

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

February 1, 2023

**PERMIT TO INSTALL  
10-23**

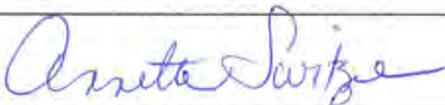
**ISSUED TO**  
Midland Cogeneration Venture Limited Partnership

**LOCATED AT**  
100 Progress Place  
Midland, Michigan 48640

**IN THE COUNTY OF**  
Midland

**STATE REGISTRATION NUMBER**  
B6527

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>October 12, 2022</b>	
DATE PERMIT TO INSTALL APPROVED: <b>February 1, 2023</b>	SIGNATURE: 
DATE PERMIT VOIDED:	SIGNATURE:
DATE PERMIT REVOKED:	SIGNATURE:

**PERMIT TO INSTALL**

**Table of Contents**

COMMON ACRONYMS ..... 2  
POLLUTANT / MEASUREMENT ABBREVIATIONS..... 3  
GENERAL CONDITIONS ..... 4  
EMISSION UNIT SPECIAL CONDITIONS..... 6  
    EMISSION UNIT SUMMARY TABLE ..... 6  
    EUCTGHRSG1 ..... 7  
FLEXIBLE GROUP SPECIAL CONDITIONS..... 14  
    FLEXIBLE GROUP SUMMARY TABLE ..... 14  
    FGMACTYYYYOXICAT ..... 15  
APPENDIX A ..... 20  
APPENDIX B ..... 21

## 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.

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date / Modification Date	Flexible Group ID
EUCTGHRSG1	A maximum rated 4,197.6 MMBTU/hr natural gas-fired combustion turbine generator (CTG) with dry low NO <sub>x</sub> burner (DLNB), coupled with a heat recovery steam generator (HRSG). The HRSG is equipped with a natural gas-fired duct burner rated at 423 MMBTU/hr to provide heat for additional steam production. The CTG is capable of operating in combined-cycle mode where the exhaust is routed to the HRSG. The HRSG is not capable of operating independently from the CTG. The CTG/HRSG is equipped with a selective catalytic reduction (SCR), and oxidation catalyst.	To Be Determined	NA

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.

**EUCTGHRSG1  
 EMISSION UNIT CONDITIONS**

**DESCRIPTION**

A maximum rated 4,197.6 MMBTU/hr natural gas-fired combustion turbine generator (CTG) with dry low NO<sub>x</sub> burner (DLNB), coupled with a heat recovery steam generator (HRSG). The HRSG is equipped with a natural gas-fired duct burner rated at 423 MMBTU/hr to provide heat for additional steam production. The CTG is capable of operating in combined-cycle mode where the exhaust is routed to the HRSG. The HRSG is not capable of operating independently from the CTG. The CTG/HRSG is equipped with a selective catalytic reduction (SCR), and oxidation catalyst.

**Flexible Group:** EUCTGHRSG1

**POLLUTION CONTROL EQUIPMENT**

SCR for NO<sub>x</sub> control.  
 Oxidation catalyst for CO and VOC control.

**I. EMISSION LIMITS**

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. NO <sub>x</sub>	2.0 ppmvd at 15% Oxygen (O <sub>2</sub> ) <sup>A,B</sup>	24-hour rolling average as determined each operating hour, except during startup and shutdown	EUCTGHRSG1	SC VI.2, SC VI.8	R 336.1205(1)(a) & (b), R 336.2810
2. NO <sub>x</sub>	15 ppmvd at 15% O <sub>2</sub> <sup>C</sup>	4-hour rolling average, except during operation less than 75 percent of peak load	EUCTGHRSG1,	SC V.3, SC VI.2, SC VI.9	R 336.1205(1)(a) & (b), R 336.2810, 40 CFR 60.4320(a), Table 1 of 40 CFR Part 60 Subpart KKKK, 40 CFR 60.4380(b)(1)
3. NO <sub>x</sub>	15 ppmvd at 15% O <sub>2</sub> <sup>C</sup>	30-day rolling average, except during operation less than 75 percent of peak load	EUCTGHRSG1	SC V.2, SC VI.2, SC VI.8	R 336.1205(1)(a) & (b), 40 CFR 60.4320(a), Table 1 of 40 CFR Part 60 Subpart KKKK, 40 CFR 60.4380(b)(1)
4. NO <sub>x</sub>	39.6 pph <sup>A,B</sup>	Hourly, except during startup and shutdown	EUCTGHRSG1	SC VI.2, SC VI.8	R 336.1205(1)(a) & (b), R 336.2803, R 336.2804, R 336.2810
5. NO <sub>x</sub>	851.2 pph	Hourly, including startup or shutdown	EUCTGHRSG1	SC VI.2, SC VI.8	R 336.1205(1)(a) & (b), R 336.2803, R 336.2804, R 336.2810

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
6. CO	2.0 ppmvd at 15% O <sub>2</sub> <sup>A,B</sup>	24-hour rolling average as determined each operating hour, except during startup and shutdown	EUCTGHRSG1	SC VI.3, SC VI.8	R 336.1205(1)(a) & (b), R 336.2810
7. CO	24.2 pph <sup>A,B</sup>	Hourly, except during startup and shutdown	EUCTGHRSG1	SC VI.3, SC VI.8	R 336.1205(1)(a) & (b), R 336.2804, R 336.2810
8. CO	1,486.0 pph	Hourly, including startup and shutdown	EUCTGHRSG1	SC VI.3, SC VI.8	R 336.1205(1)(a) & (b), R 336.2804, R 336.2810
9. PM	34.4 pph	Hourly, including startup and shutdown	EUCTGHRSG1	SC V.1, SC VI.8	R 336.1205(1)(a) & (b), R 336.2810
10. PM10	34.4 pph	Hourly, including startup and shutdown	EUCTGHRSG1	SC V.1, SC VI.8	R 336.1205(1)(a) & (b), R 336.2803, R 336.2804, R 336.2810
11. PM2.5	34.4 pph	Hourly, including startup and shutdown	EUCTGHRSG1	SC V.1, SC VI.8	R 336.1205(1)(a) & (b), R 336.2803, R 336.2804, R 336.2810
12. VOC	2.4 ppmvd at 15% O <sub>2</sub> <sup>A,B</sup>	Hourly, except during startup and shutdown	EUCTGHRSG1	SC V.1, SC VI.8	R 336.1205(1)(a) & (b), R 336.1702(a), R 336.2810
13. VOC	11.4 pph <sup>A,B</sup>	Hourly, except during startup and shutdown	EUCTGHRSG1	SC V.1, SC VI.8	R 336.1205(1)(a) & (b), R 336.1702(a), R 336.2810
14. GHGs as CO <sub>2</sub> e	2,375,313 tpy	12-month rolling time period as determined at the end of each calendar month	EUCTGHRSG1	SC VI.4, SC VI.5, SC VI.8	R 336.1205(1)(a) & (b), R 336.2810, 40 CFR 52.21(j)
15. CO <sub>2</sub>	1000 lb/MWh gross energy output	12-operating month rolling average <sup>D</sup> , as determined at the end of each calendar month	EUCTGHRSG1	SC VI.6, SC VI.7, SC VI.8	R 336.1205(1)(a) & (b), R 336.2810, 40 CFR 52.21(j), 40 CFR 60.5520(a), Table 2 of 40 CFR Part 60 Subpart TTTT

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
<p>ppmvd = parts per million by volume at 15 percent O<sub>2</sub> and on a dry gas basis                      lb/MWh = pound per megawatt hour</p> <p>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 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.                      C Table 1 of 40 CFR Part 60 Subpart KKKK allows 96 ppmvd NO<sub>x</sub> at 15 percent O<sub>2</sub> when the turbine are operating at less than 75 percent of peak load and at temperatures less than 0°F.                      D 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).</p>					

**II. MATERIAL LIMITS**

1. The natural gas burned in EUCTGHRSG1 shall not have a total sulfur content in excess of 0.20 grain of sulfur per 100 standard cubic feet of gas based on a 12-month rolling time period. This condition subsumes the 40 CFR Part 60, Subpart KKKK requirement of 20 grains of sulfur per 100 standard cubic feet of gas. **(R 336.1205(1)(a) & (b), R336.1225, R 336.1702(a), R 336.2803, R 336.2804, 40 CFR 60.4365(a))**

**III. PROCESS/OPERATIONAL RESTRICTIONS**

1. The permittee shall not operate EUCTGHRSG1 unless a MAP as described in Rule 911(2), has been submitted within 180 days after trial operation, and is implemented and maintained. 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 60 days after such an event occurs. The permittee shall also amend the MAP within 60 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 60 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, shutdowns, and malfunctions. 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 336.1911)**
3. The permittee shall operate and maintain EUCTGHRSG1, air pollution control equipment, and monitoring equipment in a manner consistent with good air pollution control practices for minimizing emissions at all times

including startup, shutdown, and malfunction. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.1702(a), R 336.2803, R 336.2804, R 336.2810, 40 CFR 60.4333(a))**

4. The permittee shall prepare a monitoring plan for EUCTGHRSG1 to quantify the hourly CO<sub>2</sub> mass emission rate (tons/hour) from each CTG/HRSG, in accordance with the applicable provisions in 40 CFR Part 75.53(g) and (h). The electronic portion of the monitoring plan must be submitted using the Emissions Collection and Monitoring Plan System (ECMPS) Client Tool and must be in place prior to reporting emissions data and/or the results of monitoring system certification tests under 40 CFR Part 60 Subpart TTTT. 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. **(40 CFR 60.5535(a))**
5. The total hours for startup and shutdown for EUCTGHRSG shall not exceed 56 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)**

#### **IV. DESIGN/EQUIPMENT PARAMETERS**

1. The maximum design heat input capacity for EUCTGHRSG1 shall not exceed, on a fuel heat input basis, 4,197.6 MMBTU/hr (HHV) and 423 MMBTU/hr (HHV) for the HRSG ductburner. **(R 336.1205(1)(a) & (b), R 336.2803, R 336.2804, R 228.2810, 40 CFR 52.21(j))**
2. The permittee shall not operate EUCTGHRSG1 unless the DLNB, 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 EUCTGHRSG1 as required in SC III.1. **(R 336.1205(1)(a) & (b), 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 a device to monitor and record the NO<sub>x</sub> emissions, and O<sub>2</sub> or CO<sub>2</sub> content of the exhaust gas from EUCTGHRSG1 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, 40 CFR 60.4345, 40 CFR Part 75)**
4. The permittee shall install, calibrate, maintain, and operate in a satisfactory manner a device to monitor and record the CO emissions of the exhaust gas from EUCTGHRSG1 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)**
5. The permittee shall install, calibrate, maintain, and operate in a satisfactory manner a device to monitor and record the natural gas flow rate from EUCTGHRSG1 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(c), (d), & (j), 40 CFR 60.4345)**
6. The permittee shall install, calibrate, maintain, and operate in a satisfactory manner a device to monitor and record the gross energy output from EUCTGHRSG1 on a continuous basis. **(R 336.1205(1)(a) & (b), R 336.2810, 40 CFR 52.21(j))**
7. 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 EUCTGHRSG1. If EUCTGHRSG1 serves a common electric generator with another CTG, the permittee shall apportion the combined hourly gross energy output to the individual EGUs according to the fraction of the total steam load or the fraction of the total heat input contributed by each CTG. **(40 CFR 60.5535(d)(1), 40 CFR 60.5535(e))**

#### **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 VOC, PM, PM<sub>10</sub>, and PM<sub>2.5</sub> emission rates from EUCTGHRSG1, by testing at 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. Testing shall be performed using an approved EPA Method listed:

Pollutant	Test Method Reference
PM	40 CFR Part 60, Appendix A; Part 10 of the Michigan Air Pollution Control Rules
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. The permittee shall verify NO<sub>x</sub> emission rates from EUCTGHRSG1, within 60 days after achieving the maximum production rate, but not later than 180 days after commencement of trial operation, as required by federal Standards of Performance for New Stationary Sources, by testing at owner's expense, in accordance with 40 CFR 60.4400 of 40 CFR Part 60, Subparts A and KKKK. If the permittee elects to install and certify a NO<sub>x</sub>-diluent CEMS under 40 CFR 60.4345, then the alternate initial performance test may be performed as specified in 40 CFR 60.4405. 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) & (3), R 336.2001, R 336.2003, R 336.2004, R 336.2810, 40 CFR 60.4375(b), 40 CFR 60.4400(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, R 336.2810, 40 CFR 52.21(j))**
2. The permittee shall continuously monitor and keep, in a satisfactory manner, 24-hour rolling average and 30-day rolling average NO<sub>x</sub> concentrations, and hourly NO<sub>x</sub> mass emissions for EUCTGHRSG1. 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)**
3. The permittee shall continuously monitor and keep, in a satisfactory manner, 24-hour rolling average CO concentration and hourly CO mass emissions for EUCTGHRSG1. 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)**
4. 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 EUCTGHRSG1. The calculations shall be performed using the method included in Appendix B unless a new method is approved by the AQD District Supervisor. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(1)(a) & (b), R 336.2810, 40 CFR 52.21(j))**
5. The permittee shall monitor and record, in a satisfactory manner, the natural gas usage for EUCTGHRSG1 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 336.1225, R 336.1702(a), R 336.2803, R 336.2804, 40 CFR 52.21(c) & (d), R 336.2810, 40 CFR 52.21(j))**

6. The permittee shall keep, in a satisfactory manner, records of the determined values for hourly CO<sub>2</sub> mass emissions and hourly gross energy output for EUCTGHRSG1. **(40 CFR 60.5535(c), 40 CFR 60.5540(a), 40 CFR 60.5560)**
7. The permittee shall calculate and keep, in a satisfactory manner, records of the monthly and each 12-operating-month period required by SC I.15 and according to the procedures in described below and in 40 CFR 60.5540:
  - 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 EUCTGHRSG1, shall be divided by the total gross energy output value of the same unit.
  - c) The final calculated value shall be rounded to two significant figures if the calculated value is less than 1,000 lb/MWh and to three significant figures if the calculated value is greater than 1,000 lb/MWh.  
**(40 CFR 52.21(j), 40 CFR 60.5540(a) & (b), 40 CFR 60.5560)**
8. 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 EUCTGHRSG1. 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 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) All calculations necessary to show compliance with the limits contained in this permit.
  - i) 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 336.1225, R 336.1301, R 336.1331, R 336.1702(a), R 336.1912, R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(c), (d), & (j), 40 CFR 60.7(f), 40 CFR 60.4365, 40 CFR 60.5560)**

## **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 EUCTGHRSG1. **(R 336.1201(7)(a))**
2. 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 60.4380. 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, 40 CFR 60.4380, 40 CFR 60.4395)**
3. The permittee shall provide written notification of the date construction commences and the actual date of initial startup of EUCTGHRSG1, in accordance with 40 CFR 60.7. The permittee shall submit this notification to the AQD District Supervisor within the time frames specified in 40 CFR 60.7 and 40 CFR 60.19, as applicable. **(40 CFR 60.7(a), 40 CFR 60.5550(a))**
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 EUCTGHRSG1. **(40 CFR 60.5550(a) & (b))**

5. The permittee shall submit electronic quarterly reports as follows:
  - a) After EUCTGHRSG1 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.

**(40 CFR 60.5555(a) & (b))**

6. The permittee shall meet all applicable reporting requirements and submit reports as required under 40 CFR Part 7,5 Subpart G in accordance with 40 CFR 75.64a, which is also listed in 40 CFR 60.5555(c)(3)(i).  
**(40 CFR 60.5555(c)(1) & (c)(3)(i))**

**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. SVCTGHRSG1	276	180	R 336.1225, R 336.2803, R 336.2804

**IX. OTHER REQUIREMENTS**

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 EUCTGHRSG1.  
**(40 CFR Part 60, Subparts A and 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 EUCTGHRSG1.  
**(40 CFR Part 60, Subparts A and TTTT)**
3. The permittee shall comply with all applicable requirements of the National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines, as specified in 40 CFR Part 63, Subparts A and YYYY, as they apply to EUCTGHRSG1. **(40 CFR Part 63, Subparts A and YYYY)**
4. The permittee shall comply with all provisions of the federal Cross-State Air Pollution Rule (CSAPR) as specified in 40 CFR Part 97, as they apply to EUCTGHRSG1. **(40 CFR Part 97)**
5. The permittee shall comply with all provisions of the federal Standards of Continuous Emission Monitoring as specified in 40 CFR Part 75, as they apply to EUCTGHRSG1. **(40 CFR Part 75).**

**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>
FGMACTYYYYOXICAT	40 CFR Part 63, Subpart YYYY requirements for each new stationary combustion turbine which is a lean premix gas-fired stationary combustion turbine with a rated peak power output of equal to or greater than 1.0 megawatt (MW) and equipped with an oxidation catalyst located at a major source of HAP emissions. Stationary combustion turbine means all equipment, including but not limited to the turbine, the fuel, air, lubrication and exhaust gas systems, control systems (except emissions control equipment), and any ancillary components and sub-components comprising any simple cycle stationary combustion turbine, any regenerative/recuperative cycle stationary combustion turbine, the combustion turbine portion of any stationary cogeneration cycle combustion system, or the combustion turbine portion of any stationary combined cycle steam/electric generating system.	EUCTGHRSG1

**FGMACTYYYYOXICAT  
 FLEXIBLE GROUP CONDITIONS**

**DESCRIPTION**

40 CFR Part 63, Subpart YYYY requirements for each new stationary combustion turbine which is a lean premix gas-fired stationary combustion turbine with a rated peak power output of equal to or greater than 1.0 megawatt (MW) and equipped with an oxidation catalyst located at a major source of HAP emissions. Stationary combustion turbine means all equipment, including but not limited to the turbine, the fuel, air, lubrication and exhaust gas systems, control systems (except emissions control equipment), and any ancillary components and sub-components comprising any simple cycle stationary combustion turbine, any regenerative/recuperative cycle stationary combustion turbine, the combustion turbine portion of any stationary cogeneration cycle combustion system, or the combustion turbine portion of any stationary combined cycle steam/electric generating system.

**Emission Unit:** EUCTGHRSG1

**POLLUTION CONTROL EQUIPMENT**

SCR for NO<sub>x</sub> control.  
 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. Formaldehyde	91 ppbvd or less at 15-percent O <sub>2</sub>	Hourly / at all times except during turbine startup*	EUCTGHRSG1	SC V.1, SC VI.2	40 CFR 63.6100, 40 CFR 63 Subpart YYYY, Table 1

\* Startup begins at the first firing of fuel in the stationary combustion turbine. For simple cycle turbines, startup ends when the stationary combustion turbine has reached stable operation or after 1 hour, whichever is less. For combined cycle turbines, startup ends when the stationary combustion turbine has reached stable operation or after 3 hours, whichever is less.

**II. MATERIAL LIMIT(S)**

NA

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

- At all times, the permittee must operate and maintain each stationary combustion turbine, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the permittee to make any further efforts to reduce emissions if levels required by the applicable standard have been achieved. Determination of whether a source is operating in compliance with operation and maintenance requirements will be based on information available to the AQD which 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 63.6105(c))**
- The permittee must develop and implement a continuous monitoring system (CMS) quality control program that includes written procedures for CMS according to 40 CFR 63.8(d)(1) through (2). Each quality control program shall include, at a minimum, a written protocol that describes procedures for each of the following operations:

- a) Initial and any subsequent calibration of the CMS; **(40 CFR 63.8(d)(2)(i))**
- b) Determination and adjustment of the calibration drift of the CMS; **(40 CFR 63.8(d)(2)(ii))**
- c) Preventive maintenance of the CMS, including spare parts inventory; **(40 CFR 63.8(d)(2)(iii))**
- d) Data recording, calculations, and reporting; **(40 CFR 63.8(d)(2)(iv))**
- e) Accuracy audit procedures, including sampling and analysis methods; and **(40 CFR 63.8(d)(2)(v))**
- f) Program of corrective action for a malfunctioning CMS. **(40 CFR 63.8(d)(2)(vi))**

The permittee must keep these written procedures on record for the life of the affected source or until the affected source is no longer subject to the provisions of this part, to be made available for inspection, upon request, by the AQD. If the performance evaluation plan is revised, the permittee shall keep previous (i.e., superseded) versions of the performance evaluation plan on record to be made available for inspection, upon request, by the AQD. **(40 CFR 63.6125(e))**

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

- 1. The permittee using an oxidation catalyst must continuously monitor and maintain the 4-hour rolling average of the catalyst inlet temperature within the range suggested by the catalyst manufacturer. The permittee is not required to use the catalyst inlet temperature data that is recorded during engine startup in the calculations of the 4-hour rolling average catalyst inlet temperature. **(40 CFR 63.6100, 40 CFR 63.6125(a), 40 CFR 63.6140, 40 CFR Part 63, Subpart YYYY, Tables 2.1 and 5.1)**
- 2. Except for monitor malfunctions, associated repairs, and required quality assurance or quality control activities (including, as applicable, calibration checks and required zero and span adjustments of the monitoring system), the permittee must conduct all parametric monitoring at all times the stationary combustion turbine is operating. Do not use data recorded during monitor malfunctions, associated repairs, and required quality assurance or quality control activities for meeting the requirements of 40 CFR Part 63, Subpart YYYY, including data averages and calculations. The permittee must use all the data collected during all other periods in assessing the performance of the control device or in assessing emissions from each stationary combustion turbine. **(40 CFR 63.6135(a) and (b))**

**V. TESTING/SAMPLING**

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

- 1. The permittee shall verify formaldehyde emission rates from EUCTGHRSG1 by testing at owner's expense, in accordance with the Department requirements. Testing shall be performed using approved EPA Methods listed in:

<b>Pollutant</b>	<b>Test Method Reference</b>
Formaldehyde	40 CFR Part 63, Subpart YYYY, Table 3

Testing must be conducted within 10 percent of 100-percent load. Performance tests shall be conducted under such conditions based on representative performance of the affected source for the period being tested. The permittee must record the process information that is necessary to document operating conditions during the test and include in such record an explanation to support that such conditions represent normal operation. 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 336.2001, R 336.2003, R 336.2004, 40 CFR 63.6120(a), (c), and (d), 40 CFR Part 63, Subpart YYYY, Table 3)**

- 2. The permittee shall verify the formaldehyde emission rate from EUCTGHRSG1 on an annual basis. **(R 336.2001, R 336.2003, R 336.2004, 40 CFR 63.6115, 40 CFR Part 63, Subpart YYYY, Table 3.a)**

3. The permittee must submit a Notification of Intent to conduct a performance test at least 60 days before the performance test is scheduled to begin. The permittee shall notify the AQD Technical Programs Unit Supervisor and the District Supervisor. **(40 CFR 63.9(e), 40 CFR 63.6145(e))**

## **VI. MONITORING/RECORDKEEPING**

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

1. For each combustion turbine in FGMACTYYYYOXICAT the permittee must keep the records described as follows: **(40 CFR 63.6155(a))**
  - a. A copy of each notification and report submitted to comply with 40 CFR Part 63, Subpart YYYY, including all documentation supporting any Initial Notification or Notification of Compliance Status that was submitted, according to the requirements in 40 CFR 63.10(b)(2)(xiv). **(40 CFR 63.6155(a)(1))**
  - b. Records of performance tests and performance evaluations as required in 40 CFR 63.10(b)(2)(viii). **(40 CFR 63.6155(a)(2))**
  - c. Records of the occurrence and duration of each malfunction of the air pollution control equipment, if applicable, as required in 40 CFR 63.10(b)(2)(ii). **(40 CFR 63.6155(a)(4))**
  - d. Records of all maintenance on the air pollution control equipment as required in 40 CFR 63.10(b)(2)(iii). **(40 CFR 63.6155(a)(5))**
  - e. Records of the date, time, and duration of each startup period, recording the periods when the affected source was subject to the standard applicable to startup. **(40 CFR 63.6155(a)(6))**
  - f. Record the number of deviations. For each deviation, record the date, time, cause, and duration of the deviation. **(40 CFR 63.6155(a)(7)(i))**
  - g. For each deviation, record and retain a list of the affected sources or equipment, an estimate of the quantity of each regulated pollutant emitted over any emission limit and a description of the method used to estimate the emissions. **(40 CFR 63.6155(a)(7)(ii))**
  - h. Record actions taken to minimize emissions in accordance with 40 CFR 63.6105(c), and any corrective actions taken to return the affected unit to its normal or usual manner of operation. **(40 CFR 63.6155(a)(7)(iii))**
2. For each combustion turbine in FGMACTYYYYOXICAT, the permittee must keep records to demonstrate continuous compliance with the operating limitations required in Table 5 of 40 CFR Part 63, Subpart YYYY as follows: **(40 CFR 63.6155(c))**
  - a. Collecting the catalyst inlet temperature data; **(40 CFR Part 63, Subpart YYYY, Table 5.1)**
  - b. Reducing these data to 4-hour rolling averages; **(40 CFR Part 63, Subpart YYYY, Table 5.1)**
  - c. Maintaining the 4-hour rolling average of the inlet temperature within the range suggested by the catalyst manufacturer. **(40 CFR Part 63, Subpart YYYY, Table 5.1)**
3. The permittee must maintain all applicable records in such a manner that can be readily accessed and are suitable for inspection according to 40 CFR 63.10(b)(1). **(40 CFR 63.6160(a))**
4. 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 63.6160(b))**
5. The permittee must retain records of the most recent 2 years on site or records must be accessible on site. Records of the remaining 3 years may be retained off site. **(40 CFR 63.6160(c))**

## **VII. REPORTING**

1. For each performance test required to demonstrate compliance with the emission limitation for formaldehyde, the permittee must submit the Notification of Compliance Status, including the performance test results, before the close of business on the 60<sup>th</sup> calendar day following the completion of the performance test. The permittee

shall submit any performance test reports to the AQD Technical Programs Unit and the appropriate District Office, in a format approved by the AQD. **(R 336.2001(5), 40 CFR 63.9(h)(2)(ii), 40 CFR 63.6145(f))**

2. The permittee must submit a semiannual compliance report according to Table 6 of 40 CFR Part 63, Subpart YYYY. The semiannual compliance report must contain the information described in 40 CFR 63.6150(a)(1) through (5) and the excess emissions and monitoring system performance reports as follows: **(40 CFR 63.6150(a))**
  - a) Company name and address. **(40 CFR 63.6150(a)(1))**
  - b) Statement by a responsible official, with that official's name, title, and signature, certifying the accuracy of the content of the report. **(40 CFR 63.6150(a)(2))**
  - c) Date of report and beginning and ending dates of the reporting period. **(40 CFR 63.6150(a)(3))**
  - d) Report each deviation as follows:
    - i. Report the number of deviations. For each instance, report the start date, start time, duration, and cause of each deviation, and the corrective action taken. **(40 CFR 63.6150(a)(5)(i))**
    - ii. For each deviation, the report must include a list of the affected sources or equipment, an estimate of the quantity of each regulated pollutant emitted over any emission limit, a description of the method used to estimate the emissions. **(40 CFR 63.6150(a)(5)(ii))**
    - iii. Information on the number, duration, and cause for monitor downtime incidents (including unknown cause, if applicable, other than downtime associated with zero and span and other daily calibration checks), as applicable, and the corrective action taken. **(40 CFR 63.6150(a)(5)(iii))**
    - iv. Report the total operating time of the affected source during the reporting period. **(40 CFR 63.6150(a)(5)(iv))**
3. The permittee must submit the following to the USEPA via the Compliance and Emissions Data Reporting Interface (CEDRI):
  - a) Within 60 days after the date of completing each performance test required by 40 CFR Part 63, Subpart YYYY, the permittee must submit the results of the performance test (as specified in 40 CFR 63.6145(f)) following the procedures specified: **(40 CFR 63.6150(f))**
    - i. For data collected using test methods supported by the USEPA's Electronic Reporting Tool (ERT) as listed on the USEPA's ERT website (<https://www.epa.gov/electronic-reporting-air-emissions/electronic-reporting-tool-ert>), submit the results of the performance test via CEDRI, which can be accessed through the USEPA's Central Data Exchange (CDX) (<https://cdx.epa.gov/>). The data must be submitted in a file format generated through the use of the USEPA's ERT. Alternatively, submit an electronic file consistent with the extensible markup language (XML) schema listed on the USEPA's ERT website. **(40 CFR 63.6150(f)(1))**
    - ii. For data collected using test methods that are not supported by the USEPA's ERT as listed on the EPA's ERT website, the results of the performance test must be included as an attachment in the ERT or an alternate electronic file consistent with the XML schema listed on the USEPA's ERT website. Submit the ERT generated package or alternative file to the USEPA via CEDRI. **(40 CFR 63.6150(f)(2))**
  - b) Submit required reports to the USEPA via CEDRI, which can be accessed through the USEPA's CDX (<https://cdx.epa.gov/>). The permittee must use the appropriate electronic report template on the CEDRI website (<https://www.epa.gov/electronic-reporting-air-emissions/compliance-and-emissions-data-reporting-interface-cedri>). The date report templates become available will be listed on the CEDRI website. The report must be submitted by the deadline regardless of the method in which the report is submitted. **(40 CFR 63.6150(g))**

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

NA

**IX. OTHER REQUIREMENT(S)**

1. The permittee shall comply with all applicable requirements of the National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines, as specified in 40 CFR Part 63, Subparts A and YYYY.  
**(40 CFR Part 63, Subparts A and YYYY)**

**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 and Continuous Emission Rate**  
**Monitoring System (CEMS/CERMS) Requirements**

1. Within 30 calendar days after commencement of initial 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/CERMS.
2. Within 150 calendar days after commencement of initial start-up, the permittee shall submit two copies of a complete test plan for the CEMS/CERMS to the AQD for approval.
3. Within 180 calendar days after commencement of initial start-up, the permittee shall complete the installation and testing of the CEMS/CERMS.
4. Within 60 days of completion of testing, the permittee shall submit to the AQD two copies of the final report demonstrating the CEMS/CERMS complies with the requirements of the corresponding Performance Specifications (PS) in the following table:

Pollutant	Applicable PS*
NO <sub>x</sub>	2
CO	4
CO <sub>2</sub> /O <sub>2</sub>	3
CERMS	6
*Or other PS as approved by the AQD.	

5. The span value shall be 2.0 times the lowest emission standard or as specified in the federal regulations.
6. The CEMS/CERMS shall be installed, calibrated, maintained, and operated in accordance with the procedures set forth in 40 CFR 60.13 and PS 2, 3, 4, and 6 (see No. 4 above) of Appendix B to 40 CFR Part 60 or 40 CFR Part 75, Appendices A and B, as applicable.
7. Each calendar quarter, the permittee shall perform the Quality Assurance Procedures of the CEMS/CERMS set forth in Appendix F of 40 CFR Part 60 or 40 CFR Part 75, Appendix B. 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 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 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 Emission Limits 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/CERMS downtime and corrective action.
  - c) A report of the total operating time of each emission unit during the reporting period.
  - d) A report of any periods that the CEMS/CERMS exceeds the instrument range.
  - e) If no exceedances or CEMS/CERMS downtime occurred during the reporting period, the permittee shall report that fact.
9. 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**

#### **EUCTGHRSG1:**

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

Where:

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

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

CO<sub>2</sub> EF (lb/MMBTU) = emission factor from equipment manufacturer or updated value based on CEMs data, or from the GHG Mandatory Reporting Rule (MRR) (40 CFR Part 98)

CH<sub>4</sub> EF (lb/MMBTU) = emission factor from equipment manufacturer, U.S. EPA AP-42 Ch. 3.1 (April 2000), or from the GHG MRR (40 CFR Part 98)

N<sub>2</sub>O EF (lb/MMBTU) = emission factors from U.S. EPA AP-42 Ch. 3.1 (April 2000) or from the GHG MRR (40 CFR Part 98)

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

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

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