

MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY  
AIR QUALITY DIVISION

June 23, 2022

PERMIT TO INSTALL  
168-17B

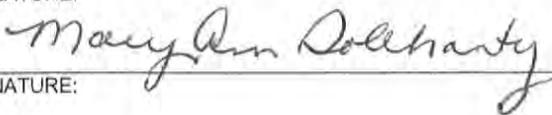
ISSUED TO  
Marshall Energy Center South, LLC

LOCATED AT  
11038 17 Mile Road  
Marshall, Michigan 49068

IN THE COUNTY OF  
Calhoun

STATE REGISTRATION NUMBER  
P0844

The Air Quality Division has approved this Permit to Install, pursuant to the delegation of authority from the Michigan Department of Environment, Great Lakes, and Energy. This permit is hereby issued in accordance with and subject to Section 5505(1) of Article II, Chapter I, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. Pursuant to Air Pollution Control Rule 336.1201(1), this permit constitutes the permittee's authority to install the identified emission unit(s) in accordance with all administrative rules of the Department and the attached conditions. Operation of the emission unit(s) identified in this Permit to Install is allowed pursuant to Rule 336.1201(6).

DATE OF RECEIPT OF ALL INFORMATION REQUIRED BY RULE 203: <b>December 8, 2021</b>	
DATE PERMIT TO INSTALL APPROVED: <b>June 23, 2022</b>	SIGNATURE: 
DATE PERMIT VOIDED:	SIGNATURE:
DATE PERMIT REVOKED:	SIGNATURE:

## PERMIT TO INSTALL

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### COMMON ACRONYMS

AQD	Air Quality Division
BACT	Best Available Control Technology
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
CEMS	Continuous Emission Monitoring System
CFR	Code of Federal Regulations
COMS	Continuous Opacity Monitoring System
Department/department/EGLE	Michigan Department of Environment, Great Lakes, and Energy
EU	Emission Unit
FG	Flexible Group
GACS	Gallons of Applied Coating Solids
GC	General Condition
GHGs	Greenhouse Gases
HVLP	High Volume Low Pressure*
ID	Identification
IRSL	Initial Risk Screening Level
ITSL	Initial Threshold Screening Level
LAER	Lowest Achievable Emission Rate
MACT	Maximum Achievable Control Technology
MAERS	Michigan Air Emissions Reporting System
MAP	Malfunction Abatement Plan
MSDS	Material Safety Data Sheet
NA	Not Applicable
NAAQS	National Ambient Air Quality Standards
NESHAP	National Emission Standard for Hazardous Air Pollutants
NSPS	New Source Performance Standards
NSR	New Source Review
PS	Performance Specification
PSD	Prevention of Significant Deterioration
PTE	Permanent Total Enclosure
PTI	Permit to Install
RACT	Reasonable Available Control Technology
ROP	Renewable Operating Permit
SC	Special Condition
SCR	Selective Catalytic Reduction
SNCR	Selective Non-Catalytic Reduction
SRN	State Registration Number
TBD	To Be Determined
TEQ	Toxicity Equivalence Quotient
USEPA/EPA	United States Environmental Protection Agency
VE	Visible Emissions

\*For HVLP applicators, the pressure measured at the gun air cap shall not exceed 10 psig.

### POLLUTANT / MEASUREMENT ABBREVIATIONS

acfm	Actual cubic feet per minute
BTU	British Thermal Unit
°C	Degrees Celsius
CO	Carbon Monoxide
CO <sub>2</sub> e	Carbon Dioxide Equivalent
dscf	Dry standard cubic foot
dscm	Dry standard cubic meter
°F	Degrees Fahrenheit
gr	Grains
HAP	Hazardous Air Pollutant
Hg	Mercury
hr	Hour
HP	Horsepower
H <sub>2</sub> S	Hydrogen Sulfide
kW	Kilowatt
lb	Pound
m	Meter
mg	Milligram
mm	Millimeter
MM	Million
MW	Megawatts
NMOC	Non-Methane Organic Compounds
NO <sub>x</sub>	Oxides of Nitrogen
ng	Nanogram
PM	Particulate Matter
PM10	Particulate Matter equal to or less than 10 microns in diameter
PM2.5	Particulate Matter equal to or less than 2.5 microns in diameter
pph	Pounds per hour
ppm	Parts per million
ppmv	Parts per million by volume
ppmw	Parts per million by weight
psia	Pounds per square inch absolute
psig	Pounds per square inch gauge
scf	Standard cubic feet
sec	Seconds
SO <sub>2</sub>	Sulfur Dioxide
TAC	Toxic Air Contaminant
Temp	Temperature
THC	Total Hydrocarbons
tpy	Tons per year
µg	Microgram
µm	Micrometer or Micron
VOC	Volatile Organic Compounds
yr	Year

## GENERAL CONDITIONS

1. The process or process equipment covered by this permit shall not be reconstructed, relocated, or modified, unless a Permit to Install authorizing such action is issued by the Department, except to the extent such action is exempt from the Permit to Install requirements by any applicable rule. **(R 336.1201(1))**
2. If the installation, construction, reconstruction, relocation, or modification of the equipment for which this permit has been approved has not commenced within 18 months, or has been interrupted for 18 months, this permit shall become void unless otherwise authorized by the Department. Furthermore, the permittee or the designated authorized agent shall notify the Department via the Supervisor, Permit Section, Air Quality Division, Michigan Department of Environment, Great Lakes, and Energy, P.O. Box 30260, Lansing, Michigan 48909-7760, if it is decided not to pursue the installation, construction, reconstruction, relocation, or modification of the equipment allowed by this Permit to Install. **(R 336.1201(4))**
3. If this Permit to Install is issued for a process or process equipment located at a stationary source that is not subject to the Renewable Operating Permit program requirements pursuant to Rule 210 (R 336.1210), operation of the process or process equipment is allowed by this permit if the equipment performs in accordance with the terms and conditions of this Permit to Install. **(R 336.1201(6)(b))**
4. The Department may, after notice and opportunity for a hearing, revoke this Permit to Install if evidence indicates the process or process equipment is not performing in accordance with the terms and conditions of this permit or is violating the Department's rules or the Clean Air Act. **(R 336.1201(8), Section 5510 of Act 451, PA 1994)**
5. The terms and conditions of this Permit to Install shall apply to any person or legal entity that now or hereafter owns or operates the process or process equipment at the location authorized by this Permit to Install. If the new owner or operator submits a written request to the Department pursuant to Rule 219 and the Department approves the request, this permit will be amended to reflect the change of ownership or operational control. The request must include all of the information required by subrules (1)(a), (b), and (c) of Rule 219 and shall be sent to the District Supervisor, Air Quality Division, Michigan Department of Environment, Great Lakes, and Energy. **(R 336.1219)**
6. Operation of this equipment shall not result in the emission of an air contaminant which causes injurious effects to human health or safety, animal life, plant life of significant economic value, or property, or which causes unreasonable interference with the comfortable enjoyment of life and property. **(R 336.1901)**
7. The permittee shall provide notice of an abnormal condition, start-up, shutdown, or malfunction that results in emissions of a hazardous or toxic air pollutant which continue for more than one hour in excess of any applicable standard or limitation, or emissions of any air contaminant continuing for more than two hours in excess of an applicable standard or limitation, as required in Rule 912, to the Department. The notice shall be provided not later than two business days after start-up, shutdown, or discovery of the abnormal condition or malfunction. Written reports, if required, must be filed with the Department within 10 days after the start-up or shutdown occurred, within 10 days after the abnormal condition or malfunction has been corrected, or within 30 days of discovery of the abnormal condition or malfunction, whichever is first. The written reports shall include all of the information required in Rule 912(5). **(R 336.1912)**
8. Approval of this permit does not exempt the permittee from complying with any future applicable requirements which may be promulgated under Part 55 of 1994 PA 451, as amended or the Federal Clean Air Act.
9. Approval of this permit does not obviate the necessity of obtaining such permits or approvals from other units of government as required by law.
10. Operation of this equipment may be subject to other requirements of Part 55 of 1994 PA 451, as amended and the rules promulgated thereunder.

11. Except as provided in subrules (2) and (3) or unless the special conditions of the Permit to Install include an alternate opacity limit established pursuant to subrule (4) of Rule 301, the permittee shall not cause or permit to be discharged into the outer air from a process or process equipment a visible emission of density greater than the most stringent of the following. The grading of visible emissions shall be determined in accordance with Rule 303 (R 336.1303). **(R 336.1301)**
  - a) A six-minute average of 20 percent opacity, except for one six-minute average per hour of not more than 27 percent opacity.
  - b) A visible emission limit specified by an applicable federal new source performance standard.
  - c) A visible emission limit specified as a condition of this Permit to Install.
12. Collected air contaminants shall be removed as necessary to maintain the equipment at the required operating efficiency. The collection and disposal of air contaminants shall be performed in a manner so as to minimize the introduction of contaminants to the outer air. Transport of collected air contaminants in Priority I and II areas requires the use of material handling methods specified in Rule 370(2). **(R 336.1370)**
13. The Department may require the permittee to conduct acceptable performance tests, at the permittee's expense, in accordance with Rule 1001 and Rule 1003, under any of the conditions listed in Rule 1001. **(R 336.2001)**

**EMISSION UNIT SPECIAL CONDITIONS**

**EMISSION UNIT SUMMARY TABLE**

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

<b>Emission Unit ID</b>	<b>Emission Unit Description (Including Process Equipment &amp; Control Device(s))</b>	<b>Installation Date / Modification Date</b>	<b>Flexible Group ID</b>
EUCTGHRSG	A combined-cycle natural gas-fired combustion turbine generator (CTG) with heat recovery steam generator (HRSG) in a 1x1 configuration with a steam turbine generator (STG) for a nominal 500 MW electricity production. The CTG is a H-class turbine with a rating of 3,064 MMBTU/hr (HHV). The HRSG is equipped with a natural gas-fired duct burner, with a maximum heat input rating of 889 MMBTU/hr (HHV) and rated at 874 MMBTU/hr (HHV) at ISO conditions to provide heat for additional steam production. The HRSG is not capable of operating independently from the CTG. The CTG/HRSG is equipped with dry low NO <sub>x</sub> burner (DLNB), SCR, and an oxidation catalyst.	TBD	NA
EUAUXBOILER	A natural gas-fired auxiliary boiler, rated at 61.5 MMBTU/hr (HHV) to facilitate startup of the CTGHRSG train and to provide the required steam to support the startup of the facility, including but not limited to steam for sparging, STG seals, etc. The auxiliary boiler is equipped with low NO <sub>x</sub> burners (LNB) and flue gas recirculation (FGR).	TBD	NA
EUENGINE	A 1,341 HP (1,000 kilowatts (kW)) diesel-fired emergency engine with a model year of 2011 or later, and a displacement of <10 liters/cylinder. The engine is designed to be compliant with Tier IV emission standards.	TBD	NA
EUFENGINE	A 300 HP diesel-fired emergency fire pump engine with a model year of 2011 or later, and a displacement of <30 liters/cylinder.	TBD	NA
EUTANKEMENG	A 1,200-gallon fixed-roof tank for purposes of storing ultra-low sulfur diesel fuel. This tank services the diesel-fired emergency engine.	TBD	FGDIESELTANKS
EUTANKFIREPUMP	A 400-gallon fixed-roof tank for purposes of storing ultra-low sulfur diesel fuel. This tank services the diesel-fired emergency fire pump engine.	TBD	FGDIESELTANKS

Changes to the equipment described in this table are subject to the requirements of R 336.1201, except as allowed by R 336.1278 to R 336.1291.

**EUCTGHRSG  
 EMISSION UNIT CONDITIONS**

**DESCRIPTION**

A combined-cycle natural gas-fired combustion turbine generator (CTG) with heat recovery steam generator (HRSG) in a 1x1 configuration with a steam turbine generator (STG) for a nominal 500 MW electricity production. The CTG is a H-class turbine with a rating of 3,064 MMBTU/hr (HHV). The HRSG is equipped with a natural gas-fired duct burner, with a maximum heat input rating of 889 MMBTU/hr (HHV) and rated at 874 MMBTU/hr (HHV) at ISO conditions to provide heat for additional steam production. The HRSG is not capable of operating independently from the CTG. The CTG/HRSG is equipped with dry low NO<sub>x</sub> burner (DLNB), SCR, and an oxidation catalyst.

**Flexible Group ID:** NA

**POLLUTION CONTROL EQUIPMENT**

DLNB and SCR for NO<sub>x</sub> control and an oxidation catalyst for CO and VOC control.

**I. EMISSION LIMIT(S)**

<b>Pollutant</b>	<b>Limit</b>	<b>Time Period / Operating Scenario</b>	<b>Equipment</b>	<b>Monitoring / Testing Method</b>	<b>Underlying Applicable Requirements</b>
1. NO <sub>x</sub>	2 ppmvd <sup>A</sup>	24-hour rolling average as determined each operating hour, except during startup and shutdown	EUCTGHRSG	SC VI.2, SC VI.4, SC VI.11	R 336.1205(1) (a) & (b), R 336.2810
2. NO <sub>x</sub>	15 ppm at 15% O <sub>2</sub> <sup>A</sup>	30-day rolling average as determined each operating day	EUCTGHRSG	SC VI.2, SC VI.4, SC VI.11	40 CFR 60.4320(a), Table 1 of 40 CFR Part 60 Subpart KKKK <sup>B</sup>
3. NO <sub>x</sub>	29.2 pph <sup>A</sup>	24-hour rolling average as determined each operating hour, except during startup and shutdown	EUCTGHRSG	SC VI.2, SC VI.4, SC VI.11	R 336.1205(1) (a) & (b), R 336.2803, R 336.2804, R 336.2810
4. NO <sub>x</sub>	126.5 pph <sup>C</sup>	Operating hour during startup or shutdown <sup>C</sup>	EUCTGHRSG	SC VI.2, SC VI.4, SC VI.11	R 336.1205(1) (a) & (b), R 336.2803, R 336.2804, R 336.2810
5. CO	2 ppmvd <sup>A</sup>	24-hour rolling average as determined each operating hour, except during startup and shutdown	EUCTGHRSG	SC VI.2, SC VI.5, SC VI.11	R 336.1205(1) (a) & (b), R 336.2810
6. CO	788.6 pph <sup>C</sup>	Operating hour during startup or shutdown <sup>C</sup>	EUCTGHRSG	SC VI.2, SC VI.5, SC VI.11	R 336.1205(1) (a) & (b), R 336.2804, R 336.2810
7. PM	5.7 pph	Hourly	EUCTGHRSG	SC V.1, SC VI.11	R 336.1205(1) (a) & (b), R 336.1331(1)(c), R 336.2810

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
8. PM10	19.1 pph	Hourly	EUCTGHRSG	SC V.1, SC VI.11	R 336.1205(1) (a) & (b), R 336.2803, R 336.2804, R 336.2810
9. PM2.5	19.1 pph	Hourly	EUCTGHRSG	SC V.1, SC VI.11	R 336.1205(1) (a) & (b), R 336.2803, R 336.2804, R 336.2810
10. SO <sub>2</sub>	6.6 pph	Hourly	EUCTGHRSG	SC V.1, SC VI.11	R 336.1205(1) (a) & (b), R 336.2803, R 336.2804, R 336.2810
11. SO <sub>2</sub>	0.060 lb/MM BTU	Hourly	EUCTGHRSG	SC VI.11	40 CFR 60.4330
12. VOC	2 ppmvd <sup>A</sup>	Hourly	EUCTGHRSG	SC V.1, SC VI.11	R 336.1205(1) (a) & (b), R 336.1702(a), R 336.2810
13. Sulfuric acid mist (H <sub>2</sub> SO <sub>4</sub> )	2.6 pph	Hourly	EUCTGHRSG	SC V.1, SC VI.11	R 336.1205(1) (a) & (b), R 336.1224, R 336.1225, R 336.2810
14. GHGs as CO <sub>2</sub> e	2,001,019 tpy	12-month rolling time period as determined at the end of each calendar month.	EUCTGHRSG	SC VI.3, SC VI.7, SC VI.11	R 336.1205(1) (a) & (b), R 336.2810, 40 CFR 52.21(j)
15. CO <sub>2</sub>	806 lb/MWh	12-operating-month rolling average basis as determined at the end of each operating calendar month. <sup>D</sup>	EUCTGHRSG	SC VI.8, SC VI.9, SC VI.11	R 336.1205(1) (a) & (b), R 336.2810, 40 CFR 52.21(j), 40 CFR 60.5520(a) <sup>E</sup> , Table 2 of 40 CFR Part 60 Subpart TTTT <sup>E</sup>

ppmvd = parts per million by volume at 15 percent oxygen (O<sub>2</sub>) and on a dry gas basis

lb/MWh = pound per megawatt hour

<sup>A</sup> Does not include startup and shutdown.

<sup>B</sup> Table 1 of 40 CFR Part 60 Subpart KKKK also allows 96 ppm at 15 percent O<sub>2</sub> when the turbines are operating at less than 75 percent of peak load and at temperatures less than 0°F.

<sup>C</sup> Startup is defined as the period of time from initiation of the combustion process (flame-on) from shutdown status and continues until steady state operation (loads greater than a demonstrated percent of design capacity) is achieved. Shutdown is defined as that period of time from the lowering of the turbine output below the demonstrated steady state level, with the intent to shut down, until the point at which the fuel flow to the combustor is terminated. The demonstrated percent of design capacity, or demonstrated steady state level, shall be described in the plan required in SC III.2.

<sup>D</sup> Compliance is determined monthly at the end of the initial and each subsequent 12-operating-month period. The first month of the initial compliance period is defined in 40 CFR 60.5525(c)(1)(i).

<sup>E</sup> The emission limit as required in 40 CFR 60.5520(a) and Table 2 of 40 CFR Part 60 Subpart TTTT is 1,000 lb CO<sub>2</sub>/MWh. SC I.15 subsumes the NSPS emission limit.

## **II. MATERIAL LIMIT(S)**

1. The permittee shall only burn pipeline quality natural gas in EUCTGHRSG. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.1702(a), R 336.2810, 40 CFR 52.21(j), 40 CFR 60.4330)**
2. The pipeline quality natural gas shall not have a total sulfur content in excess of 0.6 grain of sulfur per 100 standard cubic feet of gas based on a 12-month rolling time period. **(R 336.1205(1)(a) & (b), R 336.2810, 40 CFR 52.21(c) & (d))**
3. The pipeline quality natural gas shall not have a total sulfur content in excess of 20 grains of sulfur per 100 standard cubic feet of gas in accordance with 60.4365(a). **(40 CFR 60.4365(a))**

## **III. PROCESS/OPERATIONAL RESTRICTION(S)**

1. Within 180 days of trial operation, the permittee shall submit, implement, and maintain a malfunction abatement plan (MAP) as described in Rule 911(2) for EUCTGHRSG. The MAP shall, at a minimum, specify the following:
  - a) A complete preventative maintenance program including identification of the supervisory personnel responsible for overseeing the inspection, maintenance, and repair of air-cleaning devices, a description of the items or conditions that shall be inspected, the frequency of the inspections or repairs, and an identification of the major replacement parts that shall be maintained in inventory for quick replacement.
  - b) An identification of the source and air-cleaning device operating variables that shall be monitored to detect a malfunction or failure, the normal operating range of these variables, and a description of the method of monitoring or surveillance procedures.
  - c) A description of the corrective procedures or operational changes that shall be taken in the event of a malfunction or failure to achieve compliance with the applicable emission limits.
  - d) Operating variables and ranges under various load conditions shall be monitored and recorded. The normal operating range of these variables and a description of the method of monitoring shall be maintained.

If at any time the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the MAP within 45 days after such an event occurs. The permittee shall also amend the MAP within 45 days, if new equipment is installed or upon request from the AQD District Supervisor. The permittee shall submit the MAP and any amendments to the MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the MAP or amended MAP shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes to achieve compliance with all applicable emission limits. **(R 336.1205(1)(a) & (b), R 336.1224, R 336.1702(a), R 336.1910, R 336.1911, R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(j))**

2. Within 180 days of trial operation, the permittee shall submit, implement, and maintain a plan that describes how emissions will be minimized during startup and shutdown. The plan shall incorporate procedures recommended by the equipment manufacturer as well as incorporate standard industry practices, and shall describe the demonstrated percent of design capacity, or demonstrated steady state level. Unless notified by the District Supervisor within 30 business days after plan submittal, the plan shall be deemed approved. **(R 336.1911, R 336.1912, R 336.2810, 40 CFR 52.21(j), 40 CFR 60.4333(a))**
3. The total hours for startup and shutdown for EUCTGHRSG shall not exceed 300 hours per 12-month rolling time period as determined at the end of each calendar month. **(R 336.1205(1)(a) & (b), R 336.2803, R 336.2804, R 336.2810)**
4. The permittee shall operate and maintain EUCTGHRSG, including associated equipment and monitors, in a manner consistent with safety and good air pollution control practice. **(40 CFR 60.4333(a), 40 CFR 60.5525(b))**
5. The permittee shall prepare a monitoring plan to quantify the hourly CO<sub>2</sub> mass emission rate (tons/hr), in accordance with the applicable provisions in 40 CFR 75.53(g) and (h). The electronic portion of the monitoring plan must be submitted using the ECMPS Client Tool and must be in place prior to reporting emissions data

and/or the results of monitoring system certification tests under this subpart. The monitoring plan must be updated as necessary. Monitoring plan submittals must be made by the Designated Representative (DR), the Alternate DR, or a delegated agent of the DR (see 40 CFR 60.5555(c)). **(40 CFR 60.5535(a), 40 CFR 60.5535(d)(1))**

#### **IV. DESIGN/EQUIPMENT PARAMETER(S)**

1. The maximum design heat input capacity for the turbine in EUCTGHRSG shall not exceed, on a fuel heat input basis, 3,064 MMBTU per hour (HHV) and the design heat input capacity for the duct burner in EUCTGHRSG, which has a maximum heat input rating of 889 MMBTU/hr (HHV), shall not exceed, on a fuel heat input basis, 874 MMBTU per hour (HHV) at ISO conditions. **(R 336.1205(1)(a) & (b), R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(j))**
2. The permittee shall not operate EUCTGHRSG unless the dry low NO<sub>x</sub> burners, selective catalytic reduction, and oxidation catalyst are installed, maintained, and operated in a satisfactory manner, for EUCTGHRSG. Satisfactory manner includes operating and maintaining each control device in accordance with an approved MAP for EUCTGHRSG as required in SC III.1. **(R 336.1205(1)(a) & (b), R 336.1224, R 336.1225, R 336.1910, R 336.2803, R 336.2804, R 336.2810)**
3. The permittee shall install, calibrate, maintain and operate, in a satisfactory manner, devices to monitor and record the NO<sub>x</sub> emissions and oxygen (O<sub>2</sub>), or carbon dioxide (CO<sub>2</sub>), content of the exhaust gas from EUCTGHRSG on a continuous basis. The permittee shall install and operate the Continuous Emission Monitoring System (CEMS) to meet the timelines, requirements and reporting detailed in Appendix A. **(R 336.1205(1)(a) & (b), R 336.2803, R 336.2804, R 336.2810, 40 CFR 60.4340(b)(1), 40 CFR 60.4345, 40 CFR Part 75)**
4. The permittee shall install, calibrate, maintain and operate, in a satisfactory manner, devices to monitor and record the CO emissions and oxygen (O<sub>2</sub>), or carbon dioxide (CO<sub>2</sub>), content of the exhaust gas from EUCTGHRSG on a continuous basis. The permittee shall install and operate the CEMS to meet the timelines, requirements and reporting detailed in Appendix A. **(R 336.1205(1)(a) & (b), R 336.2804, R 336.2810, 40 CFR Part 75)**
5. The permittee shall install, calibrate, maintain and operate in a satisfactory manner a device to monitor and record the natural gas usage rate for EUCTGHRSG on a continuous basis. The device shall be operated in accordance with 40 CFR 60.4345(c). **(R 336.1205(1)(a) & (b), R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(j), 40 CFR 60.4345)**
6. The permittee shall install, calibrate, maintain and operate in a satisfactory manner a sufficient number of watt meters to continuously measure and record the hourly gross electric output from EUCTGHRSG. **(R 336.1205(1)(a) & (b), R 336.2810, 40 CFR 52.21(j), 40 CFR 60.5535(d)(1))**

#### **V. TESTING/SAMPLING**

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. Within 180 days after commencement of initial startup, the permittee shall verify PM, PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>, VOCs, and H<sub>2</sub>SO<sub>4</sub> emission rates from EUCTGHRSG at maximum routine operating conditions, by testing at owner's expense, in accordance with Department requirements. The permittee must complete the required testing once every five years of operation, thereafter. Testing shall be based on an average of three 1-hour or longer test runs performed using an approved EPA Method listed in:

Pollutant	Test Method Reference
PM	40 CFR Part 60, Appendix A; Part 10 of the Michigan Air Pollution Control Rules
PM <sub>10</sub> /PM <sub>2.5</sub>	40 CFR Part 51, Appendix M
SO <sub>2</sub>	40 CFR Part 60, Appendix A
VOCs	40 CFR Part 60, Appendix A
Sulfuric Acid Mist	40 CFR Part 60, Appendix A

An alternate method, or a modification to the approved EPA Method, may be specified in an AQD-approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1205(1)(a) & (b), R 336.1224, R 336.1225, R 336.1331(1)(c), R 336.1702(a), R 336.2001, R 336.2003, R 336.2004, R 336.2803, R 336.2804, R 336.2810)**

## **VI. MONITORING/RECORDKEEPING**

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor by the 30th day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205(1)(a) & (b), R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(j), 40 CFR 60.4345, 40 CFR 60.5535(c), 40 CFR 60.5540(a) & (b), 40 CFR 60.5560)**
2. The permittee shall continuously monitor and record, in a satisfactory manner, the NO<sub>x</sub> and CO emissions and the O<sub>2</sub>, or CO<sub>2</sub>, emissions from EUCTGHRSG. The permittee shall operate each CEMS to meet the timelines, requirements and reporting detailed in Appendix A and shall use the CEMS data for determining compliance with SC I.1, SC I.2, SC I.3, SC I.4, SC I.5, and SC I.6. **(R 336.1205(1)(a) & (b), R 336.2803, R 336.2804, R 336.2810, 40 CFR 60.4345, 40 CFR 60.4320(a), Table 1 of 40 CFR Part 60 Subpart KKKK)**
3. The permittee shall monitor and record, in a satisfactory manner, the natural gas usage for EUCTGHRSG on an hourly and monthly basis. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(1)(a) & (b), R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(j))**
4. The permittee shall keep, in a satisfactory manner, hourly and 24-hour rolling average NO<sub>x</sub> concentration and mass emission records, and daily and 30-day rolling average NO<sub>x</sub> concentration records for EUCTGHRSG, as required by SC I.1, SC I.2, SC I.3, and SC I.4. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(1)(a) & (b), R 336.2803, R 336.2804, R 336.2810, 40 CFR 60.4345)**
5. The permittee shall keep, in a satisfactory manner, hourly and 24-hour rolling average CO concentration and mass emission records for EUCTGHRSG, as required by SC I.5 and SC I.6. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(1)(a) & (b), R 336.2804, R 336.2810)**

6. The permittee shall keep, in a satisfactory manner, all test reports for EUCTGHRSG, as required by SC V.1, on file at the facility and make them available to the Department upon request. **(R 336.1205(1)(a) & (b), R 336.1224, R 336.1225, R 336.1331(1)(c), R 336.1702(a), R 336.2001, R 336.2003, R 336.2004, R 336.2803, R 336.2804, R 336.2810)**
7. The permittee shall calculate and keep, in a satisfactory manner, records of monthly and 12-month rolling total CO<sub>2e</sub> mass emissions for EUCTGHRSG, as required by SC I.14. The permittee shall keep all records on file and make them available to the Department upon request. The calculations shall be performed using the method included in Appendix B unless a new method is approved by the District Supervisor. **(R 336.1205(1)(a) & (b), R 336.2810, 40 CFR 52.21(j))**
8. The permittee shall determine the hourly CO<sub>2</sub> mass emissions and hourly gross energy output for EUCTGHRSG according to 40 CFR 60.5535(b) or (c) and 40 CFR 60.5540(a). The permittee shall keep records of the determined values for hourly CO<sub>2</sub> mass emissions and hourly gross energy output for EUCTGHRSG. **(40 CFR 60.5535(c), 40 CFR 60.5540(a), 40 CFR 60.5560)**
9. The permittee shall calculate and keep, in a satisfactory manner, records of the monthly and initial and each subsequent 12-operating-month calculation required by SC I.15 according to the procedures described in 40 CFR 60.5540: **(R 336.1205(1)(a) & (b), R 336.2810, 40 CFR 52.21(j), 40 CFR 60.5540(a) & (b), 40 CFR 60.5560)**
  - a) Total data is determined by summing valid operating hours for either CO<sub>2</sub> mass emissions or gross energy output.
  - b) To determine compliance with SC I.15, the total CO<sub>2</sub> mass emissions for EUCTGHRSG, shall be divided by the total gross energy output value of EUCTGHRSG.
  - c) The final calculated value shall be rounded to two significant figures if the calculated value is less than 1,000 and to three significant figures if the calculated value is greater than 1,000.
10. The permittee shall keep, in a satisfactory manner, a record of the monthly and 12-month rolling total hours of startup and shutdown for EUCTGHRSG. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(1)(a) & (b), R 336.2803, R 336.2804, R 336.2810)**
11. The permittee shall maintain records of all information necessary for all notifications and reports as specified in these special conditions as well as that information necessary to demonstrate compliance with the emission limits of this permit for EUCTGHRSG. This information shall include, but shall not be limited to the following:
  - a) Compliance tests and any testing required under the special conditions of this permit.
  - b) Monitoring data.
  - c) Total sulfur content and potential sulfur emissions, as applicable, of the natural gas as required by 40 CFR 60.4365(a) or (b).
  - d) Verification of heat input capacity.
  - e) Identification, type, and amount of fuel combusted on a calendar month basis.
  - f) Gross energy output on a calendar month basis.
  - g) All records required by 40 CFR 60.7.
  - h) Records of the duration of all dates and times of startup and shutdown events.
  - i) All calculations necessary to show compliance with the limits contained in this permit.
  - j) All records related to, or as required by, the MAP and the startup and shutdown plan.

All of the above information shall be stored in a format acceptable to the AQD District Supervisor and shall be consistent with the requirements of 40 CFR 60.7(f). **(R 336.1205(1)(a) & (b), R 336.1224, R 336.1225, R 336.1331(1)(c), R 336.1702(a), R 336.1912, R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(j), 40 CFR 60.7(f), 40 CFR 60.4345, 40 CFR 60.4365, 40 CFR Part 60 Subpart KKKK, 40 CFR 60.5525(b), 40 CFR 60.5560, 40 CFR Part 60 Subpart TTTT)**

**VII. REPORTING**

1. Within 30 days after completion of the installation, construction, reconstruction, relocation, or modification authorized by this Permit to Install, the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the activity. Completion of the installation, construction, reconstruction, relocation, or modification is considered to occur not later than commencement of trial operation of EUCTGHRSG. **(R 336.1201(7)(a))**
2. The permittee shall provide written notification of the date construction commences and the actual date of initial startup of EUCTGHRSG, in accordance with 40 CFR 60.7. The permittee shall submit the notification(s) to the AQD District Supervisor within the time frames specified in 40 CFR 60.7 and 40 CFR 60.19, where applicable. **(40 CFR 60.7(a), 40 CFR 60.5550(a))**
3. The permittee shall submit reports of excess emissions and monitor downtime, in accordance with 40 CFR 60.7(c) and with 40 CFR 60.4375 and 40 CFR 4380. The reports shall be postmarked by the 30<sup>th</sup> day following the end of each 6-month period. **(40 CFR 60.7(c), 40 CFR 60.4375(a), 40 CFR 60.4380, 40 CFR 60.4395)**
4. The permittee shall prepare and submit the notifications specified in 40 CFR 60.19, as applicable, and 40 CFR 75.61, as applicable, for EUCTGHRSG. **(40 CFR 60.5550(a) & (b))**
5. The permittee shall submit electronic quarterly reports as follows: **(40 CFR 60.5555(a) & (b))**
  - a) After EUCTGHRSG has accumulated the first 12-operating months, the permittee shall submit a report for the calendar quarter that includes the twelfth operating month no later than 30 days after the end of that quarter.
  - b) Thereafter, the permittee shall submit a report for each subsequent calendar quarter, no later than 30 days after the end of the quarter.
  - c) Each quarterly report shall include the information specified in 40 CFR 60.5555(a)(2).
  - d) The final quarterly report of each calendar year shall include the information specified in 40 CFR 60.5555(a)(3).
  - e) All electronic reports shall be submitted using the Emissions Collection and Monitoring Plan System (ECMPS) Client Tool provided by the Clean Air Markets Division in the Office of Atmospheric Programs of EPA.
6. The permittee shall meet all applicable reporting requirements and submit reports as required under 40 CFR Part 75 Subpart G in accordance with 40 CFR 75.64(a), which is also listed in 40 CFR 60.5555(c)(3)(i). **(40 CFR 60.5555(c)(1) & (3)(i))**

**VIII. STACK/VENT RESTRICTION(S)**

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter / Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVCTGHRSG	276	160	R 336.1225, R 336.2803, R 336.2804

**IX. OTHER REQUIREMENT(S)**

1. The permittee shall comply with all provisions of the federal Standards of Performance for New Stationary Sources as specified in 40 CFR Part 60 Subparts A and KKKK, as they apply to EUCTGHRSG. **(40 CFR Part 60 Subparts A & KKKK)**

2. The permittee shall comply with all provisions of the federal Standards of Performance for New Stationary Sources as specified in 40 CFR Part 60 Subparts A and TTTT, as they apply to EUCTGHRSG.  
**(40 CFR Part 60 Subparts A & TTTT)**

**Footnotes:**

<sup>1</sup> This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

**EUAUXBOILER  
 EMISSION UNIT CONDITIONS**

**DESCRIPTION**

A natural gas-fired auxiliary boiler, rated at 61.5 MMBTU/hr (HHV) to facilitate startup of the CTGHRSG train and to provide the required steam to support the startup of the facility, including but not limited to steam for sparging, STG seals, etc. The auxiliary boiler is equipped with low NO<sub>x</sub> burners (LNB) and flue gas recirculation (FGR).

**Flexible Group ID:** NA

**POLLUTION CONTROL EQUIPMENT**

Low NO<sub>x</sub> burners and flue gas recirculation for NO<sub>x</sub> control.

**I. EMISSION LIMIT(S)**

<b>Pollutant</b>	<b>Limit</b>	<b>Time Period / Operating Scenario</b>	<b>Equipment</b>	<b>Monitoring / Testing Method</b>	<b>Underlying Applicable Requirements</b>
1. NO <sub>x</sub>	0.04 lb/MMBTU	30-day rolling average as determined each operating day	EUAUXBOILER R	SC VI.2, SC VI.3, SC VI.9	R 336.1205(1) (a) & (b), R 336.2803, R 336.2804, R 336.2810
2. CO	0.08 lb/MMBTU	Hourly	EUAUXBOILER R	SC V.1, SC VI.9	R 336.1205(1) (a) & (b), R 336.2804, R 336.2810
3. PM	0.005 lb/MMBTU	Hourly	EUAUXBOILER R	SC V.1, SC VI.9	R 336.1205(1) (a) & (b), R 336.1331(1)(c), R 336.2810
4. PM10	0.46 pph	Hourly	EUAUXBOILER R	SC V.2, SC VI.6, SC VI.9	R 336.1205(1) (a) & (b), R 336.2803, R 336.2804, R 336.2810
5. PM2.5	0.46 pph	Hourly	EUAUXBOILER R	SC V.2, SC VI.6, SC VI.9	R 336.1205(1) (a) & (b), R 336.2803, R 336.2804, R 336.2810
6. SO <sub>2</sub>	1.8 lb/MMscf	Monthly.	EUAUXBOILER R	SC VI.5, SC VI.7, SC VI.9	R 336.1205(1) (a) & (b), R 336.2803, R 336.2804, R 336.2810
7. VOC	0.004 lb/MMBTU	Hourly	EUAUXBOILER R	SC V.1, SC VI.9	R 336.1205(1) (a) & (b), R 336.1702(a), R 336.2810
8. GHGs as CO <sub>2</sub> e	31,540 tpy	12-month rolling time period as determined at the end of each calendar month.	EUAUXBOILER R	SC VI.8, SC VI.9	R 336.1205(1) (a) & (b), R 336.2810, 40 CFR 52.21(j)

## **II. MATERIAL LIMIT(S)**

1. The permittee shall burn only pipeline quality natural gas in EUAUXBOILER, with a sulfur content of 0.6 gr per 100 scf or less. **(R 336.1205(1)(a) & (b), R 336.1224, R 336.1225, R 336.1702(a), R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(j), 40 CFR 60 Subpart Dc, 40 CFR 63.11195(e))**

## **III. PROCESS/OPERATIONAL RESTRICTION(S)**

1. Within 180 days of trial operation, the permittee shall submit, implement, and maintain a malfunction abatement plan (MAP) as described in Rule 911(2) for EUAUXBOILER. The MAP shall, at a minimum, specify the following:
  - a) A complete preventative maintenance program including identification of the supervisory personnel responsible for overseeing the inspection, maintenance, and repair of air-cleaning devices, a description of the items or conditions that shall be inspected, the frequency of the inspections or repairs, and an identification of the major replacement parts that shall be maintained in inventory for quick replacement.
  - b) An identification of the source and air-cleaning device operating variables that shall be monitored to detect a malfunction or failure, the normal operating range of these variables, and a description of the method of monitoring or surveillance procedures.
  - c) A description of the corrective procedures or operational changes that shall be taken in the event of a malfunction or failure to achieve compliance with the applicable emission limits.

If at any time the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the MAP within 45 days after such an event occurs. The permittee shall also amend the MAP within 45 days, if new equipment is installed or upon request from the District Supervisor. The permittee shall submit the MAP and any amendments to the MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the MAP or amended MAP shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes to achieve compliance with all applicable emission limits. **(R 336.1205(1)(a) & (b), R 336.1910, R 336.1911, R 336.2803, R 336.2804, R 336.2810)**

2. Within 180 days of trial operation, the permittee shall submit, implement, and maintain an acceptable plan that describes how emissions will be minimized during all startups, shutdowns and malfunctions has been submitted to the AQD District Supervisor. The plan shall incorporate procedures recommended by the equipment manufacturer as well as incorporate standard industry practices. **(R 336.1911, R 336.1912, R 336.2810, 40 CFR 52.21(j))**

## **IV. DESIGN/EQUIPMENT PARAMETER(S)**

1. The maximum design heat input capacity for EUAUXBOILER shall not exceed 61.5 MMBTU (HHV) per hour on a fuel heat input basis. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(j), 40 CFR Part 60 Subpart Db)**
2. The permittee shall not operate EUAUXBOILER unless the low NO<sub>x</sub> burners and flue gas recirculation system are installed, maintained, and operated in a satisfactory manner. Satisfactory manner includes operating and maintaining the air pollution control equipment in accordance with the MAP required in SC III.1. **(R 336.1205(1)(a) & (b), R 336.1910, R 336.2803, R 336.2804, R 336.2810)**
3. The permittee shall install, calibrate, maintain and operate in a satisfactory manner a device to monitor and record the natural gas usage rate for EUAUXBOILER on a continuous basis. **(R 336.1205(1)(a) & (b), R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(j), 40 CFR 60.48c(g))**
4. The permittee shall install, calibrate, maintain and operate in a satisfactory manner, devices to monitor and record the NO<sub>x</sub> emissions, and oxygen (O<sub>2</sub>), or carbon dioxide (CO<sub>2</sub>), content of the exhaust gas from EUAUXBOILER on a continuous basis. The permittee shall install and operate the CEMS to meet the timelines, requirements and reporting detailed in Appendix A. **(R 336.1205(1)(a) & (b), R 336.2803, R 336.2804, R 336.2810)**

## **V. TESTING/SAMPLING**

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. Within 180 days after commencement of initial startup, the permittee shall verify CO, PM, and VOCs emission rates from EUAUXBOILER, at maximum routine operation, by testing at owner's expense, in accordance with Department requirements. The permittee shall complete the required testing once every five years, thereafter, unless an alternate testing schedule is approved by the District Supervisor. Testing shall be based on an average of three 1-hour or longer test runs performed using an approved EPA Method listed in:

Pollutant	Test Method Reference
CO	40 CFR Part 60, Appendix A
PM	40 CFR Part 60, Appendix A; Part 10 of the Michigan Air Pollution Control Rules
VOCs	40 CFR Part 60, Appendix A

An alternate method, or a modification to the approved EPA Method, may be specified in an AQD-approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1205(1)(a) & (b), R 336.1331(1)(c), R 336.1702(a), R 336.2001, R 336.2003, R 336.2004, R 336.2803, R 336.2804, R 336.2810)**

2. Within 180 days after commencement of initial startup, the permittee shall verify PM10 and PM2.5 emission factors from EUAUXBOILER, at maximum routine operation, by testing at owner's expense, in accordance with Department requirements. Upon request by the AQD District Supervisor, the permittee shall verify the emission factors through subsequent testing. Testing shall be based on an average of three 1-hour or longer test runs performed using an approved EPA Method listed in 40 CFR Part 51, Appendix M. An alternate method, or a modification to the approved EPA Method, may be specified in an AQD-approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1205(1)(a) & (b), R 336.2001, R 336.2003, R 336.2004, R 336.2803, R 336.2804, R 336.2810)**

## **VI. MONITORING/RECORDKEEPING**

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor by the 30<sup>th</sup> day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205(1)(a) & (b), R 336.1224, R 336.1225, R 336.1702(a), R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(j))**
2. The permittee shall continuously monitor and record, in a satisfactory manner, the NO<sub>x</sub> emissions and the O<sub>2</sub>, or CO<sub>2</sub>, emissions from EUAUXBOILER. The permittee shall operate each CEMS to meet the timelines, requirements and reporting detailed in Appendix A and shall use the CEMS data for determining compliance with SC I.1. **(R 336.1205(1)(a) & (b), R 336.2803, R 336.2804, R 336.2810)**
3. The permittee shall keep, in a satisfactory manner, daily and 30-day rolling average NO<sub>x</sub> emission rate records for EUAUXBOILER, as required by SC I.1. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(1)(a) & (b), R 336.2803, R 336.2804, R 336.2810)**
4. The permittee shall keep hourly natural gas usage records, in a format acceptable to the AQD District Supervisor, indicating the amount of natural gas used, in cubic feet, on a clock hour basis and shall calculate and keep monthly natural gas usage records, in a format acceptable to the AQD District Supervisor, indicating the amount of natural gas used, in cubic feet, on a calendar month basis and a 12-month rolling time period

basis. The records must indicate the total amount of natural gas used in EUAUXBOILER. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(1)(a) & (b), R 336.1224, R 336.1225, R 336.1702(a), R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(j), 40 CFR 60.48c(g) & (i))**

5. The permittee shall monitor and keep, in a satisfactory manner, records indicating the sulfur content of the natural gas for EUAUXBOILER on a monthly basis on file at the facility and make them available to the Department upon request. The sulfur content shall be determined using a gas chromatograph, or an alternate method approved by the AQD District Supervisor. **(R 336.1205(1)(a) & (b), R 336.2803, R 336.2804, R 336.2810)**
6. The permittee shall calculate and keep, in a satisfactory manner, records of hourly PM10 and PM2.5 mass emissions for EUAUXBOILER, as required by SC I.4 and SC I.5. The permittee shall keep all records on file and make them available to the Department upon request. The calculations shall be performed using a method approved by the AQD District Supervisor. **(R 336.1205(1)(a) & (b), R 336.2803, R 336.2804, R 336.2810)**
7. The permittee shall calculate and keep, in a satisfactory manner, records on a monthly basis validating the SO<sub>2</sub> emission factor in SC I.6 based upon the most recent sulfur content analysis, required by SC VI.5, for EUAUXBOILER. The permittee shall keep all records on file and make them available to the Department upon request. The calculations shall be performed using a method approved by the AQD District Supervisor. **(R 336.1205(1)(a) & (b), R 336.2803, R 336.2804, R 336.2810)**
8. The permittee shall calculate and keep, in a satisfactory manner, records of monthly and 12-month rolling total CO<sub>2e</sub> mass emissions for EUAUXBOILER, as required by SC I.8. The permittee shall keep all records on file and make them available to the Department upon request. The calculations shall be performed according to Appendix B or an alternate method approved by the District Supervisor. **(R 336.1205(1)(a) & (b), R 336.2810, 40 CFR 52.21(j))**
9. The permittee shall maintain records of all information necessary for all notifications and reports as specified in these special conditions as well as that information necessary to demonstrate compliance with the emission limits of this permit. This information shall include, but shall not be limited to the following:
  - a) Compliance tests and any testing required under the special conditions of this permit.
  - b) Monitoring data.
  - c) Verification of heat input capacity required to show compliance with SC IV.1.
  - d) Identification, type and the amounts of fuel combusted in EUAUXBOILER on an hourly basis and calendar month basis.
  - e) All records required by 40 CFR 60.7 and 60.49b.
  - f) All calculations or documents necessary to show compliance with the limits contained in this permit.

All of the above information shall be stored in a format acceptable to the Air Quality Division and shall be consistent with the requirements of 40 CFR 60.7(f). The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(1)(a) & (b), R 336.1224, R 336.1225, R 336.1331(1)(c), R 336.1702(a), R 336.1912, R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(j), 40 CFR 60.7(f), 40 CFR 60.48c(g) & (i))**

## **VII. REPORTING**

1. The permittee shall provide written notification of the date construction commences and actual startup of EUAUXBOILER, in accordance with 40 CFR 60.7 and 60.48c. The notification shall include the design heat input, an identification of the fuels to be combusted, and the annual capacity factor for EUAUXBOILER. The permittee shall submit this notification to the AQD District Supervisor within the time frames specified in 40 CFR 60.7. **(R 336.1201(7)(a), 40 CFR 60.7, 40 CFR 60.48c(a))**

**VIII. STACK/VENT RESTRICTION(S)**

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

<b>Stack &amp; Vent ID</b>	<b>Maximum Exhaust Diameter / Dimensions (inches)</b>	<b>Minimum Height Above Ground (feet)</b>	<b>Underlying Applicable Requirements</b>
1. SVAUXBOILER	36	50	R 336.1225, R 336.2803, R 336.2804

**IX. OTHER REQUIREMENT(S)**

1. The permittee shall comply with all provisions of the federal Standards of Performance for New Stationary Sources as specified in 40 CFR Part 60 Subparts A and Dc, as they apply to EUAUXBOILER. **(40 CFR Part 60 Subparts A & Dc)**

**Footnotes:**

<sup>1</sup> This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

**EUENGINE  
 EMISSION UNIT CONDITIONS**

**DESCRIPTION**

A 1,341 HP (1,000 kilowatts (kW)) diesel-fired emergency engine with a model year of 2011 or later, and a displacement of <10 liters/cylinder. The engine is designed to be compliant with Tier IV emission standards.

**Flexible Group ID:** NA

**POLLUTION CONTROL EQUIPMENT**

Designed for Tier IV emission standards and diesel particulate filter.

**I. EMISSION LIMIT(S)**

<b>Pollutant</b>	<b>Limit</b>	<b>Time Period / Operating Scenario</b>	<b>Equipment</b>	<b>Monitoring / Testing Method</b>	<b>Underlying Applicable Requirements</b>
1. NMHC <sup>F</sup> +NO <sub>x</sub>	6.4 g/kW-hr <sup>G</sup>	Hourly	EUENGINE	SC V.1, SC VI.2, SC VI.3	R 336.1205(1) (a) & (b), R 336.2803, R 336.2804, R 336.2810, 40 CFR 60.4205(b), 40 CFR 60.4202(a)(2), Table 1 of 40 CFR 89.112
2. CO	3.5 g/kW-hr <sup>G</sup>	Hourly	EUENGINE	SC V.1, SC VI.2, SC VI.3	R 336.1205(1) (a) & (b), R 336.2804, R 336.2810, 40 CFR 60.4205(b), 40 CFR 60.4202(a)(2), Table 1 of 40 CFR 89.112
3. PM	0.20 g/kW-hr <sup>G</sup>	Hourly	EUENGINE	SC V.1, SC VI.2, SC VI.3	R 336.1205(1) (a) & (b), R 336.1331(1)(c), R 336.2810, 40 CFR 60.4205(b), 40 CFR 60.4202(a)(2), Table 1 of 40 CFR 89.112
4. PM10	0.54 pph	Hourly	EUENGINE	SC V.3, SC VI.4	R 336.1205(1) (a) & (b), R 336.2803, R 336.2804, R 336.2810
5. PM2.5	0.52 pph	Hourly	EUENGINE	SC V.3, SC VI.4	R 336.1205(1) (a) & (b), R 336.2803, R 336.2804, R 336.2810

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
6. VOC	0.86 pph	Hourly	EUENGINE	SC V.2, SC VI.4	R 336.1205(1)(a) & (b), R 336.1702(a), R 336.2810
7. GHGs as CO <sub>2</sub> e	383 tpy	12-month rolling time period as determined at the end of each calendar month	EUENGINE	SC VI.6	R 336.1205(1)(a) & (b), R 336.2810, 40 CFR 52.21(j)

<sup>F</sup> NMHC = nonmethane hydrocarbon  
<sup>G</sup> These emission limits are for certified engines; if testing becomes required to demonstrate compliance, then the tested values must be compared to the Not to Exceed (NTE) requirements determined through 40 CFR 60.4212(c).

**II. MATERIAL LIMIT(S)**

- The permittee shall burn only diesel fuel in EUENGINE with the maximum sulfur content of 15 ppm (0.0015 percent) by weight, and a minimum cetane index of 40 or a maximum aromatic content of 35 volume percent. **(R 336.1205(1)(a) & (b), R 336.2803, R 336.2804, R 336.2810, 40 CFR 60.4207(b), 40 CFR 80.510(b))**

**III. PROCESS/OPERATIONAL RESTRICTION(S)**

- The permittee shall not operate EUENGINE for more than 2 hours per day, except during emergency conditions and required stack testing in SC V.1 through SC V.3, and not more than 500 hours per year on a 12-month rolling time period basis as determined at the end of each calendar month. The 500 hours includes the hours for the purpose of necessary maintenance checks and readiness testing as described in SC III.2. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.1702(a), R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(j))**
- The permittee may operate EUENGINE for no more than 100 hours per calendar year for the purpose of necessary maintenance checks and readiness testing, provided that the tests are recommended by Federal, State, or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The permittee may petition the Department for approval of additional hours to be used for maintenance checks and readiness testing. A petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency internal combustion engines beyond 100 hours per calendar year. EUENGINE may operate up to 50 hours per calendar year in non-emergency situations, but those 50 hours are counted towards the 100 hours per calendar year provided for maintenance and testing. Except as provided in 40 CFR 60.4211(f)(3)(i), the 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or demand response, or to generate income for the permittee to supply non-emergency power as part of a financial arrangement with another entity. **(40 CFR 60.4211(f))**
- If the permittee purchased a certified engine, according to procedures specified in 40 CFR Part 60 Subpart IIII, for the same model year and maximum engine power, the permittee shall meet the following requirements for EUENGINE:
  - Operate and maintain the certified engine and control device according to the manufacturer's emission-related written instructions.
  - Change only those emission-related settings that are permitted by the manufacturer.
  - Meet the requirements as specified in 40 CFR 89, 94, and/or 1068, as they apply to EUENGINE.

If the permittee does not operate and maintain the certified engine and control device according to the manufacturer's emission-related written instructions, the engine may be considered a non-certified engine. **(40 CFR 60.4211(a) & (c), R 336.2810, 40 CFR 52.21(j))**

4. If the permittee purchased a non-certified engine or a certified engine operating in a non-certified manner, the permittee shall keep a maintenance plan for EUENGINE and shall, to the extent practicable, maintain and operate engine in a manner consistent with good air pollution control practice for minimizing emissions. **(40 CFR 60.4211(g)(3), R 336.2810, 40 CFR 52.21(j))**

#### **IV. DESIGN/EQUIPMENT PARAMETER(S)**

1. The permittee shall equip and maintain EUENGINE with a non-resettable hours meter to track the operating hours. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.1702(a), R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(j), 40 CFR 60.4209(a))**
2. The EUENGINE nameplate capacity shall not exceed 1,000 kW for the genset or 1,341 HP for the engine, as certified by the equipment manufacturer. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.1702(a), R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(j))**
3. The permittee shall monitor, in a satisfactory manner, the diesel fuel usage for EUENGINE on a continuous basis. **(R 336.1205(1)(a) & (b), R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(j))**
4. The permittee shall not operate EUENGINE unless the diesel particulate filter is installed, maintained, and operated in a satisfactory manner. **(R 336.1205(1)(a) & (b), R 336.1331, R 336.1910, R 336.2803, R 336.2804, R 336.2810)**

#### **V. TESTING/SAMPLING**

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. If EUENGINE is not installed, configured, operated, and maintained according to the manufacturer's emission-related written instructions, or the permittee changes emission-related settings in a way that is not permitted by the manufacturer, the permittee must demonstrate compliance as follows:
  - a) Conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission-related settings in a way that is not permitted by the manufacturer.
  - b) If a performance test is required, the performance tests shall be conducted according to 40 CFR 60.4212.
  - c) Conduct subsequent performance testing every 8,760 hours of engine operation or every 3 years, whichever comes first, thereafter, to demonstrate compliance with the applicable emission standards.

No less than 30 days prior to testing, a complete test plan shall be submitted to the AQD. Verification of emission rates includes the submittal of a complete report of the test results to the AQD within 60 days following the last date of the test. **(40 CFR 60.4211(g)(3), 40 CFR 60.4212)**

2. Within 180 days after commencement of trial operation, the permittee shall verify VOC mass emissions from EUENGINE by testing at owner's expense, in accordance with Department requirements. The permittee shall complete the required testing once every five years, thereafter, unless an alternate testing schedule is approved by the District Supervisor. Testing shall be based on an average of three 1-hour or longer test runs performed using an approved EPA Method listed in 40 CFR Part 60, Appendix A. An alternate method, or a modification to the approved EPA Method, may be specified in an AQD-approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing. Verification of emission rates includes the submittal of a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1205(1)(a) & (b), R 336.1702(a), R 336.2001, R 336.2003, R 336.2004, R 336.2810)**
3. Upon request by the AQD District Supervisor, the permittee shall verify PM10 and PM2.5 mass emissions from EUENGINE by testing at owner's expense, in accordance with Department requirements. Testing shall be based on an average of three 1-hour or longer test runs performed using an approved EPA Method listed in 40 CFR Part 51, Appendix M. An alternate method, or a modification to the approved EPA Method, may be specified in an AQD-approved Test Protocol. No less than 30 days prior to testing, the permittee shall

submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1205(1)(a) & (b), R 336.2001, R 336.2003, R 336.2004, R 336.2803, R 336.2804, R 336.2810)**

## **VI. MONITORING/RECORDKEEPING**

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor by the 30th day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.1702(a), R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(j), 40 CFR 60.4211, 40 CFR 60.4214)**
2. The permittee shall keep, in a satisfactory manner, the following records for EUENGINE:
  - a) For certified engine: The permittee shall keep records of the manufacturer certification documentation.
  - b) For uncertified engine: The permittee shall keep records of testing required in SC V.1.

The permittee shall keep all records on file and make them available to the Department upon request. **(40 CFR 60.4211, R 336.2810)**

3. The permittee shall keep, in a satisfactory manner, the following records of maintenance activity for EUENGINE:
  - a) For certified engine: The permittee shall keep records of the manufacturer's emission-related written instructions, and records demonstrating that the engine has been maintained according to those instructions, as specified in SC III.3.
  - b) For uncertified engine: The permittee shall keep records of a maintenance plan, as required by SC III.4, and maintenance activities.

The permittee shall keep all records on file and make them available to the Department upon request. **(40 CFR 60.4211, R 336.2810)**

4. The permittee shall keep, in a satisfactory manner, test reports for EUENGINE required by SC V.2 and SC V.3 on file at the facility. The permittee shall make the records available to the Department upon request. **(R 336.1205(1)(a) & (b), R 336.1702(a), R 336.2001, R 336.2003, R 336.2004, R 336.2803, R 336.2804, R 336.2810)**
5. The permittee shall keep, in a satisfactory manner, records of the diesel fuel usage for EUENGINE on an hourly, monthly, and 12-month rolling time period basis. **(R 336.1205(1)(a) & (b), R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(j))**
6. The permittee shall calculate and keep, in a satisfactory manner, records of monthly and 12-month rolling total CO<sub>2e</sub> mass emissions for EUENGINE, as required by SC I.7. The permittee shall keep all records on file and make them available to the Department upon request. The calculations shall be performed according to Appendix B or an alternate method approved by the District Supervisor. **(R 336.1205(1)(a) & (b), R 336.2810, 40 CFR 52.21(j))**
7. The permittee shall monitor and record the total hours of operation and the hours of operation during non-emergencies for EUENGINE, on an hourly, daily, monthly, and 12-month rolling time period basis, in a manner acceptable to the AQD District Supervisor. The permittee shall document how many hours are spent for emergency operation of EUENGINE, including what classified the operation as emergency. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.1702(a), R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(j), 40 CFR 60.4211, 40 CFR 60.4214)**

8. The permittee shall keep, in a satisfactory manner, fuel supplier certification records or fuel sample test data, for each delivery of diesel fuel oil used in EUENGINE, demonstrating that the fuel meets the requirement of 40 CFR 80.510(b), as specified in SC II.1. The certification or test data shall include the name of the oil supplier or laboratory, the sulfur content, and cetane index or aromatic content of the fuel oil. **(R 336.1205(1)(a) & (b), R 336.2803, R 336.2804, R 336.2810, 40 CFR 60.4207(b), 40 CFR 80.510(b))**

## **VII. REPORTING**

1. Within 30 days after completion of the installation, construction, reconstruction, relocation, or modification authorized by this Permit to Install, the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the activity. Completion of the installation, construction, reconstruction, relocation, or modification is considered to occur not later than commencement of trial operation of EUENGINE. **(R 336.1201(7)(a))**
2. The permittee shall submit a notification specifying whether EUENGINE will be operated in a certified or a non-certified manner to the AQD District Supervisor, in writing, within 30 days following the initial startup of the engine and within 30 days of switching the manner of operation. **(R 336.1201(3))**

## **VIII. STACK/VENT RESTRICTION(S)**

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

<b>Stack &amp; Vent ID</b>	<b>Maximum Exhaust Diameter / Dimensions (inches)</b>	<b>Minimum Height Above Ground (feet)</b>	<b>Underlying Applicable Requirements</b>
1. SVENGINE	8	18	R 336.1225, R 336.2803, R 336.2804

## **IX. OTHER REQUIREMENT(S)**

1. The permittee shall comply with the provisions of the federal Standards of Performance for New Stationary Sources as specified in 40 CFR Part 60 Subpart A and Subpart IIII, as they apply to EUENGINE. **(40 CFR Part 60 Subparts A & IIII, 40 CFR 63.6590)**
2. The permittee shall comply with the provisions of the National Emission Standards for Hazardous Air Pollutants, as specified in 40 CFR, Part 63, Subpart A and Subpart ZZZZ, as they apply to EUENGINE, upon startup. **(40 CFR Part 63 Subparts A and ZZZZ, 40 CFR 63.6595)**

### **Footnotes:**

<sup>1</sup> This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

**EUFENGINE  
 EMISSION UNIT CONDITIONS**

**DESCRIPTION**

A 300 HP diesel-fired emergency fire pump engine with a model year of 2011 or later, and a displacement of <30 liters/cylinder.

**Flexible Group ID:** NA

**POLLUTION CONTROL EQUIPMENT**

Diesel particulate filter.

**I. EMISSION LIMIT(S)**

<b>Pollutant</b>	<b>Limit</b>	<b>Time Period / Operating Scenario</b>	<b>Equipment</b>	<b>Monitoring / Testing Method</b>	<b>Underlying Applicable Requirements</b>
1. NMHC <sup>F</sup> +NO <sub>x</sub>	3.0 g/bhp-hr <sup>G</sup>	Hourly	EUFENGINE	SC V.1, SC VI.2, SC VI.3	R 336.2803, R 336.2804, R 336.2810 40 CFR 60.4205(c), Table 4 of 40 CFR Part 60 Subpart IIII
2. CO	2.6 g/bhp-hr <sup>G</sup>	Hourly	EUFENGINE	SC V.1, SC VI.2, SC VI.3	R 336.2804, R 336.2810, 40 CFR 60.4205(c), Table 4 of 40 CFR Part 60 Subpart IIII
3. PM	0.15 g/bhp-hr <sup>G</sup>	Hourly	EUFENGINE	SC V.1, SC VI.2, SC VI.3	R 336.1331(1)(c), R 336.2810, 40 CFR 60.4205(c), Table 4 of 40 CFR Part 60 Subpart IIII
4. PM10	0.66 pph	Hourly	EUFENGINE	SC V.3, SC VI.4	R 336.1205(1) (a) & (b), R 336.2803, R 336.2804, R 336.2810
5. PM2.5	0.66 pph	Hourly	EUFENGINE	SC V.3, SC VI.4	R 336.1205(1) (a) & (b), R 336.2803, R 336.2804, R 336.2810
6. VOC	0.75 pph	Hourly	EUFENGINE	SC V.2, SC VI.4	R 336.1205(1) (a) & (b), R 336.1702(a), R 336.2810
7. GHGs as CO <sub>2</sub> e	85.6 tpy	12-month rolling time period as determined at the end of each calendar month	EUFENGINE	SC VI.6	R 336.1205(1) (a) & (b), R 336.2810, 40 CFR 52.21(j)

<sup>F</sup> NMHC = nonmethane hydrocarbon

## **II. MATERIAL LIMIT(S)**

1. The permittee shall burn only diesel fuel in EUPENGINE with the maximum sulfur content of 15 ppm (0.0015 percent) by weight, and a minimum cetane index of 40 or a maximum aromatic content of 35 volume percent. **(R 336.1205(1)(a) & (b), R 336.2803, R 336.2804, R 336.2810, 40 CFR 60.4207(b), 40 CFR 80.510(b))**

## **III. PROCESS/OPERATIONAL RESTRICTION(S)**

1. The permittee shall not operate EUPENGINE for more than 2 hour per day, except during emergency conditions and required stack testing in SC V.1 through SC V.3, and not more than 500 hours per year on a 12-month rolling time period basis as determined at the end of each calendar month. The 500 hours includes the hours for the purpose of necessary maintenance checks and readiness testing as described in SC III.2. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.1702(a), R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(j))**
2. The permittee may operate EUPENGINE for no more than 100 hours per calendar year for the purpose of necessary maintenance checks and readiness testing, provided that the tests are recommended by Federal, State, or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The permittee may petition the Department for approval of additional hours to be used for maintenance checks and readiness testing. A petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency internal combustion engines beyond 100 hours per calendar year. EUPENGINE may operate up to 50 hours per calendar year in non-emergency situations, but those 50 hours are counted towards the 100 hours per calendar year provided for maintenance and testing. Except as provided in 40 CFR 60.4211(f)(3)(i), the 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or demand response, or to generate income for the permittee to supply non-emergency power as part of a financial arrangement with another entity. **(40 CFR 60.4211(f))**
3. If the permittee purchased a certified engine, according to procedures specified in 40 CFR Part 60 Subpart IIII, for the same model year and maximum engine power, the permittee shall meet the following requirements for EUPENGINE:
  - a) Operate and maintain the certified engine and control device according to the manufacturer's emission-related written instructions.
  - b) Change only those emission-related settings that are permitted by the manufacturer.
  - c) Meet the requirements as specified in 40 CFR 89, 94, and/or 1068, as they apply to EUPENGINE.

If the permittee does not operate and maintain the certified engine and control device according to the manufacturer's emission-related written instructions, the engine may be considered a non-certified engine. **(40 CFR 60.4211(a) & (c), R 336.2810, 40 CFR 52.21(j))**

4. If the permittee purchased a non-certified engine or a certified engine operating in a non-certified manner, the permittee shall keep a maintenance plan for EUPENGINE and shall, to the extent practicable, maintain and operate engine in a manner consistent with good air pollution control practice for minimizing emissions. **(40 CFR 60.4211(g)(2), R 336.2810, 40 CFR 52.21(j))**

## **IV. DESIGN/EQUIPMENT PARAMETER(S)**

1. The permittee shall equip and maintain EUPENGINE with a non-resettable hours meter to track the operating hours. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.1702(a), R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(j), 40 CFR 60.4209(a))**
2. The maximum NFPA nameplate engine power of EUPENGINE shall not exceed 300 brake HP. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.1702(a), R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(j), Table 4 of 40 CFR Part 60 Subpart IIII)**

3. The permittee shall monitor, in a satisfactory manner, the diesel fuel usage for EUPENGINE on a continuous basis. **(R 336.1205(1)(a) & (b), R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(j))**
4. The permittee shall not operate EUENGINE unless the diesel particulate filter is installed, maintained, and operated in a satisfactory manner. **(R 336.1205(1)(a) & (b), R 336.1331, R 336.1910, R 336.2803, R 336.2804, R 336.2810)**

## **V. TESTING/SAMPLING**

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. If EUPENGINE is not installed, configured, operated, and maintained according to the manufacturer's emission-related written instructions, or the permittee changes emission-related settings in a way that is not permitted by the manufacturer, the permittee must demonstrate compliance as follows:
  - a) Conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission-related settings in a way that is not permitted by the manufacturer.
  - b) If a performance test is required, the performance tests shall be conducted according to 40 CFR 60.4212.

No less than 30 days prior to testing, a complete test plan shall be submitted to the AQD. Verification of emission rates includes the submittal of a complete report of the test results to the AQD within 60 days following the last date of the test. **(40 CFR 60.4211(g)(2), 40 CFR 60.4212)**

2. Within 180 days after commencement of trial operation, the permittee shall verify VOC mass emissions from EUPENGINE by testing at owner's expense, in accordance with Department requirements. The permittee shall complete the required testing once every five years, thereafter, unless an alternate testing schedule is approved by the District Supervisor. Testing shall be based on an average of three 1-hour or longer test runs performed using an approved EPA Method listed in 40 CFR Part 60, Appendix A. An alternate method, or a modification to the approved EPA Method, may be specified in an AQD-approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing. Verification of emission rates includes the submittal of a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1205(1)(a) & (b), R 336.1702(a), R 336.2001, R 336.2003, R 336.2004, R 336.2810)**
3. Upon request by the AQD District Supervisor, the permittee shall verify PM10 and PM2.5 mass emissions from EUENGINE by testing at owner's expense, in accordance with Department requirements. Testing shall be based on an average of three 1-hour or longer test runs performed using an approved EPA Method listed in 40 CFR Part 51, Appendix M. An alternate method, or a modification to the approved EPA Method, may be specified in an AQD-approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1205(1)(a) & (b), R 336.2001, R 336.2003, R 336.2004, R 336.2803, R 336.2804, R 336.2810)**

## **VI. MONITORING/RECORDKEEPING**

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor by the 30th day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.1702(a), R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(j), 40 CFR 60.4211, 40 CFR 60.4214)**

2. The permittee shall keep, in a satisfactory manner, the following records for EUPENGINE:
  - a) For certified engine: The permittee shall keep records of the manufacturer certification documentation.
  - b) For uncertified engine: The permittee shall keep records of testing required in SC V.1.

The permittee shall keep all records on file and make them available to the Department upon request. **(40 CFR 60.4211)**

3. The permittee shall keep, in a satisfactory manner, the following records of maintenance activity for EUPENGINE:
  - a) For certified engine: The permittee shall keep records of the manufacturer's emission-related written instructions, and records demonstrating that the engine has been maintained according to those instructions, as specified in SC III.3.
  - b) For uncertified engine: The permittee shall keep records of a maintenance plan, as required by SC III.4, and maintenance activities.

The permittee shall keep all records on file and make them available to the Department upon request. **(40 CFR 60.4211)**

4. The permittee shall keep, in a satisfactory manner, test reports for EUPENGINE required by SC V.2 and SC V.3 on file at the facility. The permittee shall make the records available to the Department upon request. **(R 336.1205(1)(a) & (b), R 336.1702(a), R 336.2001, R 336.2003, R 336.2004, R 336.2803, R 336.2804, R 336.2810)**

5. The permittee shall keep, in a satisfactory manner, records of the diesel fuel usage for EUPENGINE on an hourly, monthly, and 12-month rolling time period basis. **(R 336.1205(1)(a) & (b), R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(j))**

6. The permittee shall calculate and keep, in a satisfactory manner, records of monthly and 12-month rolling total CO<sub>2e</sub> mass emissions for EUPENGINE, as required by SC I.7. The permittee shall keep all records on file and make them available to the Department upon request. The calculations shall be performed according to Appendix B or an alternate method approved by the District Supervisor. **(R 336.1205(1)(a) & (b), R 336.2810, 40 CFR 52.21(j))**

7. The permittee shall monitor and record the total hours of operation and the hours of operation during non-emergencies for EUPENGINE, on an hourly, daily, monthly, and 12-month rolling time period basis, in a manner acceptable to the AQD District Supervisor. The permittee shall document how many hours are spent for emergency operation of EUPENGINE, including what classified the operation as emergency. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.1702(a), R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(j), 40 CFR 60.4211, 40 CFR 60.4214)**

8. The permittee shall keep, in a satisfactory manner, fuel supplier certification records or fuel sample test data, for each delivery of diesel fuel oil used in EUPENGINE, demonstrating that the fuel meets the requirement of 40 CFR 80.510(b), as specified in SC II.1. The certification or test data shall include the name of the oil supplier or laboratory, the sulfur content, and cetane index or aromatic content of the fuel oil. **(R 336.1205(1)(a) & (b), R 336.2803, R 336.2804, R 336.2810, 40 CFR 60.4207(b), 40 CFR 80.510(b))**

## **VII. REPORTING**

1. Within 30 days after completion of the installation, construction, reconstruction, relocation, or modification authorized by this Permit to Install, the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the activity. Completion of the installation, construction, reconstruction, relocation, or modification is considered to occur not later than commencement of trial operation of EUPENGINE. **(R 336.1201(7)(a))**
2. The permittee shall submit a notification specifying whether EUPENGINE will be operated in a certified or a non-certified manner to the AQD District Supervisor, in writing, within 30 days following the initial startup of the engine and within 30 days of switching the manner of operation. **(R 336.1201(3))**

**VIII. STACK/VENT RESTRICTION(S)**

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

<b>Stack &amp; Vent ID</b>	<b>Maximum Exhaust Diameter / Dimensions (inches)</b>	<b>Minimum Height Above Ground (feet)</b>	<b>Underlying Applicable Requirements</b>
1. SVFIREPUMP	6	15	R 336.1225, R 336.2803, R 336.2804

**IX. OTHER REQUIREMENT(S)**

1. The permittee shall comply with the provisions of the federal Standards of Performance for New Stationary Sources as specified in 40 CFR Part 60 Subpart A and Subpart IIII, as they apply to EUPENGINE. **(40 CFR Part 60 Subparts A & IIII, 40 CFR 63.6590)**
2. The permittee shall comply with the provisions of the National Emission Standards for Hazardous Air Pollutants, as specified in 40 CFR, Part 63, Subpart A and Subpart ZZZZ, as they apply to EUPENGINE, upon startup. **(40 CFR Part 63 Subparts A and ZZZZ, 40 CFR 63.6595)**

**Footnotes:**

<sup>1</sup> This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

### FLEXIBLE GROUP SPECIAL CONDITIONS

#### FLEXIBLE GROUP SUMMARY TABLE

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

<b>Flexible Group ID</b>	<b>Flexible Group Description</b>	<b>Associated Emission Unit IDs</b>
FGSPACEHEAT	Multiple natural gas-fired space heaters with a combined rating of 10 MMBTU/hr (HHV) or less to provide building heating.	NA
FGDIESELTANKS	Two fixed-roof tanks for purposes of storing ultra-low sulfur diesel fuel.	EUTANKEMENG, EUTANKFIREPUMP

<b>FGSPACEHEAT FLEXIBLE GROUP CONDITIONS</b>
--

**DESCRIPTION**

Multiple natural gas-fired space heaters with a combined rating of 10 MMBTU/hr (HHV) or less to provide building heating.

**Emission Unit:** NA

**POLLUTION CONTROL EQUIPMENT**

NA

**I. EMISSION LIMIT(S)**

NA

**II. MATERIAL LIMIT(S)**

1. The permittee shall burn only pipeline quality natural gas in FGSPACEHEAT. (R 336.1205(1)(a) & (b), R 336.1224, R 336.1225, R 336.1702(a), R 336.2810, 40 CFR 52.21(j))

**III. PROCESS/OPERATIONAL RESTRICTION(S)**

NA

**IV. DESIGN/EQUIPMENT PARAMETER(S)**

1. The maximum combined design heat input capacity for FGSPACEHEAT shall not exceed 10 MMBTU per hour on a fuel heat input basis. (R 336.1205(1)(a) & (b), R 336.1225, R 336.2810, 40 CFR 52.21(j))

**V. TESTING/SAMPLING**

Records shall be maintained on file for a period of five years. (R 336.1201(3))

NA

**VI. MONITORING/RECORDKEEPING**

Records shall be maintained on file for a period of five years. (R 336.1201(3))

1. The permittee shall keep manufacturer documentation showing the maximum heat input for each space heater in FGSPACEHEAT. (R 336.1205(1)(a) & (b), R 336.1225, R 228.2810, 40 CFR 52.21(j))

**VII. REPORTING**

NA

**VIII. STACK/VENT RESTRICTION(S)**

NA

**IX. OTHER REQUIREMENT(S)**

NA

**Footnotes:**

<sup>1</sup> This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

<b>FGDIESELTANKS FLEXIBLE GROUP CONDITIONS</b>
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**DESCRIPTION**

Two fixed-roof tanks for purposes of storing ultra-low sulfur diesel fuel.

**Emission Unit:** EUTANKEMENG, EUTANKFIREPUMP

**POLLUTION CONTROL EQUIPMENT**

Submerged fill pipes for VOC control.

**I. EMISSION LIMIT(S)**

NA

**II. MATERIAL LIMIT(S)**

1. The permittee shall store only ultra-low sulfur diesel fuel in FGDIESELTANKS. (R 336.1205, R 336.1224, R 336.1225, R 336.1702(a), R 336.2810)

**III. PROCESS/OPERATIONAL RESTRICTION(S)**

NA

**IV. DESIGN/EQUIPMENT PARAMETER(S)**

1. The permittee shall not fill any unit in FGDIESELTANKS at the facility unless it is equipped with submerged fill piping. (R 336.1205(1)(a) & (b), R 336.1224, R 336.1225, R 336.1702(a), R 336.1910, R 336.2810)

**V. TESTING/SAMPLING**

Records shall be maintained on file for a period of five years. (R 336.1201(3))

NA

**VI. MONITORING/RECORDKEEPING**

Records shall be maintained on file for a period of five years. (R 336.1201(3))

1. The permittee shall keep manufacturer documentation verifying that submerged fill pipes are installed on each tank in FGDIESELTANKS. (R 336.1205(1)(a) & (b), R 336.1224, R 336.1225, R 336.1702(a), R 336.1910, R 336.2810)

**VII. REPORTING**

NA

**VIII. STACK/VENT RESTRICTION(S)**

NA

**IX. OTHER REQUIREMENT(S)**

NA

**Footnotes:**

<sup>1</sup> This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

**APPENDIX A**  
**Continuous Emission Monitoring System (CEMS) Requirements**

1. Within 30 calendar days after commencement of trial start-up, the permittee shall submit two copies of a Monitoring Plan to the AQD, for review and approval. The Monitoring Plan shall include drawings or specifications showing proposed locations and descriptions of the required CEMS.
2. Within 150 calendar days after commencement of trial start-up, the permittee shall submit two copies of a complete test plan for the CEMS to the AQD for approval.
3. Within 180 calendar days after commencement of trial start-up, the permittee shall complete the installation and testing of the CEMS.
4. Within 60 days of completion of testing, the permittee shall submit to the AQD two copies of the final report demonstrating the CEMS complies with the requirements of the corresponding Performance Specifications (PS) in the following table:

<b>Pollutant</b>	<b>Applicable PS</b>
NO <sub>x</sub>	2
O <sub>2</sub> & CO <sub>2</sub>	3
CO	4

5. The span value shall be 2.0 times the lowest emission standard or as specified in the federal regulations.
6. The CEMS shall be installed, calibrated, maintained, and operated in accordance with the procedures set forth in 40 CFR 60.13 and PS, listed in the table above, of Appendix B to 40 CFR Part 60.
7. Each calendar quarter, the permittee shall perform the Quality Assurance Procedures of the CEMS set forth in Appendix F of 40 CFR Part 60. Within 30 days following the end of each calendar quarter, the permittee shall submit the results to the AQD in the format of the data assessment report (Figure 1, Appendix F).
8. In accordance with 40 CFR 60.7(c) and (d), the permittee shall submit two copies of an excess emission report (EER) and summary report in an acceptable format to the AQD, within 30 days following the end of each calendar quarter. The Summary Report shall follow the format of Figure 1 in 40 CFR 60.7(d). The EER shall include the following information:
  - a) A report of each exceedance above the limits specified in the conditions of this permit. This includes the date, time, magnitude, cause and corrective actions of all occurrences during the reporting period.
  - b) A report of all periods of CEMS downtime and corrective action.
  - c) A report of the total operating time of the EUAUXBOILER or EUCTGHRSG during the reporting period.
  - d) A report of any periods that the CEMS exceeds the instrument range.
  - e) If no exceedances or CEMS downtime occurred during the reporting period, the permittee shall report that fact.

The permittee shall keep all monitoring data on file for a period of at least five years and make them available to the AQD upon request.

## APPENDIX B CO<sub>2</sub>e Emission Calculations

### For EUCTGHRSG:

If not utilizing a CO<sub>2</sub> CEMS:

$$\text{CO}_2 \text{ emissions (tons/month)} = \text{CO}_2 \text{ EF (scf/MMBTU)} \times \text{Fuel Usage (MMscf/month)} \times \text{Higher Heating Value (MMBTU/MMscf)} \times \text{CO}_2 \text{ MW (lb/lb-mol)} \times \text{CO}_2 \text{ GWP} / \text{molar volume (scf/lb-mol)} \times 1/2000 \text{ (ton/lb)}$$

Where:

CO<sub>2</sub> EF (scf/MMBTU) = carbon based F-factor for natural gas according to the methodology from equation G-4 of Appendix G to Part 75

Fuel Usage (MMscf/month) = monthly fuel usage data from fuel flow meter

Heat Content (MMBTU/MMscf) = standard value in AP-42 for natural gas or supplier data, if available

CO<sub>2</sub> MW (lb/lb-mol) = 44 [C = 6; O = 8; 6 + (8 x 2) = 22]

CO<sub>2</sub> GWP = global warming potential from 40 CFR Part 98, Subpart A, Table A-1 (January 1, 2014)

Molar volume (scf/lb-mol) = 385

$$\text{CO}_2\text{e emissions (tons/month)} = \text{CO}_2 \text{ emissions (tons/month)} + [(\text{Fuel Usage (MMscf/month)} \times \text{Higher Heating Value (MMBTU/MMscf)}) \times (\text{CH}_4 \text{ EF (kg/MMBTU)} \times \text{CH}_4 \text{ GWP} + \text{N}_2\text{O EF (kg/MMBTU)} \times \text{N}_2\text{O GWP})] \times 2.20462 \text{ (lb/kg)} \times 1/2000 \text{ (ton/lb)}$$

Where:

Fuel Usage (MMscf/month) = monthly fuel usage data from fuel flow meter

Heat Content (MMBTU/MMscf) = standard value in AP-42 for natural gas or supplier data, if available

CH<sub>4</sub> EF (kg/MMBTU) = emission factors from AP-42 Ch. 3.1 for Stationary Gas Turbines, Table 2a (April 2000)

N<sub>2</sub>O EF (kg/MMBTU) = emission factors from AP-42 Ch. 3.1 for Stationary Gas Turbines, Table 2a (April 2000)

CH<sub>4</sub> GWP = global warming potential from 40 CFR Part 98, Subpart A, Table A-1 (January 1, 2014)

N<sub>2</sub>O GWP = global warming potential from 40 CFR Part 98, Subpart A, Table A-1 (January 1, 2014)

### For EUAUXBOILER:

$$\text{CO}_2\text{e emissions (tons/month)} = [(\text{Fuel Usage (MMscf/month)} \times \text{Higher Heating Value (MMBTU/MMscf)}) \times (\text{CO}_2 \text{ EF (kg/MMBTU)} \times \text{CO}_2 \text{ GWP} + \text{CH}_4 \text{ EF (kg/MMBTU)} \times \text{CH}_4 \text{ GWP} + \text{N}_2\text{O EF (kg/MMBTU)} \times \text{N}_2\text{O GWP})] \times 2.20462 \text{ (lb/kg)} \times 1/2000 \text{ (ton/lb)}$$

Where:

Fuel Usage (MMscf/month) = monthly fuel usage data from fuel flow meter

Heat Content (MMBTU/MMscf) = standard value in AP-42 for natural gas or supplier data, if available

CO<sub>2</sub> EF (kg/MMBTU) = emission factors from 40 CFR Part 98, Subpart C, Table C-1 (January 1, 2014)

CH<sub>4</sub> EF (kg/MMBTU) = emission factors from 40 CFR Part 98, Subpart C, Table C-2 (January 1, 2014)

N<sub>2</sub>O EF (kg/MMBTU) = emission factors from 40 CFR Part 98, Subpart C, Table C-2 (January 1, 2014)

CO<sub>2</sub> GWP = global warming potential from 40 CFR Part 98, Subpart A, Table A-1 (January 1, 2014)

CH<sub>4</sub> GWP = global warming potential from 40 CFR Part 98, Subpart A, Table A-1 (January 1, 2014)

N<sub>2</sub>O GWP = global warming potential from 40 CFR Part 98, Subpart A, Table A-1 (January 1, 2014)

### For EUENGINE and EUPENGINE:

$$\text{CO}_2\text{e emissions (tons/month)} = [(\text{Fuel Usage (gallons/month)} \times \text{Higher Heating Value (MMBTU/gallons)}) \times (\text{CO}_2 \text{ EF (kg/MMBTU)} \times \text{CO}_2 \text{ GWP} + \text{CH}_4 \text{ EF (kg/MMBTU)} \times \text{CH}_4 \text{ GWP} + \text{N}_2\text{O EF (kg/MMBTU)} \times \text{N}_2\text{O GWP})] \times 1/2000 \text{ (ton/lb)}$$

Where:

Fuel Usage (gallons/month) = monthly fuel usage data

Heat Content (MMBTU/gallons) = standard value in AP-42 for natural gas or supplier data, if available

CO<sub>2</sub> EF (kg/MMBTU) = emission factors from 40 CFR Part 98, Subpart C, Table C-1 (January 1, 2014)

CH<sub>4</sub> EF (kg/MMBTU) = emission factors from 40 CFR Part 98, Subpart C, Table C-2 (January 1, 2014)

N<sub>2</sub>O EF (kg/MMBTU) = emission factors from 40 CFR Part 98, Subpart C, Table C-2 (January 1, 2014)

CO<sub>2</sub> GWP = global warming potential from 40 CFR Part 98, Subpart A, Table A-1 (January 1, 2014)

CH<sub>4</sub> GWP = global warming potential from 40 CFR Part 98, Subpart A, Table A-1 (January 1, 2014)

N<sub>2</sub>O GWP = global warming potential from 40 CFR Part 98, Subpart A, Table A-1 (January 1, 2014)