STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

1410 N Hilton Street, Boise, ID 83706
(208) 373-0502

Brad Little, Governor
Jess Byrne, Director

October 6, 2021

Glen Schwenke, Water Renewal Facility Manager
City of Boise – West Boise Water Renewal Facility
West Boise WRF, 11818 Joplin Rd
Boise, ID 83714

RE: Facility ID No. 001-00288, City of Boise – West Boise Water Renewal Facility, Boise
Final Permit Letter

Dear Mr. Schwenke:

The Department of Environmental Quality (DEQ) is issuing Permit to Construct (PTC) No. P-2021.0025 Project 62638 to City of Boise – West Boise Water Renewal Facility located at Boise for the initial permit for an existing municipal water renewal facility. This PTC is issued in accordance with IDAPA 58.01.01.200 through 228 (Rules for the Control of Air Pollution in Idaho) and is based on the certified information provided in your PTC application received June 9, 2021**.**

This permit is effective immediately. This permit does not release City of Boise – West Boise Water Renewal Facility from compliance with all other applicable federal, state, or local laws, regulations, permits, or ordinances.

Pursuant to the Construction and Operation Notification General Provision 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 83706, Fax (208) 373-0287.

In order to fully understand the compliance requirements of this permit, as requested, David Luft, Air Quality Manager, at (208) 373-0201, will schedule a permit handoff meeting to review and discuss the terms and conditions of this permit. Please note that this meeting should be scheduled once the permitted emissions units are operating and some representative records required by the permit have been generated by the facility. DEQ recommends that 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 Christina Boulay at (208) 373-0502 or christina.boulay@deq.idaho.gov to address any questions or concerns you may have with the enclosed permit.

Sincerely,

Mike Simon
Stationary Source Bureau Chief
Air Quality Division

MS\cb

Permit No. P-2021.0025 PROJ 62638

Enclosures

Air Quality

PERMIT TO CONSTRUCT

Permittee	City of Boise – West Boise Water Renewal Facility
Permit Number	P-2021.0025
Project ID	62638
Facility ID	001-00288
Facility Location	West Boise WRF, 11818 Joplin Rd Boise, ID 83714

Permit Authority

This permit (a) is issued according to the "Rules for the Control of Air Pollution in Idaho" (Rules), IDAPA 58.01.01.200–228; (b) 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; (c) has been granted on the basis of design information presented with the application; (d) does not affect the title of the premises upon which the equipment is to be located; (e) 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; (f) does not release the permittee from compliance with other applicable federal, state, tribal, or local laws, regulations, or ordinances; and (g) in no manner implies or suggests that the Idaho 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. Changes in design, equipment, or operations may be considered a modification subject to DEQ review in accordance with IDAPA 58.01.01.200–228.

Date Issued October 6, 2021

Christina Boulay

Christina Boulay, Permit Writer

Mike Simon, Stationary Source Bureau Chief

Contents

1 Permit Scope

Purpose

1.1 This is an initial permit to construct (PTC) for an existing municipal waste water treatment plant.

Regulated Sources

Table 1.1 lists all sources of regulated emissions in this permit.

Table 1.1 Regulated Sources

Permit Section	Source	Control Equipment
2	11 Heating Units[(a)]: Unit IDs: SH1, SH8 (2 units) Heat input rating: 0.060 million British thermal units per hour (MMBtu/hr) Fuel: Natural Gas Unit IDs: SH2 (1 unit) Heat input rating: 0.100 MMBtu/hr Fuel: Natural Gas Unit IDs: SH3, SH5, SH6, SH9 (4 units) Heat input rating: 0.200 MMBtu/hr Fuel: Natural Gas Unit IDs: SH4 (1 unit) Heat input rating: 0.12 MMBtu/hr Fuel: Natural Gas Unit IDs: SH7 (1 units) Heat input rating: 0.25MMBtu/hr Fuel: Natural Gas Unit IDs: MAU1 and MAU2 (2 unit) Heat input rating: 0.180 MMBtu/hr Fuel: Natural Gas	None
	Pressure Washer[(a)]:: Unit IDs: PW1 (1 unit) Heat input rating: 0.390 MMBtu/hr Fuel: Natural Gas	
	9 Water Heaters[(a)]: Unit IDs: WH1, WH3, WH4, WH5, (4 units) Heat input rating: 0.075 MMBtu/hr Fuel: Natural Gas Unit IDs: WH2 (1 unit) Heat input rating: 0.199 MMBtu/hr Fuel: Natural Gas Unit IDs: WH6, WH7, WH8, and WH9 (4 units) Heat input rating: 0.380 MMBtu/hr Fuel: Natural Gas	
2	Anaerobic Digesters (2 units): Volume of Each Tank: 0.93 millions of gallons per day (MGD) Anaerobic Digesters (1 unit): Volume of Each Tank: 1.4 MGD	Candlestick Flare 1: Manufacture Date: 1985 Heat input rating: 13.35 MMBtu/hr Fuel: Digester Gas (Biogas)

Table 1.1 Regulated Sources (continued)

Permit Section	Source	Control Equipment
2	<u>Process Boiler 1:</u> Manufacturer: Raypak, Inc. Model: Raytherm H3-2060 Burner Model: Raypak part # 301210 Manufacture Date: 2013 Heat input rating: 0.264 MMBtu/hr Fuel: Natural Gas	None
	<u>Process Boiler 2:</u> Manufacturer: Sellers Model: TP-30-W Burner Model: Proprietary manufacture by Sellers for this boiler Manufacture Date: 2003 Heat input rating: 1.256 MMBtu/hr Fuel: Primary - Digester Gas (Biogas) Secondary – Natural Gas	
	<u>Process Boiler 3:</u> Manufacturer: Sellers Model: TP-50-W Burner Model: Proprietary manufacture by Sellers for this boiler Manufacture Date: 2003 Heat input rating: 2.093 MMBtu/hr Fuel: Primary - Digester Gas (Biogas) Secondary – Natural Gas	
	<u>Process Boiler 4:</u> Manufacturer: Cleaver Brooks Model: CB 700-100-125HW Burner Model: Boiler and burner are manufactured as one unit, CB 700-100-125HW Manufacture Date: 2019 Heat input rating: 4.184 MMBtu/hr Fuel: Primary - Digester Gas (Biogas) Secondary – Natural Gas	
2	<u>Laboratory Boiler 1 and 2:</u> Manufacturer: Weil McLain Model: Model 88 Burner Model: Webster JB1G-(SG)-07-RM7800L-M.20/.25UGD-CSD-1 Manufacture Date: 2011 Heat input rating: 1.7 MMBtu/hr Fuel: Natural Gas	None
	<u>Laboratory Boiler 3:</u> Manufacturer: Kewanee Model: M-205 Burner Model: Kewanee KF Manufacture Date: 2008 Heat input rating: 2.56 MMBtu/hr Fuel: Natural Gas	
2	<u>Laboratory Boiler 4:</u> Manufacturer: Hurst Model: S5-G60-125W Burner Model: JBS2G(DG)-R-30-RM7840L-M.15VRD-FM-CSD-1/NFPA-85 Manufacture Date: 2021 Heat input rating: 2.57 MMBtu/hr Fuel: Natural Gas	None

3	Emergency Generator: Manufacturer: Cummins-GEN1 Model: VT12-635-GS Manufacture Date: 1975 Maximum Rating: 470 brake horsepower (bhp) Fuel: Diesel	None
	Emergency Generator: Manufacturer: Caterpillar-GEN2 Model: 3412 Manufacture Date: 1999 Maximum Rating: 470 bhp Fuel: Diesel	
	Emergency Generator: Manufacturer: Caterpillar-GEN3 Model: 3412 Manufacture Date: 1999 Maximum Rating: 470 bhp Fuel: Diesel	
	Emergency Generator: Manufacturer: Caterpillar-GEN4 Model: 3512 Manufacture Date: 1998 Maximum Rating: 1475 bhp Fuel: Diesel	
	Emergency Generator GEN5: Manufacturer: Caterpillar-GEN5 Model: C15 Manufacture Date: 2014 Maximum Rating: 691 bhp Fuel: Diesel	

a) All 11 heaters, pressure washer, and 9 water heaters at the facility were modeled at 8,760 hours each. There are no permit conditions to list for these sources other than their maximum rated heat input capacity and fuel type listed in Table 1.1 of Regulated Sources.

2 Anaerobic Digesters, Process Boilers, Laboratory Boilers, Water Heaters, and Pressure Washer

2.1 Process Description

Three anaerobic digesters are located on site at the City of Boise – West Boise Water Renewal Facility. Iron salt or equivalent chemical additives will be added to the sludge feed that is broken down in the anaerobic digesters. The addition of the iron salt reduces the H_2S content of the biogas which in turn reduces the sulfur dioxide emissions from the boiler and the flare. Alternate treatment processes that meet this same endpoint may be implemented. The accumulating/excess biogas will be collected and conveyed via piping to a flare. It will be mixed with atmospheric oxygen and combusted. Prior to reaching the flare, the biogas will be diverted to Process Boilers 2, 3, and 4. Process Boilers 2, 3, and 4, will mainly be fueled by biogas with natural gas as the secondary fuel. Process Boilers 2, 3, and 4 in turn heat all digesters. The facility also uses four natural gas fueled laboratory boilers, nine natural-gas fired water heaters, one natural gas fired pressure washer, and eleven natural-gas fired space heaters.

2.2 Control Device Descriptions

Table 2.1 Candlestick Flare, Process Boilers, Laboratory Boilers, Water Heaters, Pressure Washer, and Heating Units Description

Emissions Units / Processes	Control Devices
Anaerobic Digesters (2 units): Volume of Each Tank: 0.93 MGD Anaerobic Digesters (1 unit): Volume of Each Tank: 1.4 MGD	Candlestick Flare 1: Manufacture Date: 1985 Heat input rating: 13.35 MMBtu/hr Fuel: Digester Gas (Biogas)
Process Boiler 1: Manufacturer: Raypak, Inc. Model: Raytherm H3-2060 Burner Model: Raypak part # 301210 Manufacture Date: 2013 Heat input rating: 0.264 MMBtu/hr Fuel: Natural Gas	None
Process Boiler 2: Manufacturer: Sellers Model: TP-30-W Burner Model: Proprietary manufacture by Sellers for this boiler Manufacture Date: 2003 Heat input rating: 1.256 MMBtu/hr Fuel: Primary - Digester Gas (Biogas) Secondary – Natural Gas	
Process Boiler 3: Manufacturer: Sellers Model: TP-50-W Burner Model: Proprietary manufacture by Sellers for this boiler Manufacture Date: 2003 Heat input rating: 2.093 MMBtu/hr Fuel: Primary - Digester Gas (Biogas) Secondary – Natural Gas	
Process Boiler 4: Manufacturer: Cleaver Brooks Model: CB 700-100-125HW Burner Model: Boiler and burner are manufactured as one unit, CB 700-100-125HW Manufacture Date: 2019 Heat input rating: 4.184 MMBtu/hr	

Emissions Units / Processes	Control Devices
Fuel: Primary - Digester Gas (Biogas) Secondary – Natural Gas	
<u>Laboratory Boiler 1 and 2:</u> Manufacturer: Weil McLain Model: Model 88 Burner Model: Webster JB1G-(SG)-07-RM7800L-M.20/.25UGD-CSD-1 Manufacture Date: 2011 Heat input rating: 1.7 MMBtu/hr Fuel: Natural Gas	
<u>Laboratory Boiler 3:</u> Manufacturer: Kewanee Model: M-205 Burner Model: Kewanee KF Manufacture Date: 2008 Heat input rating: 2.56 MMBtu/hr Fuel: Natural Gas	
<u>Laboratory Boiler 4:</u> Manufacturer: Hurst Model: S5-G60-125W Burner Model: JBS2G(DG)-R-30-RM7840L-M.15VRD-FM-CSD-1/NFPA-85 Manufacture Date: 2021 Heat input rating: 2.57 MMBtu/hr Fuel: Natural Gas	
<u>9 Water Heaters[(a)]:</u> Unit IDs: WH1, WH3, WH4, WH5, (4 units) Heat input rating: 0.075 MMBtu/hr Fuel: Natural Gas Unit IDs: WH2 (1 unit) Heat input rating: 0.199 MMBtu/hr Fuel: Natural Gas Unit IDs: WH6, WH7, WH8, and WH9 (4 units) Heat input rating: 0.380 MMBtu/hr Fuel: Natural Gas	None
<u>Pressure Washer[(a)]:</u> Unit IDs: PW1 (1 unit) Heat input rating: 0.390 MMBtu/hr Fuel: Natural Gas	
<u>11 Heating Units[(a)]:</u> Unit IDs: SH1, SH8 (2 units) Heat input rating: 0.060 MMBtu/hr Fuel: Natural Gas Unit IDs: SH2 (1 unit) Heat input rating: 0.100 MMBtu/hr Fuel: Natural Gas Unit IDs: SH3, SH5, SH6, SH9 (4 units) Heat input rating: 0.200 MMBtu/hr Fuel: Natural Gas Unit IDs: SH4 (1 unit) Heat input rating: 0.12 MMBtu/hr Fuel: Natural Gas Unit IDs: SH7 (1 units) Heat input rating: 0.25MMBtu/hr Fuel: Natural Gas	

Emissions Units / Processes	Control Devices
Unit IDs: MAU1 and MAU2 (2 units) Heat input rating: 0.180 MMBtu/hr Fuel: Natural Gas	

a) The pressure washer, nine water heaters, and eleven space heaters at the facility were modeled at 8,760 hours each. There are no permit conditions to list for these sources other than their maximum rated heat input capacity and fuel type listed in this Table 1.1 of Regulated Sources.

Emission Limits

2.3 Emission Limits

The emissions from the candlestick flare, process boilers, laboratory boilers, water heaters, pressure washer, and space heaters shall not exceed any corresponding emissions rate limits listed in Table 2.2.

Table 2.2 Candlestick Flare, Process Boilers, Laboratory Boilers, Water Heaters, and Pressure Washer, and Space Heaters Emission Limits[a]

Source Description	$PM_{2.5}/PM_{10}$[b]		SO_2		NO_X		CO		VOC	
	lb/hr[c]	T/yr[d]	lb/hr[c]	T/yr[d]	lb/hr[c]	T/yr[d]	lb/hr[c]	T/yr[d]	lb/hr[c]	T/yr[d]
Candlestick Flare 1	0.17	0.74	3.93	17.21	0.91	3.98	4.14	18.13	8.81	38.59
Process Boiler 1	17.23	0.009	1.36	0.001	226.73	0.113	190.45	0.095	12.47	0.006
Process Boiler 2	0.02	0.070	0.44	1.942	0.21	0.917	0.18	0.770	1.05E-06	0.050
Process Boiler 3	0.03	0.116	0.74	3.236	0.35	1.528	0.30	1.283	1.74E-06	0.084
Process Boiler 4	0.04	1.83E-01	1.48	6.47	0.50	2.20	0.63	2.75	0.07	2.93E-01
Laboratory Boilers 1-4	6.36E-02	2.78E-01	5.02E-03	2.20E-02	8.36E-01	3.66	7.03E-01	3.08	4.18E-06	2.01E-01
Water Heaters 1-9	1.32E+02	6.59E-02	1.04E+01	5.20E-03	1.71E+03	8.54E-01	1.27E+03	6.34E-01	9.54E+01	4.77E-02
Pressure Washer	2.91E-03	1.27E-02	0.60	1.00E-03	100.00	1.67E-01	84.00	1.41E-01	5.50	9.21E-03
Space Heaters 1-11	1.14E+02	5.71E-02	9.02E+00	4.51E-03	1.41E+03	7.06E-01	6.01E+02	3.01E-01	8.27E+01	4.13E-02

a) In absence of any other credible evidence, compliance is ensured by complying with permit operating, monitoring, and record keeping requirements.
b) Particulate matter with an aerodynamic diameter less than or equal to a nominal two point five (2.5) and ten (10) micrometers, including condensable particulate as defined in IDAPA 58.01.01.006.
c) Pounds per hour, as determined by a test method prescribed by IDAPA 58.01.01.157, EPA reference test method, continuous emission monitoring system (CEMS) data, or DEQ-approved alternative.
d) Tons per any consecutive 12-calendar month period.

2.4 Hydrogen Sulfide (H_2S) Emissions Limit

The concentration of the hydrogen sulfide (H_2S) entering Process Boiler 2, 3, 4, and the flare from each anaerobic digester shall not exceed 1,200 ppmV of H_2S, based on the most recent consecutive 12-month average of all monitored values obtained by either a hydrogen sulfide monitor or Draeger® tube, or equivalent, sampling.

2.5 Opacity Limit

Emissions from the candlestick flare, Process Boilers 1-4, and laboratory boilers 1-4, or any other stack, vent, or functionally equivalent opening associated with the candlestick flare, Process

Boilers 1-4, and laboratory boilers 1-4, shall not exceed 20% opacity for a period or periods aggregating more than three minutes in any 60-minute period as required by IDAPA 58.01.01.625. Opacity shall be determined by the procedures contained in IDAPA 58.01.01.625.

2.6 Odors

The permittee shall not allow, suffer, cause, or permit the emission of odorous gases, liquids, or solids into the atmosphere in such quantities as to cause air pollution in accordance with IDAPA 58.01.01.776.01.

Operating Requirements

2.7 Fuel Usage

The permittee shall combust biogas in Process Boilers 2, 3, and 4. Natural gas may be used as a secondary fuel. Any biogas not combusted in the three process boilers shall be flared via the candlestick flare.

2.8 Pilot Flame

The permittee shall install, maintain, and operate a digester flare that shall be operated with a pilot flame present during the operation of the digester. In the event of a flame failure, the permittee shall follow a standard operating procedure to reignite the pilot flame as expeditiously as practicable.

2.9 Reasonable Control of Fugitive Emissions

All reasonable precautions shall be taken to prevent particulate matter from becoming airborne in accordance with IDAPA 58.01.01.650-651. In determining what is reasonable, consideration will be given to factors such as the proximity of dust emitting operations to human habitations and/or activities and atmospheric conditions that might affect the movement of particulate matter (PM). Some of the reasonable precautions include, but are not limited to, the following:

- Use, where practical, of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads, or the clearing of lands.
- Application, where practical, of asphalt, water, or suitable chemicals to, or covering of, dirt roads, material stockpiles, and other surfaces which can create dust.
- Installation and use, where practical, of hoods, fans, and fabric filters or equivalent systems to enclose and vent the handling of dusty materials. Adequate containment methods should be employed during sandblasting or other operations.
- Covering, when practical, of open bodied trucks transporting materials likely to give rise to airborne dusts.
- Paving of roadways and their maintenance in a clean condition, where practical.
- Prompt removal of earth or other stored material from streets, where practical.

2.10 Laboratory Boilers 3 and 4 Annual Operating Hours

The permittee shall operate the laboratory boilers as follows:

- Laboratory boilers 1, 2, 3, and 4 may not operate concurrently
- Laboratory boilers 1, 2, and 3 may operate concurrently
- Laboratory boilers 1, 2, and 4 may operate concurrently

- This operational constraint allows laboratory boiler 3 and laboratory boiler 4 to individually operate up to 8,760 hours per year in any combination with laboratory boilers 1 and 2, provided only laboratory boiler 3 or laboratory boiler 4 is operated at any time.

Monitoring and Recordkeeping Requirements

2.11 Pilot Flame Monitoring

The permittee shall install, maintain, and operate a thermocouple or similar device that detects the presence of a flame in the biogas flares.

2.12 Hydrogen Sulfide Monitoring

Within 120 days of permit issuance, the permittee shall either install, calibrate, maintain, and operate an H_2S gas monitor that shall be placed downstream of the digester, and upstream of the boilers and the biogas Candlestick flare, to measure the H_2S concentrations in the biogas produced by the anaerobic digesters. The monitor shall be installed in accordance with the manufacturer specifications. Or, in lieu of an H2S monitor, when conducting H_2S monitoring Draeger® tubes, or equivalent, may be used to collect a sample.

Calibration of the H_2S monitor shall be performed and recorded in accordance with the O&M manual and no less frequently than semi-annually if the meter is in service. If the meter is out of service, the meter must be cleaned and calibrated before being put into service.

Gas checks must be conducted weekly for new H_2S analyzers, and an acceptable gas check is an analyzer response that is ±20% of a known concentration. If gas checks are within the ±20% range for four consecutive weeks, then the frequency of gas checks can be reduced to monthly. If four consecutive monthly gas checks are within the acceptable range, then the frequency can be reduced to semi-annually. If any gas check response is outside the ±20% range, then the frequency would start over at weekly.

- A *gas check* is defined as an introduction of a known concentration of gas to the analyzer system prior to any adjustment being made to the analyzer response and recording the system response. A gas check will identify if the analyzer system is maintaining accuracy over time, and determine if gas checks and calibration frequency should be increased or decreased.

The measured H_2S concentrations from the H_2S monitor or Draeger® tubes, or equivalent shall be recorded once per week in units of ppmV.

Monitoring and recordkeeping of H_2S concentrations shall occur during each calendar week of operations. Monthly monitoring may be conducted in lieu of weekly monitoring, provided that 24 consecutive weeks of monitoring do not exceed 90% of the H_2S limit permit condition. If any single measurement during monthly monitoring equals or exceeds 90% of the H_2S limit permit condition, then monitoring frequency shall revert to each calendar week until the 24 consecutive weeks of monitoring do not equal or exceed 90% of the H_2S Limit Permit Condition. When conducting monthly monitoring Draeger® tubes, or equivalent may be used to collect a sample in lieu of the H_2S monitor. Samples must be collected downstream of the digesters and upstream of Process Boilers 2-4 and the Candlestick Flare. Records of this information shall be maintained on site and be made available to DEQ representatives upon request and in accordance with the General Provisions.

2.13 Operations and Maintenance Manual

Within 60 days of permit issuance, the permittee shall develop and submit an operations and maintenance (O&M) manual which discusses the operation of the H_2S monitor or Draeger® tubes, or equivalent and Pilot Flame Detector and describes the procedures that will be followed to maintain the anaerobic digester and process boilers in good working order and assure operation

as efficiently as practical for the boilers. A copy of the document shall be submitted to DEQ's Boise Regional Office. The procedures and specifications described in the O&M manual shall address, at a minimum, the following topics:

H_2S Monitor or Draeger® Tubes, or Equivalent

- Standard operational procedure for H_2S concentration sampling
- Frequency and method of calibration
- H_2S concentration measurement range

Pilot Flame Detector

- Method of ensuring continuous operation
- Procedure for pilot flame re-ignition

Anaerobic Digesters

- Procedure for monitoring biogas under positive pressure
- Corrective action procedure if biogas is detected outside of pressure gauge range

The contents of the O&M manual shall be based on manufacturer's specifications for each piece of equipment. A copy of the manufacturer's recommendations shall be included with the O&M manual, and both shall be made available to DEQ representatives upon request.

Any changes to the O&M Manual shall be submitted to DEQ within 15 days of the change.

2.14 Manufacturer's Recommendations and Specifications for Boiler Operations

The permittee shall operate and maintain all process boilers to manufacturer's recommendations and specifications all times and shall make the manufacturer's recommendations and specifications available to DEQ representatives upon request. A copy of the document shall be submitted to DEQ's Boise Regional Office at the following address.

Air Quality Permit Compliance
Boise Regional Office
Department of Environmental Quality
1445 N Orchard St.
Boise, Idaho 83706
Phone: (208) 373-0550
Fax: (208) 373-0287

2.15 Laboratory Boilers 3 and 4 Annual Operating Hours Monitoring and Recordkeeping

The permittee shall record which boiler is operating on a daily basis, in hours per day. The hours per day shall be summed over the previous consecutive 12-months to demonstrate compliance with the Laboratory Boilers 3 and 4 Annual Operating Hours permit condition.

3 Internal Combustion Engines

3.1 Process Description

The facility operates five emergency internal combustion engines (I.C.). Each engine may operate up to 1 hour per day and up to 100 hours per year for maintenance and testing. Emergency use shall not be restricted.

3.2 Control Device Descriptions

Table 3.1 Internal Combustion Engines Description

Emissions Units / Processes	Control Devices
Emergency Generator GEN1: Manufacturer: Cummins-GEN1 Model: VT12-635-GS Manufacture Date: 1975 Maximum Rating: 470 bhp Fuel: Diesel	None
Emergency Generator GEN2: Manufacturer: Caterpillar-GEN2 Model: 3412 Manufacture Date: 1999 Maximum Rating: 470 bhp Fuel: Diesel	
Emergency Generator GEN3: Manufacturer: Caterpillar-GEN3 Model: 3412 Manufacture Date: 1999 Maximum Rating: 470 bhp Fuel: Diesel	
Emergency Generator GEN4: Manufacturer: Caterpillar-GEN4 Model: 3512 Manufacture Date: 1998 Maximum Rating: 1475 bhp Fuel: Diesel	
Emergency Generator GEN5: Manufacturer: Caterpillar-GEN5 Model: C15 Manufacture Date: 2014 Maximum Rating: 691 bhp Fuel: Diesel	

Emission Limits

3.3 Emission Limits

The emissions from each Internal Combustion Engine stack shall not exceed any corresponding emissions rate limits listed in Table 3.2.

Table 3.2 Internal Combustion Engines Emission Limits[a]

Source Description	$PM_{2.5}/PM_{10}$[b]		SO_2		NO_X		CO		VOC	
	lb/hr[c]	T/yr[d]	lb/hr[c]	T/yr[d]	lb/hr[c]	T/yr[d]	lb/hr[c]	T/yr[d]	lb/hr[c]	T/yr[d]
Emergency Generator GEN 1	1.41	0.07	0.01	0.0003	20.11	1.01	4.33	0.22	1.60	0.08
Emergency Generator GEN 2	0.40	0.02	0.01	0.0003	22.11	1.11	5.87	0.29	0.62	0.03
Emergency Generator GEN 3	0.40	0.02	0.01	0.0003	22.11	1.11	5.87	0.29	0.62	0.03
Emergency Generator GEN 4	0.64	0.03	0.02	0.0008	35.90	1.79	9.53	0.48	1.01	0.05
Emergency Generator GEN 5	0.29	0.01	0.01	0.0003	16.10	0.81	0.85	0.21	0.45	0.02

a) In absence of any other credible evidence, compliance is ensured by complying with permit operating, monitoring, and record keeping requirements.
b) Particulate matter with an aerodynamic diameter less than or equal to a nominal two point five (2.5) and ten (10) micrometers, including condensable particulate as defined in IDAPA 58.01.01.006.
c) Pounds per hour, as determined by a test method prescribed by IDAPA 58.01.01.157, EPA reference test method, continuous emission monitoring system (CEMS) data, or DEQ-approved alternative.
d) Tons per any consecutive 12-calendar month period.

3.4 Opacity Limit

Emissions from the internal combustion engine stacks, or any other stack, vent, or functionally equivalent opening associated with the internal combustion engines, shall not exceed 20% opacity for a period or periods aggregating more than three minutes in any 60-minute period as required by IDAPA 58.01.01.625. Opacity shall be determined by the procedures contained in IDAPA 58.01.01.625.

Certification and Operating Requirements

3.5 GEN5 Emergency I.C. Engine Certification

The GEN5 emergency engine shall be an EPA Tier III Certified engine.

3.6 Emergency I.C. Engine Operating Limits

To demonstrate compliance with the Emissions Limits permit condition operation the emergency I.C. engines shall not exceed the following operational limits for maintenance and testing:

- 1 hour per day each
- 100 hours per consecutive 12-months each

Fuel Specifications

3.7 I.C. Engine(s) Fuel Specifications

The I.C. engine(s) shall only combust distillate fuel oil which meets American Society for Testing and Materials (ASTM) Grades 1 or 2, or a mixture of ASTM Grades 1 and 2, and which has a maximum sulfur content of 0.0015% (15 ppm) by weight.

NESHAP Compliance Requirements (GEN 1 – GEN 4)

3.8 Emergency I.C. Engine NESHAP Compliance Date

In accordance with 40 CFR 63.6595, the permittee shall comply with the applicable emission limitations and operating limitations requirements of 40 CFR 63, ZZZZ for Stationary Reciprocating Internal Combustion Engines, no later than May 3, 2013.

3.9 Emergency I.C. Engine Startup Requirements

In accordance with 40 CFR 63.6603, on and after May 3, 2013, for the emergency I.C. engines the Permittee shall:

- Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.

3.10 Emergency I.C. Engine Monitoring System Requirements

In accordance with 40 CFR 63.6625, on and after May 3, 2013, the Permittee shall install, operate, and maintain the emergency I.C. engines according to the requirements of 40 CFR 63, ZZZZ for Stationary Reciprocating Internal Combustion Engines as follows:

- Operate and maintain the stationary reciprocating internal combustion engine (RICE) and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.
- Install and operate a non-resettable hour meter.
- Change oil and filter every 500 hours of operation or annually, whichever comes first.
    - May utilize an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d to this subpart. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Base Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30 percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine.
- Inspect spark plugs every 1,000 hours of operation or annually, whichever comes first, and replace as necessary.
- Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

3.11 Emergency I.C. Engine Recordkeeping Requirements

In accordance with 40 CFR 63.6655 and 40 CFR 63.6660, on and after May 3, 2013, the permittee shall maintain records for the emergency engines according to the requirements of 40 CFR 63, ZZZZ for Stationary Reciprocating Internal Combustion Engines. The records must be in a form suitable and readily available for expeditious review according to §63.10(b)(1).

- The permittee shall keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.
- The permittee shall keep each record readily accessible in hard copy or electronic form for at least 5 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to §63.10(b)(1).

3.12 Incorporation of Federal Requirements by Reference

Unless expressly provided otherwise, any reference in this permit to any document identified in IDAPA 58.01.01.107.03 shall constitute the full incorporation into this permit of that document for the purposes of the reference, including any notes and appendices therein. Documents include, but are not limited to:

- National Emission Standards for Hazardous Air Pollutants (NESHAP) Area Sources, 40 CFR Part 63, Subpart ZZZZ - National Emission Standard for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines.

For permit conditions referencing or cited in accordance with any document incorporated by reference (including permit conditions identified as NESHAP), 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 to that regulation.

3.13 NESHAPS 40 CFR 63 – General Provisions

In accordance with 40 CFR 63.6665 the permittee shall comply with the requirements of 40 CFR 63 – General Provisions according to the requirements of 40 CFR 63, ZZZZ for Stationary Reciprocating Internal Combustion Engines.

NSPS Compliance Requirements (GEN 5)

3.14 GEN5 Emergency I.C. Engine I.C. Engine Maintenance

In accordance with 40 CFR 60.4206 the permittee shall operate and maintain the emergency I.C. engine 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.

3.15 GEN5 I.C. Engine Non-Resettable Hour Meter

In accordance with 40 CFR 60.4209 the permittee shall install, operate, and maintain a non-resettable hour meter.

3.16 Incorporation of Federal Requirements by Reference

Unless expressly provided otherwise, any reference in this permit to any document identified in IDAPA 58.01.01.107.03 shall constitute the full incorporation into this permit of that document for the purposes of the reference, including any notes and appendices therein. Documents include, but are not limited to:

- New Source Performance Standards (NSPS), 40 CFR Part 60, Subpart IIII - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines.

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 to that regulation.

3.17 NSPS 40 CFR 60 – General Provisions

In accordance with 40 CFR 60.4218 the permittee shall comply with the requirements of 40 CFR 60.1 through 60.19, except for Sections 60.11 and 60.18 as detailed in the Subpart.

Monitoring and Recordkeeping Requirements

3.18 Emergency I.C. Engine Operation Recordkeeping

The permittee shall monitor and record the I.C. engine operation in hours per day to demonstrate compliance with the Emergency I.C. Engine Operating Limits permit condition.

Monthly emergency I.C. Engine operation shall be determined by summing daily operation over the previous calendar month. Consecutive 12-months of emergency I.C. Engine operation shall be determined by summing the monthly operation over the previous consecutive 12 month period to demonstrate compliance with the consecutive 12-months Emergency I.C. engine Operating Limit permit condition.

3.19 Distillate Fuel Oil Specifications Recordkeeping

On an as-received basis for each shipment of distillate fuel oil, the permittee shall maintain the following supplier verified and certified information:

- ASTM grade
- Percent sulfur content by weight

3.20 Recordkeeping

All monitoring and recordkeeping documentation required by this permit shall be maintained in accordance with the Recordkeeping general provision.

4 General Provisions

General Compliance

4.1 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, 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.]

4.2 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, 5/1/1994]

4.3 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, 5/1/1994]

Inspection and Entry

4.4 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, 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.
- 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

4.5 This permit shall expire if construction has not begun within two years of its issue date, or if construction is suspended for one year.

[IDAPA 58.01.01.211.02, 5/1/1994]

4.6 The permittee shall furnish DEQ written notifications as follows:

- A notification of the date of initiation of construction, within five working days after occurrence; except in the case where pre-permit construction approval has been granted then notification shall be made within five working days after occurrence or within five working days after permit issuance whichever is later.
- A notification of the date of any suspension of construction, if such suspension lasts for one year or more.

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

[IDAPA 58.01.01.211.01, 5/1/1994]

- 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.

[IDAPA 58.01.01.211.03, 5/1/1994]

Performance Testing

4.7 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 may, at its option, 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.

4.8 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.

4.9 Within 60 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 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, 4/5/2000 and 4/11/2015]

Monitoring and Recordkeeping

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

[IDAPA 58.01.01.211, 5/1/1994]

Excess Emissions

4.11 The permittee shall comply with the procedures and requirements of IDAPA 58.01.01.130–136 for excess emissions due to start-up, shut-down, scheduled maintenance, safety measures, upsets, and breakdowns.

[IDAPA 58.01.01.130–136, 4/5/2000]

Certification

4.12 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, 5/1/1994]

False Statements

4.13 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, 3/23/1998]

Tampering

4.14 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, 3/23/1998]

Transferability

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

[IDAPA 58.01.01.209.06, 4/11/2006]

Severability

4.16 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, 5/1/1994]