

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

May 22, 2019

PERMIT TO INSTALL
139-18

ISSUED TO
Michigan State University

LOCATED AT
354 Service Road
East Lansing, Michigan

IN THE COUNTY OF
Ingham

STATE REGISTRATION NUMBER
K3249

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: January 25, 2019	
DATE PERMIT TO INSTALL APPROVED: May 22, 2019	SIGNATURE: <i>Mary Ann Dolcharty</i>
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	Michigan Department of Environmental Quality
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
MDEQ	Michigan Department of Environmental Quality
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 ₂ 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 ₂ S	Hydrogen Sulfide
kW	Kilowatt
lb	Pound
m	Meter
mg	Milligram
mm	Millimeter
MM	Million
MW	Megawatts
NMOC	Non-Methane Organic Compounds
NO _x	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 ₂	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 Environmental Quality, 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 Environmental Quality. **(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 conditions 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.

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date / Modification Date	Flexible Group ID
EUENGINE1	A 16,500 HP natural gas-fired reciprocating internal combustion engine (RICE) equipped with selective catalytic reduction (SCR) to reduce NO _x emissions, as well as an oxidation catalyst to reduce CO and VOC emissions.	To Be Determined	FGENGINES
EUENGINE2	A 16,500 HP natural gas-fired RICE equipped with SCR to reduce NO _x emissions, as well as an oxidation catalyst to reduce CO and VOC emissions.	To Be Determined	FGENGINES
EUENGINE3	A 16,500 HP natural gas-fired RICE equipped with SCR to reduce NO _x emissions, as well as an oxidation catalyst to reduce CO and VOC emissions.	To Be Determined	FGENGINES
EUENGINE4	A 16,500 HP natural gas-fired RICE equipped with SCR to reduce NO _x emissions, as well as an oxidation catalyst to reduce CO and VOC emissions.	To Be Determined	FGENGINES
EUSTMBOILER	A natural gas-fired medium-pressure steam boiler rated at 300 MMBtu/hr and designed to supply 200 thousand pounds of steam per hour for campus heating. The steam boiler will be equipped with low- NO _x burners and internal flue gas recirculation (FGR) to reduce NO _x emissions, and will also be capable of firing No. 2 fuel oil as backup.	To Be Determined	FGBOILERMACT-NEW
EUOILTANK	No. 2 fuel oil storage tank.	To Be Determined	NA
EUFUELHTR1	A natural gas-fired fuel gas dew point heater rated at 25 MMBTU/hr for warming the natural gas fuel.	To Be Determined	FGFUELHTRS, FGBOILERMACT-NEW
EUFUELHTR2	A natural gas-fired fuel gas dew point heater rated at 25 MMBTU/hr for warming the natural gas fuel.	To Be Determined	FGFUELHTRS, FGBOILERMACT-NEW

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.

**EUSTMBOILER
EMISSION UNIT CONDITIONS**

DESCRIPTION:

A natural gas-fired medium-pressure steam boiler rated at 300 MMBtu/hr and designed to supply 200 thousand pounds of steam per hour for campus heating. The steam boiler will be equipped with low-NO_x burners and internal flue gas recirculation (FGR) to reduce NO_x emissions, and will also be capable of firing No. 2 fuel oil as backup.

Flexible Group ID: FGBOILERMACT-NEW

POLLUTION CONTROL EQUIPMENT

Low NO_x burners and internal flue gas recirculation (FGR)

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. NO _x	0.04 lb/MMBtu	30-day rolling average time period, when firing natural gas	EUSTMBOILER	SC VI.2	R 336.1205(1)(a), R 336.2803, R 336.2804, R 336.2810
2. NO _x	0.20 lb/MMBtu heat input	30-day rolling average time period	EUSTMBOILER	SC VI.2	40 CFR 60.44b(a)
3. NO _x	0.07 lb/MMBtu	30-day rolling average time period, when firing No. 2 fuel oil	EUSTMBOILER	SC VI.2	R 336.1205(1)(a), R 336.2803, R 336.2804, R 336.2810
4. CO	0.05 lb/MMBtu	Hourly, when firing natural gas	EUSTMBOILER	SC V.1	R 336.1205(1)(a), R 336.2804, R 336.2810
5. CO	0.08 lb/MMBtu	Hourly, when firing No. 2 fuel oil	EUSTMBOILER	SC V.2	R 336.1205(1)(a), R 336.2804, R 336.2810
6. VOC	1.6 pph	Hourly	EUSTMBOILER	SC V.1, SC V.2	R 336.1205(1)(a), R 336.1702(a), R 336.2810
7. PM	0.8 pph	Hourly, when firing natural gas	EUSTMBOILER	SC V.1	R 336.1205(1)(a), R 336.2810
8. PM	4.4 pph	Hourly, when firing No. 2 fuel oil	EUSTMBOILER	SC V.2	R 336.1205(1)(a), R 336.2810
9. PM10	2.3 pph	Hourly, when firing natural gas	EUSTMBOILER	SC V.1	R 336.1205(1)(a), R 336.2803, R 336.2804, R 336.2810
10. PM10	7.2 pph	Hourly, when firing No. 2 fuel oil	EUSTMBOILER	SC V.2	R 336.1205(1)(a), R 336.2803, R 336.2804, R 336.2810
11. PM2.5	2.3 pph	Hourly, when firing natural gas	EUSTMBOILER	SC V.1	R 336.1205(1)(a), R 336.2803, R 336.2804, R 336.2810

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
12. PM2.5	7.2 pph	Hourly, when firing No. 2 fuel oil	EUSTMBOILER	SC V.2	R 336.1205(1)(a), R 336.2803, R 336.2804, R 336.2810
13. CO _{2e}	214,988 tpy	12-month rolling time period as determined at the end of each calendar month	EUSTMBOILER	SC VI.4	R 336.1205(1)(a), 40 CFR 52.21(j)
14. Visible Emissions	20% opacity, except for one 6-minute average per hour of not more than 27%	6-minute block average, while firing No. 2 fuel oil ^A	EUSTMBOILER	SC V.3	R 336.1301(1)(a), 40 CFR 60.43b(f)

^A The VE limit listed in 40 CFR Part 60 Subpart Db applies at all times, except during periods of startup, shutdown, or malfunction (40 CFR 60.43b(g)).

II. MATERIAL LIMIT(S)

- The permittee shall only burn natural gas or No. 2 fuel oil in EUSTMBOILER. **(R 336.1205(1)(a), R 336.1225, R 336.1702(a), R 336.2803, R 336.2804, R 336.2810)**
- The permittee shall only burn No. 2 fuel oil during periods of gas curtailment, gas supply interruption, maintenance, operator training, or periodic testing on liquid fuel. The maintenance, operator training, and periodic testing on liquid fuel shall not exceed a combined total of 48 hours, for EUSTMBOILER, during any calendar year. **(R 336.1205(1)(a), 40 CFR Part 63 Subpart DDDDD)**
- The sulfur content of all No. 2 fuel oil used in EUSTMBOILER shall not exceed 0.0015% by weight. This subsumes the 0.30% by weight limit in 40 CFR 60.43b. **(40 CFR 60.41b, 40 CFR 60.42b, 40 CFR 60.43b(h), 40 CFR 52.21(c) & (d))**

III. PROCESS/OPERATIONAL RESTRICTION(S)

- Within 180 days after trial operation, the permittee shall submit, implement, and maintain a malfunction abatement plan (MAP) as described in Rule 911(2) for EUSTMBOILER. The MAP shall, at a minimum, specify the following:
 - 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.
 - 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.
 - 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 90 days after such an event occurs. The permittee shall also amend the MAP within 90 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 336.1910, R 336.1911)**

IV. DESIGN/EQUIPMENT PARAMETERS

1. The heat input capacity of EUSTMBOILER shall not exceed a maximum of 300 MMBTU per hour. **(R 336.1205(1)(a), R 336.2803, R 336.2804, R 336.2810)**
2. The permittee shall not operate EUSTMBOILER unless the dry low NO_x burners and internal flue gas recirculation system are installed, maintained, and operated in a satisfactory manner. Proper operation includes operating the equipment in accordance with an approved malfunction abatement plant (MAP) as required by SC III.1. **(R 336.1205(1)(a), 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 fuel usage rate for EUSTMBOILER on a continuous basis, for both natural gas and No. 2 fuel oil. **(R 336.1205(1)(a), R 336.1225, R 336.1702(a), R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(j), 40 CFR 60.49b(d)(1))**
4. The permittee shall install, calibrate, maintain, and operate, in a satisfactory manner, devices to monitor and continuously record the NO_x emissions, and oxygen (O₂) (or carbon dioxide (CO₂)) content of the exhaust gas from EUSTMBOILER. The permittee shall install and operate the Continuous Emission Monitoring System (CEMS) or alternative monitoring system (AMS) to meet the timelines, requirements and reporting detailed in Appendix A. **(R 336.1205(1)(a), R 336.2803, R 336.2804, R 336.2810, 40 CFR 60.48b(b))**

V. TESTING/SAMPLING

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

1. Within 60 days after achieving the maximum production rate, but no later than after 180 days after commencement of initial startup, the permittee shall verify CO, VOC, PM, PM10, and PM2.5 emission rates from EUSTMBOILER while operating on natural gas, by testing at the owner's expense, in accordance with Department requirements. The permittee shall complete the testing once every five years, thereafter, unless an alternate testing schedule is approved by the AQD District Supervisor. The hourly emission rates shall be determined by the average of three acceptable test runs per the applicable method requirements. Testing shall be performed using an approved EPA Method listed:

Pollutant	Test Method Reference
CO	40 CFR Part 60, Appendix A
PM	40 CFR Part 60, Appendix A
PM10 / PM2.5	40 CFR Part 51, Appendix M
VOCs	40 CFR Part 60, Appendix A; or Method 320 of Appendix A of 40 CFR Part 63

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, R 336.1702, R 336.2001, R 336.2003, R 336.2004, R 336.2803, R 336.2804, R 336.2810)**

2. Upon request from the AQD District Supervisor, the permittee shall verify CO, VOC, PM, PM10, and PM2.5 emission rates from EUSTMBOILER while operating on backup No. 2 fuel oil, by testing at the owner's expense, in accordance with Department requirements. The hourly emission rates shall be determined by the average of three acceptable test runs per the applicable method requirements. Testing shall be performed using an approved EPA Method listed:

Pollutant	Test Method Reference
CO	40 CFR Part 60, Appendix A
PM	40 CFR Part 60, Appendix A
PM10 / PM2.5	40 CFR Part 51, Appendix M
VOCs	40 CFR Part 60, Appendix A; or Method 320 of Appendix A of 40 CFR Part 63

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, R 336.1702, R 336.2001, R 336.2003, R 336.2004, R 336.2803, R 336.2804, R 336.2810)**

3. Within 180 days after commencement of initial startup of EUSTMBOILER on No. 2 fuel oil, the permittee shall verify visible emission rates from EUSTMBOILER while operating on backup No. 2 fuel oil, by testing at the owner's expense, in accordance with Department requirements. The visible emission readings shall be performed by a certified visible emissions reader and done in accordance with EPA reference method 9. The permittee shall conduct subsequent testing on No. 2 fuel oil in accordance with 40 CFR 60.48b(a). **(R 336.2001, R 336.2003, R 336.2004, 40 CFR 60.46b(d), 40 CFR 60.48b(a))**

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 last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205(1)(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 manner acceptable to the AQD District Supervisor, the NO_x emissions and the O₂ (or CO₂) content from the exhaust gas from EUSTMBOILER. If the permittee elects to install an alternative monitoring system, the permittee shall submit an application to the Environmental Protection Agency (EPA) for approval in accordance with 40 CFR Part 60 Subpart A. The permittee shall operate the NO_x Continuous Emission Monitoring System (CEMS) or alternative monitoring system (AMS) to meet the timelines, requirements and reporting detailed in Appendix A and shall use the monitoring data for determining compliance with SC I.1, SC I.2, and SC I.3. **(R 336.1205(1)(a), R 336.2803, R 336.2804, R 336.2810, 40 CFR 60.46b(e), 40 CFR 60.48b(b), 40 CFR 60.49b(g))**
3. The permittee shall keep daily fuel usage records for each fuel combusted, in a format acceptable to the AQD District Supervisor. 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), R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(j), 40 CFR 60.49b(d)(1))**
4. The permittee shall calculate and keep, in a satisfactory manner, records of monthly and 12-month rolling total CO_{2e} mass emissions for EUSTMBOILER, as required by SC I.13. 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), 40 CFR 52.21(j))**
5. 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 EUSTMBOILER on a calendar day basis;
 - e. All records required by 40 CFR 60.7 and 40 CFR 60.49b;
 - f. All calculations 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 AQD and shall be consistent with the requirements of 40 CFR 60.7(f). **(R 336.1205(1)(a), R 336.1225, 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 60.49b)**

6. The permittee shall monitor and record, in a satisfactory manner, the hours of operation of EUSTMBOILER on No. 2 fuel on a calendar year basis, in a manner acceptable to the AQD District Supervisor. The permittee shall document how many hours are spent for maintenance, operator training, and periodic testing on No. 2 fuel oil. **(R 336.1205(1)(a), 40 CFR Part 63 Subpart DDDDD)**
7. The permittee shall keep, in a satisfactory manner, No. 2 fuel oil supplier receipts (such as a current, valid purchase contract, tariff sheet, or transportation contract) from the fuel supplier to certify that the fuel meets the definition of distillate oil and the sulfur content limit of 0.0015 percent by weight. **(40 CFR 60.41b, 40 CFR 60.42b, 40 CFR 60.49b(r))**
8. The permittee shall keep records of the occurrence and duration of any startup, shutdown, or malfunction in the operation; any malfunction of the air pollution control equipment, or any periods during which a continuous monitoring system or monitoring device is inoperative. **(R 336.1910, R 336.1911, 40 CFR 60.7)**

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 EUSTMBOILER. **(R 336.1201(7)(a))**
2. The permittee shall submit notification of the date of initial startup, as provided by 40 CFR 60.7. This notification shall include information listed in 40 CFR 60.49b(a). **(40 CFR 60.7, 40 CFR 60.49b(a))**
3. The permittee shall submit all reports required by the federal Standards of Performance for New Stationary Sources, 40 CFR 60.49b, including performance test data from initial performance tests, performance evaluations of the CEMS, NO_x emission reports, and excess emission reports. The permittee shall submit these reports to the AQD District Supervisor within the time frames specified in 40 CFR 60.49b and/or 40 CFR 60.7. **(40 CFR 60.7, 40 CFR 60.49b)**

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. SVSTMBOILER	63	130	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 Db, as they apply to EUSTMBOILER. **(40 CFR Part 60 Subparts A & Db)**
2. The permittee shall comply with all provisions of the National Emission Standards for Hazardous Air Pollutants as specified in 40 CFR Part 63 Subparts A and DDDDD, as they apply to EUSTMBOILER **(40 CFR Part 63 Subparts A & DDDDD)**

Footnotes:

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

EUOILTANK EMISSION UNIT CONDITIONS

DESCRIPTION

No. 2 fuel oil storage tank.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

Submerged fill pipe, light paint color, conservation vents

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall only store No. 2 fuel oil in EUOILTANK. **(R 336.1205(1)(a), R 336.1702(a), R 336.2810)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The capacity of EUOILTANK shall not exceed 52,877 gallons. **(R 336.1205(1)(a), R 336.1702(a), R 336.2810)**
2. The permittee shall equip EUOILTANK with a submerged fill pipe and conservation vents. **(R 336.1205(1)(a), R 336.1702(a), R 336.2810)**
3. The permittee shall maintain a light color coating on the exterior of EUOILTANK to minimize the temperature of the tank. **(R 336.1205(1)(a), R 336.1702(a), 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))**

NA

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

NA

Footnotes:

¹ 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.

Flexible Group ID	Flexible Group Description	Associated Emission Unit IDs
FGENGINES	This flexible group consists of the four (4) natural gas-fired reciprocating internal combustion engines (RICE).	EUENGINE1, EUENGINE2, EUENGINE3, EUENGINE4
FGFUELHTRS	This flexible group consists of the two (2) natural gas-fired fuel gas dew point heaters.	EUFUELHTR1, EUFUELHTR2
FGBOILERMACT-NEW	Gas 1 Fuel Subcategory requirements for new Boilers/Process Heaters equal to or greater than 10 MMBtu/hr at major sources of Hazardous Air Pollutants per 40 CFR Part 63, Subpart DDDDD.	EUSTMBOILER EUFUELHTR1, EUFUELHTR2

FGENGINES FLEXIBLE GROUP CONDITIONS

DESCRIPTION

This flexible group consists of the four (4) natural gas-fired reciprocating internal combustion engines (RICE).

Emission Unit: EUENGINE1, EUENGINE2, EUENGINE3, EUENGINE4

POLLUTION CONTROL EQUIPMENT

SCR for NO_x control and oxidation catalyst for VOC and CO control.

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. NO _x	0.5 g/HP-hr ^{A,B}	Hourly, except during startup and shutdown	Each engine in FGENGINES	SC V.1	R 336.1205(1)(a), R 336.2803, R 336.2804, R 336.2810
2. NO _x	1.0 g/HP-hr, or 82 ppmvd at 15%O ₂ ^C	Hourly	Each engine in FGENGINES	SC V.2	40 CFR 60.4233(e), Table 1 to 40 CFR 60 Subpart JJJJ
3. CO	0.3 g/HP-hr ^{A,B}	Hourly, except during startup and shutdown	Each engine in FGENGINES	SC V.1	R 336.1205(1)(a), R 336.2804, R 336.2810
4. CO	2.0 g/HP-hr, or 270 ppmvd at 15%O ₂ ^C	Hourly	Each engine in FGENGINES	SC V.2	40 CFR 60.4233(e), Table 1 to 40 CFR 60 Subpart JJJJ
5. VOC (including formaldehyde)	11 pph ^{A,B}	Hourly, except during startup and shutdown	Each engine in FGENGINES	SC V.1	R 336.1205(1)(a), R 336.1702(a), R 336.2810
6. VOC	0.7 g/HP-hr, or 60 ppmvd at 15%O ₂ ^{C,D}	Hourly	Each engine in FGENGINES	SC V.2	40 CFR 60.4233(e), Table 1 to 40 CFR 60 Subpart JJJJ
7. PM	2 pph	Hourly	Each engine in FGENGINES	SC V.1	R 336.1205(1)(a), R 336.2810
8. PM ₁₀	3 pph ^{A,B}	Hourly, except during startup and shutdown	Each engine in FGENGINES	SC V.1	R 336.1205(1)(a), R 336.2803, R 336.2804, R 336.2810
9. PM _{2.5}	3 pph ^{A,B}	Hourly, except during startup and shutdown	Each engine in FGENGINES	SC V.1	R 336.1205(1)(a), R 336.2803, R 336.2804, R 336.2810
10. CO ₂ e	48,724 tpy	12-month rolling time period as determined at the end of each calendar month	Each engine in FGENGINES	SC VI.3, SC VI.5	R 336.1205(1)(a), R 336.2810, 40 CFR 52.21(j)
11. Formaldehyde	14 ppmvd at 15% O ₂ ¹	Hourly, except during startup and shutdown	Each engine in FGENGINES	SC V.3	R 336.1225(2)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
12. CO or Formaldehyde	93 percent or more reduction in CO emissions or Formaldehyde concentration of ≤ 14 ppmvd at 15% O ₂ ^E	Hourly, except during periods of startup	Each engine in FGENGINES	SC V.4	40 CFR 63.6600(b), Table 2a to 40 CFR 63 Subpart ZZZZ

- ^A Does not include startup and shutdown.
^B 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 engine load below the demonstrated steady state level, with the intent to shut down, until the point at which the fuel flow to the engine is terminated. The demonstrated percent of design capacity, or demonstrated steady state level, shall be described in the plan required in SC III.2.
^C Owners and operators may choose to comply with the emission standards in units of either g/HP-hr or ppmvd at 15% O₂.
^D For the purposes of 40 CFR Part 60 Subpart JJJJ, emissions of formaldehyde should not be included when calculating volatile organic compounds.
^E This limit applies at 100% load (plus or minus 10% load) during all periods of operation, except for periods of startup. (40 CFR Part 63 Subpart ZZZZ, Table 2a, 40 CFR 63.6605(a))

II. MATERIAL LIMIT(S)

- The permittee shall burn only natural gas in FGENGINES. (R 336.1205(1)(a), R 336.1225, R 336.1702(a), R 336.2803, R 336.2804, R 336.2810)

III. PROCESS/OPERATIONAL RESTRICTION(S)

- Within 180 days after trial operation, the permittee shall submit, implement, and maintain a malfunction abatement plan (MAP) as described in Rule 911(2) for FGENGINES. The MAP shall, at a minimum, specify the following:
 - 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.
 - 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.
 - 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 90 days after such an event occurs. The permittee shall also amend the MAP within 90 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 336.1910, R 336.1911)

2. Within 180 days after trial operation, the permittee shall submit a plan, to the AQD District Supervisor for approval, that describes how emissions will be minimized during startups and shutdowns. The plan shall incorporate procedures recommended by the equipment manufacturer as well as incorporating 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 336.1702(a), R 336.1910, R 336.1912, R 336.2803, R 336.2804, R 336.2810)**
3. The permittee shall keep a maintenance plan for units in FGENGINES and to the extent practicable, maintain and operate the unit(s) in a manner consistent with good air pollution control practice for minimizing emissions. **(40 CFR 60.4243(b)(2))**
4. At all times, the permittee must operate and maintain each engine in FGENGINES, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. **(40 CFR 63.6605(b))**
5. The permittee must meet the following operating limitations, except during periods of startup:
 - a. Maintain the oxidation catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water at 100 percent load plus or minus 10 percent from the pressure drop across the catalyst that was measured during the initial performance test; and
 - b. Maintain the temperature of your stationary engine exhaust so that the oxidation catalyst inlet temperature is greater than or equal to 450 °F and less than or equal to 1350 °F or as established pursuant to a petition for a different temperature range granted in accordance with 40 CFR 63.8(f).
(R 336.1205(1)(a), R 336.1225, R 336.1702(a), R 336.2803, R 336.2804, R 336.2810, 40 CFR 63.6600(b), Table 2b of 40 CFR Part 63 Subpart ZZZZ)
6. The permittee shall prepare a site-specific monitoring plan that addresses oxidation catalyst parameter monitoring system design, data collection, and the quality assurance and quality control elements outlined below, and in 40 CFR 63.6625(b)(1)(i) through (v) and in §63.8(d).
 - a. The performance criteria and design specifications for the monitoring system equipment, including the sample interface, detector signal analyzer, and data acquisition and calculations;
 - b. Sampling interface (e.g., thermocouple) location such that the monitoring system will provide representative measurements;
 - c. Equipment performance evaluations, system accuracy audits, or other audit procedures;
 - d. Ongoing operation and maintenance procedures in accordance with provisions in §63.8(c)(1)(ii) and (c)(3);
 - e. Ongoing reporting and recordkeeping procedures in accordance with provisions in §63.10(c), (e)(1), and (e)(2)(i).

“Monitoring System” refers to Continuous Monitoring Systems (CMS) for the oxidation catalyst, which includes Continuous Parameter Monitoring Systems (CPMS). As specified in §63.8(f)(4), the permittee may request approval of alternative monitoring system quality assurance and quality control procedures. **(40 CFR 63.6625(b))**
7. If a CPMS is installed at the oxidation catalyst, the permittee shall conduct a performance evaluation of each CPMS in accordance with their site-specific monitoring plan. The permittee shall conduct the CPMS equipment performance evaluation, system accuracy audits, or other audit procedures specified in their site-specific monitoring plan at least annually. **(40 CFR 63.6625(b)(5) & (6))**
8. The permittee shall minimize the engines' time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the emission standard applicable to all times other than startup applies. **(40 CFR 63.6625(h))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The nameplate capacity of each unit in FGENGINES shall not exceed 16,500 HP. **(R 336.1205(1)(a), R 336.1225, R 336.1702, R 336.2803, R 336.2804, R 228.2810, 40 CFR 52.21(j))**

2. The permittee shall not operate each unit in FGENGINES unless each respective SCR and oxidation catalyst are installed, maintained, and operated in a satisfactory manner. Satisfactory manner includes operating and maintaining each control device in accordance with an approved MAP for each unit in FGENGINES as required in SC III.1. **(R 336.1205(1)(a), R 336.1225, R 336.1702, R 336.1910, R 336.2803, R 336.2804, R 336.2810)**
3. The permittee shall install, operate, and maintain each CPMS at the oxidation catalyst in continuous operation according to the requirements in Table 5 of 40 CFR Part 63 Subpart ZZZZ item 2 and according to the requirements in 40 CFR 63.6625(b). **(40 CFR 63.6625(b)(2))**
4. The permittee shall ensure that the CPMS collects oxidation catalyst temperature data at least once every 15 minutes. For a CPMS that measuring temperature range, the temperature sensor must have a minimum tolerance of 2.8 degrees Celsius (5 degrees Fahrenheit) or 1 percent of the measurement range, whichever is larger. **(40 CFR 63.6625(b)(3) & (4))**

V. TESTING/SAMPLING

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

1. Within 60 days after achieving the maximum production rate, but no later than 180 days after commencement of initial startup, the permittee shall verify NO_x, CO, VOC, PM, PM₁₀, and PM_{2.5} emission rates from EUENGINE1, EUENGINE2, EUENGINE3, and EUENGINE4 of FGENGINES, by testing at the owner's expense, in accordance with Department requirements. The permittee shall complete the testing once every five years, thereafter, unless an alternate testing schedule is approved by the AQD District Supervisor. Subsequent testing can be conducted on a representative number of engines upon approval by AQD. The hourly emission rates shall be determined by the average of three acceptable test runs per the applicable method requirements. Testing shall be performed using an approved EPA Method listed:

Pollutant	Test Method Reference
NO _x	40 CFR Part 60, Appendix A
CO	40 CFR Part 60, Appendix A
PM	40 CFR Part 60, Appendix A
PM ₁₀ / PM _{2.5}	40 CFR Part 51, Appendix M
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, R 336.1702, R 336.2001, R 336.2003, R 336.2004, R 336.2803, R 336.2804, R 336.2810)**

2. The permittee shall conduct an initial performance test for EUENGINE1, EUENGINE2, EUENGINE3, and EUENGINE4 of FGENGINES within one year after startup to demonstrate compliance with the NO_x, CO, and VOC emission limits in 40 CFR 60.4233(e) (SC I.2, I.4, and I.6). The permittee shall conduct subsequent performance testing every 8,760 hours or 3 years, whichever comes first, thereafter to demonstrate compliance. The performance tests shall be conducted according to 40 CFR 60.4244, and the hourly emission rates shall be determined by the average of the acceptable three test runs. No less than 30 days prior to testing, a complete test plan shall be submitted to the AQD. The final plan must be approved by the AQD prior to testing. 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 60.4243(b)(2), 40 CFR 60.4244)**
3. Within 60 days after achieving the maximum production rate, but no later than 180 days after commencement of initial startup, the permittee shall verify formaldehyde emission rates from EUENGINE1, EUENGINE2, EUENGINE3, and EUENGINE4 of FGENGINES, by testing at the owner's expense, in accordance with Department requirements. The permittee shall complete the testing once every five years, thereafter, unless an alternate testing schedule is approved by the AQD District Supervisor. Subsequent testing can be

conducted on a representative number of engines upon approval by AQD. The hourly emission rates shall be determined by the average of three acceptable test runs per the applicable method requirements.

Testing shall be performed using an approved EPA Method listed in 40 CFR Part 63, Appendix A or 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 336.1225, R 336.2001, R 336.2003, R 336.2004)**

4. The permittee shall conduct an initial performance test to demonstrate compliance with either the CO or formaldehyde emission limit in SC I.12 and start operation of the CPMS within 180 days after initial startup, for each engine in FGENGINES. During the initial performance test, the permittee must establish each operating limitation in Table 2b of 40 CFR 63 Subpart ZZZZ that applies. The permittee shall perform subsequent performance tests for each engine in FGENGINES on a semiannual basis. The permittee may reduce the frequency of subsequent performance tests to annually after compliance has been demonstrated for two consecutive tests. The permittee shall resume semiannual performance tests if the results of any subsequent annual performance test indicate the stationary RICE is not in compliance with the CO or formaldehyde emission limitation, or if the permittee has deviated from any of their operating limitations.

The permittee shall conduct each performance test according to the requirements specified in 40 CFR 63.6620 and 40 CFR Part 63, Subpart ZZZZ Table 4, and the hourly emission rate shall be determined by the average of the acceptable three test runs. The permittee is not required to start up the engine solely to conduct the performance test. If the engine is non-operational, the permittee shall conduct the performance test when the engine is started up again. The test must be conducted at any load condition within plus or minus 10 percent of 100 percent load. The permittee shall submit a Notification to the AQD District Supervisor of Intent to conduct a performance test at least 60 days before the performance test is scheduled to begin as required in §63.7(b)(1). **(40 CFR 63.6610(a), 40 CFR 63.6615, 40 CFR 63.6620, 40 CFR 63.6630(b), 40 CFR 63.6645(g), Table 3 of 40 CFR 63 Subpart ZZZZ)**

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 last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205(1)(a), R 336.2810, 40 CFR 52.21(j))**
2. The permittee shall keep, in a satisfactory manner maintenance records documenting that each unit in FGENGINES meets the applicable emission limitations contained in the federal Standards of Performance for New Stationary Sources 40 CFR Part 60, Subpart JJJJ. The permittee shall keep all records on file and make them available to the Department upon request. **(40 CFR 60.4245)**
3. The permittee shall keep, in a satisfactory manner, records of the amount of natural gas fuel combusted in each unit in FGENGINES on a monthly basis. **(R 336.1205(1)(a), R 336.2810, 40 CFR 52.21(j))**
4. The permittee shall keep records of the following information for each unit in FGENGINES:
 - a. All notifications submitted to comply with 40 CFR Part 60 Subpart JJJJ and all documentation supporting any notification.
 - b. Maintenance conducted on each unit in FGENGINES.
 - c. If a unit(s) in FGENGINES is not a certified engine or is a certified engine operating in a non-certified manner and subject to 40 CFR 60.4243(a)(2), documentation that each unit in FGENGINES meets the emission standards in 40 CFR 60.4233(e). **(40 CFR 60.4243(b)(1), 40 CFR 60.4245(a))**
5. The permittee shall calculate and keep, in a satisfactory manner, records of monthly and 12-month rolling total CO_{2e} mass emissions for each unit in FGENGINES, as required by SC I.10. 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), 40 CFR 52.21(j))**

6. The permittee shall continuously monitor the oxidation catalyst inlet temperature at all times that the engine is operating except for monitor malfunctions, associated repairs, required performance evaluations, and required quality assurance or control activities. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. This monitoring data shall be kept on file at the facility and made available to the Department upon request. **(R 336.1205(1)(a), R 336.1225, R 336.1702, R 336.2803, R 336.2804, R 336.2810, 40 CFR 63.6635, 40 CFR 63.6660, Table 6 of 40 CFR 63 Subpart ZZZZ)**
7. The permittee shall continuously (at least once every 15 minutes) monitor operating parameters of the SCR in accordance with an approved MAP as required by SC III.1, at all times that the engine is operating except for monitor malfunctions, associated repairs, required performance evaluations, and required quality assurance or control activities. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. This monitoring data shall be kept on file at the facility and made available to the Department upon request. **(R 336.2803, R 336.2804, R 336.2810)**
8. The permittee shall keep the following records:
 - a. A copy of each notification and report submitted to comply with 40 CFR 63 Subpart ZZZZ, including all documentation supporting any Initial Notification or Notification of Compliance Status submitted, according to the requirement in §63.10(b)(2)(xiv).
 - b. Records of the occurrence and duration of each malfunction of operation (i.e., process equipment) or of the air pollution control and monitoring equipment.
 - c. Records of performance tests and performance evaluations as required in §63.10(b)(2)(viii).
 - d. Records of all required maintenance performed on the air pollution control and monitoring equipment.
 - e. Records of actions taken during periods of malfunction to minimize emissions in accordance with §63.6605(b), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

These records shall be kept on file at the facility and made available to the Department upon request. **(40 CFR 63.6655(a) & 63.6660)**

9. The permittee shall keep the following records:
 - a. Records of the occurrence and duration of each malfunction of operation (i.e., process equipment) or of the air pollution control and monitoring equipment.
 - b. Records of performance tests and performance evaluations as required in SC V.1 and V.3.
 - c. Records of all required maintenance performed on the air pollution control and monitoring equipment.
 - d. Records of actions taken during periods of malfunction to minimize emissions in accordance with SC III.1), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

These records shall be kept on file at the facility and made available to the Department upon request. **(R 336.1205(1)(a), R 336.1225, R 336.1702, R 336.1910, R 336.2803, R 336.2804, R 336.2810)**

10. The permittee shall maintain the following records for each CPMS on file at the facility and make available to the Department upon request:
 - a. Records described in §63.10(b)(2)(vi) through (xi);
 - b. Previous (i.e., superseded) versions of the performance evaluation plan as required in §63.8(d)(3);
 - c. Requests for alternatives to the relative accuracy test for CEMS or CPMS as required in §63.8(f)(6)(i), if applicable;
 - d. Oxidation catalyst inlet temperature data reduced to 4-hour rolling averages;
 - e. Pressure drop across the oxidation catalyst measured monthly; and
 - f. SCR operating parameters in accordance with an approved MAP as required by SC III.1. **(R 336.1225, R 336.1702, R 336.2803, R 336.2804, R 336.2810, 40 CFR 63.6655, 40 CFR 63.6660, Table 6 of 40 CFR 63 Subpart ZZZZ)**

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 EUENGINE1, EUENGINE2, EUENGINE3, and EUENGINE4. **(R 336.1201(7)(a))**
2. The permittee must submit an initial notification to the AQD District Supervisor within 30 days of completion of construction as required in 40 CFR 60.7(a)(1), for each unit in FGENGINES that has not been certified by an engine manufacturer to meet the emission standards in 40 CFR 60.4231. The notification must include the following information:
 - a. Name and address of the owner or operator;
 - b. The address of the affected source;
 - c. The engine make, model, engine family, serial number, model year, maximum engine power, and engine displacement;
 - d. The engine emission control equipment; and
 - e. Fuel used in the engine.**(40 CFR 60.4245(c))**
3. The permittee shall submit an initial notification of compliance status to the AQD District Supervisor. The permittee shall submit the Notification of Compliance Status for demonstrating initial compliance, including the performance test results, before the close of business on the 60th day following the completion of the performance test according to §63.10(d)(2). The permittee shall include the following information in each notification of compliance status report:
 - a. The engine model number,
 - b. The engine manufacturer,
 - c. The year of purchase,
 - d. The manufacturer's site-rated brake horsepower,
 - e. The ambient temperature, pressure, and humidity during the performance test,
 - f. The calculations, assumptions, and measurement devices used to measure or estimate the percent load in a specific application. All assumptions that were made to estimate or calculate percent load during the performance test must be clearly explained. If measurement devices such as flow meters, kilowatt meters, beta analyzers, stain gauges, etc. are used, the model number of the measurement device, and an estimate of its accurate in percentage of true value must be provided.**(40 CFR 63.6620(i), 40 CFR 63.6630, 40 CFR 63.6645(h), Table 5 of 40 CFR 63 Subpart ZZZZ)**
4. The permittee shall report each instance in which they did not meet each emission limitation in SC I.12 or operating limitation in SC III.5 to the AQD District Supervisor. These instances are deviations from the emission and operating limitations in 40 CFR Part 63 Subpart ZZZZ. These deviations must be reported according to the requirements in 40 CFR §63.6650. The permittee shall also conduct a performance test to demonstrate that they are meeting the required emission limitation applicable to their stationary RICE if the oxidation catalyst is changed. The permittee shall also reestablish the values of the operating parameters during the initial performance test. For new, reconstructed, and rebuilt stationary RICE, deviations from the emission or operating limitations that occur during the first 200 hours of operation from engine startup (engine burn-in period) are not violations. **(R 336.1910, 40 CFR 63.6640(b) & (d))**
5. The permittee shall report to the AQD District Supervisor each instance in which they did not meet an applicable general provision as listed in Table 8 to 40 CFR Part 63 Subpart ZZZZ. **(40 CFR 63.6640(e))**
6. The permittee shall submit all applicable notifications in §§63.7(b) and (c), 63.8(e), (f)(4) and (f)(6), 63.9(b) through (e), and (g) and (h) to the AQD District Supervisor. **(40 CFR 63.6645(a))**
7. The permittee shall submit semiannual Compliance reports with the information in 40 CFR 63.6650(c) & (e) to the AQD District Supervisor. The first report must cover the period beginning on the startup date and ending on June 30 or December 31, whichever date is the first date following the end of the first calendar half after the startup date. The first Compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date follows the end of the first calendar half after the startup date. Each subsequent

Compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31. Each subsequent Compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period. The permittee may submit the first and subsequent Compliance reports according to the dates established by AQD for submitting the semiannual reports required by 40 CFR 70.6 (a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A) of the Title V program. **(40 CFR 63.6650(b), Table 7 of 40 CFR 63 Subpart ZZZZ)**

8. The permittee shall report to the AQD District Supervisor all deviations as defined in 40 CFR 63 Subpart ZZZZ in the semiannual monitoring report required by 40 CFR 70.6 (a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A) of the Title V program. If the permittee submits a Compliance report pursuant to 40 CFR 63 Subpart ZZZZ along with, or as part of, the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), and the Compliance report includes all required information concerning deviations from any emission or operating limitation in 40 CFR 63 Subpart ZZZZ, submission of the Compliance report shall be deemed to satisfy any obligation to report the same deviations in the semiannual monitoring report. However, submission of a Compliance report shall not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the permit authority. **(40 CFR 63.6650(f))**

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 Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVENGINE1	55	110	R 336.1225, R 336.2803, R 336.2804
2. SVENGINE2	55	110	R 336.1225, R 336.2803, R 336.2804
3. SVENGINE3	55	110	R 336.1225, R 336.2803, R 336.2804
4. SVENGINE4	55	110	R 336.1225, R 336.2803, R 336.2804

IX. OTHER REQUIREMENT(S)

1. Within 180 days after commencement of initial startup, the permittee shall label each engine in FGENGINES 1 through 4, according to a method acceptable to the AQD District Supervisor. **(R 336.1201)**
2. 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 JJJJ, as they apply to each engine in FGENGINES. **(40 CFR Part 60 Subparts A and JJJJ)**
3. The permittee shall comply with all provisions of the National Emission Standards for Hazardous Air Pollutants as specified in 40 CFR Part 63, Subparts A and ZZZZ, as they apply to each engine in FGENGINES. **(40 CFR Part 63 Subparts A and ZZZZ)**

Footnotes:

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

**FGFUELHEATERS
 FLEXIBLE GROUP CONDITIONS**

DESCRIPTION

Two (2) natural gas-fired fuel gas dew point heaters.

Emission Unit: EUFUELHTR1, EUFUELHTR2

POLLUTION CONTROL EQUIPMENT: low NOx burners

I. EMISSION LIMITS

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. NO _x	0.05 lb/MMBtu (each unit)	Hourly	EUFUELHTR1, EUFUELHTR2	SC V.1, SC VI.1	R 336.1205(1)(a) & (b), R 336.2803, R 336.2804, R 336.2810
2. CO	0.08 lb/MMBtu (each unit)	Hourly	EUFUELHTR1, EUFUELHTR2	SC V.1, SC VI.1	R 336.1205(1)(a) & (b), R 336.2804, R 336.2810
3. PM	0.002 lb/MMBtu (each unit)	Hourly	EUFUELHTR1, EUFUELHTR2	SC V.1, SC VI.1	R 336.1205(1)(a) & (b), R 336.2810
4. PM ₁₀	0.008 lb/MMBtu (each unit)	Hourly	EUFUELHTR1, EUFUELHTR2	SC V.1, SC VI.1	R 336.1205(1)(a) & (b), R 336.2803, R 336.2804, R 336.2810
5. PM _{2.5}	0.008 lb/MMBtu (each unit)	Hourly	EUFUELHTR1, EUFUELHTR2	SC V.1, SC VI.1	R 336.1205(1)(a) & (b), R 336.2803, R 336.2804, R 336.2810
6. VOC	0.005 lb/MMBtu (each unit)	Hourly	EUFUELHTR1, EUFUELHTR2	SC V.1, SC VI.1	R 336.1205(1)(a) & (b), R 336.1702(a), R 336.2810
7. GHGs as CO _{2e}	12,822 tpy (each unit)	12 month rolling time period as determined at the end of each calendar month.	EUFUELHTR1, EUFUELHTR2	SC VI.1, SC VI.2	R 336.1205(1)(a) & (b), R 336.2810, 40 CFR 52.21(j)

II. MATERIAL LIMITS

- The permittee shall burn only natural gas in each unit of FGFUELHTRS. (R 336.1205(1)(a), R 336.1225, R 336.1702, R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(j))

III. PROCESS/OPERATIONAL RESTRICTIONS

NA

IV. DESIGN/EQUIPMENT PARAMETERS

1. The maximum design heat input capacity for each unit in FGFUELHTRS shall not exceed 25 MMBTU per hour on a fuel heat input basis. (R 336.1205(1)(a), R 336.1225, R 336.1702, R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(jj))
2. The permittee shall not operate FGFUELHTRS unless low NO_x burners are installed, maintained, and operated in a satisfactory manner in each unit. (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 monthly natural gas usage rate for each unit in FGFUELHTRS. (R 336.1205(1)(a), R 336.1225, R 336.1702, R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(j), 40 CFR 60.48c(g))

V. TESTING/SAMPLING

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

1. Upon request from the AQD Supervisor, the permittee shall verify NO_x, CO, PM, PM10, PM2.5 and/or VOC emission rates from each unit in FGFUELHTRS, by testing at the owner's expense, in accordance with Department requirements. The hourly emission rates shall be determined by the average of three acceptable test runs per the applicable method requirements. Testing shall be performed using an approved EPA Method listed:

Pollutant	Test Method Reference
NO _x	40 CFR Part 60, Appendix A
CO	40 CFR Part 60, Appendix A
PM	40 CFR Part 60, Appendix A
PM10 / PM2.5	40 CFR Part 51, Appendix M
VOCs	40 CFR Part 60, Appendix A; or Method 320 of Appendix A of 40 CFR Part 63

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, R 336.1702, 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 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. The amounts of fuel combusted in each unit of EUFUELHTRS on a calendar month basis;
 - e. All calculations 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 AQD and shall be kept on file for a period of five years. (R 336.1205(1)(a), R 336.1225, R 336.1702, R 336.2803, R 336.2804, 40 CFR 52.21(jj))

2. The permittee shall maintain, in a satisfactory manner, purchase records of the natural gas combusted in each unit of FGFUELHTRS. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(1)(a), R 336.1225, R 336.1702, R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(j))**

VII. REPORTING

1. The permittee shall provide written notification of the date construction commences and actual startup of each unit in FGFUELHTRS, 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 each unit in FGFUELHTRS. The permittee shall submit this notification to the AQD District Supervisor within the time frames specified in 40 CFR 60.7. **(40 CFR 60.7, 40 CFR 60.48c)**

VIII. STACK/VENT RESTRICTIONS

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. SVFUELHTR1	19	45	R 336.1225, R 336.2803, R 336.2804
2. SVFUELHTR2	19	45	R 336.1225, R 336.2803, R 336.2804

IX. OTHER REQUIREMENTS

1. Within 180 days after commencement of initial startup, the permittee shall label both fuel heaters in FGFUELHEATERS as 1 and 2, according to a method acceptable to the AQD District Supervisor. **(R 336.1201)**
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 Dc, as they apply to each unit in FGFUELHTRS. **(40 CFR Part 60 Subparts A & Dc)**
3. The permittee shall comply with all provisions of the National Emission Standards for Hazardous Air Pollutants as specified in 40 CFR Part 63 Subparts A and DDDDD, as they apply to each unit in FGFUELHTRS. **(40 CFR Part 63 Subparts A & DDDDD)**

Footnotes:

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

**FGBOILERMACT-NEW
FLEXIBLE GROUP CONDITIONS**

DESCRIPTION

Gas 1 Fuel Subcategory requirements for new Boilers/Process Heaters at major sources of Hazardous Air Pollutants per 40 CFR Part 63, Subpart DDDDD. These new boilers or process heaters must comply with this subpart upon startup.

Emission Units: EUSTMBOILER, EUFUELHTR1, EUFUELHTR2 (equal to or greater than 10 MMBtu/hr)

POLLUTION CONTROL EQUIPMENT: NA

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

1. The permittee shall only burn fuels as allowed in the Unit designed to burn gas 1 subcategory definition in 40 CFR 63.7575. The permittee shall only burn No. 2 fuel oil during periods of gas curtailment, gas supply interruption, maintenance, operator training, or periodic testing on liquid fuel. The maintenance, operator training, and periodic testing on liquid fuel shall not exceed a combined total of 48 hours, for EUSTMBOILER, during any calendar year. **(40 CFR 63.7499(l))**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee must meet the requirements in paragraphs (a)(1) and (3) of 40 CFR 63.7500, as listed below, except as provided in paragraphs (b) and (e) of 40 CFR 63.7500. The permittee must meet these requirements at all times the affected unit is operating. **(40 CFR 63.7500(a))**
 - a. The permittee must meet each work practice standard in Table 3 of 40 CFR Part 63, Subpart DDDDD that applies to the boiler or process heater, for each boiler or process heater at the source. **(40 CFR 63.7500(a)(1))**
 - b. At all times, the permittee must operate and maintain any affected source (as defined in 40 CFR 63.7490), including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. **(40 CFR 63.7500(a)(3))**
2. Boilers and process heaters in the units designed to burn gas 1 fuel subcategory with a heat input capacity: **(40 CFR 63.7500(e))**
 - a. For any unit of FGBOILERMACT greater than 10 MMBtu per hour must complete a tune-up no later than one year (13 months) after the initial startup of the unit. Subsequent tune-ups shall be conducted no more than one year (13 months) after the previous tune-up. **(40 CFR 63.7500(e), 40 CFR 64.7515(d))**
3. The permittee must demonstrate initial compliance with the applicable work practice standards in Table 3 to 40 CFR Part 63, Subpart DDDDD within the applicable annual schedule as specified in 40 CFR 63.7515(d), following the initial compliance date specified in 40 CFR 63.7495(a). Thereafter, you are required to complete the applicable annual tune-up as specified in 40 CFR 63.7515(d). **(40 CFR 63.7510(g))**

4. If the permittee is required to meet an applicable tune-up work practice standard, the permittee must:
 - a. Conduct the first annual tune-up no later than 13 months after the initial startup of the new or reconstructed boiler or process heater.
 - b. Conduct an annual performance tune-up according to 40 CFR 63.7540(a)(10), stated in SC IX.3.a.; Each annual tune-up specified in 40 CFR 63.7540(a)(10) must be no more than 13-months after the previous tune-up. **(40 CFR 63.7515(d))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(40 CFR 63.7560(b))**

1. The permittee must keep records according to paragraphs (a)(1) and (2) of 40 CFR 63.7555, as listed below. **(40 CFR 63.7555(a))**
 - a. A copy of each notification and report that the permittee submitted to comply with 40 CFR Part 63, Subpart DDDDD, including all documentation supporting any Initial Notification or Notification of Compliance Status or semiannual compliance report that the permittee submitted, according to the requirements in 40 CFR 63.10(b)(2)(xiv). **(40 CFR 63.7555(a)(1))**
 - b. Records of performance tests, fuel analyses, or other compliance demonstrations and performance evaluations as required in 40 CFR 63.10(b)(2)(viii). **(40 CFR 63.7555(a)(2))**
2. The permittee's records must be in a form suitable and readily available for expeditious review, according to 40 CFR 63.10(b)(1). **(40 CFR 63.7560(a))**
3. As specified in 40 CFR 63.10(b)(1), the permittee must keep each record for 5-years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. **(40 CFR 63.7560(b))**
4. The permittee must keep each record on site, or they must be accessible from on-site (for example, through a computer network), for at least 2-years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to 40 CFR 63.10(b)(1). The permittee can keep the records off site for the remaining 3-years. **(40 CFR 63.7560(c))**

VII. REPORTING

1. The permittee must meet the notification requirements in 40 CFR 63.7545 according to the schedule in 40 CFR 63.7545, both stated in SC VII.2 through SC VII.4, and in Subpart A of 40 CFR Part 63. **(40 CFR 63.7495(d))**
2. The permittee must submit to the Administrator all of the notifications in 40 CFR 63.7(b) and (c), 40 CFR 63.8(e), (f)(4) and (6), and 40 CFR 63.9(b) through (h) that apply to the permittee by the dates specified. **(40 CFR 63.7545(a))**
3. As specified in 40 CFR 63.9(b)(4) and (5), if the permittee starts up the new or reconstructed affected source on or after January 31, 2013, the permittee must submit an Initial Notification not later than 15-days after the actual date of startup of the affected source. **(40 CFR 63.7545(c))**
4. If the permittee operates a unit designed to burn natural gas, refinery gas, or other gas 1 fuels that is subject to 40 CFR Part 63, Subpart DDDDD, and the permittee intends to use a fuel other than natural gas, refinery gas, gaseous fuel subject to another subpart of 40 CFR Part 63, Part 60, Part 61, or Part 65, or other gas 1 fuel to fire the affected unit during a period of natural gas curtailment or supply interruption, as defined in 40 CFR 63.7575, the permittee must submit a notification of alternative fuel use within 48 hours of the

declaration of each period of natural gas curtailment or supply interruption, as defined in 40 CFR 63.7575. The notification must include the information specified in paragraphs (f)(1) through (5) of 40 CFR 63.7545, as listed below. **(40 CFR 63.7545(f))**

- a. Company name and address. **(40 CFR 63.7545(f)(1))**
 - b. Identification of the affected unit. **(40 CFR 63.7545(f)(2))**
 - c. Reason the permittee is unable to use natural gas or equivalent fuel, including the date when the natural gas curtailment was declared, or the natural gas supply interruption began. **(40 CFR 63.7545(f)(3))**
 - d. Type of alternative fuel that the permittee intends to use. **(40 CFR 63.7545(f)(4))**
 - e. Dates when the alternative fuel use is expected to begin and end. **(40 CFR 63.7545(f)(5))**
5. The permittee must submit each report in Table 9 of 40 CFR Part 63, Subpart DDDDD that applies. **(40 CFR 63.7550(a))**
6. Unless the EPA Administrator has approved a different schedule for submission of reports under 40 CFR 63.10(a), the permittee must submit each report, according to paragraph (h) of 40 CFR 63.7550, by the date in Table 9 of 40 CFR Part 63, Subpart DDDDD and according to the requirements in paragraphs (b)(1) through (4) of 40 CFR 63.7550, as listed below. For units that are subject only to a requirement to conduct an annual tune-up according to 40 CFR 63.7540(a)(10), stated in SC IX.3.a, and not subject to emission limits or operating limits, the permittee may submit only an annual compliance report, as applicable, as specified in paragraphs (b)(1) through (4) of 40 CFR 63.7550, as listed below, instead of a semi-annual compliance report. **(40 CFR 63.7550(b))**
- a. The first semi-annual compliance report must cover the period beginning on the compliance date that is specified for each boiler or process heater in 40 CFR 63.7495, stated in SC IX.1, and ending on December 31 after the compliance date that is specified for the source in 40 CFR 63.7495, stated in SC IX.1. When submitting an annual compliance report, the first compliance report must cover the period beginning on the compliance date specified for each boiler or process heater in 40 CFR 63.7495 and ending on December 31 within 1 year after the compliance date that is specified in 40 CFR 63.7495. **(40 CFR 63.7550(b)(1))**
 - b. The first semi-annual compliance report must be postmarked or submitted no later than September 15 or March 15, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for each boiler or process heater in 40 CFR 63.7495, stated in SC IX.1. The first annual compliance report must be postmarked or submitted no later than March 15. **(40 CFR 63.7550(b)(2), 40 CFR 63.7550(b)(5))**
 - c. Each subsequent semi-annual compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31. Annual, compliance reports must cover the applicable 1 year period from January 1 to December 31. **(40 CFR 63.7550(b)(3))**
 - d. Each subsequent semi-annual compliance report must be postmarked or submitted no later than September 15 or March 15, whichever date is the first date following the end of the semiannual reporting period. Annual compliance reports must be postmarked or submitted no later than March 15. **(40 CFR 63.7550(b)(4), 40 CFR 63.7550(b)(5))**
7. A compliance report must contain the following information depending on how the permittee chooses to comply with the limits set in this rule. **(40 CFR 63.7550(c))**
- a. If the facility is subject to the requirements of a tune up the permittee must submit a compliance report with the information in paragraphs (c)(5)(i) through (iii), (xiv), and (xvii) of 40 CFR 63.7550. **(40 CFR 63.7550(c)(1))**
 - b. 40 CFR 63.7550(c)(5) is as follows:
 - i. Company and Facility name and address. **(40 CFR 63.7550(c)(5)(i))**
 - ii. Process unit information, emissions limitations, and operating parameter limitations. **(40 CFR 63.7550(c)(5)(ii))**
 - iii. Date of report and beginning and ending dates of the reporting period. **(40 CFR 63.7550(c)(5)(iii))**
 - iv. The total fuel use by each individual boiler or process heater subject to an emission limit within the reporting period, including, but not limited to, a description of the fuel, whether the fuel has received a non-waste determination by the EPA or the basis for concluding that the fuel is not a waste, and the total fuel usage amount with units of measure. **(40 CFR 63.7550(c)(5)(vi))**

- v. Include the date of the most recent tune-up for each unit subject to only the requirement to conduct an annual tune-up according to 40 CFR 63.7540(a)(10), stated in SC IX.3.a, biennial tune-up according to 40 CFR 63.7540(a)(11), stated in SC IX.3.b, or 5-year tune-up according to 40 CFR 63.7540(a)(12), stated in SC IX.3.c. Include the date of the most recent burner inspection if it was not done annually, biennially, or on a 5-year period and was delayed until the next scheduled or unscheduled unit shutdown. **(40 CFR 63.7550(c)(5)(xiv))**
8. The permittee must submit the reports according to the procedures specified in paragraph (h)(3) of 40 CFR 63.7550, as listed below. **(40 CFR 63.7550(h))**
 - a. The permittee must submit all reports required by Table 9 of 40 CFR Part 63, Subpart DDDDD electronically to the EPA via the Compliance and Emissions Data Reporting Interface (CEDRI). (CEDRI can be accessed through the EPA's CDX.) The permittee must use the appropriate electronic report in CEDRI for 40 CFR Part 63, Subpart DDDDD. Instead of using the electronic report in CEDRI for 40 CFR Part 63, Subpart DDDDD, the permittee may submit an alternate electronic file consistent with the XML schema listed on the CEDRI Web site (<http://www.epa.gov/ttn/chief/cedri/index.html>), once the XML schema is available. If the reporting form specific to 40 CFR Part 63, Subpart DDDDD is not available in CEDRI at the time that the report is due, the permittee must submit the report to the Administrator at the appropriate address listed in 40 CFR 63.13. The permittee must begin submitting reports via CEDRI no later than 90-days after the form becomes available in CEDRI. **(40 CFR 63.7550(h)(3))**

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

1. If the permittee has a new or reconstructed boiler or process heater, the permittee must comply with 40 CFR Part 63, Subpart DDDDD upon startup of each boiler or process heater. **(40 CFR 63.7495(a))**
2. For affected sources (as defined in 40 CFR 63.7490, stated in SC IX.1) that have not operated since the previous compliance demonstration and more than one year has passed since the previous compliance demonstration, the permittee must complete a subsequent tune-up by following the procedures described in 40 CFR 63.7540(a)(10)(i) through (vi), and the schedule described in 40 CFR 63.7540(a)(13), for units that are not operating at the time of their scheduled tune-up. **(40 CFR 63.7515(g))**
3. The permittee must demonstrate continuous compliance with the work practice standards in Table 3 of 40 CFR Part 63, Subpart DDDDD that applies according to the methods specified in paragraphs (a)(10) through (13) of 40 CFR 63.7540, as listed below. **(40 CFR 63.7540(a))**
 - a. If the boiler or process heater has a heat input capacity of 10 MMBtu per hour or greater, the permittee must conduct an annual tune-up of the boiler or process heater to demonstrate continuous compliance as specified in paragraphs (a)(10)(i) through (vi) of 40 CFR 63.7540, as listed below. The tune-up must be conducted while burning the type of fuel or fuels in case of units that routinely burn a mixture) that provided the majority of the heat input to the boiler or process heater over the 12-months prior to the tune-up. This frequency does not apply to units with continuous oxygen trim systems that maintain an optimum air to fuel ratio. **(40 CFR 63.7540(a)(10))**
 - i. As applicable, inspect the burner, and clean or replace any components of the burner as necessary (the permittee may perform the burner inspection any time prior to the tune-up or delay the burner inspection until the next scheduled unit shutdown). Units that produce electricity for sale may delay the burner inspection until the first outage, not to exceed 36-months from the previous inspection. At units where entry into a piece of process equipment or into a storage vessel is required to complete the tune-up inspections, inspections are required only during planned entries into the storage vessel or process equipment. **(40 CFR 63.7540(a)(10)(i))**
 - ii. Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available. **(40 CFR 63.7540(a)(10)(ii))**

- iii. Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (the permittee may delay the inspection until the next scheduled unit shutdown). Units that produce electricity for sale may delay the inspection until the first outage, not to exceed 36-months from the previous inspection. **(40 CFR 63.7540(a)(10)(iii))**
 - iv. Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available, and with any NO_x requirement to which the unit is subject. **(40 CFR 63.7540(a)(10)(iv))**
 - v. Measure the concentrations in the effluent stream of CO in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer. **(40 CFR 63.7540(a)(10)(v))**
 - vi. Maintain on-site and submit, if requested by the Administrator, a report containing the information in paragraphs (a)(10)(vi)(A) through (C) of 40 CFR 63.7540, as listed below. **(40 CFR 63.7540(a)(10)(vi))**
 - (1) The concentrations of CO in the effluent stream in ppm by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler or process heater. **(40 CFR 63.7540(a)(10)(vi)(A))**
 - (2) A description of any corrective actions taken as a part of the tune-up. **40 CFR 63.7540(a)(10)(vi)(B))**
 - (3) The type and amount of fuel used over the 12-months prior to the tune-up, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel used by each unit. **(40 CFR 63.7540(a)(10)(vi)(C))**
 - b. If the boiler or process heater has a heat input capacity of less than 10 MMBtu per hour (except as specified in paragraph (a)(12) of 40 CFR 63.7540), the permittee must conduct a biennial tune-up of the boiler or process heater as specified in paragraphs (a)(10)(i) through (vi) of 40 CFR 63.7540 to demonstrate continuous compliance. **(40 CFR 63.7540(a)(11))**
 - c. If the boiler or process heater has a continuous oxygen trim system that maintains an optimum air to fuel ratio, or a heat input capacity of less than or equal to 5 MMBtu per hour and the unit is in the units designed to burn gas 1 subcategory, the permittee must conduct a tune-up of the boiler or process heater every 5-years as specified in paragraphs (a)(10)(i) through (vi) of 40 CFR 63.7540 to demonstrate continuous compliance. The permittee may delay the burner inspection specified in paragraph (a)(10)(i) of 40 CFR 63.7540 until the next scheduled or unscheduled unit shutdown, but the permittee must inspect each burner at least once every 72-months. If an oxygen trim system is utilized on a unit without emission standards to reduce the tune-up frequency to once every 5-years, set the oxygen level no lower than the oxygen concentration measured during the most recent tune-up. **(40 CFR 63.7540(a)(12))**
 - d. If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30-calendar days of startup. **(40 CFR 63.7540(a)(13))**
4. The permittee shall comply with all provisions of the National Emission Standards for Hazardous Air Pollutants as specified in 40 CFR Part 63 Subparts A and DDDDD, as they apply to EUSTMBOILER, EUFUELHTR1, and EUFUELHTR2.. **(40 CFR Part 63 Subparts A & DDDDD)**

Footnotes:

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

**APPENDIX A Monitoring System Requirements
Continuous Emission Monitoring System (CEMS) and
Alternative Monitoring System (AMS) Requirements**

1. Not less than 30 calendar days prior to commencement of initial start-up of a CEMS or alternative monitoring system (AMS) for compliance monitoring purposes, 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/AMS.
2. Not less than 30 calendar days prior to commencement of initial start-up up of a CEMS/AMS for compliance monitoring purposes, the permittee shall submit two copies of a complete test plan for the CEMS/AMS to the AQD for approval.
3. The permittee shall complete the installation and testing of the CEMS/AMS before such system is used for compliance monitoring purposes.
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, as applicable:

Pollutant	Applicable PS
NO _x	2
O ₂ & CO ₂	3
AMS	PS 16

5. The span value of the CEMS 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 the PS, listed in the table above, of Appendix B to 40 CFR Part 60. If an AMS is installed in lieu of a CEMS, the AMS shall be installed, maintained, and operated in accordance with any requirements stipulated in EPA's approval of the AMS under 40 CFR Part 60, Subpart A..
7. Each calendar quarter that the CEMS is used for compliance monitoring purposes, the permittee shall perform the Quality Assurance Procedures of the CEMS set forth in Appendix F of 40 CFR Part 60. As an alternative, the permittee may perform the Quality Assurance Procedures for CEMS set forth in Appendix B of 40 CFR Part 75 for the EUSTMBOILER. Within 30 days following the end of each 6-month period, the permittee shall submit the results to the AQD in the format of the data assessment report (Figure 1, Appendix F of 40 CFR Part 60).
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 6-month period that the CEMS/AMS is used for compliance monitoring purposes. 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/AMS downtime and corrective action.
 - c. A report of the total operating time of EUSTMBOILER during the reporting period.
 - d. A report of any periods that the CEMS exceeds the instrument range.
 - e. If no exceedances or CEMS/AMS 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 CO₂e Emission Calculations

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

Where:

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

Higher Heating Value (MMBtu/MMscf) = standard value in AP-42 for natural gas, supplier data, or fuel sampling data if available

CO₂ EF (lb/MMbtu) = emission factor from the equipment manufacturer, U.S. EPA AP-42, or from the GHG Mandatory Reporting Rule (MRR) (40 CFR Part 98), including CEMS data if applicable

CH₄ EF (lb/MMbtu) = emission factor from the equipment manufacturer, U.S. EPA AP-42, or from the GHG Mandatory Reporting Rule (MRR) (40 CFR Part 98)

N₂O EF (lb/MMbtu) = emission factor from the equipment manufacturer, U.S. EPA AP-42, or from the GHG Mandatory Reporting Rule (MRR) (40 CFR Part 98)

CO₂ GWP = global warming potential from GHG MRR (40 CFR 98, Subpart A, January 1, 2014)

CH₄ GWP = global warming potential from GHG MRR (40 CFR 98, Subpart A, January 1, 2014)

N₂O GWP = global warming potential from GHG MRR (40 CFR 98, Subpart A, January 1, 2014)