

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION

April 13, 2018

PERMIT TO INSTALL
144-17

ISSUED TO
DTE Dearborn CEP LLC

LOCATED AT
1641 Carroll Shelby Way East
Dearborn, Michigan

IN THE COUNTY OF
Wayne

STATE REGISTRATION NUMBER
P0879

The Air Quality Division has approved this Permit to Install, pursuant to the delegation of authority from the Michigan Department of Environmental Quality. 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:

February 12, 2018

DATE PERMIT TO INSTALL APPROVED:

April 13, 2018

SIGNATURE:

MaryAnn Dolbarty

DATE PERMIT VOIDED:

SIGNATURE:

DATE PERMIT REVOKED:

SIGNATURE:

PERMIT TO INSTALL

Table of Contents

Section	Page
Alphabetical Listing of Common Abbreviations / Acronyms	2
General Conditions	3
Special Conditions	5
Emission Unit Summary Table.....	5
Special Conditions for EUENGINE	6
Flexible Group Summary Table	10
Special Conditions for FGCTGHRSG	10

Common Abbreviations / Acronyms

Common Acronyms		Pollutant / Measurement Abbreviations	
AQD	Air Quality Division	acfm	Actual cubic feet per minute
BACT	Best Available Control Technology	BTU	British Thermal Unit
CAA	Clean Air Act	°C	Degrees Celsius
CAM	Compliance Assurance Monitoring	CO	Carbon Monoxide
CEM	Continuous Emission Monitoring	CO _{2e}	Carbon Dioxide Equivalent
CFR	Code of Federal Regulations	dscf	Dry standard cubic foot
COM	Continuous Opacity Monitoring	dscm	Dry standard cubic meter
Department/ department	Michigan Department of Environmental Quality	°F	Degrees Fahrenheit
EU	Emission Unit	gr	Grains
FG	Flexible Group	HAP	Hazardous Air Pollutant
GACS	Gallons of Applied Coating Solids	Hg	Mercury
GC	General Condition	hr	Hour
GHGs	Greenhouse Gases	HP	Horsepower
HVLP	High Volume Low Pressure*	H ₂ S	Hydrogen Sulfide
ID	Identification	kW	Kilowatt
IRSL	Initial Risk Screening Level	lb	Pound
ITSL	Initial Threshold Screening Level	m	Meter
LAER	Lowest Achievable Emission Rate	mg	Milligram
MACT	Maximum Achievable Control Technology	mm	Millimeter
MAERS	Michigan Air Emissions Reporting System	MM	Million
MAP	Malfunction Abatement Plan	MW	Megawatts
MDEQ	Michigan Department of Environmental Quality	NMOC	Non-methane Organic Compounds
MSDS	Material Safety Data Sheet	NO _x	Oxides of Nitrogen
NA	Not Applicable	ng	Nanogram
NAAQS	National Ambient Air Quality Standards	PM	Particulate Matter
NESHAP	National Emission Standard for Hazardous Air Pollutants	PM ₁₀	Particulate Matter equal to or less than 10 microns in diameter
NSPS	New Source Performance Standards	PM _{2.5}	Particulate Matter equal to or less than 2.5 microns in diameter
NSR	New Source Review	pph	Pounds per hour
PS	Performance Specification	ppm	Parts per million
PSD	Prevention of Significant Deterioration	ppmv	Parts per million by volume
PTE	Permanent Total Enclosure	ppmw	Parts per million by weight
PTI	Permit to Install	psia	Pounds per square inch absolute
RACT	Reasonable Available Control Technology	psig	Pounds per square inch gauge
ROP	Renewable Operating Permit	scf	Standard cubic feet
SC	Special Condition	sec	Seconds
SCR	Selective Catalytic Reduction	SO ₂	Sulfur Dioxide
SNCR	Selective Non-Catalytic Reduction	TAC	Toxic Air Contaminant
SRN	State Registration Number	Temp	Temperature
TEQ	Toxicity Equivalence Quotient	THC	Total Hydrocarbons
USEPA/EPA	United States Environmental Protection Agency	tpy	Tons per year
VE	Visible Emissions	µg	Microgram
		µm	Micrometer or Micron
		VOC	Volatile Organic Compounds
		yr	Year

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

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 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 R 336.1219 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 R 336.1219 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 R 336.1301, 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 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 R 336.1370(2). **(R 336.1370)**

13. The Department may require the permittee to conduct acceptable performance tests, at the permittee's expense, in accordance with R 336.2001 and R 336.2003, under any of the conditions listed in R 336.2001. **(R 336.2001)**

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 (Process Equipment & Control Devices)	Installation Date / Modification Date	Flexible Group ID
EUCTGHRSG1	A Titan 130 20501S model natural gas-fired combustion turbine generator (CTG) rated at 161.1 MMBTU/hr, coupled with a heat recovery steam generator (HRSG). The HRSG is equipped with a natural gas-fired duct burner rated at 127 MMBTU/hr to provide heat for additional steam production. The CTG/HRSG is equipped with a low NO _x burner (LNB).	TBD	FGCTGHRSG
EUCTGHRSG2	A Titan 130 20501S model natural gas-fired combustion turbine generator (CTG) rated at 161.1 MMBTU/hr, coupled with a heat recovery steam generator (HRSG). The HRSG is equipped with a natural gas-fired duct burner rated at 127 MMBTU/hr to provide heat for additional steam production. The CTG/HRSG is equipped with a low NO _x burner (LNB).	TBD	FGCTGHRSG
EUENGINE	A 125 kilowatts (kW) emergency genset that a model year of 2011 or later natural gas-fired engine, and a displacement of <10 liters/cylinder. The engine is designed with low NO _x technology (turbo charger).	TBD	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 336.1290.			

The following conditions apply to:
EUENGINE

DESCRIPTION: A 125 kilowatts (kW) emergency genset with a model year of 2011 or later natural gas-fired engine, and a displacement of <10 liters/cylinder. The engine is designed with low NO_x technology (turbo charger).

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT: The engine is designed with low NO_x technology (turbo charger).

I. EMISSION LIMITS

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. NO _x	2.0 g/HP-hr OR 160 ppmvd	Hourly	EUENGINE	SC V.1, SC VI.2	R 336.1205(1)(a) & (b), 40 CFR 52.21(c) & (d), 40 CFR 60.4233(e), Table 1 of 40 CFR Part 60 Subpart JJJJ
2. CO	4.0 g/HP-hr OR 540 ppmvd	Hourly	EUENGINE	SC V.1, SC VI.2	R 336.1205(1)(a) & (b), 40 CFR 60.4233(e), Table 1 of 40 CFR Part 60 Subpart JJJJ
3. VOC ^A	1.0 g/HP-hr OR 86 ppmvd	Hourly	EUENGINE	SC V.1, SC VI.2	R 336.1702(a), 40 CFR 60.4233(e), Table 1 of 40 CFR Part 60 Subpart JJJJ

ppmvd = parts per million by volume at 15 percent oxygen and on a dry gas basis
^APer footnote "d" of Table 1 of 40 CFR Part 60 Subpart JJJJ, when calculating emissions of VOCs, emissions of formaldehyde should not be included.

II. MATERIAL LIMITS

1. The permittee shall burn only pipeline quality natural gas in EUENGINE. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.1702(a), 40 CFR 52.21(c) & (d), 40 CFR 60.4233)**

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The permittee shall not operate EUENGINE for more than 500 hours per year on a 12-month rolling time period basis as determined at the end of each calendar month. The 500 hours includes the 100 hours as described in SC III.2. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.1702(a), 40 CFR 52.21(c) & (d))**
2. The permittee may operate EUENGINE for no more than 100 hours per calendar year for the purpose of necessary maintenance checks and readiness testing, provided that the tests are recommended by Federal, State, or local government, the manufacturer, the vendor, or the insurance company associated with the engine. The permittee may petition the Department for approval of additional hours to be used for maintenance checks and readiness testing. A petition is not required if the permittee maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency internal combustion engines beyond 100 hours per calendar year. EUENGINE may operate up to 50 hours per calendar year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to supply non-emergency power as part of a financial arrangement with another entity, except as provided in paragraph 40 CFR 60.4243(d)(3)(i). **(40 CFR 60.4243(d))**

3. The permittee shall operate and maintain EUENGINE such that it meets the emission limits in SC I.1 through SC I.3 over the entire life of the engine. **(40 CFR 60.4234)**
4. If EUENGINE is a certified engine, according to procedures specified in 40 CFR Part 60 Subpart JJJJ, for the same model year, the permittee shall meet the following requirements for EUENGINE:
 - a. Operate and maintain the certified engine and control device according to the manufacturer's emission-related written instructions;
 - b. Meet the requirements as specified in 40 CFR Part 1068 Subparts A through D, as applicable, including labeling and maintaining certified engines according to the manufacturer's recommendations; and
 - c. Only change those engine settings that are permitted by the manufacturer.

If the permittee does not operate and maintain the certified engine and control device according to the manufacturer's emission-related written instructions, the engine will be considered a non-certified engine and be subject to SC III.5. **(40 CFR 60.4243(a) & (b)(1))**

5. If EUENGINE is a non-certified engine and control device or a certified engine operating in a non-certified manner, per 40 CFR Part 60 Subpart JJJJ, the permittee shall keep a maintenance plan for EUENGINE and shall, to the extent practicable, maintain and operate EUENGINE in a manner consistent with good air pollution control practice for minimizing emissions. **(40 CFR 60.4243(a)(2) & (b)(2))**

IV. DESIGN/EQUIPMENT PARAMETERS

1. The EUENGINE nameplate capacity shall not exceed 125 kW for the genset or 243 HP for the engine, as certified by the equipment manufacturer. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.1702(a), 40 CFR 52.21(c) & (d), 40 CFR 60.4230)**
2. The permittee shall equip and maintain EUENGINE with a non-resettable hours meter to track the operating hours. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.1702(a), 40 CFR 52.21(c) & (d), 40 CFR 60.4237(b))**

V. TESTING/SAMPLING

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

1. If EUENGINE is non-certified, is not installed, configured, operated, and maintained according to the manufacturer's emission-related written instructions, or the permittee changes emission-related settings in a way that is not permitted by the manufacturer, the permittee must demonstrate compliance as follows:
 - a. Conduct an initial performance test to demonstrate compliance with the applicable emission standards in SC I.1 through SC I.3, within 60 days after achieving the maximum production rate at which EUENGINE will be operated, but not later than 180 days after initial startup of EUENGINE, or within 1 year after EUENGINE is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after changing emission-related settings in a way that is not permitted by the manufacturer.
 - b. If a performance test is required, the performance tests shall be conducted according to 40 CFR 60.4244.

If a performance test is required, no less than 30 days prior to testing, a complete test plan shall be submitted to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing. Verification of emission rates includes the submittal of a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1205(1)(a) & (b), R 336.1702(a), R 336.2001, R 336.2003, R 336.2004, 40 CFR 52.21(c) & (d), 40 CFR 60.8, 40 CFR 60.4243(a)(2)(ii) & (b)(2)(i), 40 CFR 60.4244, 40 CFR 60.4245, 40 CFR Part 60 Subpart JJJJ)**

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor by the 30th day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.1702(a), 40 CFR 52.21(c) & (d), 40 CFR 60.4243, 40 CFR 60.4245)**
2. The permittee shall keep, in a satisfactory manner, the following records for EUENGINE:
 - a. If certified: The permittee shall keep records of the documentation from the manufacturer that EUENGINE is certified to meet the emission standards and information as required in 40 CFR Parts 90, 1048, 1054, and 1060, as applicable.
 - b. If non-certified: The permittee shall keep records of testing required in SC V.1.

The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(1)(a) & (b), 40 CFR 52.21(c) & (d), 40 CFR 60.4233(e), 40 CFR 60.4243, 40 CFR 60.4245(a))**

3. The permittee shall keep, in a satisfactory manner, the following records of maintenance activity for EUENGINE:
 - a. If certified: The permittee shall keep the manufacturer's emission-related written instructions and records demonstrating that EUENGINE has been maintained according to them, as specified in SC III.4.
 - b. If non-certified: The permittee shall keep records of a maintenance plan, as required by SC III.5, and maintenance activities.

The permittee shall keep all records on file and make them available to the Department upon request. **(40 CFR 60.4243, 40 CFR 60.4245(a), 40 CFR Part 60 Subpart JJJJ)**

4. The permittee shall monitor and record the total hours of operation for EUENGINE, on a monthly and 12-month rolling time period basis, in a manner acceptable to the AQD District Supervisor. The permittee shall monitor and record the number of hours individually spent for emergency and non-emergency operation, including what classified the operation as emergency, for EUENGINE, on a calendar year time period basis, in a manner acceptable to the AQD District Supervisor. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.1702(a), 40 CFR 52.21(c) & (d), 40 CFR 60.4243, 40 CFR 60.4245(b))**
5. The permittee shall keep records of all notifications submitted to comply with 40 CFR Part 60 Subpart JJJJ, and all documentation supporting any notification. **(40 CFR 60.4245(a))**

VII. REPORTING

1. Within 30 days after completion of the installation, construction, reconstruction, relocation, or modification authorized by this Permit to Install, the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the activity. Completion of the installation, construction, reconstruction, relocation, or modification is considered to occur not later than commencement of trial operation of EUENGINE. **(R 336.1201(7)(a))**
2. The permittee shall submit a notification specifying whether EUENGINE will be operated in a certified or a non-certified manner to the AQD District Supervisor, in writing, within 30 days following the initial startup of EUENGINE and within 30 days of switching the manner of operation. **(40 CFR Part 60 Subpart JJJJ)**

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. SVENGINE	3.1	5.8	R 336.1225, 40 CFR 52.21(c) & (d)

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 JJJJ, as they apply to EUENGINE. **(40 CFR Part 60 Subparts A & JJJJ, 40 CFR 63.6590(c)(1))**
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 ZZZZ, as they apply to EUENGINE, upon startup. **(40 CFR Part 63 Subparts A & ZZZZ, 40 CFR 63.6595(a)(7))**

Footnotes:

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

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
FGCTGHRSG	Two Titan 130 20501S model natural gas-fired CTG with HRSG in a 2x1 configuration with a steam turbine generator. Each CTG/HRSG is equipped with a LNB.	EUCTGHRSG1, EUCTGHRSG2

The following conditions apply to:
FGCTGHRSG

DESCRIPTION: Two Titan 130 20501S model natural gas-fired CTG with HRSG in a 2x1 configuration with a steam turbine generator. Each CTG/HRSG is equipped with a LNB.

Emission Units: EUCTGHRSG1, EUCTGHRSG2

POLLUTION CONTROL EQUIPMENT: LNB for NO_x control for each CTG/HRSG unit.

I. EMISSION LIMITS

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. NO _x ^B	12 ppmvd	Hourly, During normal operation	Each turbine from EUCTGHRSG1 and EUCTGHRSG2	SC V.1, SC V.4, SC VI.2	R 336.1205(1)(a) & (b)
2. NO _x ^B	0.12 lb/MMBTU	Hourly, During normal operation	Each unit: EUCTGHRSG1 and EUCTGHRSG2	SC V.1, SC V.2, SC V.3, SC VI.2	R 336.1205(1)(a) & (b)
3. NO _x ^B	25 ppmvd ^C	Hourly, During normal operation	Each unit: EUCTGHRSG1 and EUCTGHRSG2	SC V.2, SC V.3, SC VI.2	40 CFR 60.4320(a), Table 1 of 40 CFR Part 60 Subpart KKKK
4. NO _x	8.84 pph	Hourly, During all times	Each turbine from EUCTGHRSG1 and EUCTGHRSG2	SC V.1, SC V.4, SC VI.2	40 CFR 52.21(c) & (d)
5. NO _x	19.04 pph	Hourly, During all times	Each unit: EUCTGHRSG1 and EUCTGHRSG2	SC V.1, SC V.2, SC V.3, SC VI.2	40 CFR 52.21(c) & (d)
6. NO _x	87.7 tpy	12-month rolling time period as determined at the end of each calendar month. This includes all operating modes.	FGCTGHRSG	SC VI.5	R 336.1205(1)(a) & (b)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
7. CO ^B	15 ppmvd	Hourly, During normal operation	Each turbine from EUCTGHRSG1 and EUCTGHRSG2	SC V.1, SC V.5, SC VI.2	R 336.1205(1)(a) & (b)
8. CO ^B	0.13 lb/MMBTU	Hourly, During normal operation	Each unit: EUCTGHRSG1 and EUCTGHRSG2	SC V.1, SC V.5, SC VI.2	R 336.1205(1)(a) & (b)
9. CO	89.9 tpy	12-month rolling time period as determined at the end of each calendar month. This includes all operating modes.	FGCTGHRSG	SC VI.5	R 336.1205(1)(a) & (b)
10. PM2.5	1.06 pph	Hourly, During all times	Each turbine from EUCTGHRSG1 and EUCTGHRSG2	SC V.1, SC V.5, SC VI.2	40 CFR 52.21(c) & (d)
11. PM2.5	2 pph	Hourly, During all times	Each unit: EUCTGHRSG1 and EUCTGHRSG2	SC V.1, SC V.5, SC VI.2	40 CFR 52.21(c) & (d)

ppmvd = parts per million by volume at 15 percent oxygen and on a dry gas basis
^BNormal baseload operation is considered to be loads greater than 50 percent of peak load and at or above 0°F. These emission limits do not include startup and shutdown. Startup and shutdown is considered to be the ramping up or ramping down of the turbines through loads 50 percent or less; restrictions can be found in SC III.3.
^CTable 1 of 40 CFR Part 60 Subpart KKKK allows 150 ppm at 15 percent O₂ when the turbines are operating at less than 75 percent of peak load or at temperatures less than 0°F.

II. MATERIAL LIMITS

1. The permittee shall burn only pipeline quality natural gas in any unit in FGCTGHRSG. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.1702(a), 40 CFR 52.21(c) & (d), 40 CFR 60.4330, Table 1 of 40 CFR Part 60 Subpart KKKK)**
2. The pipeline quality natural gas combined usage for the duct burners in FGCTGHRSG shall not exceed 600,000 MMBTU per year on a 12-month rolling time period as determined at the end of each calendar month. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.1702(a), 40 CFR 52.21(c) & (d))**
3. The pipeline quality natural gas shall not have a total sulfur content in excess of 1 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), 40 CFR 60.4365(a))**

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The permittee shall not operate any unit in FGCTGHRSG unless a malfunction abatement plan (MAP) as described in Rule 911(2), has been submitted within 180 days of initial startup, 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.
- d. An identification of the situations that may lead to the low NO_x burners ceasing to operate, a description of the procedures that will be performed should that occur and how the situations will be minimized, and a description of how each situation will be recorded should it occur.

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

2. The permittee shall not operate any unit in FGCTGHRSG unless the AQD District Supervisor has approved a plan that describes how emissions will be minimized during startup and shutdown, and the plan is implemented. The plan shall incorporate procedures recommended by the equipment manufacturer as well as incorporating standard industry practices. Unless notified by the District Supervisor within 30 business days after plan submittal, the plan shall be deemed approved. **(R 336.1911, R 336.1912, 40 CFR 60.4333(a))**
3. The permittee shall not have a combined total of more than 136 events (startup or shutdown) for FGCTGHRSG per 12-month rolling time period as determined at the end of each calendar month. **(R 336.1205(1)(a) & (b), 40 CFR 52.21(c) & (d))**
4. The permittee shall operate and maintain EUCTGHRSG1 and EUCTGHRSG2 of FGCTGHRSG, including associated equipment and monitors, in a manner consistent with safety and good air pollution control practice. **(40 CFR 60.4333(a))**
5. The permittee shall not operate the duct burners of EUCTGHRSG1 and EUCTGHRSG2 such that the sum of the combined heat input shall not exceed 127 MMBTU/hr. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.1702(a), 40 CFR 52.21(c) & (d))**

IV. DESIGN/EQUIPMENT PARAMETERS

1. The maximum nominal heat input capacity for each turbine in FGCTGHRSG shall not exceed, on a fuel heat input basis, 161.1 MMBTU per hour and the design heat input capacity for each duct burner in FGCTGHRSG shall not exceed, on a fuel heat input basis, 127.0 MMBTU per hour. **(R 336.1205(1)(a) & (b), R 336.1225, 40 CFR 52.21(c) & (d))**
2. The permittee shall not operate EUCTGHRSG1 or EUCTGHRSG2 of FGCTGHRSG unless the associated low NO_x burners are installed, maintained, and operated in a satisfactory manner, unless otherwise allowed in SC III.3 and/or also operation during sub-zero degree Fahrenheit temperatures. Satisfactory manner includes operating and maintaining each control device in accordance with an approved MAP for FGCTGHRSG as required in SC III.1. **(R 336.1205(1)(a) & (b), R 336.1910, 40 CFR 52.21(c) & (d))**
3. The permittee shall install, calibrate, maintain and operate in a satisfactory manner, a device to monitor and record the hourly natural gas usage individually for each duct burner of FGCTGHRSG and monthly natural gas usage individually for each turbine of FGCTGHRSG, on a continuous basis. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.1702(a), R 336.1910, 40 CFR 52.21(c) & (d))**

V. TESTING/SAMPLING

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

1. The permittee shall conduct testing to verify NO_x, CO, and PM_{2.5} emission rates from each turbine of EUCTGHRSG1 and EUCTGHRSG2 and from the CTG/HRSG train of EUCTGHRSG1 and EUCTGHRSG2 at maximum routine operating conditions, by testing at owner's expense, in accordance with Department requirements, according to the following schedule:
 - a. Within 180 days after commencement of initial startup.
 - b. Once every three months following the initial test for a total of four tests within a 12-month period. The results of the four tests shall determine the worst-case season for each pollutant. The worst-case season is determined by reviewing which season produced the highest emissions.
 - c. Thereafter, subsequent testing shall be performed as laid out in the following testing conditions in the worst-case season, unless the AQD District Supervisor determines otherwise based upon operating scenarios or unless a test method requires otherwise.
 - d. Testing shall be performed using an approved EPA Method listed in (use Test Method Table).

Pollutant	Test Method Reference
PM10/PM2.5	40 CFR Part 51, Appendix M
CO	40 CFR Part 60, Appendix A
NO _x	40 CFR Part 60, Appendix A

An alternate method, or a modification to the approved EPA Method, may be specified in an AQD-approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1205(1)(a) & (b), R 336.2001, R 336.2003, R 336.2004, 40 CFR 52.21(c) & (d))**

2. Within 60 days after achieving the maximum production rate, but not later than 180 days after commencement of initial startup, the permittee shall verify NO_x emission rates from EUCTGHRSG1 and EUCTGHRSG2 of FGCTGHRSG, as required by federal Standards of Performance for New Stationary Sources and SC I.2, SC I.3, and SC I.5, by testing at owner's expense, in accordance with 40 CFR 60.4400 of 40 CFR Part 60 Subparts A and KKKK. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing. Verification of emission rates includes the submittal of a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1205(1)(a) & (b), R 336.2001, R 336.2003, R 336.2004, 40 CFR 52.21(c) & (d), 40 CFR 60.4340(a), 40 CFR 60.4375(b), 40 CFR 60.4400(a), 40 CFR Part 60 Subpart KKKK)**
3. To demonstrate continuous compliance, the permittee shall perform subsequent performance tests to verify NO_x emission rates from EUCTGHRSG1 and EUCTGHRSG2 of FGCTGHRSG, as required by federal Standards of Performance for New Stationary Sources and SC I.2, SC I.3, and SC I.5, by testing at owner's expense in accordance with 40 CFR 60.4400 of 40 CFR Part 60 Subparts A and KKKK:
 - a. If the previous performance test exceeded 75 percent of the NO_x emission limit, SC I.3, then the permittee shall perform annual performance tests which are no more than 14 calendar months apart.
 - b. If the previous performance test was less than or equal to 75 percent of the NO_x emission limit, SC I.3, then the permittee shall perform subsequent performance tests once every two years which are no more than 26 calendar months apart.

No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing. Verification of emission rates includes the submittal of a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1205(1)(a) & (b), R 336.2001, R 336.2003, R 336.2004, 40 CFR 52.21(c) & (d), 40 CFR 60.4340(a), 40 CFR 60.4375(b), 40 CFR 60.4400(a), 40 CFR Part 60 Subpart KKKK)**

- Once every two years of operation, unless annual testing is required to comply with 40 CFR Part 60 Subpart KKKK, then once every year, the permittee shall verify NO_x emission rates from each turbine of EUCTGHRSG1 and EUCTGHRSG2 at maximum routine operating conditions, by testing at owner's expense, in accordance with Department requirements. Upon approval of the AQD District Supervisor, subsequent testing may be conducted upon EUCTGHRSG1 or EUCTGHRSG2 as a representative unit. However, the permittee shall not test the same representative unit in subsequent tests unless approved or requested by the AQD District Supervisor. Testing shall be performed using an approved EPA Method listed in (use Test Method Table).

Pollutant	Test Method Reference
NO _x	40 CFR Part 60, Appendix A

An alternate method, or a modification to the approved EPA Method, may be specified in an AQD-approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1205(1)(a) & (b), R 336.2001, R 336.2003, R 336.2004, 40 CFR 52.21(c) & (d))**

- Once every five years of operation, the permittee shall verify CO and PM_{2.5} emission rates from each turbine of EUCTGHRSG1 and EUCTGHRSG2 and from the CTG/HRSG train of EUCTGHRSG1 and EUCTGHRSG2 at maximum routine operating conditions, by testing at owner's expense, in accordance with Department requirements. Upon approval of the AQD District Supervisor, subsequent testing may be conducted upon EUCTGHRSG1 or EUCTGHRSG2 as a representative unit. However, the permittee shall not test the same representative unit in subsequent tests unless approved or requested by the AQD District Supervisor. Testing shall be performed using an approved EPA Method listed in (use Test Method Table).

Pollutant	Test Method Reference
PM ₁₀ /PM _{2.5}	40 CFR Part 51, Appendix M
CO	40 CFR Part 60, Appendix A

An alternate method, or a modification to the approved EPA Method, may be specified in an AQD-approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1205(1)(a) & (b), R 336.2001, R 336.2003, R 336.2004, 40 CFR 52.21(c) & (d))**

VI. MONITORING/RECORDKEEPING

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

- The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor by the 30th day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.1702(a), 40 CFR 52.21(c) & (d))**
- The permittee shall keep, in a satisfactory manner, all test reports for any portion(s) of FGCTGHRSG, as required by SC V.1 through SC V.5 on file at the facility and make them available to the Department upon request. **(R 336.1205(1)(a) & (b), R 336.2001, R 336.2003, R 336.2004, 40 CFR 52.21(c) & (d), 40 CFR 60.4340(a), 40 CFR 60.4375(b), 40 CFR 60.4400(a), 40 CFR Part 60 Subpart KKKK)**

3. The permittee shall monitor and record, in a satisfactory manner, the natural gas usage for each duct burner of FGCTGHRSG on an hourly basis. The permittee shall calculate and keep the total natural gas usage for both duct burners of FGCTGHRSG combined on an hourly, monthly, and 12-month rolling time period basis. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.1702(a), 40 CFR 52.21(c) & (d))**
4. The permittee shall monitor and record, in a satisfactory manner, the natural gas usage for each turbine of FGCTGHRSG on a 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))**
5. The permittee shall calculate and keep, in a satisfactory manner, records of monthly and 12-month rolling total NO_x and CO mass emissions for FGCTGHRSG, as required by SC I.6 and SC I.9, respectively. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(1)(a) & (b))**
6. The permittee shall keep, in a satisfactory manner, a record of the number of events (startup and shutdown) per month for FGCTGHRSG. The permittee shall calculate and keep, in a satisfactory manner, records of the 12-month rolling number of events. The permittee shall keep all records on file at the facility in a format acceptable to the AQD District Supervisor to demonstrate compliance with SC III.3. **(R 336.1205(1)(a) & (b), 40 CFR 52.21(c) & (d))**
7. 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 FGCTGHRSG. 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);
 - d. Verification of heat input capacity;
 - e. Identification, type, and amount of fuel combusted on a calendar month basis;
 - f. All records required by 40 CFR 60.7, including the initial startup notification and performance tests;
 - g. Records of the duration, dates and times of startup and shutdown events;
 - 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. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.1702(a), R 336.1912, 40 CFR 52.21(c) & (d), 40 CFR 60.7, 40 CFR 60.4365(a), 40 CFR Part 60 Subpart KKKK)**

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 each unit in FGCTGHRSG. **(R 336.1201(7)(a))**
2. The permittee shall provide written notification of the date construction commences and the actual date of initial startup of each unit in FGCTGHRSG, 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. **(40 CFR 60.7)**

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	72.1	105	R 336.1225, 40 CFR 52.21(c) & (d)
2. SVCTGHRSG2	72.1	105	R 336.1225, 40 CFR 52.21(c) & (d)

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 each unit in FGCTGHRSG. **(40 CFR Part 60 Subparts A & KKKK)**

Footnotes:

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