

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

FEBRUARY 4, 2021

PERMIT TO INSTALL
98-20

ISSUED TO
ANR PIPELINE COMPANY
HAMILTON COMPRESSOR STATION

LOCATED AT
4193 134th AVENUE
HAMILTON, MICHIGAN 49419

IN THE COUNTY OF
ALLEGAN

STATE REGISTRATION NUMBER
N5574

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

DATE OF RECEIPT OF ALL INFORMATION REQUIRED BY RULE 203: January 26, 2021	
DATE PERMIT TO INSTALL APPROVED: February 4, 2021	SIGNATURE:
DATE PERMIT VOIDED:	SIGNATURE:
DATE PERMIT REVOKED:	SIGNATURE:

PERMIT TO INSTALL

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COMMON ACRONYMS

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

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

POLLUTANT / MEASUREMENT ABBREVIATIONS

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

GENERAL CONDITIONS

1. The process or process equipment covered by this permit shall not be reconstructed, relocated, or modified, unless a Permit to Install authorizing such action is issued by the Department, except to the extent such action is exempt from the Permit to Install requirements by any applicable rule. **(R 336.1201(1))**
2. If the installation, construction, reconstruction, relocation, or modification of the equipment for which this permit has been approved has not commenced within 18 months, or has been interrupted for 18 months, this permit shall become void unless otherwise authorized by the Department. Furthermore, the permittee or the designated authorized agent shall notify the Department via the Supervisor, Permit Section, Air Quality Division, Michigan Department of 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))	Flexible Group ID
EUHM015	A 22,546 hp (181.21 MMBtu/hr at 32°F) natural gas-fueled Solar Titan 130 turbine with dry-low-NOx (SoLoNOx) control	FGTURBINES, FGTRANSITION
EUHM016	A 22,546 hp (181.21 MMBtu/hr at 32°F) natural gas-fueled Solar Titan 130 Turbine with dry-low-NOx (SoLoNOx) control	FGTURBINES, FGTRANSITION
EUHM017	A 2,664 kilowatts (kW) natural gas-fueled emergency engine manufactured after 2009.	FGTRANSITION
EUFUELGASHEATER	A 1.93 MMBtu/hr natural gas-fueled fuel heater	FGHEATERS, FGTRANSITION
EUUTILITYHEATER	A 0.09 MMBtu/hr natural gas-fueled utility heater	FGHEATERS, FGTRANSITION
EUWAREHOUSEHEAT	Natural gas-fueled warehouse heating units with a combined heat input rate of 0.52 MMBtu/hr.	FGHEATERS, FGTRANSITION
EUSPACEHEATER	Natural gas-fueled space heating units with a maximum combined heat input rating of 1.04 MMBtu/hr.	FGHEATERS, FGTRANSITION
EUTANK18	A 4,100 Gallon Pipeline Fluids Tank	FGTANKS, FGTRANSITION
EUTANK19	A 1,500 Gallon Wastewater Tank	FGTANKS, FGTRANSITION

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.

**EUHM017
 EMISSION UNIT CONDITIONS**

DESCRIPTION

A 2,664 kilowatts (kW) natural gas-fueled emergency engine manufactured after 2009.

Flexible Group ID: FGTRANSITION

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. NOx	2.0 g/hp-hr Or 160 ppmvd at 15% O ₂	Hourly	EUHM017	SC V.1	R 336.1205(1)(a), 40 CFR 60.4233(e), 40 CFR 52.21(c) & (d)
2. CO	4.0 g/hp-hr Or 540 ppmvd at 15% O ₂	Hourly	EUHM017	SC V.1	R 336.1205(1)(a), 40 CFR 60.4233(e), 40 CFR 52.21(d)
3. VOC ^A	1.0 g/hp-hr Or 86 ppmvd at 15% O ₂	Hourly	EUHM017	SC V.1	R 336.1205(1)(a), R 336.1702(a), 40 CFR 52.21(c) & (d), 40 CFR 60.4233(e)

^A For purposes of showing compliance with this emission limit and 40 CFR 60 Subpart JJJJ, when calculating emissions of volatile organic compounds, emissions of formaldehyde should not be included.

II. MATERIAL LIMIT(S)

1. The permittee shall burn only pipeline quality natural gas in EUHM017. **(R 336.1205(1)(a), R 336.1225, R 336.1702(a), 40 CFR 52.21(c) & (d), 40 CFR 60.4230)**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not operate EUHM017 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), R 336.1225, R 336.1702(a), 40 CFR 52.21(c) & (d))**
2. The permittee may operate EUHM017 for no more than 100 hours per calendar year for the purpose of necessary maintenance checks and readiness testing, provided that the tests are recommended by Federal, State, or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The permittee may petition the Department for approval of additional hours to be used for maintenance checks and readiness testing. A petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency internal combustion engines beyond 100 hours per calendar year. **(40 CFR 60.4243(d)(2))**

3. EUHM017 may operate up to 50 hours per calendar year in non-emergency situations, but those 50 hours are counted towards the 100 hours per calendar year provided for maintenance and testing as provided in SC III.2. Except as provided in 40 CFR 60.4243(d)(3)(i), the 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or demand response, or to generate income for the permittee to supply non-emergency power as part of a financial arrangement with another entity. **(40 CFR 60.4243(d)(3))**
4. The permittee shall operate and maintain EUHM017 according to the manufacturer's emission-related written instructions such that it meets the emission limits in SC I.1, I.2, and I.3 over the entire life of the engine. **(40 CFR 60.4234, 40 CFR 60.4243(b))**
5. If EUHM017 is a non-certified engine 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 EUHM017 and shall, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. **(40 CFR 60.4243(b)(2))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall equip and maintain EUHM017 with a non-resettable hour meter to track the operating hours. **(R 336.1205(1)(a) & (3), R 336.1225, 40 CFR 60.4237)**
2. The nameplate capacity of EUHM017 shall not exceed 1,175 HP (2,664 kW), as certified by the equipment manufacturer. **(R 336.1205(1)(a) & (3), R 336.1225, R 336.1702(a), 40 CFR 52.21(c) & (d), 40 CFR 60.4230)**

V. TESTING/SAMPLING

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

1. If EUHM017 is a non-certified engine or a certified engine operating in a non-certified manner, per 40 CFR Part 60 Subpart JJJJ, the permittee must demonstrate compliance as follows:
 - a) Conduct an initial performance test to demonstrate compliance with the applicable emission limits in SC I.1 – I.3 within 1 year after EUHM017 begins operating in a noncertified manner.
 - b) The performance tests shall be conducted according to 40 CFR 60.4244.
 - c) Subsequent performance testing shall be completed every 8,760 hours of engine operation or every 3 years, whichever comes first, to demonstrate compliance with the applicable emission limits.

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), 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, 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 keep, in a satisfactory manner, the following records for EUHM017:
 - a) If operated in a certified manner: The permittee shall keep records of the documentation from the manufacturer that the EUHM017 is certified to meet the emission standards and information as required in 40 CFR Parts 90, 1048, 1054, and 1060, as applicable.
 - b) If operated in a non-certified manner: 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), 40 CFR 52.21(c) & (d), 40 CFR 60.4233(e), 40 CFR 60.4243, 40 CFR 60.4245(a))**

2. The permittee shall keep, in a satisfactory manner, the following records of maintenance activity for EUHM017:
 - a) If operated in a certified manner: The permittee shall keep the manufacturer's emission-related written instructions and records demonstrating that EUHM017 has been maintained according to them, as specified in SC III.4.

- b) If operated in a non-certified manner: 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)**

- 3. The permittee shall keep records of notifications submitted for the completion of construction and start-up of EUHM017. **(40 CFR 60.4245(a))**
- 4. The permittee shall monitor and record the hours of operation of EUHM017 during emergencies and non-emergencies, on a monthly, 12-month rolling, and calendar year basis, in a manner acceptable to the District Supervisor, Air Quality Division. The permittee shall record the time of operation of EUHM017 and the reason it was in operation during that time. **(R 336.1205(1)(a), R 336.1225, R 336.1702(a), 40 CFR 52.21(c)&(d), 40 CFR 60.4243, 40 CFR 60.4245(b))**

VII. REPORTING

- 1. Within 30 days after completion of the installation, construction, reconstruction, relocation, or modification authorized by this Permit to Install, the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the activity. Completion of the installation, construction, reconstruction, relocation, or modification is considered to occur not later than commencement of trial operation of EUHM017. **(R 336.1201(7)(a))**
- 2. The permittee shall submit a notification specifying whether EUHM017 will be operated in a certified or a non-certified manner to the AQD District Supervisor, in writing, within 30 days following the initial startup of the engine and within 30 days of switching the manner of operation. **(40 CFR Part 60, Subpart JJJJ)**
- 3. If EUHM017 has not been certified by an engine manufacturer to meet the emission standards in 40 CFR 60.4231, the permittee shall submit an initial notification as required in 40 CFR 60.7(a)(1). The notification must include the following information:
 - a) The date construction of EUHM017 commenced;
 - b) Name and address of the owner or operator;
 - c) The address of the affected source;
 - d) EUHM017 information including make, model, engine family, serial number, model year, maximum engine power, and engine displacement;
 - e) EUHM017 emission control equipment; and
 - f) Fuel used in EUHM017.The notification must be postmarked no later than 30 days after construction commenced for EUHM017. **(40 CFR 60.7(a)(1), 40 CFR 60.4245(c))**
- 4. The permittee shall submit an initial notification as required in 40 CFR 63.6645(f) for EUHM017. The notification must include the information in 40 CFR 63.9(b)(2)(i)-(v):
 - a) The name and address of the owner or operator;
 - b) The address (i.e., physical location) of the affected source;
 - c) An identification of the relevant standard, or other requirement, that is the basis of the notification and the source's compliance date;
 - d) A brief description of the nature, size, design, and method of operation of the source and an identification of the types of emission points within the affected source subject to the relevant standard and types of hazardous air pollutants emitted; and
 - e) A statement of whether the affected source is a major source or an area source.

The notification must also include a statement that EUHM017 has no additional requirements and explain the basis of the exclusion (for example, that it operates exclusively as an emergency stationary RICE if it has a site rating of more than 500 brake HP located at a major source of HAP emissions). **(40 CFR 63.9(b)(2)(i)-(v), 40 CFR 63.6590(b)(1), 40 CFR 63.6645(f))**

VIII. STACK/VENT RESTRICTION(S)

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

Stack & Vent ID	Maximum Exhaust Diameter / Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVHM017	12	20.6	R 336.1225, 40 CFR 52.21(c)&(d)

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with the provisions of the federal Standards of Performance for New Stationary Sources as specified in 40 CFR Part 60 Subpart A and Subpart JJJJ, as they apply to EUHM017. **(40 CFR Part 60 Subparts A & JJJJ)**
2. The permittee shall comply with the provisions of the National Emission Standards for Hazardous Air Pollutants, as specified in 40 CFR Part 63, Subpart A and Subpart ZZZZ, as they apply to EUHM017. **(40 CFR Part 63 Subparts A and ZZZZ, 40 CFR 63.6595)**

FLEXIBLE GROUP SPECIAL CONDITIONS

FLEXIBLE GROUP SUMMARY TABLE

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

Flexible Group ID	Flexible Group Description	Associated Emission Unit IDs
FGTURBINES	Two (2) natural gas turbines with a combined heat input of 362.42 MMBtu/hr.	EUHM015, EUHM016
FGHEATERS	Various natural gas-fueled heating units with a maximum combined heat input rating of 3.6 MMBtu/hr.	EUFUELGASHEATER, EUUTILITYHEATER, EUWAREHOUSEHEAT, EUSPACEHEATER
FGTANKS	Two (2) miscellaneous tanks.	EUTANK18, EUTANK19
FGTRANSITION	Operation of ANR Hamilton during the commissioning period. The commissioning period will take place between the date of issuance of this permit to install and the date that completes the commissioning period for FGTRANSITION.	EUHM015, EUHM016, EUHM017, FGFUELGASHEATER, EUUTILITYHEATER, EUWAREHOUSEHEAT, EUSPACEHEATER, EUTANK18, EUTANK19

**FGTURBINES
 FLEXIBLE GROUP CONDITIONS**

DESCRIPTION

Two (2) natural gas turbines with a combined heat input of 362.42 MMBtu/hr at 32°F.

Emission Unit: EUHM015, EMHM016

POLLUTION CONTROL EQUIPMENT

Dry-low-NOx (SoLoNOx) Control

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. NOx	25 ppmvd or 150 ng/J of useful output (1.2 lb/MWh) ^{A, B, C}	Hourly	EUHM015, EUHM016 (each unit)	SC V.2, SC V.3, SC VI.5	40 CFR 60.4320(a), Table 1 of 40 CFR Part 60 Subpart KKKK
2. NOx	9.8 pph ^{A, B, D, E}	Hourly, except during startup and shutdown, low load operations, and cold weather operations	EUHM015, EUHM016 (each unit)	SC V.1, SC VI.5	R 336.1205(1)(a)&(3), 40 CFR 52.21(c) & (d)
3. NOx	113.0 tpy	12-month rolling time period as determined at the end of each calendar month	FGTURBINES	SC VI.4, SC VI.5	R 336.1205(1)(a)&(3), 40 CFR 52.21(c) & (d)
4. CO	10.0 pph ^{A, B, D, E}	Hourly, except during startup and shutdown, low load operations, and cold weather operations	EUHM015, EUHM016 (each unit)	SC V.1, SC VI.5	R 336.1205(1)(a)&(3), 40 CFR 52.21(d)
5. CO	127.0 tpy	12-month rolling time period as determined at the end of each calendar month	FGTURBINES	SC VI.4, SC VI.5	R 336.1205(1)(a)&(3), 40 CFR 52.21(d)
6. SO ₂	0.060 lb/MMBtu	Hourly	EUHM015, EUHM016 (each unit)	SC VI.5,	40 CFR 60.4330

ppmvd = parts per million by volume at 15 percent O₂ and on a dry gas basis

lb/MWh = pound per megawatt hour

^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 combustion process ends at flame-off. 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 150 ppmvd NO_x at 15 percent O₂ when the turbines are operating at less than 75 percent of peak load, or at temperatures less than 0°F.

^D Cold weather operation shall be defined as anytime when the ambient outdoor temperature is less than 0°F

^E Low load operation shall be defined as anytime when the turbine is operating at 50% or less of full load.

II. MATERIAL LIMIT(S)

Material	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. Sulfur content in natural gas	0.25 gr/100 scf ^A	At all times	FGTURBINES	SC VI.5	R 336.1205(1)(a) & (3), 40 CFR 52.21(c) & (d)
^A The sulfur content limit in 40 CFR 60.4365 is 20 gr/100 scf. SC II.1 subsumes the NSPS requirement.					

2. The permittee shall only burn pipeline quality natural gas in FGTURBINES. **(R 336.1205(1)(a) & (3), R 336.1225, R 336.1702(a), 40 CFR 60.4330)**

III. PROCESS/OPERATIONAL RESTRICTION(S)

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

If at any time the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the MAP within 45 days after such an event occurs. The permittee shall also amend the MAP within 45 days, if new equipment is installed or upon request from the AQD District Supervisor. The permittee shall submit the MAP and any amendments to the MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the MAP or amended MAP shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes to achieve compliance with all applicable emission limits. **(R 336.1205(1)(a) & (3), R 336.1224, R 336.1702(a), R 336.1910, R 336.1911)**

2. Within 180 days of initial startup, the permittee shall submit, implement, and maintain a plan that describes how emissions will be minimized during startup and shutdown. The plan shall incorporate procedures recommended by the equipment manufacturer as well as incorporate standard industry practices, and shall describe the demonstrated percent of design capacity, or demonstrated steady state level. Unless notified by the District Supervisor within 30 business days after plan submittal, the plan shall be deemed approved. **(R 336.1911, R 336.1912, 40 CFR 60.4333(a))**
3. The total events for startup and shutdown for each turbine in FGTURBINES shall not exceed 200 startup and shutdown events per 12-month rolling time period as determined at the end of each calendar month. **(R 336.1205(1)(a) & (3), 40 CFR 52.21(c) & (d))**
4. The total hours for low load operation for each turbine in FGTURBINES shall not exceed 14 hours per 12-month rolling time period as determined at the end of each calendar month. Low load operation shall be defined as anytime when the turbine is operating at 50% or less of full load. Low load operation does not include startups and shutdowns. **(R 336.1205(1)(a) & (3), 40 CFR 52.21(c) & (d))**
5. The permittee shall operate and maintain FGTURBINES, including associated equipment and monitors, in a manner consistent with safety and good air pollution control practice. **(40 CFR 60.4333(a))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The maximum design heat input capacity for each turbine in FGTURBINES shall not exceed, on a fuel heat input basis, 181.2 MMBTU per hour (HHV), as described in the manufacturer's product documentation. **(R 336.1205(1)(a) & (3), 40 CFR 52.21(c) & (d))**
2. The permittee shall not operate FGTURBINES unless the dry-low-NO_x (SoLoNO_x) control is installed, maintained, and operated in a satisfactory manner. Satisfactory manner includes operating and maintaining each turbine in accordance with an approved MAP for FGTURBINES as required in SC III.1. **(R 336.1205(1)(a) & (3), R 336.1224, R 336.1225, R 336.1910)**
3. The permittee shall install, calibrate, maintain and operate in a satisfactory manner a device to monitor and record the natural gas usage rate for each turbine within FGTURBINES on a continuous basis. **(R 336.1205(1)(a) & (3), 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. Within 60 days after achieving the maximum production rate on each unit, but no later than 180 days after commencement of initial startup, the permittee shall verify CO and NO_x emission rates from each turbine in FGTURBINES at maximum routine operating conditions, by testing at owner's expense, in accordance with Department requirements. The permittee must complete the required testing once every five years of operation, thereafter. Testing shall be based on an average of three 1-hour or longer test runs performed using an approved EPA Method listed in:

Pollutant	Test Method Reference
NO _x	40 CFR Part 60, Appendix A
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 336.1224, R 336.1225, R 336.1331(1)(c), R 336.1702(a), R 336.2001, R 336.2003, R 336.2004)**

2. The permittee must conduct an initial performance test of NO_x emission rates from each turbine in FGTURBINES, as required in 40 CFR 60.8. Subsequent NO_x performance tests shall be conducted on an annual basis (no more than 14 calendar months following the previous performance test) in accordance with 40 CFR 60.4400 to demonstration continuous compliance. If the NO_x emission result from the performance test is less than or equal to 75 percent of the NO_x emission limit specified in SC I.1, the permittee may reduce the frequency of subsequent performance tests to once every 2 years (no more than 26 calendar months following the previous performance test). If the results of any subsequent performance test exceed 75 percent of the NO_x emission limit for the turbine, the permittee must resume annual performance tests. **(40 CFR 60.4340(a), 40 CFR 60.4400(a))**
3. The performance test required under SC V.2 must be done at any load conditions within plus or minus 25 percent of 100 percent peak load. The permittee may perform testing at the highest achievable load point, if at least 75 percent of peak load cannot be achieved in practice. The permittee must conduct three separate test runs for each performance test. The minimum time per run is 20 minutes. 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 60.4375(b), 40 CFR 60.4400(b))**

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) & (3), 40 CFR 60.4345)**
2. The permittee shall monitor and record, in a satisfactory manner, the natural gas usage for each turbine in FGTURBINES 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) & (3))**
3. The permittee shall keep, in a satisfactory manner, a record of the monthly and 12-month rolling total hours of startup and shutdown, cold weather operation, and low-load for each turbine in FGTURBINES. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(1)(a) & (3), 40 CFR 52.21(c) & (d))**
4. The permittee shall calculate and keep, in a satisfactory manner, records of monthly and 12-month rolling NOx and CO mass emissions for FGTURBINES. The permittee shall keep records of the basis of the calculations, including any product documentation from the turbine manufacturer used to determine emissions during startup and shutdown, cold weather operation, and low-load. **(R 336.1205(1)(a) & (3), 40 CFR 52.21(c) & (d))**
5. The permittee shall maintain records of all information necessary for all notifications and reports as specified in these special conditions as well as that information necessary to demonstrate compliance with the emission limits of this permit for each turbine within FGTURBINES. 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;
 - c. Total sulfur content and potential sulfur emissions, as applicable, of the natural gas as required by 40 CFR 60.4365(a) or (b);
 - d. Verification of heat input capacity as required by SC IV.1;
 - e. Identification, type, and amount of fuel combusted on a calendar month basis;
 - g. All records required by 40 CFR 60.7;
 - h. Records of the duration of all dates and times of startup and shutdown events;
 - i. Records of the duration of all dates and times of low load operations;
 - j. Records of the duration of all dates and times of cold weather operations;
 - k. All calculations necessary to show compliance with the limits contained in this permit;
 - l. 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. **(R 336.1205(1)(a) & (3), R 336.1224, R 336.1225, R 336.1331(1)(c), R 336.1702(a), R 336.1912, 40 CFR 60.7, 40 CFR 60.4365, 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 either turbine in FGTURBINES. **(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 turbine in FGTURBINES, in accordance with 40 CFR 60.7. The permittee shall submit the notification(s) to the AQD District Supervisor within the time frames specified in 40 CFR 60.7 where applicable. **(40 CFR 60.7(a))**

VIII. STACK/VENT RESTRICTION(S)

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

Stack & Vent ID	Maximum Exhaust Diameter / Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. EUHM015	108 x 108	58.5	R 336.1225, 40 CFR 52.21(c) & (d)
2. EUHM016	108 x 108	58.5	R 336.1225, 40 CFR 52.21(c) & (d)

IX. OTHER REQUIREMENT(S)

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

FGHEATERS FLEXIBLE GROUP CONDITIONS
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DESCRIPTION

Space heating units with a maximum combined heat input rating of 3.6 MMBtu/hr natural gas-fueled space heater.

Emission Unit: EUFUELGASHEATER, EUUTILITYHEATER, EUWAREHOUSEHEAT, EUSPACEHEATER

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

1. The permittee shall only burn pipeline quality natural gas in FGHEATERS. (R 336.1205(1)(a) & (3), R 336.1225, R 336.1702(a))

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The maximum heat input of all equipment in FGHEATERS combined shall not exceed 3.6 MMBtu/hr. (R 336.1205(1)(a) & (3), R 336.1225, 40 CFR 52.21(c) & (d))

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

NA

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall maintain records showing the maximum heat input capacity of all equipment in FGHEATERS. The permittee shall keep all records on file and make them available to the Department upon request. (R 336.1205(1)(a) & (3), R 336.1224, R 336.1225, R 336.1702)

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

NA

FGTANKS FLEXIBLE GROUP CONDITIONS
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DESCRIPTION

Two (2) miscellaneous tanks

Emission Unit: EUTANK18, EUTANK19

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The design capacity of the tanks in FGTANKS shall not exceed the following: **(R 336.1205(1)(a) & (3), R 336.1224, R 336.1225, R 336.1702(a))**
 - a) EUTANK18: 4,100 Gallons
 - b) EUTANK19: 1,500 Gallons

V. TESTING/SAMPLING

NA

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall keep, in a satisfactory manner, records of the storage capacity and general contents of each tank in FGTANKS. **(R 336.1205(1)(a) & (3), R 336.1224, R 336.1225, R 336.1702(a))**

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

NA

**FGTRANSITION
 FLEXIBLE GROUP CONDITIONS**

DESCRIPTION

Operation of ANR Hamilton during the commissioning period. The commissioning period will take place between the date of issuance of this permit to install and the date that completes the commissioning period for FGTRANSITION.

Emission Unit: EUHM015, EUHM016, EUHM017, EUFUELGASHEATER, EUUTILITYHEATER, EUWAREHOUSEHEAT, EUSPACEHEATER, EUTANK18, EUTANK19.

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. CO	49.2 tpy ^A	12-month rolling time period as determined at the end of each calendar month	FGTRANSITION	SC VI.2	R 336.1205(1)(a) & (3), 40 CFR 52.21(c) & (d)
2. NOx	31.9 tpy ^A	12-month rolling time period as determined at the end of each calendar month	FGTRANSITION	SC VI.2	R 336.1205(1)(a) & (3), 40 CFR 52.21(c) & (d)

^A This limit will remain in effect until the commissioning period is complete. The commissioning period is complete once EUHM001, EUHM002, EUHM003, EUHM004, EUHM005, EUHM006, EUHM007, EUHM008, EUHM009, or EUHM010, as defined in the Renewable Operating Permit for the facility, are permanently removed from service.

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not operate each turbine within FGTURBINES for more than 3,000 hours per 12-month rolling time period during the commissioning period. **(R 336.1205(1)(a) & (3), R 336.1225, R 336.1702(a), 40 CFR 52.21(c) & (d))**
2. The permittee shall not operate each of the following emission units for more than 6,000 hours per 12-month rolling time period during the commissioning period: EUHM017, EUFUELGASHEATER, EUUTILITYHEATER, EUWAREHOUSEHEAT, EUSPACEHEATER, EUTANK18, EUTANK19. **(R 336.1205(1)(a) & (3), R 336.1225, R 336.1702(a), 40 CFR 52.21(c) & (d))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The total events for startup and shutdown for each turbine in FGTRANSITION shall not exceed 100 startup and shutdown events per 12-month rolling time period as determined at the end of each calendar month during the commissioning period. **(R 336.1205(1)(a) & (3), 40 CFR 52.21(c) & (d))**

2. The total hours for low load operation for each turbine in FGTRANSITION shall not exceed 14 hours per 12-month rolling time period as determined at the end of each calendar month during the commissioning period. Low load operation shall be defined as anytime when the turbine is operating at 50% or less of full load. **(R 336.1205(1)(a) & (3), 40 CFR 52.21(c) & (d))**

V. TESTING/SAMPLING

NA

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 and make them available by the 30th day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. The permittee shall keep records on file at the facility and make them available to the Department upon request. **(R 336.1205(1)(a) & (3), 40 CFR 52.21(c) & (d))**
2. The permittee shall monitor and record, in a satisfactory manner, emissions of CO and NOx from FGTRANSITION, on a monthly and 12-month rolling basis during the commissioning period. **(R 336.1205(1)(a) & (3), 40 CFR 52.21(c) & (d))**
3. The permittee shall monitor and record, in a satisfactory manner, the hours of operation of each emission unit within FGTRANSITION, on a monthly and 12-month rolling basis during the commissioning period. **(R 336.1205(1)(a), R 336.1225, R 336.1702(a), 40 CFR 52.21(c)&(d))**
4. The permittee shall keep, in a satisfactory manner, a record of the monthly and 12-month rolling total hours of startup and shutdown and low load operation for each turbine in FGTRANSITION during the commissioning period. **(R 336.1205(1)(a) & (3), 40 CFR 52.21(c) & (d))**

VII. REPORTING

1. Within 30 days after completion of the commissioning period, the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the activity. The commissioning period is complete once EUHM001, EUHM002, EUHM003, EUHM004, EUHM005, EUHM006, EUHM007, EUHM008, EUHM009, and EUHM010, as defined in the Renewable Operating Permit for the facility, are permanently removed from service. **(R 336.1201(7)(a))**

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with the requirements of FGTRANSITION until the commissioning period for FGTRANSITION is complete. The commissioning period is complete once EUHM001, EUHM002, EUHM003, EUHM004, EUHM005, EUHM006, EUHM007, EUHM008, EUHM009, and EUHM010, as defined in the Renewable Operating Permit for the facility, are permanently removed from service. Upon completion of the commissioning period, the conditions of FGTRANSITION are null and void. **(R 336.1201)**

FGFACILITY CONDITIONS

DESCRIPTION: The following conditions apply source-wide to all process equipment including equipment covered by other permits, grand-fathered equipment and exempt equipment.

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. Each Individual HAP	8.9 tpy*	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	SC VI.2	R 336.1205(3)
2. Aggregate HAPs	22.4 tpy*	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	SC VI.2	R 336.1205(3)

* Beginning during the first month that either EUFUELGASHEATER, EUHM015, EUHM016, or EUHM017 starts up and continuing for the first 12 calendar months, this limit applies to the cumulative total HAP emissions. Thereafter, the limit shall become a 12-month rolling limit.

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

NA

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(3))**
2. Beginning during the first month that either EUFUELGASHEATER, EUHM015, EUHM016, or EUHM017 starts up, the permittee shall monitor and record, in a satisfactory manner, emission calculations for FGFACILITY determining the cumulative emission rate of individual and aggregate HAPs during the first 12-months, and the annual emission rate of each thereafter, in tons per 12-month rolling time period as determined at the end of each calendar month. **(R 336.1205(1)(a) & (3), 40 CFR 52.21(c) & (d))**

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

NA