58.01.01.136.03(a) and (b) as summarized in the following:
- An excess emissions log book for each emissions unit or piece of equipment containing copies of all reports that have been submitted to DEQ pursuant to IDAPA 58.01.01.135 for the particular emissions unit or equipment; and
  - Copies of all startup, shutdown, and scheduled maintenance procedures and upset, breakdown, or safety preventative maintenance plans that have been developed by the permittee in accordance with IDAPA 58.01.01.133 and 134, and facility records as necessary to demonstrate compliance with such procedures and plans.

**Test Methods**

27. If performance testing is required, the following test methods shall be used, unless otherwise specified in this permit or approved by DEQ in accordance with IDAPA 58.01.01.157.02:

**TEST METHODS**

Pollutant	Test Method	Additional Requirements
NO <sub>x</sub>	EPA Method 7E or 20	
CO	EPA Method 10	
VOC	EPA Methods 25A / 18	
PM <sub>10</sub>	EPA Methods 5 / 202, or 201A / 202	Particulate matter with an aerodynamic diameter less than or equal to a nominal ten (10) micrometers, including condensable particulate as defined in IDAPA 58.01.01.006.
PM grain loading	EPA Method 5	
SO <sub>2</sub>	EPA Method 6C or 20	
Sulfur content	ASTM D3246 or D6667	Sulfur content of gaseous fuels.
Ammonia	EPA Method 320 or CTM-027	
Opacity	EPA Method 9	For an NSPS source, use IDAPA 58.01.01.625 and Method 9. For other sources, used IDAPA 58.01.01.625 only.

**NSPS 40 CFR 60, Subpart A - General Provisions**

28. For each affected facility, the permittee shall comply with the applicable requirements of 40 CFR 60, Subpart A – General Provisions, in accordance with 40 CFR 60.1 and 40 CFR 60.4218. Affected facilities include the CT, the heat recovery steam generator, the duct burner, the emergency generator engine, and the fire pump engine. A summary of requirements is provided in the following table:

**SUMMARY OF SUBPART A OF 40 CFR 60 – GENERAL PROVISIONS**

Section	Subject	Summary of Section Requirements
60.4	Address	<ul style="list-style-type: none"> <li>All requests, reports, applications, submittals, and other communications associated with 40 CFR 60, Subparts III and KKKK shall be submitted to the address provided in the DEQ address permit condition (Permit Condition 31).</li> </ul>
60.7(a), (b), and (f)	Notification and Recordkeeping	<ul style="list-style-type: none"> <li>Notification shall be furnished of commencement of construction or reconstruction postmarked no later than 30 days of such date.</li> <li>Notification shall be furnished of initial startup postmarked within 15 days of such date.</li> <li>Notification shall be furnished of any physical or operational change that may increase emissions postmarked 60 days before the change is made.</li> <li>Records shall be maintained of the occurrence and duration of any startup, shutdown or malfunction; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system (CMS) or monitoring device is inoperative.</li> <li>Records shall be maintained, in a permanent form suitable for inspection, of all measurements, performance evaluations, calibration checks, adjustments and maintenance performed, and all other required information. Records shall be maintained for a period of two years following the date of such measurements, maintenance, reports, and records.</li> </ul>
60.7(a), (c), (d), (e), and (f)	Notification and Recordkeeping (CMS)	<ul style="list-style-type: none"> <li>Notification shall be furnished of the date upon which demonstration of the CMS performance commences.</li> <li>Excess emissions and monitoring systems performance reports shall be submitted semiannually and in accordance with the semiannual monitoring reports general provision. Reports shall contain the information and be in the format specified in 40 CFR 60.7(c) and (d).</li> <li>Records of continuous emission monitoring system (CEMS) subhourly measurements shall be maintained in accordance with the requirements of 40 CFR 60.7(f). In lieu of maintaining a file of all CEMS subhourly measurements, the most recent consecutive three averaging periods of subhourly measurements and a file that contains a hard copy of the data acquisition system algorithm used to reduce the measured data into the reportable form of the standard shall be maintained.</li> </ul>
60.8	Performance Tests	<ul style="list-style-type: none"> <li>At least 30 days prior notice of any performance test shall be provided to afford the opportunity to have an observer to be present.</li> <li>Within 60 days of achieving the maximum production rate, but not later than 180 days after initial startup, performance test(s) shall be conducted and a written report of the results of such test(s) furnished.</li> <li>Performance testing facilities shall be provided as follows: <ul style="list-style-type: none"> <li>Sampling ports adequate for test methods applicable to such facility</li> <li>Safe sampling platform(s)</li> <li>Safe access to sampling platform(s)</li> <li>Utilities for sampling and testing equipment</li> </ul> </li> <li>Performance tests shall be conducted and data reduced in accordance with 40 CFR 60.8(b), (c), and (f).</li> </ul>
60.11(a), (d), (f), and (g)	Compliance with Standards and Maintenance Requirements	<ul style="list-style-type: none"> <li>When performance tests are required, compliance with standards is determined by methods and procedures established by 40 CFR 60.8.</li> <li>At all times, including periods of startup, shutdown, and malfunction, the permittee shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions.</li> <li>For the purpose of submitting compliance certifications or establishing whether or not a person has violated or is in violation of any standard, nothing shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test or procedure had been performed.</li> </ul>
60.11(b), (c), and (e)	Compliance with Standards and Maintenance Requirements (Opacity)	<ul style="list-style-type: none"> <li>Compliance with opacity standards shall be determined by Method 9 in Appendix A to 40 CFR 60. The permittee may elect to use continuous opacity monitoring system (COM) measurements in lieu of Method 9, provided notification is made at least 30 days before the performance test.</li> <li>The opacity standards shall apply at all times except during periods of startup, shutdown, malfunction, and as otherwise provided.</li> <li>Opacity observations shall be conducted concurrently with the initial performance test required in 40 CFR 60.8 in accordance with the requirements and exceptions in 40 CFR 60.11(e).</li> </ul>
60.12	Circumvention	<ul style="list-style-type: none"> <li>No permittee shall build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard.</li> </ul>

60.13	Monitoring Requirements (CMS)	<ul style="list-style-type: none"> <li>• All CMS and monitoring devices shall be installed and operational prior to conducting performance tests required by 40 CFR 60.8.</li> <li>• A performance evaluation of the COMS or CEMS shall be conducted before or during any performance test and a written report of the results of the performance evaluation furnished. Reporting requirements include submitting performance evaluation reports within 60 days of the evaluations required, and submitting results of the performance evaluations for the COM within 10 days before a performance test, if using a COM to determine compliance with opacity during a performance test instead of Method 9.</li> <li>• The zero and span calibration drifts must be checked at least once daily and adjusted in accordance with the requirements in 40 CFR 60.13(d).</li> <li>• The zero and upscale (span) calibration drifts of COMS must be automatically, intrinsic to the opacity monitor, checked at least once daily.</li> <li>• Except for system breakdowns, repairs, calibration checks, and zero and span adjustments, all CMS shall be in continuous operation and shall meet minimum frequency of operation requirements as specified in 40 CFR 60.13(e).</li> <li>• All CMS or monitoring devices shall be installed such that representative measurements of emissions or process parameters from the affected facility are obtained. CMS shall be located and installed in accordance with the requirements in 40 CFR 60.13(f) and (g).</li> <li>• Data shall be reduced and computed in accordance with the procedures in 40 CFR 60.13(h), (i), and (j).</li> </ul>
60.14	Modification	<ul style="list-style-type: none"> <li>• A physical or operational change which results in an increase in the emission rate to the atmosphere of any pollutant to which a standard applies shall be considered a modification, and upon modification an existing facility shall become an affected facility in accordance with the requirements and exemptions in 40 CFR 60.14.</li> <li>• Within 180 days of the completion of any physical or operational change, compliance with all applicable standards must be achieved.</li> </ul>
60.15	Reconstruction	<ul style="list-style-type: none"> <li>• An existing facility, upon reconstruction, becomes an affected facility, irrespective of any change in emission rate in accordance with the requirements of 40 CFR 60.15.</li> </ul>

### ***Incorporation of Federal Requirements by Reference***

29. 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, in accordance with IDAPA 58.01.01.107 and IDAPA 58.01.01.205. Documents include, but are not limited to:
- Standards of Performance for New Stationary Sources (NSPS) 40 CFR 60, Subpart IIII.
  - Standards of Performance for New Stationary Sources (NSPS) 40 CFR 60, Subpart KKKK.
30. For permit conditions referencing or cited in accordance with any document incorporated by reference (including permit conditions identified as NSPS), should there be any conflict between the requirements of the permit condition and the requirements of the document, the requirements of the document shall govern, including any amendments.

### ***DEQ Address***

31. All requests, reports, applications, submittals, certifications, and other communications required by this permit shall be submitted to:

Air Quality Permit Compliance  
Department of Environmental Quality  
Boise Regional Office  
1445 N. Orchard St.  
Boise, Idaho 83706

phone: (208) 373-0550  
fax: (208) 373-0287

## COMBUSTION TURBINE AND DUCT BURNER

### Process Description

The Langley Gulch Power Plant will operate as a one-on-one, combined-cycle plant, consisting of a natural gas-fired combustion turbine (CT) and a steam turbine. The CT is equipped with a heat recovery steam generator (HRSG) 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. Due to the varying nature of the plant operational schedule, the CT and HRSG duct burner may be subject to numerous startup and shutdown events per year.

Ancillary equipment includes a diesel-fired emergency generator engine, a diesel-fired fire pump engine, a wet cooling tower, and a maximum of six dry chemical storage silos.

### Control Equipment Descriptions

The control devices used to control emissions from the CT and duct burner are summarized in the following table:

CT AND DUCT BURNER CONTROL DEVICE DESCRIPTIONS

Emissions Unit Description	Control Device Descriptions	Emission Point Description
CT and Duct Burner	<u>Selective catalytic reduction system</u> Manufacturer: Haldor Topsoe	HRSG Stack
	<u>Catalytic oxidation system</u> Manufacturer: Johnson Matthey	

### Definitions

#### 32. Startup, Shutdown, and Low-Load Events

For the purposes of BACT emission limits (Permit Condition 33) and BACT secondary emission limits (Permit Conditions 34 and 35), startup, shutdown, and low-load events shall be defined as follows:

- A startup event shall be defined as a period beginning with the initiation of firing fuel in the CT, of increasing power output from 0% to 60% of base load, and not exceeding 5.5 hours in duration.
- A shutdown event shall be defined as a period ending when the CT has stopped firing fuel, of reducing power output from less than 60% to 0% of base load, and not exceeding 1 hour in duration.
- A low-load event shall be defined as operation of the CT at a power output below 60% of base load, excluding periods defined as startup or shutdown events.
- Base load shall be defined as the maximum electrical energy output in megawatt electrical (MW<sub>e</sub>) that the CT is capable of producing on a steady-state basis and during continuous operation.

**Emission Limits**

33. PSD 40 CFR 52.21 – BACT Emission Limits

The emissions from the HRSG Stack shall not exceed any emission limit in the following table except during startup, shutdown, and low-load events:

**CT AND DUCT BURNER BACT EMISSION LIMITS<sup>a</sup>**

Source Description	NO <sub>x</sub>	CO	VOC
	ppm <sup>b,c</sup>	ppm <sup>b,c</sup>	ppm <sup>b,c</sup>
CT and Duct Burner (combined)	2.0	2.0	2.0

- a) In absence of any other credible evidence, compliance is assured by complying with permit operating, monitoring, and recordkeeping requirements.
- b) Parts of a gaseous contaminant per million parts of gas by volume, calculated as a 3-hour rolling average, on a dry basis and corrected to 15% O<sub>2</sub> concentration.
- c) As determined by applicable EPA test method (Permit Condition 27) as prescribed by IDAPA 58.01.01.157, CEMS data, or DEQ-approved alternative.

34. PSD 40 CFR 52.21 – BACT Secondary Emission Limits for Low-Load Events

The emissions from the HRSG Stack shall not exceed any emission limit in the following table during low-load events:

**CT AND DUCT BURNER BACT SECONDARY EMISSION LIMITS  
FOR LOW-LOAD EVENTS<sup>a</sup>**

Source Description	NO <sub>x</sub>	CO	VOC
	ppm <sup>b,c</sup>	ppm <sup>b,c</sup>	ppm <sup>b,c</sup>
CT and Duct Burner (combined)	96	24.5	11.5

- a) In absence of any other credible evidence, compliance is assured by complying with permit operating, monitoring, and recordkeeping requirements.
- b) Parts of a gaseous contaminant per million parts of gas by volume, calculated as a 3-hour rolling average, on a dry basis and corrected to 15% O<sub>2</sub> concentration.
- c) As determined by applicable EPA test method (Permit Condition 27) as prescribed by IDAPA 58.01.01.157, CEMS data, or DEQ-approved alternative.

35. PSD 40 CFR 52.21 – BACT Secondary Emission Limits for Startup and Shutdown Events

The emissions from the HRSG Stack shall not exceed any emission limit in the following table during startup and shutdown events:

**CT AND DUCT BURNER BACT SECONDARY EMISSION LIMITS  
FOR STARTUP AND SHUTDOWN EVENTS<sup>a</sup>**

Source Description	NO <sub>x</sub>	CO
	ppm <sup>b,d</sup>	lb/hr <sup>c,d</sup>
CT and Duct Burner (combined)	96	2,510

- a) In absence of any other credible evidence, compliance is assured by complying with permit operating, monitoring, and recordkeeping requirements.
- b) Parts of a gaseous contaminant per million parts of gas by volume, calculated as a 3-hour rolling average, on a dry basis and corrected to 15% O<sub>2</sub> concentration.
- c) Pounds per hour, calculated as a 1-hour average.
- d) As determined by applicable EPA test method (Permit Condition 27) as prescribed by IDAPA 58.01.01.157, CEMS data, or DEQ-approved alternative.

36. Annual Emission Limits

The emissions from the HRSG Stack shall not exceed any emission limit in the following table:

**CT AND DUCT BURNER ANNUAL EMISSION LIMITS<sup>a</sup>**

Emissions Unit	NO <sub>x</sub>	CO
	T/yr <sup>b</sup>	T/yr <sup>b</sup>
CT and Duct Burner (combined)	88	278.1

- a) In absence of any other credible evidence, compliance is assured by complying with permit operating, monitoring, and recordkeeping requirements.
- b) Tons per any consecutive 12 calendar month period, calculated as a 12-month rolling total and including emissions during startup, shutdown, low-load, and malfunction.

37. NSPS 40 CFR 60, Subpart KKKK – NO<sub>x</sub> Emission Limits

The permittee shall meet the emission limits for NO<sub>x</sub> specified in Table 1 to Subpart KKKK of 40 CFR 60, in accordance with 40 CFR 60.4320(a):

**SUMMARY OF TABLE 1 TO SUBPART KKKK OF 40 CFR 60 – NO<sub>x</sub> EMISSION LIMITS FOR NEW STATIONARY CT**

Combustion turbine type	CT heat input at peak load (HHV)	NO <sub>x</sub> emission standard
New, modified, or reconstructed turbine firing natural gas	> 850 MMBtu/hr	15 ppm at 15% O <sub>2</sub> or 54 ng/J of useful output (0.43 lb/MWh)
Turbines operating at < 75% of peak load, and turbines operating at temperatures less than 0°F	> 30 MW output	96 ppm at 15% O <sub>2</sub> or 590 ng/J of useful output (4.7 lb/MWh)
Heat recovery units operating independent of the combustion turbine	All sizes	54 ppm at 15% O <sub>2</sub> or 110 ng/J of useful output (0.86 lb/MWh).

38. NSPS 40 CFR 60, Subpart KKKK – SO<sub>2</sub> Emission Limits

The permittee shall comply with one of the options specified in 40 CFR 60.4330(a), in accordance with 40 CFR 60.4330(a):

- The permittee shall not cause to be discharged into the atmosphere from the subject stationary CT any gases which contain SO<sub>2</sub> in excess of 110 nanograms per Joule (ng/J) (0.90 pounds per megawatt-hour (lb/MWh)) gross output; or
- The permittee shall not burn in the subject stationary CT any fuel which contains total potential sulfur emissions in excess of 26 ng SO<sub>2</sub>/J (0.060 lb SO<sub>2</sub>/MMBtu) heat input.

39. PM<sub>10</sub> Emission Limit

The emissions from the HRSG Stack shall not exceed 12.55 pounds per hour of PM<sub>10</sub> emissions as defined in IDAPA 58.01.01.006, including condensable particulates.

40. Ammonia Slip Emission Limit

The emissions from the HRSG Stack shall not exceed 5 parts of ammonia per million parts of gas by volume (ppm), calculated as a 3-hour rolling average, on a dry basis and corrected to 15% O<sub>2</sub> concentration, to ensure compliance with the control equipment maintenance and operation general provision (Permit Condition 96).

## ***Operating Requirements***

### 41. PSD 40 CFR 52.21 – BACT SCR System

The permittee shall install, operate, and maintain a selective catalytic reduction (SCR) system consistent with manufacturer's recommendations, to ensure compliance with the NO<sub>x</sub> BACT emission limits (Permit Condition 33) and NO<sub>x</sub> BACT secondary emission limits (Permit Conditions 34 and 35) for the CT and the duct burner.

### 42. PSD 40 CFR 52.21 – BACT CatOx System

The permittee shall install, operate, and maintain a catalytic oxidation (CatOx) system consistent with manufacturer's recommendations, to ensure compliance with the CO and VOC BACT emission limits (Permit Condition 33) and CO and VOC BACT secondary emission limits (Permit Conditions 34 and 35) for the CT and the duct burner.

### 43. PSD 40 CFR 52.21 – BACT Work Practices for the CT and Duct Burner

The permittee shall utilize good combustion practices at all times to minimize emissions of regulated NSR pollutants from the CT and the duct burner. Good combustion practices shall be identified and described in the O&M manual (Permit Conditions 16 through 18).

### 44. NO<sub>x</sub> CEMS

The permittee shall install, certify, operate, and maintain a NO<sub>x</sub>-diluent continuous emission monitoring system (consisting of a NO<sub>x</sub> pollutant concentration monitor and an O<sub>2</sub> or CO<sub>2</sub> diluent gas monitor) with an automated data acquisition and handling system for measuring and recording NO<sub>x</sub> concentration (in ppm), O<sub>2</sub> or CO<sub>2</sub> concentration (in percent O<sub>2</sub> or CO<sub>2</sub>), and NO<sub>x</sub> emission rate (in lb/MMBtu) discharged to the atmosphere.

- The procedures of 40 CFR 60.13 (Permit Condition 28) and 40 CFR 75 shall be followed for installation, evaluation, and operation of the CEMS.
- The permittee shall comply with the NO<sub>x</sub> CEMS monitoring option requirements (Permit Condition 55).
- The CEMS shall be capable of monitoring NO<sub>x</sub> concentrations at all times, including during startup, shutdown, and low-load events (as defined in Permit Condition 32).

### 45. CO CEMS

The permittee shall install, certify, operate, and maintain a CO continuous emission monitoring system (consisting of a CO pollutant concentration monitor and an O<sub>2</sub> diluent gas monitor) with an automated data acquisition and handling system for measuring and recording CO concentration (in ppm), O<sub>2</sub> concentration (in percent O<sub>2</sub>), and CO emission rate (in lb/MMBtu and lb/hr) discharged to the atmosphere.

- The procedures of 40 CFR 60.13 (Permit Condition 28) shall be followed for installation, evaluation, and operation of the CEMS.
- The permittee shall comply with the requirements set forth in Appendices B and F to 40 CFR 60. The permittee shall demonstrate compliance with the requirements of Appendix B to 40 CFR 60 using the method given by Performance Specification 4 or 4A (as appropriate), unless otherwise approved by DEQ.
- The CEMS shall be capable of monitoring CO concentrations and CO emissions at all times, including during startup, shutdown, and low-load events (as defined in Permit Condition 32).

46. NSPS 40 CFR 60, Subpart KKKK – General Compliance Requirements

The permittee must operate and maintain the stationary CT, air pollution control equipment, and monitoring equipment in a manner consistent with good air pollution control practices for minimizing emissions at all times including during startup, shutdown, and malfunction in accordance with 40 CFR 60.4333(a).

47. Fuel Specifications

The CT and the duct burner shall combust only fuel that meets the definition of pipeline natural gas under 40 CFR 72.2.

- Pipeline natural gas contains 0.5 grains or less of total sulfur per 100 standard cubic feet.

48. Ammonia Injection Flow Meter

The permittee shall install, calibrate, operate, and maintain an ammonia injection flow meter for the ammonia injection system consistent with manufacturer's recommendations, to ensure compliance with the ammonia injection flow rate limit (Permit Condition 49).

- The ammonia injection flow meter shall be accurate to plus or minus ten percent at full scale and calibrated at least once every five years.

49. Ammonia Injection Flow Rate

The hourly average ammonia injection flow rate shall not exceed 1.03 gallons per minute (gpm), to ensure compliance with the ammonia slip emission limit (Permit Condition 40).

50. Hours of Operation

- Operation of the CT shall not exceed 7,884 hours in any consecutive 12 calendar month period.
- Operation of the duct burner shall not exceed 7,884 hours in any consecutive 12 calendar month period.

***Continuous Monitoring and Recordkeeping***

51. Startup, Shutdown, And Low-Load Events Monitoring

For each startup, shutdown, and low-load event (as defined in Permit Condition 32), the permittee shall record the following to ensure compliance with BACT emission limits (Permit Condition 33) and BACT secondary emission limits (Permit Conditions 34 and 35):

- A description of the event (e.g., startup, shutdown, or low-load); and
- The occurrence and duration of the event.

## *NO<sub>x</sub> CEMS*

### 52. NO<sub>x</sub> CEMS Monitoring for BACT and Annual Limits

For the purposes of demonstrating compliance with the NO<sub>x</sub> BACT emission limit (Permit Condition 33), the NO<sub>x</sub> BACT secondary emission limits (Permit Conditions 34 and 35), and the NO<sub>x</sub> annual emission limit (Permit Condition 36), the permittee shall comply with the following requirements:

- Each NO<sub>x</sub> CEMS shall meet the requirements for CEMS set forth in 40 CFR 60, Subpart A (Permit Condition 28).
- Startup, shutdown, and low-load events shall be monitored in accordance with the startup, shutdown, and low-load events monitoring requirement (Permit Condition 51).
- Emissions shall be monitored according to the NO<sub>x</sub> CEMS monitoring excess emissions requirement (Permit Condition 56). Hourly, monthly, and annual averages shall be calculated using CEMS totals and excess emissions shall be assessed according to the procedures in the NO<sub>x</sub> CEMS monitoring excess emissions for BACT and annual limits requirement (Permit Condition 53). Electronic archives are an acceptable form of documentation for recordkeeping.
- Monitor downtime shall be defined as set forth in 40 CFR 60.4380(b)(2) (Permit Condition 70).
- Excess emissions and monitor downtime shall be reported according to the procedures set forth in 40 CFR 60, Subpart A (Permit Condition 28) and in accordance with the excess emissions procedures and requirements (Permit Conditions 19 through 26).
- A test protocol shall be submitted to DEQ for each certification and recertification of the CEMS. Each test protocol shall be submitted to DEQ for approval at least 30 days prior to the test date. Following the approval of the initial test protocol, the permittee may waive this reporting requirement by providing a certified statement that each recertification test will be performed in the same manner as a test protocol previously approved for the CEMS.
- Within 180 days of permit issuance, the permittee shall submit CEMS methodology and quality assurance and quality control protocols to DEQ for approval, addressing the methods used to quantify emission concentrations and emission rates from the HRSG stack and the methods used to ensure data quality. The protocol must be sufficiently detailed to allow DEQ to verify emissions rate estimates for purposes of determining compliance. The permittee shall maintain the DEQ-approved protocols onsite at all times the CT is operated.
- Records of all CEMS emission data, calibration reports, excess emissions and monitor downtime reports, and maintenance performed shall be maintained in accordance with the monitoring and recordkeeping general provision (Permit Condition 103).

### 53. NO<sub>x</sub> CEMS Monitoring Excess Emissions for BACT and Annual Limits

For the purposes of assessing excess emissions for the NO<sub>x</sub> BACT emission limit (Permit Condition 33), the NO<sub>x</sub> BACT secondary emission limits (Permit Conditions 34 and 35), and the NO<sub>x</sub> annual emission limit (Permit Condition 36), the permittee shall comply with the following requirements using procedures set forth in 40 CFR 60 or as otherwise approved by DEQ:

- On an hourly basis, the 1-hour average NO<sub>x</sub> concentration (in ppm) from the HRSG stack shall be calculated and recorded.
- On an hourly basis, the 1-hour average NO<sub>x</sub> emission rate (in lb/hr) from the HRSG stack shall be calculated and recorded.
- On an hourly basis, the rolling 3-hour average NO<sub>x</sub> concentration (in ppm) from the HRSG stack shall be calculated and recorded.

- On a monthly basis, the monthly and cumulative 12 consecutive calendar month NO<sub>x</sub> mass emissions (in tons) shall be calculated and recorded using CEMS totals of the hourly NO<sub>x</sub> mass emissions, according to the procedures set forth in Appendix F to 40 CFR 75.
- For each 1-hour operating period during which multiple NO<sub>x</sub> BACT emission limits may potentially be applicable (Permit Conditions 33 through 35), the applicable NO<sub>x</sub> BACT emission limit for that hour is determined based on the event or operating condition that corresponded to the highest NO<sub>x</sub> BACT emission limit.
- For each 3-hour operating period during which multiple NO<sub>x</sub> BACT emission limits apply (Permit Conditions 33 through 35), the applicable NO<sub>x</sub> BACT emission limit is the average of the applicable NO<sub>x</sub> BACT emission limits during each hour (“blended average”). Each 1-hour operating period is required to be included as part of a calculated 3-hour rolling average (in ppm).
- On an hourly basis, the calculated 3-hour average NO<sub>x</sub> concentration shall be used to assess excess emissions for the applicable NO<sub>x</sub> BACT emission limit (Permit Condition 33, 34, or 35).
- On a monthly basis, the calculated 12 consecutive calendar month mass emission total shall be used to assess excess emissions for the NO<sub>x</sub> annual emission limit (Permit Condition 36).

54. NSPS 40 CFR 60, Subpart KKKK – Continuous Compliance for NO<sub>x</sub>

The permittee shall demonstrate continuous compliance for NO<sub>x</sub> in accordance with 40 CFR 60.4340.

- The permittee may install, calibrate, maintain and operate a continuous emission monitoring system (CEMS) as described in 40 CFR 60.4335(b) and 40 CFR 60.4345 (Permit Condition 55), in accordance with 40 CFR 60.4340(b).

55. NSPS 40 CFR 60, Subpart KKKK – NO<sub>x</sub> CEMS Monitoring Option

In accordance with 40 CFR 60.4345, if the option to use a NO<sub>x</sub> CEMS is chosen:

- Each NO<sub>x</sub> diluent CEMS must be installed and certified according to Performance Specification 2 (PS 2) in Appendix B to 40 CFR 60, except the 7-day calibration drift is based on unit operating days, not calendar days. With DEQ approval, Procedure 1 in Appendix F to 40 CFR 60 is not required. Alternatively, a NO<sub>x</sub> diluent CEMS that is installed and certified according to Appendix A to 40 CFR 75 is acceptable for use under 40 CFR 60, Subpart KKKK. The relative accuracy test audit (RATA) of the CEMS shall be performed on a lb/MMBtu basis.
- As specified in 40 CFR 60.13(e)(2), during each full unit operating hour, both the NO<sub>x</sub> monitor and the diluent monitor must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each 15-minute quadrant of the hour, to validate the hour. For partial unit operating hours, at least one valid data point must be obtained with each monitor for each quadrant of the hour in which the unit operates. For unit operating hours in which required quality assurance and maintenance activities are performed on the CEMS, a minimum of two valid data points (one in each of two quadrants) are required for each monitor to validate the NO<sub>x</sub> emission rate for the hour.
- Each fuel flowmeter shall be installed, calibrated, maintained, and operated according to the manufacturer's instructions.
- Each watt meter, steam flow meter, and each pressure or temperature measurement device shall be installed, calibrated, maintained, and operated according to manufacturer's instructions.
- The permittee shall develop and keep on-site a quality assurance (QA) plan for all of the continuous monitoring equipment described in 40 CFR 60.4345. For the CEMS and fuel flow meters, the permittee may, with DEQ approval, satisfy the requirements of this paragraph by implementing the QA program and plan described in section 1 of Appendix B to 40 CFR 75.

56. NSPS 40 CFR 60, Subpart KKKK – NO<sub>x</sub> CEMS Monitoring Excess Emissions

The permittee shall comply with the requirements of 40 CFR 60.4350 for purposes of identifying excess emissions, in accordance with 40 CFR 60.4350:

- All CEMS data must be reduced to hourly averages as specified in 40 CFR 60.13(h) (Permit Condition 28).
- For each unit operating hour in which a valid hourly average, as described in 40 CFR 60.4345(b) (Permit Condition 55), is obtained for both NO<sub>x</sub> and diluent monitors, the data acquisition and handling system (DAHS) must calculate and record the hourly NO<sub>x</sub> emission rate in units of ppm or lb/MMBtu, using the appropriate equation from Method 19 in Appendix A to 40 CFR 60. For any hour in which the hourly average O<sub>2</sub> concentration exceeds 19.0 percent O<sub>2</sub> (or the hourly average CO<sub>2</sub> concentration is less than 1.0 percent CO<sub>2</sub>), a diluent cap value of 19.0 percent O<sub>2</sub> or 1.0 percent CO<sub>2</sub> (as applicable) may be used in the emission calculations.
- Correction of measured NO<sub>x</sub> concentrations to 15 percent O<sub>2</sub> is not allowed.
- If you have installed and certified a NO<sub>x</sub> diluent CEMS to meet the requirements of 40 CFR 75, DEQ can approve that only quality assured data from the CEMS shall be used to identify excess emissions. Periods where the missing data substitution procedures in Subpart D of 40 CFR 75 are applied are to be reported as monitor downtime in the excess emissions and monitoring performance report required under 40 CFR 60.7(c) (Permit Condition 28).
- All required fuel flow rate, steam flow rate, temperature, pressure, and megawatt data must be reduced to hourly averages.
- Calculate the hourly average NO<sub>x</sub> emission rates, in units of the emission standards under 40 CFR 60.4320 (Permit Condition 37), using either ppm for units complying with the concentration limit or the following equation for units complying with the output based standard:

- For simple-cycle operation:

$$E = \frac{(\text{NO}_x)_h * (\text{HI})_h}{P}$$

Where:

E = hourly NO<sub>x</sub> emission rate, in lb/MWh,

(NO<sub>x</sub>)<sub>h</sub> = hourly NO<sub>x</sub> emission rate, in lb/MMBtu,

(HI)<sub>h</sub> = hourly heat input rate to the unit, in MMBtu/h, measured using the fuel flowmeter(s), and

P = gross energy output of the CT in MW.

- For combined-cycle complying with the output-based standard, use the simple-cycle operation equation above, except that the gross energy output is calculated as the sum of the total electrical and mechanical energy generated by the CT, the additional electrical or mechanical energy (if any) generated by the steam turbine following the heat recovery steam generator, and 100 percent of the total useful thermal energy output that is not used to generate additional electricity or mechanical output, expressed in equivalent MW, as in the following equations:

$$P = (\text{Pe})_t + (\text{Pe})_c + P_s + P_o$$

Where:

P = gross energy output of the stationary CT system in MW.

(Pe)<sub>t</sub> = electrical or mechanical energy output of the CT in MW,

(Pe)<sub>c</sub> = electrical or mechanical energy output (if any) of the steam turbine in MW, and

$$P_s = \frac{Q * H}{3.413 \times 10^6 \text{ Btu/MWh}}$$

Where:

$P_s$  = useful thermal energy of the steam, measured relative to ISO conditions, not used to generate additional electric or mechanical output, in MW,

$Q$  = measured steam flow rate in lb/h,

$H$  = enthalpy of the steam at measured temperature and pressure relative to ISO conditions, in Btu/lb, and  $3.413 \times 10^6$  = conversion from Btu/h to MW.

$P_o$  = other useful heat recovery, measured relative to ISO conditions, not used for steam generation or performance enhancement of the CT.

- Use the calculated hourly average emission rates from this permit condition to assess excess emissions on a 30 unit operating day rolling average basis, as described in 40 CFR 60.4380(b)(1) (Permit Condition 70).

## CO CEMS

### 57. CO CEMS Monitoring for BACT and Annual Limits

For the purposes of demonstrating compliance with the CO BACT emission limit (Permit Condition 33), the CO BACT secondary emission limits (Permit Conditions 34 and 35), and the CO annual emission limit (Permit Condition 36), the permittee shall comply with the following requirements:

- Each CO CEMS shall meet the requirements for CEMS set forth in 40 CFR 60, Subpart A (Permit Condition 28).
- Startup, shutdown, and low-load events shall be monitored in accordance with the startup, shutdown, and low-load events monitoring requirement (Permit Condition 51).
- All CO CEMS data shall be reduced to hourly averages according to the procedures set forth in 40 CFR 60.13(h) (Permit Condition 28).
- For each unit operating hour in which a valid hourly average is obtained for both the CO and O<sub>2</sub> diluent monitors, the data acquisition and handling system (DAHS) must calculate and record the hourly CO emission rate in units of ppm and lb/MMBtu, using the appropriate equation from Method 19 in Appendix A to 40 CFR 60 or as approved by DEQ. For any hour in which the hourly average O<sub>2</sub> concentration exceeds 19.0 percent O<sub>2</sub>, a diluent cap value of 19.0 percent O<sub>2</sub> may be used in the emission calculations.
- All required fuel flow rate data must be reduced to hourly averages.
- Hourly, monthly, and annual averages shall be calculated using CEMS totals and excess emissions shall be assessed according to the procedures in the CO CEMS monitoring excess emissions for BACT and annual limits requirement (Permit Condition 58). Electronic archives are an acceptable form of documentation for recordkeeping.
- Monitor downtime shall be defined as set forth in 40 CFR 60.4380(b)(2) (Permit Condition 70), and shall include any unit operating hour in which the data for CO concentration is either missing or invalid.
- Excess emissions and monitor downtime shall be reported according to the procedures set forth in 40 CFR 60, Subpart A (Permit Condition 28) and in accordance with the excess emissions procedures and requirements (Permit Conditions 19 through 26).

- A test protocol shall be submitted to DEQ for each certification and recertification of the CEMS. Each test protocol shall be submitted to DEQ for approval at least 30 days prior to the test date. Following the approval of the initial test protocol, the permittee may waive this reporting requirement by providing a certified statement that each recertification test will be performed in the same manner as a test protocol previously approved for the CEMS.
- Within 180 days of permit issuance, the permittee shall submit CEMS methodology and quality assurance and quality control protocols to DEQ for approval, addressing the methods used to quantify emission concentrations and emission rates from the HRSG stack and the methods used to ensure data quality. The protocol must be sufficiently detailed to allow DEQ to verify emissions rate estimates for purposes of determining compliance. The permittee shall maintain the DEQ-approved protocols onsite at all times the CT is operated.
- Records of all CEMS emission data, calibration reports, excess emissions and monitor downtime reports, and maintenance performed shall be maintained in accordance with the monitoring and recordkeeping general provision (Permit Condition 103).

58. CO CEMS Monitoring Excess Emissions for BACT and Annual Limits

For the purposes of assessing excess emissions for the CO BACT emission limit (Permit Condition 33), the CO BACT secondary emission limits (Permit Conditions 34 and 35), and the CO annual emission limit (Permit Condition 36), the permittee shall comply with the following requirements using procedures set forth in 40 CFR 60 or as otherwise approved by DEQ:

- On an hourly basis, the 1-hour average CO concentration (in ppm) from the HRSG stack shall be calculated and recorded.
- On an hourly basis, the 1-hour average CO emission rate (in lb/hr) from the HRSG stack shall be calculated and recorded.
- On an hourly basis, the rolling 3-hour average CO concentration (in ppm) from the HRSG stack shall be calculated and recorded.
- On a monthly basis, the monthly and cumulative 12 consecutive calendar month CO mass emissions (in tons) shall be calculated and recorded using CEMS totals of the hourly CO mass emissions, according to procedures approved by DEQ.
- For each 1-hour operating period during which multiple CO BACT emission limits may potentially be applicable (Permit Conditions 33 through 35), the applicable CO BACT emission limit for that hour is determined based on the event or operating condition that corresponded to the highest CO BACT emission limit.
- For each 3-hour operating period during which multiple CO BACT emission limits (in ppm) apply (Permit Conditions 33 through 34), the applicable CO BACT emission limit is the average of the applicable CO BACT emission limits during each hour (“blended average”).
- Each 1-hour operating period determined to be applicable to the CO BACT secondary emission limit for startup and shutdown events (in lb/hr) is not required to be included as part of a calculated 3-hour rolling average (in ppm).
- On an hourly basis, the calculated 3-hour average CO concentration (for Permit Condition 33 or 34) or the calculated 1-hour average CO emission rate (for Permit Condition 35) shall be used to assess excess emissions for the applicable CO BACT emission limit (Permit Condition 33, 34, or 35).
- On a monthly basis, the calculated 12 consecutive calendar month mass emission total shall be used to assess excess emissions for the CO annual emission limit (Permit Condition 36).

## ***Monitoring and Recordkeeping***

### 59. NSPS 40 CFR 60, Subpart KKKK – Fuel Total Sulfur Content Monitoring

- The permittee shall monitor the total sulfur content of the fuel being fired in the CT, except as provided in 40 CFR 60.4365, in accordance with 40 CFR 60.4360.
- The permittee may elect not to monitor the total sulfur content of the fuel combusted in the CT, if the fuel is demonstrated not to exceed potential sulfur emissions of 26 ng SO<sub>2</sub>/J (0.060 lb SO<sub>2</sub>/MMBtu) heat input, in accordance with 40 CFR 60.4365. The permittee shall use one of the following sources of information to make the required demonstration:
  - The fuel quality characteristics in a current, valid purchase contract, tariff sheet or transportation contract for the fuel, specifying that the total sulfur content for natural gas use is 20 grains of sulfur or less per 100 standard cubic feet, has potential sulfur emissions of less than less than 26 ng SO<sub>2</sub>/J (0.060 lb SO<sub>2</sub>/MMBtu) heat input; or
  - Representative fuel sampling data which show that the sulfur content of the fuel does not exceed 26 ng SO<sub>2</sub>/J (0.060 lb SO<sub>2</sub>/MMBtu) heat input. At a minimum, the amount of fuel sampling data specified in Section 2.3.1.4 or 2.3.2.4 of Appendix D to 40 CFR 75 is required.

### 60. NSPS 40 CFR 60, Subpart KKKK – Frequency of Fuel Total Sulfur Content Monitoring

The permittee shall determine the sulfur content of the fuel according to the frequency specified in 40 CFR 60.4370:

- Gaseous fuel. If the permittee elects not to demonstrate sulfur content using options in 40 CFR 60.4365, and the fuel is supplied without intermediate bulk storage, the sulfur content value of the gaseous fuel shall be determined and recorded once per unit operating day.
- Custom schedules. Notwithstanding the requirements for gaseous fuel, the permittee or fuel vendors may develop custom schedules for determination of the total sulfur content of gaseous fuels, based on the design and operation of the affected facility and the characteristics of the fuel supply, in accordance with 40 CFR 60.4370(c).
  - The two custom sulfur monitoring schedules set forth in 40 CFR 60.4370(c)(1)(i) through (iv) and 40 CFR 60.4370(c)(2) are acceptable without prior DEQ approval.

### 61. Fuel Specifications Monitoring

The permittee shall monitor the fuel total sulfur content in grains of sulfur per 100 standard cubic feet of the natural gas supplied to the CT and to the duct burner using the methods described in the fuel total sulfur content monitoring and frequency of fuel total sulfur content monitoring requirements (Permit Conditions 59 and 60), to ensure compliance with fuel specifications (Permit Condition 47).

### 62. Ammonia Injection Flow Rate

Each calendar day that the CT is operated, the permittee shall monitor and record the ammonia injection flow rate to ensure compliance with the ammonia injection flow rate limit (Permit Condition 49).

- If a continuous monitoring system is used to monitor the ammonia injection flow rate, the average hourly ammonia injection flow rate (in gpm) shall be calculated and recorded to demonstrate compliance with the ammonia injection flow rate limit (Permit Condition 49).
- The monitoring and calculation methodology for the ammonia injection flow rate shall be described in the O&M manual (Permit Conditions 16 through 18).

63. Hours of Operation Monitoring

Each calendar month, the permittee shall monitor and record the following information to ensure compliance with the hours of operation limits (Permit Condition 50):

- The operating hours of the CT, in hours per calendar month and in hours per consecutive 12 calendar month period; and
- The operating hours of the duct burner, in hours per calendar month and in hours per consecutive 12 calendar month period.

***Performance Testing***

64. Initial Performance Tests

- Within 60 days of achieving the maximum production rate of the facility, but not later than 180 days after initial startup, performance testing shall be conducted on the HRSG Stack to demonstrate compliance with the following emission limits, in accordance with IDAPA 58.01.01.211 and IDAPA 58.01.01.157:
  - The NO<sub>x</sub> BACT emission limit in ppm (Permit Condition 33);
  - The CO BACT emission limit in ppm (Permit Condition 33);
  - The VOC BACT emission limit in ppm (Permit Condition 33);
  - The PM<sub>10</sub> emission limit in lb/hr (Permit Condition 39);
  - The ammonia emission limit in ppm (Permit Condition 40); and
  - The visible emission limit in percent opacity (Permit Condition 9).
- Each performance test shall be conducted in accordance with the test methods requirement (Permit Condition 27) and under the following operating conditions, unless otherwise approved by DEQ, in accordance with IDAPA 58.01.01.211:
  - Emissions shall be measured after the duct burner rather than directly after the CT. The duct burner must be in operation during the performance test.
  - The permittee shall conduct three separate test runs for each performance test. The minimum time per run shall be 20 minutes.
  - Parameters shall be monitored and recorded as specified in the performance test monitoring requirement (Permit Condition 66).

65. Initial Performance Tests – Low-Load Events

- Within 60 days of achieving the maximum production rate of the facility, but not later than 180 days after initial startup, performance testing shall be conducted on the HRSG Stack to demonstrate compliance with the following emission limit, in accordance with IDAPA 58.01.01.211 and IDAPA 58.01.01.157:
  - The VOC BACT secondary emission limit for low-load events in lb/hr (Permit Condition 34).
- Each performance test shall be conducted in accordance with the test methods requirement (Permit Condition 27) and under the following operating conditions, unless otherwise approved by DEQ, in accordance with IDAPA 58.01.01.211:
  - Each performance test shall be conducted with the CT operating at below 60% of base load.

- The permittee shall conduct three separate test runs for each performance test. The minimum time per run shall be 20 minutes.
- Parameters shall be monitored and recorded as specified in the performance test monitoring requirement (Permit Condition 66).

66. Performance Test Monitoring

- The permittee shall monitor and record the following operating conditions for the CT and duct burner during each performance test, unless otherwise approved by DEQ:
  - The NO<sub>x</sub> and CO CEMS continuous emissions data;
  - The CT and duct burner fuel flow rates in scf/hr, at least once every 20 minutes;
  - The SCR ammonia injection rate in gpm, at least once every 20 minutes;
  - The HRSG steam flow rates in lb/hr, at least once every 20 minutes;
  - The HRSG Stack exhaust gas flow rate in acfm, at least once each test;
  - The HRSG Stack exhaust gas temperature in °F, at least once each test;
  - The ambient temperature and relative humidity, at least once each test;
  - The average actual load as a percentage of the base load of the CT for each test; and
  - The gross energy output of the CT and the duct burner for each test.
- The permittee shall furnish DEQ a written report of the results of each performance test, in accordance with IDAPA 58.01.01.157 and the performance testing general provisions (Permit Condition 102).

67. NSPS 40 CFR 60, Subpart KKKK – SO<sub>2</sub> Performance Tests

The permittee shall conduct an initial performance test, as required in 40 CFR 60.8 (Permit Condition 28), in accordance with 40 CFR 60.4415(a) and using the methodologies provided in 40 CFR 60.4415(a). Subsequent SO<sub>2</sub> performance tests shall be conducted on an annual basis (no more than 14 calendar months following the previous performance test).

68. NSPS 40 CFR 60, Subpart KKKK – NO<sub>x</sub> CEMS Performance Test Methods

The initial performance test required under 40 CFR 60.8 (Permit Condition 28) shall be performed in the following manner or as provided in 40 CFR 60.4400, in accordance with 40 CFR 60.4405:

- Perform a minimum of nine RATA reference method runs, with a minimum time per run of 21 minutes, at a single load level, within plus or minus 25 percent of 100 percent of peak load. The ambient temperature must be greater than 0°F during the RATA runs;
- For each RATA run, concurrently measure the heat input to the unit using a fuel flow meter (or flow meters) and measure the electrical and thermal output from the unit;
- Use the test data both to demonstrate compliance with the applicable NO<sub>x</sub> emission limit under 40 CFR 60.4320 (Permit Condition 37) and to provide the required reference method data for the RATA of the CEMS described under 40 CFR 60.4335.
- Compliance with the applicable emission limit in 40 CFR 60.4320 (Permit Condition 37) is achieved if the arithmetic average of all of the NO<sub>x</sub> emission rates for the RATA runs, expressed in units of ppm or lb/MWh, does not exceed the emission limit.

## Reporting

### 69. NSPS 40 CFR 60, Subpart KKKK – Reporting Requirements

- The permittee shall submit reports of excess emissions and monitor downtime in accordance with 40 CFR 60.7(c) (Permit Condition 28) and 40 CFR 60.4375(a). Excess emissions shall be reported for all periods of unit operation, including start-up, shutdown, and malfunction.
- If annual performance tests are performed in accordance with 40 CFR 60.4340(a), the permittee shall submit a written report of the results of each performance test before the close of business on the 60th day following the completion of the performance test, in accordance with 40 CFR 60.4375(b).

### 70. NSPS 40 CFR 60, Subpart KKKK – Excess Emissions for NO<sub>x</sub>

For the purpose of reports required under 40 CFR 60.7(c) (Permit Condition 28), periods of excess emissions and monitor downtime that must be reported are defined in 40 CFR 60.4380, in accordance with 40 CFR 60.4380.

- For turbines using CEMS, as described in 40 CFR 60.4335(b) and 40 CFR 60.4345 (Permit Condition 55):
  - An excess emissions is any unit operating period in which the 30-day rolling average NO<sub>x</sub> emission rate exceeds the applicable emission limit in 40 CFR 60.4320 (Permit Condition 37). A 30-day rolling average NO<sub>x</sub> emission rate is the arithmetic average of all hourly NO<sub>x</sub> emission data in ppm or ng/J (lb/MWh) measured by the CEMS for a given day and the twenty-nine unit operating days immediately preceding that unit operating day. A new 30-day average is calculated each unit operating day as the average of all hourly NO<sub>x</sub> emission rates for the preceding 30 unit operating days if a valid NO<sub>x</sub> emission rate is obtained for at least 75 percent of all operating hours.
  - A period of monitor downtime is any unit operating hour in which the data for any of the following parameters are either missing or invalid: NO<sub>x</sub> concentration, CO<sub>2</sub> or O<sub>2</sub> concentration, fuel flow rate, steam flow rate, steam temperature, steam pressure, or megawatts. The steam flow rate, steam temperature, and steam pressure are only required if you will use this information for compliance purposes.
  - For operating periods during which multiple emissions standards apply, the applicable standard is the average of the applicable standards during each hour. For hours with multiple emissions standards, the applicable limit for that hour is determined based on the condition that corresponded to the highest emissions standard.

### 71. NSPS 40 CFR 60, Subpart KKKK – Excess Emissions for SO<sub>2</sub>

If the option to monitor the sulfur content of the fuel is chosen, excess emissions and monitoring downtime are defined in 40 CFR 60.4385:

- For samples of gaseous fuel obtained using daily sampling, flow proportional sampling, or sampling from the unit's storage tank, an excess emission occurs each unit operating hour included in the period beginning on the date and hour of any sample for which the sulfur content of the fuel being fired in the CT exceeds the applicable limit and ending on the date and hour that a subsequent sample is taken that demonstrates compliance with the sulfur limit.
- A period of monitor downtime begins when a required sample is not taken by its due date. A period of monitor downtime also begins on the date and hour of a required sample, if invalid results are obtained. The period of monitor downtime ends on the date and hour of the next valid sample.

### 72. NSPS 40 CFR 60, Subpart KKKK – Submittal of Reports

All reports required under 40 CFR 60.7(c) (Permit Condition 28) shall be postmarked by the 30th day following the end of each 6-month period, in accordance with 40 CFR 60.4395.

## EMERGENCY GENERATOR ENGINE AND FIRE PUMP ENGINE

### ***Emission Limits***

73. PSD 40 CFR 52.21 – BACT Emission Limits for the Emergency Generator Engine

The permittee shall comply with the emission standards for the emergency generator engine (Permit Condition 75).

74. PSD 40 CFR 52.21 – BACT Emission Limits for the Fire Pump Engine

The permittee shall comply with the emission standards for the fire pump engine (Permit Condition 76).

75. NSPS 40 CFR 60, Subpart III – Emission Standards for the Emergency Generator Engine

The permittee shall comply with the emission standards for new nonroad compression ignition (CI) engines in 40 CFR 60.4202 for the emergency generator engine, for all pollutants, in accordance with 40 CFR 60.4205(b).

- The certification emission standards for new nonroad CI engines in Table 1 to 40 CFR 89.112:

**SUMMARY OF TABLE 1 TO 40 CFR 89.112 – EMISSION STANDARDS**

Rated Power (kW)	Tier	NMHC + NO <sub>x</sub> g/kW-hr	CO g/kW-hr	PM g/kW-hr
kW > 560	Tier 2	6.4	3.5	0.20

- The certification emission standards for new nonroad CI engines in 40 CFR 89.113:
  - The exhaust opacity from nonroad CI 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.

76. NSPS 40 CFR 60, Subpart III – Emission Standards for the Fire Pump Engine

The permittee shall comply with the emission standards in Table 4 to Subpart III of 40 CFR 60, for the fire pump engine, for all pollutants, in accordance with 40 CFR 60.4205(c):

**SUMMARY OF TABLE 4 TO SUBPART III OF NSPS 40 CFR 60 – EMISSION STANDARDS FOR STATIONARY FIRE PUMP ENGINES**

Maximum engine power	Model years	NMHC + NO <sub>x</sub> g/kW-hr (g/HP-hr)	PM g/kW-hr (g/HP-hr)
225 ≤ kW < 450 (300 ≤ HP < 600)	2009 <sup>a</sup>	4.0 (3.0)	0.20 (0.15)

a) In 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.

### ***Operating Requirements***

77. Hours of Operation for Maintenance and Testing

- Operation of the emergency generator engine for maintenance and testing shall not exceed 4 hours of per calendar day and shall not exceed 60 hours in any consecutive 12 calendar month period.
- Operation of the fire pump engine for maintenance and testing shall not exceed 1 hour per calendar day and shall not exceed 30 hours in any consecutive 12 calendar month period.

78. NSPS 40 CFR 60, Subpart III – Compliance Requirements

- The emergency generator engine and the fire pump engine may be operated for the purpose of maintenance checks and readiness testing in accordance with 40 CFR 60.4211(e), provided that the tests are recommended by Federal, State, or local government, the manufacturer, the vendor, or the insurance company associated with the engine.
  - Maintenance checks and readiness testing of such units is limited to 100 hours per year. There is no time limit on the use of emergency stationary internal combustion engines (ICE) in emergency situations.
  - For approval of additional hours to be used for maintenance checks and readiness testing, a petition is not required if the permittee maintains records indicating that Federal, State, or local standards require maintenance and testing of the emergency ICE beyond 100 hours per year.
  - Any operation other than emergency operation, and maintenance and testing is prohibited.
- The permittee shall operate and maintain the emergency generator engine and the fire pump engine and control devices according to the manufacturer's written instructions or procedures developed by the permittee that are approved by the engine manufacturer, in accordance with 40 CFR 60.4211(a). In addition, the permittee may only change those settings that are permitted by the manufacturer. The permittee shall also meet the requirements of 40 CFR parts 89, 94 and/or 1068, as applicable.
- The permittee shall comply by purchasing an engine certified to the emission standards in 40 CFR 60.4205(b) or (c) (Permit Condition 75 or 76), as applicable, for the same model year and maximum (or in the case of fire pump engines, National Fire Protection Association nameplate) engine power, in accordance with 40 CFR 60.4211(c). The engine shall be installed and configured according to the manufacturer's specifications.

79. PSD 40 CFR 52.21 – BACT Work Practices for the Emergency Generator Engine and Fire Pump Engine

The permittee shall utilize good combustion practices at all times to minimize emissions of regulated NSR pollutants from the emergency generator engine and the fire pump engine. Good combustion practices shall be identified and described in the O&M manual (Permit Conditions 16 through 18), and at a minimum shall include the instructions and procedures used to comply with operating and maintenance requirements and compliance requirements (Permit Conditions 80 and 78).

80. NSPS 40 CFR 60, Subpart III – Operating and Maintenance Requirements

The permittee shall operate and maintain stationary CI ICE that achieve the emission standards as required in 40 CFR 60.4205 (Permit Conditions 75 and 76) according to the manufacturer's written instructions or procedures developed by the permittee that are approved by the engine manufacturer, over the entire life of the engine, in accordance with 40 CFR 60.4206.

81. NSPS 40 CFR 60, Subpart III – Monitoring Requirements

The permittee shall meet the monitoring requirements of 40 CFR 60.4209. In addition, the permittee shall also meet the monitoring requirements specified in 40 CFR 60.4211.

- The permittee shall install a non-resettable hour meter on the emergency generator engine and on the fire pump engine, prior to startup of each engine.
- If the emergency generator engine or the fire pump engine is equipped with a diesel particulate filter to comply with the emission standards in 40 CFR 60.4204, the diesel particulate filter must be installed with a backpressure monitor that notifies the permittee when the high backpressure limit of the engine is approached.

82. NSPS 40 CFR 60, Subpart III – Fuel Requirements

The permittee shall use diesel fuel that meets the requirements of 40 CFR 80.510(a), in accordance with 40 CFR 60.4207(a). Beginning October 1, 2010, the permittee shall use diesel fuel that meets the requirements of 40 CFR 80.510(b) for nonroad diesel fuel, in accordance with 40 CFR 60.4207(b).

- All nonroad diesel fuel is subject to the following per-gallon standards:
  - 15 parts per million by weight (ppmw) maximum sulfur content; and a
  - Minimum cetane index of 40, or maximum aromatic content of 35 volume percent.

***Monitoring and Recordkeeping***

83. Daily Hours of Operation for Maintenance and Testing Monitoring

Each calendar day that the emergency generator engine or the fire pump engine are operated, the permittee shall monitor and record the following to ensure compliance with the daily hours of operation limits for maintenance and testing (Permit Condition 77):

- The operating hours of the emergency generator engine, in hours per calendar day;
- The operating hours of the fire pump engine, in hours per calendar day.

84. Monthly Hours of Operation for Maintenance and Testing Monitoring

Each calendar month, the permittee shall monitor and record the following to ensure compliance with the annual hours of operation limits for maintenance and testing (Permit Condition 77):

- The operating hours of the emergency generator engine, in hours per calendar month and hours per consecutive 12 calendar month period;
- The operating hours of the fire pump engine, in hours per calendar month and hours per consecutive 12 calendar month period.

85. NSPS 40 CFR 60, Subpart III – Notification, Reports, and Records

- The permittee is not required to submit an initial notification as required in 40 CFR 60.7(a)(1) for the emergency generator engine and the fire pump engine, in accordance with 40 CFR 60.4214(b).
- If the emergency generator engine or the fire pump engine are equipped with a diesel particulate filter, the permittee shall keep records of any corrective action taken after the backpressure monitor has notified the permittee that the high backpressure limit of the engine is approached, in accordance with 40 CFR 60.4214(c).

86. NSPS 40 CFR 60, Subpart III – Testing Requirements

If performance tests are conducted pursuant to 40 CFR 60, Subpart III, the permittee shall do so according to 40 CFR 60.4212(a) through (d), in accordance with 40 CFR 60.4212 and using the methodologies provided in 40 CFR 60.4212.

## COOLING TOWER

### ***Control Equipment Descriptions***

The control devices used to control emissions from the cooling tower are summarized in the following table:

COOLING TOWER CONTROL DEVICE DESCRIPTIONS

Emissions Unit Description	Control Device Description	Emission Point Descriptions
Cooling Tower	<u>Drift eliminators</u> Manufacturer: GEA	Cooling Tower Cell Stacks (CELL1, CELL2, CELL3, CELL4, CELL5, CELL6, CELL7)

### ***Operating Requirements***

87. PSD 40 CFR 52.21 – BACT Drift Eliminators

The permittee shall install, operate, and maintain the drift eliminators consistent with manufacturer's recommendations, to minimize PM emissions from the cooling tower.

88. Drift Eliminators Operation

The permittee shall operate the respective drift eliminator at all times when a cooling tower cell is operated to ensure compliance with process weight limitations (Permit Condition 12).

89. PSD 40 CFR 52.21 – BACT Work Practices for the Cooling Tower

The permittee shall utilize good operating practices at all times to minimize PM emissions from the cooling tower. Good operating practices for operation of the drift eliminators shall be identified and described in the O&M manual (Permit Conditions 16 through 18) and at a minimum shall include the following:

- Schedule and procedures for corrective action that will be taken if visible emissions are present from the cooling tower at any time;
- Schedule and procedures for routine inspection, maintenance, and repair/replacement of the drift eliminators.

90. Solids Content and Flow Rate

- The total dissolved solids content of the cooling tower water shall not exceed 5,000 milligrams per liter (mg/L).
- The circulating flow rate of the cooling tower water shall not exceed 63,200 gallons per minute.

### ***Monitoring and Recordkeeping***

91. Solids Content and Flow Rate Monitoring

Each calendar day that the cooling tower is operated, the permittee shall monitor and record the total dissolved solids content and the circulating flow rate of the cooling tower water to demonstrate compliance with the solids content and flow rate requirements (Permit Condition 90), and to ensure compliance with process weight limitations (Permit Condition 12). Electronic archives are an acceptable form of documentation for recordkeeping.

## DRY CHEMICAL STORAGE SILOS

### ***Control Equipment Descriptions***

The control devices used to control emissions from the dry chemical storage silos are summarized in the following table:

**DRY CHEMICAL STORAGE SILOS CONTROL DEVICE DESCRIPTIONS**

<b>Emissions Unit Description</b>	<b>Control Device Description</b>	<b>Emission Point Descriptions</b>
Dry chemical storage silos	<u>Bin vent filters</u> Manufacturer: Seneca	Silo Stacks (SILO1, SILO2, SILO3, SILO4, SILO5, and SILO6)

### ***Operating Requirements***

92. PSD 40 CFR 52.21 – BACT Bin Vent Filters

The permittee shall install, operate, and maintain bin vent filters consistent with manufacturer's recommendations, to minimize PM emissions from the dry chemical storage silos.

93. Bin Vent Filter Operation

The permittee shall operate the respective bin vent filter at all times when material is transferred to a dry chemical storage silo to ensure compliance with process weight limitations (Permit Condition 12).

94. PSD 40 CFR 52.21 – BACT Work Practices for Dry Chemical Storage

The permittee shall utilize good operating practices at all times to minimize PM emissions from the dry chemical storage silos. Good operating practices for operation of the bin vent filters shall be identified and described in the O&M manual (Permit Conditions 16 through 18) and at a minimum shall include the following:

- Schedule and procedures for corrective action that will be taken if visible emissions are present from the bin vents at any time, including procedures to determine whether cartridges are ruptured, or are not appropriately secured in place; and
- Schedule and procedures for routine inspection, maintenance, and repair/replacement of the bin vent filters.

## PERMIT TO CONSTRUCT GENERAL PROVISIONS

### ***General Compliance***

95. The permittee has a continuing duty to comply with all terms and conditions of this permit. All emissions authorized herein shall be consistent with the terms and conditions of this permit and the Rules for the Control of Air Pollution in Idaho. The emissions of any pollutant in excess of the limitations specified herein, or noncompliance with any other condition or limitation contained in this permit, shall constitute a violation of this permit and the Rules for the Control of Air Pollution in Idaho, and the Environmental Protection and Health Act, Idaho Code §39-101, et seq.

**[Idaho Code §39-101, et seq.]**

96. The permittee shall at all times (except as provided in the Rules for the Control of Air Pollution in Idaho) maintain in good working order and operate as efficiently as practicable, all treatment or control facilities or systems installed or used to achieve compliance with the terms and conditions of this permit and other applicable Idaho laws for the control of air pollution.

**[IDAPA 58.01.01.211, 5/1/94]**

97. Nothing in this permit is intended to relieve or exempt the permittee from the responsibility to comply with all applicable local, state, or federal statutes, rules and regulations.

**[IDAPA 58.01.01.212.01, 5/1/94]**

### ***Inspection and Entry***

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

- Enter upon the permittee's premises where an emissions 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]**

### ***Construction and Operation Notification***

99. The permittee shall furnish DEQ written notifications as follows in accordance with IDAPA 58.01.01.211:

- A notification of the date of initiation of construction, within five working days after occurrence;
- A notification of the date of any suspension of construction, if such suspension lasts for one year or more;
- A notification of the anticipated date of initial start-up of the stationary source or facility not more than sixty days or less than thirty days prior to such date;
- A notification of the actual date of initial start-up of the stationary source or facility within fifteen days after such date; and

- A notification of the initial date of achieving the maximum production rate of the facility, within five working days after occurrence - production rate and date.

[IDAPA 58.01.01.211, 5/1/94]

### ***Performance Testing***

100. If performance testing (air emissions source test) is required by this permit, the permittee shall provide notice of intent to test to DEQ at least 15 days prior to the scheduled test date or shorter time period as approved by DEQ. DEQ, at its option, may have an observer present at any emissions tests conducted on a source. DEQ requests that such testing not be performed on weekends or state holidays.
101. All performance 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, at least 30 days prior to conducting any performance test, the permittee is encouraged to submit a performance test protocol to DEQ for approval. The written protocol shall include a description of the test method(s) to be used, an explanation of any or unusual circumstances regarding the proposed test, and the proposed test schedule for conducting and reporting the test.
102. Within 30 days following the date in which a performance test required by this permit is concluded, the permittee shall submit to DEQ a performance test report. The written report shall include a description of the process, identification of the test method(s) used, equipment used, all process operating data collected during the test period, and test results, as well as raw test data and associated documentation, including any approved test protocol.

[IDAPA 58.01.01.157, 4/5/00]

### ***Monitoring and Recordkeeping***

103. The permittee shall maintain sufficient records to ensure compliance with all of the terms and conditions of this 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 and 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 58.01.01.211, 5/1/94]

### ***Certification***

104. All documents submitted to DEQ, including, but not limited to, records, monitoring data, supporting information, requests for confidential treatment, testing reports, or compliance certification shall contain a certification by a responsible official. The certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document(s) are true, accurate, and complete.

[IDAPA 58.01.01.123, 5/1/94]

### ***False Statements***

105. No person shall knowingly 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]

***Tampering***

106. No person shall knowingly 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]**

***Transferability***

107. This permit is transferable in accordance with procedures listed in IDAPA 58.01.01.209.06.

**[IDAPA 58.01.01.209.06, 4/11/06]**

***Severability***

108. The provisions of this permit are severable, and if any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

**[IDAPA 58.01.01.211, 5/1/94]**