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_2e	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_2S	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 conditions or malfunction has been corrected, or within 30 days of discovery of the abnormal condition or malfunction, whichever is first. The written reports shall include all of the information required in Rule 912(5). **(R 336.1912)**

8. Approval of this permit does not exempt the permittee from complying with any future applicable requirements which may be promulgated under Part 55 of 1994 PA 451, as amended or the Federal Clean Air Act.

9. Approval of this permit does not obviate the necessity of obtaining such permits or approvals from other units of government as required by law.

10. Operation of this equipment may be subject to other requirements of Part 55 of 1994 PA 451, as amended and the rules promulgated thereunder.

11. Except as provided in subrules (2) and (3) or unless the special conditions of the Permit to Install include an alternate opacity limit established pursuant to subrule (4) of Rule 301, the permittee shall not cause or permit to be discharged into the outer air from a process or process equipment a visible emission of density greater than the most stringent of the following. The grading of visible emissions shall be determined in accordance with Rule 303 (R 336.1303). **(R 336.1301)**
    a) A six-minute average of 20 percent opacity, except for one six-minute average per hour of not more than 27 percent opacity.
    b) A visible emission limit specified by an applicable federal new source performance standard.
    c) A visible emission limit specified as a condition of this Permit to Install.

12. Collected air contaminants shall be removed as necessary to maintain the equipment at the required operating efficiency. The collection and disposal of air contaminants shall be performed in a manner so as to minimize the introduction of contaminants to the outer air. Transport of collected air contaminants in Priority I and II areas requires the use of material handling methods specified in Rule 370(2). **(R 336.1370)**

13. The Department may require the permittee to conduct acceptable performance tests, at the permittee's expense, in accordance with Rule 1001 and Rule 1003, under any of the conditions listed in Rule 1001. **(R 336.2001)**

EMISSION UNIT SPECIAL CONDITIONS

EMISSION UNIT SUMMARY TABLE

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

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date / Modification Date	Flexible Group ID
EUBG013	Natural gas-fired Solar Mars 100 turbine rated at 15,327 hp, with a maximum design heat input capacity of 132.9 million British thermal units per hour (MMBtu/hr) at 32°F. The turbine is equipped with SoLoNOx dry-low-NOx combustion control.	TBD	FGTURBINES,
EUBG014	Natural gas-fired Solar Taurus 70 turbine rated at 10,953 hp with a maximum design heat input capacity of 91.2 MMBtu/hr at 32°F. The turbine is equipped with SoLoNOx dry-low-NOx combustion control.	TBD	FGTURBINES,
EUBG015	Natural gas-fired 4-stroke, lean burn Waukesha L36GL emergency engine rated at 880hp, powering an electric generator.	TBD	
EUFUELGASHTR	Fuel gas heater: Natural gas-fired fuel gas heater with a maximum heat input rating of 0.775 MMBtu/hr.	TBD	FGHEATERS,
EUSPACEHEAT	Space heating units, with a maximum total heat input rating of 2.2 MMBtu/hr.	TBD	FGHEATERS,
EUFLUIDSTANK	Pipeline fluids tank: 4,100 gallon storage tank for pipeline fluids.	TBD	FGTANKS,
EUWATERTANK	Waste water tank: 1,200 gallon storage tank for wastewater.	TBD	FGTANKS,

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.

EUBG015
EMISSION UNIT CONDITIONS

DESCRIPTION

Emergency engine: Natural gas-fired 4-stroke, lean burn Waukesha L36GL emergency engine rated at 880hp, powering an electric generator.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. NO_X	2.0 g/hp-hr OR 160 ppmvd	Hourly	EUBG015	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	Hourly	EUBG015	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	Hourly	EUBG015	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 NSPS 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 EUBG015. **(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 EUBG015 for more than 500 hours per year based on a 12-month rolling time period as determined at the end of each calendar month. The 500 hours includes the hours for the purpose of necessary maintenance checks and readiness testing as described in SC III.2. **(R 336.1205(1)(a), R 336.1225, R 336.1702(a), 40 CFR 52.21(c) & (d))**

2. The permittee may operate EUBG015 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. The permittee may operate EUBG015 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 EUBG015 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 EUBG015 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 EUBG015 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 EUBG015 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 EUBG015 shall not exceed 880 HP, 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 EUBG015 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 emission limits in SC I.1 – I.3 within 1 year after EUBG015 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 EUBG015:
   a) For a certified engine: The permittee shall keep records from the manufacturer that the EUBG015 is certified to meet the emission standards and information as required in 40 CFR Parts 90, 1048, 1054, and 1060, as applicable.
   b) For an uncertified engine: The permittee shall keep records of testing required in SC V.1.

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

2. The permittee shall keep, in a satisfactory manner, the following records of maintenance activity for EUBG015:
   a) For a certified engine: The permittee shall keep records of the manufacturer's emission-related written instructions, and records demonstrating that the engine has been maintained according to those instructions, as specified in SC III.4.
   b) For an uncertified engine: 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 60.4211)**

3. The permittee shall keep records of notifications submitted for the completion of construction and start-up of EUBG015. **(40 CFR 60.4245(a))**

4. The permittee shall monitor and record, the total hours of operation for EUBG015 on a monthly and 12-month rolling time period basis, and the hours of operation during emergency and non-emergency service that are recorded through the non-resettable hour meter for EUBG015, on a calendar year basis, in a manner acceptable to the AQD District Supervisor. The permittee shall document how many hours are spent for emergency operation of EUBG015, including what classified the operation as emergency and how many hours are spent for non-emergency operation. **(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 EUBG015. **(R 336.1201(7)(a))**

2. The permittee shall submit a notification specifying whether EUBG015 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 EUBG015 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 EUBG015 commenced;
   b) Name and address of the owner or operator;
   c) The address of the affected source;
   d) EUBG015 information including make, model, engine family, serial number, model year, maximum engine power, and engine displacement;
   e) EUBG015 emission control equipment; and
   f) Fuel used in EUBG015.

   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 EUBG015. 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 EUBG015 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. SVBG015	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 EUBG015. **(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 EUBG015**. (40 CFR Part 63 Subparts A and ZZZZ, 40 CFR 63.6595)**

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

FLEXIBLE GROUP SPECIAL CONDITIONS

FLEXIBLE GROUP SUMMARY TABLE

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

Flexible Group ID	Flexible Group Description	Associated Emission Unit IDs
FGTURBINES	Two (2) natural gas turbines with a combined heat input of 224.1 MMBtu/hr.	EUBG013, EUBG014
FGHEATERS	Various natural gas-fueled heating units with a maximum combined heat input rating of 3.0 MMBtu/hr.	EUFUELGASHTR, EUSPACEHEAT
FGTANKS	Two (2) storage tanks.	EUFLUIDSTANK, EUWATERTANK

FGTURBINES
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Two (2) natural gas turbines with a combined heat input of 224.1 MMBtu/hr.

Emission Unit: EUBG013, EUBG014

POLLUTION CONTROL EQUIPMENT

Each turbine is equipped with SoLoNOx dry-low-NOx combustion control.

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. NO_X	25 ppmvd or 150 ng/J of useful output (1.2 lb/MWh) [A,B,C]	Hourly	EUBG013, EUBG014 (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. NO_X	7.6 pph [A, B, D, E]	Hourly, except during startup and shutdown, low load operations, and cold weather operations	EUBG013	SC V.1, SC VI.5	R 336.1205(1)(a)&(3), 40 CFR 52.21(c) & (d)
3. NO_X	3.1 pph [A, B, D, E]	Hourly, except during startup and shutdown, low load operations, and cold weather operations	EUBG014	SC V.1, SC VI.5	R 336.1205(1)(a)&(3), 40 CFR 52.21(c) & (d)
4. NO_X	59.7 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)
5. CO	7.7 pph [A, B, D, E]	Hourly, except during startup and shutdown, low load operations, and cold weather operations	EUBG013	SC V.1, SC VI.5	R 336.1205(1)(a)&(3), 40 CFR 52.21(d)
6. CO	3.2 pph [A, B, D, E]	Hourly, except during startup and shutdown, low load operations, and cold weather operations	EUBG014	SC V.1, SC VI.5	R 336.1205(1)(a)&(3), 40 CFR 52.21(d)
7. CO	207 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)
8. SO_2	0.060 lb/MMBtu	Hourly	EUBG013, EUBG014 (each unit)	SC VI.5	40 CFR 60.4330

ppmvd = parts per million by volume at 15 percent O_2 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 NOx 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	Monitoring / Testing 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) A complete preventative maintenance program including identification of the supervisory personnel responsible for overseeing the inspection, maintenance, and repair of air-cleaning devices, a description of the items or conditions that shall be inspected, the frequency of the inspections or repairs, and an identification of the major replacement parts that shall be maintained in inventory for quick replacement.
   b) An identification of the source and air-cleaning device operating variables that shall be monitored to detect a malfunction or failure, the normal operating range of these variables, and a description of the method of monitoring or surveillance procedures.
   c) A description of the corrective procedures or operational changes that shall be taken in the event of a malfunction or failure to achieve compliance with the applicable emission limits.
   d) Operating variables and ranges under various load conditions shall be monitored and recorded. The normal operating range of these variables and a description of the method of monitoring shall be maintained.

   If at any time the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the MAP within 45 days after such an event occurs. The permittee shall also amend the MAP within 45 days, if new equipment is installed or upon request from the AQD District Supervisor. The permittee shall submit the MAP and any amendments to the MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the MAP or amended MAP shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes to achieve compliance with all applicable emission limits. **(R 336.1205(1)(a) & (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 200 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 EUBG013 shall not exceed, on a fuel heat input basis, 132.9 MMBTU per hour (HHV) at 32°F, as described in the manufacturer's product documentation. **(R 336.1205(1)(a) & (3), 40 CFR 52.21(c) & (d))**

2. The maximum design heat input capacity for EUBG014 shall not exceed, on a fuel heat input basis, 91.2 MMBTU per hour (HHV) at 32°F, as described in the manufacturer's product documentation. **(R 336.1205(1)(a) & (3), 40 CFR 52.21(c) & (d))**

3. The permittee shall not operate FGTURBINES unless the dry-low-NO_x (SoLoNOx) 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)**

4. 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 NO_X 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;
   b) Total sulfur content and potential sulfur emissions, as applicable, of the natural gas as required by 40 CFR 60.4365(a) or (b);
   c) Verification of heat input capacity as required by SC IV.1 and IV.2;
   d) Identification, type, and amount of fuel combusted on a calendar month basis;
   e) All records required by 40 CFR 60.7;
   f) Records of the duration of all dates and times of startup and shutdown events;
   g) Records of the duration of all dates and times of low load operations;
   h) Records of the duration of all dates and times of cold weather operations;
   i) All calculations necessary to show compliance with the limits contained in this permit;
   j) All records related to, or as required by, the MAP and the startup and shutdown plan.

All of the above information shall be stored in a format acceptable to the AQD District Supervisor. **(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. SVBG013	123 x 116	55	R 336.1225, 40 CFR 52.21(c) & (d)
2. SVBG014	114 x 114	55	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)**

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

FGHEATERS
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Various natural gas-fueled heating units with a maximum combined heat input rating of 3.0 MMBtu/hr.

Emission Unit: EUFUELGASHTR, EUSPACEHEAT

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 3.4 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

DESCRIPTION

Two (2) storage tanks.

Emission Unit: EUFLUIDSTANK, EUWATERTANK

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) EUFLUIDSTANK: 4,100 Gallons
   b) EUWATERTANK: 1,200 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

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 [A]	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 [A]	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	SC VI.2	R 336.1205(3)

[A] Beginning during the first month that either EUBG013, EUBG014, EUBG015, or EUFUELGASHTR 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

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

NA

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall 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 EUBG013, EUBG014, EUBG015, or EUFUELGASHTR 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

TC Energy
700 Louisiana Street
Houston, TX 77002

March 12, 2023

Michigan Department of Environment, Great Lakes, and Energy– Air Quality Division
Kalamazoo District
7953 Adobe Road
Kalamazoo, MI 49009-5026

RE: Renewable Operating Permit Renewal Application
Bridgman Compressor Station (Permit No. MI-ROP-N5575-2018)
Berrien County, Michigan
State Registration Number (SRN): N5575
ANR Pipeline

Dear Permit Engineer,

Enclosed is the Renewable Operating Permit (ROP) renewal application for ANR Pipeline Company (ANR) for the ANR Bridgman Compressor Station which provides transmission of natural gas. The Renewable Operating Permit (ROP) No. MI-ROP-N5575-2018 for the Bridgman Station expires on September 12, 2023. As required under Section A.35 of the Bridgman Station ROP, ANR is submitting this permit renewal application no later than 6 months prior to expiration of the permit or March 12, 2023. A PTI was issued on February 23, 2021 that was Permit No. 92-20.

ANR submits both the attached hard copy of the application and an electronic version of the ROP Application Package to EGLE-ROP@michigan.gov and thus requests that the determination of administrative completeness of the application be completed within 15 days of receipt of this hard copy version of the application by AQD.

Please find attached the renewal application including all necessary materials as listed below:

- ROP Application Form
- ROP Mark-up
- Supplemental Data
- Plans Referenced in the ROP

If you have any questions or comments concerning this request, please contact me at (832) 320-5490 or via email at chris_mcfarlane@tcenergy.com.

Sincerely,

Christopher McFarlane

Chris McFarlane
Environmental Analyst - Air
TC Energy

Enclosure – Renewal Application

TITLE V RENEWABLE OPERATING PERMIT APPLICATION

Bridgman Compressor Station
Bridgman, Berrien County, Michigan

Permit Number: MI-ROP-N5575-2018

March 2023

Prepared for:
ANR Pipeline Company
700 Louisiana Street
Houston, TX 77002

Prepared by:
Stantec Consulting Services, Inc.
2080 Wooddale Drive
Suite 100
Woodbury, MN 55125

Project Number:
227705781

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1 Technical Support Documentation

ANR Pipeline Company (ANR) owns and operates several facilities in Michigan that are used in both natural gas transmission and storage. The function of some ANR compressor stations, including the Bridgman Compressor Station (Bridgman), is to maintain pressure in pipelines to transport natural gas from ANR's mainline to and from storage facilities located in Michigan or to local distribution companies or other end users. The ANR Bridgman is a natural gas compression and transmission station that currently operates two (2) Solar Turbines, one (1) emergency generator, one (1) natural gas-fired fuel gas heater, and auxiliary equipment. The Station is located near Bridgman, Michigan in Berrien County.

The Title V regulations established emission thresholds of 100 tons per year (tpy) for all criteria pollutants and 25 tpy for total Hazardous Air Pollutants (HAPs) or 10 tpy for an individual HAP to classify a stationary source as major. The Bridgman Compressor Station is considered a Title V Part 70 major source due to CO emissions in excess of the applicability threshold. Bridgman is not a major source of HAPs as potential emissions of an individual HAP are less than 10 tpy and combined HAPs are less than 25 tpy.

The Renewable Operating Permit (ROP) No. MI-ROP-N5575-2018 for the Bridgman Compressor Station expires on September 12, 2023. As required under Section A.35 of the Bridgman Compressor Station ROP, ANR is submitting this permit renewal application no later than 6 months prior to expiration of the permit, or by March 12, 2023. Therefore, according to R336.1210(7), this is considered a timely renewal application and the facility will be authorized to continue to operate until Michigan Department of Environment, Great Lakes, and Energy (EGLE) takes final action on this application.

ANR was issued a PTI (Permit No. 92-20) on February 23, 2021. As part of the PTI, ANR installed the equipment listed above and removed all existing equipment from the facility. The new turbines were installed on May 8, 2022 and the emergency generator was installed on May 20, 2022. The existing equipment was removed on May 24, 2022. ANR is requesting to incorporate the PTI requirements except for flexible group FGTRANSITION into the facility ROP. FGTRANSITION covered the commissioning period of the new equipment. However, these conditions are null and void as described in the PTI and not proposed to be transitioned to the ROP. Additional description is provided below.

This ROP application is comprised of the following information:

- Section 1 consists of technical support documentation;
- Section 2 consists of the ROP renewal application forms;
- Appendix A consists of the area maps and process flow diagrams;
- Appendix B contains the emission calculations;
- Appendix C contains a mark-up of the current Bridgman Compressor Station ROP; and Appendix D contains all plans referenced within the ROP, as required by Question C9 of the ROP Renewal Application Form.

1.1 Process Description

Bridgman CS is located at 3372 Browntown Road, Bridgman, Michigan in Berrien County. The station maintains pressure (recompression) in pipelines supporting natural gas to and from storage facilities located in Michigan, to industrial customers or to local distribution companies.

The Bridgman Compressor Station currently operates two (2) Solar Turbines, one (1) emergency generator, one (1) natural gas-fired fuel gas heater, and auxiliary equipment. The pipeline system normally operates continuously, 24 hours per day, 365 days per year. Appendix A contains the Bridgman area map (Figure 1) and process flow diagram (Figure 2).

Section 1.2 describes the process equipment operating at Bridgman that must be included in the Renewal Operating Permit application. Section 1.2.5 describes equipment ("Insignificant Activities") considered exempt from most requirements associated with Michigan's Renewable Operating Permit program [R336.1212(3)]. Equipment at Bridgman identified as exempt from the requirement to obtain a permit to install is discussed in Section 1.2.4 and listed in Table 1.2.1.

1.2 Emission Source Description

This section provides a brief description of the various emission sources at Bridgman. Bridgman operates two (2) Solar Turbines, one (1) emergency generator, one (1) natural gas-fired fuel gas heater and various exempt sources listed in Table 1.2.1. These emission sources are further described in the following sections.

1.2.1 TURBINES

ANR operates one (1) 15,327 hp Solar Mars 100 turbine and one (1) 10,953 hp Solar Taurus 70 turbine. The turbines are designed as Emission Point IDs EUBG013 and EUBG014.

The Solar Turbines are equipped with advanced dry-low-NO_x combustion controls, known by the manufacturer as SoLoNO$_x$. These controls reduce nitrogen oxides (NO_x) and peak combustion temperatures through the use of a lean, premixed air/fuel mixture and advanced combustion controls. The SoLoNO$_x$ system is operational at turbine loads from approximately 50% to 100% of full load. During operation at low turbine loads (<50% of full load), ambient temperatures less than or equal to 0^{o}F, and during turbine startup and shutdown, supplemental pilot fuel is fired for flame stability and results in NO_x, carbon monoxide (CO), and volatile organic compounds (VOC) concentrations that are higher than during SoLoNO$_x$ operation. Estimated emissions during each of the operating modes are summarized in Appendix B with turbine calculations.

The Solar turbines are expected to continuously operate; therefore, emission estimates are based on 8,760 operating hours per year. Because the SoLoNO$_x$ controls cannot operate properly below 50% of peak load or when ambient temperatures are less than 0^{o}F, the potential emission estimates presented in Appendix B include separate lines for operating hours at low load (less than 50% load), when ambient temperatures are less than 0^{o}F and startup/shutdown cycles. The calculations for each turbine are based on 200 hours of low load operation, 240 hours of low temperature operation (i.e., when ambient temperatures are less than 0^{o}F) and 200 startup/shutdown cycles. Each startup/shutdown cycle is a maximum of 20 minutes. The number of days assumed for low temperature operation are based on a

historical review of actual temperatures from the South Bend International Airport located in South Bend, Indiana (KSBN).[1] South Bend, IN is located approximately 20 miles to the south east of Bridgman Compressor Station. Therefore, the temperature data is representative of the station. Historical data from the past five years indicates that there are approximately seven (7) days with at least one hour with a temperature less than 0°F. The calculations assume 10 days of temperature less than 0°F to be conservative and account for variability in the weather.

Annual emissions from the turbines during the remainder of the year are conservatively based on an ambient temperature of 32°F. Combustion turbine power varies with atmospheric conditions such that maximum heat input, maximum fuel consumption, and associated emissions generally increase as ambient temperature decreases. For the purpose of this application, turbine emissions have been characterized based on an ambient temperature of 32°F. The average maximum daily temperature for South Bend, IN is 58°F, and the average minimum daily temperature is 40°F. Again, this location was chosen due to the proximity to Bridgman.

Emissions for additional pollutants emitted by the turbines are described below.

- Potential CO_2e emissions are based on emission factors and global warming potential specified in 40 CFR Part 98.
- Potential particulate matter (PM), particulate matter less than 10 microns (PM_{10}) and particulate matter less than 2.5 microns ($PM_{2.5}$) emissions are based on emission factors from AP-42 Table 3.1-2a (4/00).
- Annual sulfur dioxide (SO_2) emissions are based on 0.25 grains of sulfur per 100 standard cubic feet of natural gas, and maximum hourly emissions are based on 20 grains of sulfur per 100 standard cubic feet.
- Emissions of formaldehyde and total hazardous air pollutants (HAPs) are based on emission factors from AP-42 Table 3.1-3 (4/00).

1.2.2 EMERGENCY ENGINE

ANR operates one (1) 4-stroke, lean burn emergency engine (EUBG015), rated at 880 hp, which will be installed to provide power to the station in the event of a power outage. The generator is equipped with an internal combustion engine whose emissions exhaust from a single exhaust stack.

Emissions of concern are mainly the following products of combustion: NO_x, CO, and VOC. Emissions from NO_x, CO, and VOC are based on New Source Performance Standard (NSPS) for Stationary Spark Ignition Internal Combustion Engines (Subpart JJJJ) emission limits for emergency engines greater than 130 HP. ANR employs good combustion practices on well-maintained engines combined with the exclusive use of natural gas in order to minimize air emissions.

Potential CO_2e emissions are based on emission factors and global warming potential specified in 40 CFR Part 98. Annual SO_2 emissions are based on 0.25 grains of sulfur per 100 standard cubic feet of natural gas, and maximum hourly emissions are based on 20 grains of sulfur per 100 standard cubic feet.

[1] https://w2.weather.gov/climate/index.php?wfo=iwx

Emissions of PM, PM_{10}, $PM_{2.5}$ and total HAPs are based on the EPA's AP-42 emission factors. Finally, emissions of formaldehyde are based on manufacturer information.

1.2.3 INSIGNIFICANT ACTIVITIES

Activities identified as "insignificant" pursuant to R 336.1212 (2) do not need to be included in an administratively complete application for a renewable operating permit. These activities do not significantly contribute to the actual emissions or the potential to emit. The following activities, identified under R 336.1212 (2) as insignificant, may be performed at Bridgman:

- Repair and maintenance of grounds and structures (including painting, welding, etc.);
- All activities and changes pursuant to sections (a) through (f) of Rule 285, Permit to install exemptions; miscellaneous, unless any compliance monitoring requirements in the renewable operating permit would be affected by the change;
- All activities and changes pursuant to sections (f) through (h) of Rule 287, Surface coating equipment, unless any compliance monitoring requirements in the renewable operating permit would be affected by the change;
- Use of office supplies;
- Use of housekeeping and janitorial supplies;
- Sanitary plumbing and associated stacks or vents;
- Temporary activities related to the construction or dismantlement of buildings, utility lines, pipelines, wells, earthworks, or other structures;
- Storage and handling of drums or other transportable containers that are sealed during storage and handling;
- Fire protection equipment, firefighting and training in preparation for fighting fires (prior approval by the department for open burning associated with training in preparation for fighting fires will be obtained pursuant to R 336.1310);
- Use, servicing, and maintenance of motor vehicles, except where the activity is subject to an applicable requirement;
- Construction, repair, and maintenance of roads or other paved or unpaved areas, except where the activity is subject to an applicable requirement;
- Piping and storage of sweet natural gas, including venting from pressure relief valves and purging of gas lines; and
- Compressor unit oil demisters.

1.2.4 EXEMPT SOURCES

Certain processes and process equipment exempt by state rule from obtaining a Permit to Install (PTI) may be subject to inclusion in the ROP application. The guidelines for determining whether an exempt process or process equipment must be included in the ROP application are summarized as follows:

- Process or process equipment exempt under R336.1212(3) need not be included in the ROP application, provided there are no applicable requirements;
- Process or process equipment exempt under R336.1212(4) need to be listed in the ROP application as Exempt Devices, provided there are no process-specific emission limitations or standards; and,

- If a process or process equipment identified as exempt under 212(3) or 212(4) has an applicable requirement with a process-specific emission limitation or standard, it must be included as an emission group in the ROP.

There are several sources at Bridgman that qualify for the above exemptions. These sources are also exempt from the requirement of obtaining a PTI. Table 1.2.1 provides a list of such sources. In addition, the table provides a brief description and identifies the specific rule that exempts from the ROP and the requirement of obtaining a PTI.

The fuel gas heater, EUFUELGASHTR was originally permitted as a 1.2 MMBtu/hr heater. The final heater installed at the facility was slightly smaller at 0.775 MMBtu/hr.

As part of this renewal application, ANR is proposing the addition of flexible group FGRULE285(2)(mm) for routine and emergency venting of natural gas from transmission and distribution systems or field gas from gathering lines. Emissions from routine and emergency venting of natural gas from transmission and distribution systems or field gas from gathering lines are exempt from the requirement of obtaining a PTI under Rule 212(4). However, this activity has process-specific standards under Rule 285(2)(mm) that have been incorporated into the ROP Mark-up included as Appendix C using language provided by the EGLE template for the rule.

Table 1.2.1 Equipment Exempt from Permit to Install Requirement

Equipment ID	Description of Exempt Emission Unit	Basis of Exemption	RO Permit Exemption	NSR Permit Exemption
EUFUELGASHTR	One (1) fuel gas heater rated at 0.775 MMBtu/hr,	< 50 MMBtu/hr	R 336.1212(4)(c)	R 336.1282(2)(b)(i)
EUSPACEHEATERS	Thirty (30) space heaters each rated at 0.0725 MMBtu/hr	< 50 MMBtu/hr	R 336.1212(4)(c)	R 336.1282(2)(b)(i)
EUWATERTANK	Waste water Tank, 1,200 gal	Each tank has a capacity of less than 40,000 gallons and is used to store non-carcinogenic liquids with a vapor pressure of not more than 1.5 psia at the actual storage conditions.	R 336.1212(4)(d)	R 336.1284(2)(i)
EUBGTANK11	Existing condensate Storage Tank, 10,000 gal			

1.3 Permit Summary and Compliance and History

There have been no administrative or judicial actions taken against ANR within the past five years pertaining to operation of the Bridgman Compressor Station. There are currently no outstanding violations of state or federal environmental laws or regulations at Bridgman. Since its issuance, ANR has complied with the terms and conditions of the existing ROP. ANR was issued a PTI (Permit Number 98-20) on February 23, 2021. The applicable conditions of the PTI are proposed to be incorporated into the ROP.

1.4 Federal and State Regulatory Review

Bridgman will be subject to certain federal and state air quality regulations. This section summarizes the air permitting requirements and key air quality regulations that will apply to the operation of the facility once constructed. Specifically, applicability or non- applicability of the following regulatory programs are addressed: Prevention of Significant Deterioration (PSD) permitting, Non-Attainment New Source Review (NNSR), New Source Performance Standards (NSPS), National Emission Standards for Hazardous Air Pollutants (NESHAP), Compliance Assurance Monitoring (CAM), Chemical Accident Prevention (CAP) and Risk Management Program (RMP), and stratospheric ozone protection regulations. This review is presented to supplement and/or add clarification to the information provided in the EGLE ROP renewal application forms, which together fulfill the requirement to include citations and descriptions of applicable statutory and administrative code requirements.

This section provides a summary of applicable requirements and non-applicability determinations for certain regulations allowing the EGLE to confirm that identified regulations are not applicable to the facility. Note that this non-applicability review is limited to those regulations for which there may be some possible applicability specific to Bridgman. Regulations that are categorically non-applicable are not discussed (e.g., NSPS Subpart J, *Standards of Performance for Petroleum Refineries*).

1.4.1 PREVENTION OF SIGNIFICANT DETERIORATION

Bridgman is located in Berrien County, which is designated by the U.S. EPA 40 CFR §81.323 as marginal “nonattainment” for ozone. Berrien County is in “attainment” or “unclassifiable” for all other criteria pollutants. As such, new construction or modifications that result in emission increases are potentially subject to two (2) different federal construction permitting regulations based on the pollutant and attainment for the National Ambient Air Quality Standards (NAAQS): 1) Non-attainment NSR permitting and 2) PSD permitting.

Non-attainment NSR applies to new major sources or major modifications at existing sources for pollutants where the area the source is located is not in attainment for the NAAQS. Whereas PSD applies to new major sources or major modifications at existing sources for pollutants where the area the source is located is in attainment for the NAAQS. PSD regulations are applicable for all other criteria pollutants

that are in attainment of the NAAQS. The source is existing, and no changes are being made, therefore, no PSD analysis is required.

The major source threshold for non-attainment NSR applicability is 100 tons per year for of VOC or NO_x, which are precursors for ozone. The major source threshold for all other criteria pollutants is 250 tons per year (tpy) unless the source is included on a list of 28 specifically defined industrial source categories for which the PSD "major" source threshold is 100 tpy. Since Bridgman does not fit any of the types of sources mentioned on the above list, the major source threshold is 250 tpy of all regulated criteria pollutants other than VOC and NO_x.

ANR is not requesting any modification with this application that would subject emission units at Bridgman to a non-attainment NSR review or PSD review. Therefore, information regarding the ambient air impacts of criteria pollutants is not required and is not addressed herein. Additional discussion regarding non-applicability of these rules is provided below.

1.4.2 NEW SOURCE PERFORMANCE STANDARDS (NSPS)

NSPS contained in 40 CFR 60 require new, modified, or reconstructed sources to control emissions to the level achievable by the best demonstrated technology as specified in the relevant regulations. These NSPS regulations were reviewed to determine their applicability to Bridgman equipment or to confirm non-applicability as appropriate. The results of this review are summarized below by regulatory citation.

NSPS contained in 40 CFR 60 require new, modified, or reconstructed sources to control emissions to the level achievable by the best demonstrated technology as specified in the relevant regulations. These NSPS regulations were reviewed to determine their applicability to Bridgman equipment or to confirm non-applicability as appropriate. The results of this review are summarized below by regulatory citation.

Table 1.4.1 NSPS Regulatory Review

Regulatory Citation	Non-Applicability Determination
40 CFR 60 Subpart Dc - Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units	This standard is not applicable to Bridgman because there are no natural gas-fired boilers with a design heat input capacity of 2.9 MW (10 MMBtu/hr) or greater. ANR requests a permit shield for this determination.
40 CFR 60 Subpart K - Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973 and prior to May 19, 1978	There are no petroleum storage vessels with capacity greater than 40,000 gallons at this facility. Therefore, this regulation is not applicable. ANR requests a permit shield for this determination.
40 CFR 60 Subpart Ka - Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978 and prior to July 23, 1984	There are no petroleum storage vessels with capacity greater than 40,000 gallons at this facility. Therefore, this regulation is not applicable. ANR requests a permit shield for this determination.

40 CFR 60 Subpart Kb - Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984	There are no volatile organic liquid storage vessels with capacity greater than 75 cubic meters at this facility. Therefore, this regulation is not applicable. ANR requests a permit shield for this determination.
40 CFR 60 Subpart GG – Standards of Performance for Stationary Gas Turbines	This standard is not applicable to the facility because the EUBG013 and EUBG014 turbines at the facility are subject to NSPS KKKK as described below. ANR requests a permit shield for this determination.
40 CFR 60 Subpart KKK-Standards of Performance for Equipment Leaks of VOC from Onshore Natural Gas Processing Plants	This regulation is not applicable to this facility because the facility is not a natural gas processing plant as defined in the regulation. ANR requests a permit shield for this determination.
40 CFR 60 Subpart LLL - Standards of Performance for Onshore Natural Gas Processing: SO_2 Emissions	Bridgman does not operate a sweetening unit or a sulfur recovery unit. Therefore, this regulation is not applicable. ANR requests a permit shield for this determination.
40 CFR 60 Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (CI ICE)	This regulation applies to owners or operators of stationary CI ICE that commence construction, modification or reconstruction after July 11, 2005 and to manufacturers of 2007 and later model year CI ICE. Bridgman does not operate any stationary diesel-fired CI ICE. Therefore, this regulation is not applicable. ANR requests a permit shield for this determination.
40 CFR 60 Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines (SI ICE)	The emergency generator is subject to NSPS JJJJ.
40 CFR 60 Subpart KKKK – Standards of Performance for Stationary Combustion Turbines	The standards of performance for Stationary Combustion Turbines, applies to combustion turbines with peak load heat input greater than 10 MMBtu/hour constructed, modified, or reconstructed after February 18, 2005. The turbines are subject to NSPS KKKK.
40 CFR 60 Subpart OOOOa – Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification, or Reconstruction Commenced After September 18, 2015	On June 3, 2016, the EPA published 40 CFR 60 Subpart OOOOa which establishes emission standards and compliance schedules for the control of methane, volatile organic compounds (VOC) and sulfur dioxide emissions from affected facilities in the crude oil and natural gas source category that commence construction, modification or reconstruction after September 18, 2015. This regulation applies to the Bridgman Compressor Station.

1.4.3 NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS (NESHAP)

Federal NESHAP regulations promulgated pursuant to Section 112 of the CAA are found in 40 CFR Parts 61 and 63. In general, NESHAP, or Maximum Achievable Control Technology (MACT) standards apply to major stationary sources of HAP emissions, defined as potential-to-emit of 10 tons or more per year of any single HAP or 25 tons or more per year of any combination of HAP and area stationary sources of HAP emissions (thresholds less than a major source). Bridgman is considered an area source of HAPs with potential emissions less than 10 tpy for an individual HAP and total HAP emissions are less than 25 tpy. Potentially applicable NESHAPs are discussed below.

Table 1.4.2 NESHAP Regulatory Review

Regulatory Citation	Non-Applicability Determination
40 CFR 61 Subpart M - National Emission Standard for Asbestos	Bridgman may at times engage in demolition and/or renovation activities involving asbestos-containing materials (ACM). Therefore, the facility could be potentially subject to Subpart M, Standards for Demolition and Renovation (40 CFR 61.145). Procedures are in place to ensure the station complies with these standards.
40 CFR 61 Subpart V - National Emission Standard for Equipment Leaks (Fugitive Emission Sources)	This regulation is not applicable to Bridgman because the provisions of this subpart apply to sources that are intended to operate in volatile hazardous air pollutant (VHAP) service. “In VHAP service means that a piece of equipment either contains or contacts a fluid (liquid or gas) that is at least 10 percent by weight a volatile hazardous air pollutant (VHAP) as determined according to the provisions of 61.245(d).” Bridgman processes do not have any sources that operate in VHAP service. ANR requests a permit shield for this determination.
40 CFR 63 Subpart A – General Provisions	This regulation has general provisions that are referenced by other more specific NESHAP regulations.
40 CFR 63 Subpart HH - NESHAP from Oil and Natural Gas Production Facilities	This regulation is not applicable to Bridgman because the facility is a transmission and storage facility and is not an oil and gas production facility as defined in this regulation. ANR requests a permit shield for this determination.
40 CFR 63 Subpart HHH - NESHAP from Natural Gas Transmission and Storage Facilities	Subpart HHH establishes national emission limitations and operating limitations for natural gas transmission and storage facilities that are major sources of HAP emissions. The rule affects facilities that transport or store natural gas prior to entering the pipeline to a local distribution company or to a final user. Bridgman is a natural gas compression and storage facility and is potentially subject to this regulation. However, the facility does not operate a glycol dehydration unit which is the only ‘affected’ source under the regulation. Therefore, the facility is not subject to this regulation. ANR requests a permit shield for this determination.
40 CFR 63 Subpart EEEE – NESHAP for Organic Liquids Distribution (non-Gasoline)	40 CFR 63 Subpart EEEE was promulgated on August 25, 2003 and applies to organic liquids distribution (OLD) operations that are located at, or are part of, a major source of hazardous air pollutant (HAP) emissions as defined in section

	112(a) of the Clean Air Act. This regulation does not apply to the tanks or loading operations at the Bridgman Compressor Station because per 40 CFR 63.2334(c)(2), OLD operations located at Natural Gas Transmission facilities as defined in 40 CFR 63 Subpart HHH are exempt from the requirements of 40 CFR 63 Subpart EEEE (OLD MACT). ANR requests a permit shield for this determination.
40 CFR 63 Subpart ZZZZ – NESHAP for Stationary Reciprocating Internal Combustion Engines (RICE)	The emergency generator is subject to Subpart ZZZZ. However, the only requirements are to demonstrate compliance with the requirements in NSPS Subpart JJJJ as discussed above.
40 CFR 63 Subpart DDDDD and Subpart JJJJJJ - NESHAP for Industrial, Commercial and Institutional Boilers	The Industrial/Commercial/Institutional Boilers and Process Heaters MACT for major sources was promulgated on March 21, 2011, and regulates HAP emissions from new and existing industrial, commercial, or institutional boilers and process heaters located at major sources of HAP emissions. The EPA subsequently issued a notice on May 18, 2011 to postpone the effective dates of the final rule until the completion of reconsideration or judicial review, whichever is earlier. On January 9, 2012, the EPA vacated the May 18, 2011 notice that delayed the effective dates of the Boiler MACT rule. The notice on final action on reconsideration was published in the Federal Register on January 31, 2013. This rule is not applicable to the fuel gas heater and space heaters located at Bridgman, since the Station is an area source of HAP. ANR requests a permit shield for this determination.
40 CFR 63 Subpart YYYY – NESHAP for Stationary Combustion Turbines	Subpart YYYY establishes national emission limitations and operating limitations for HAP emissions from stationary combustion turbines located at major sources of HAP emissions, and requirements to demonstrate initial and continuous compliance with the emission and operating limitations. The turbines at Bridgman are not subject to this regulation because they are not located at a major source of HAPs. ANR requests a permit shield for this determination.

1.4.4 COMPLIANCE ASSURANCE MONITORING (CAM)

Enhanced monitoring requirements have been adopted into 40 CFR 64. The enhanced monitoring requirements are referred to as Compliance Assurance Monitoring (CAM). CAM is applicable to sources that have a potential to emit in excess of major source thresholds, not considering “tailpipe” emission controls, and use an “active” control device to achieve compliance with the emission limit. Combustion controls may be considered in evaluating the potential to emit.

An emission unit is subject to CAM if all of the following criteria are satisfied:

- the unit is located at a major source that is required to obtain a Part 70 or Part 71 permit;
- the unit is subject to an emission limitation or standard for a regulated air pollutant;

- the unit uses an active control device to achieve compliance with any such emission limit or standard, and
- the unit has potential pre-controlled emissions of the applicable air pollutant above the major source threshold.

Bridgman is not subject to the CAM rule because all emission units with a control device do not have potential pre-control emissions over the major source thresholds. Therefore, the CAM rule does not apply to this facility at this time. ANR requests a permit shield for this determination.

1.4.5 CHEMICAL ACCIDENT PREVENTION PROVISIONS AND RISK MANAGEMENT PLAN

Bridgman is not subject to the Chemical Accident Prevention Provisions of 40 CFR Subpart 68. Applicability to this regulation is based on the type and quantity of certain regulated substances stored at a facility, and Bridgman does not exceed the applicability thresholds (40 CFR 68.10). The facility is not considered a stationary source under 40 CFR 68.3 (Chemical Accident Prevention) because it is regulated under 49 CFR 192, DOT.

1.4.6 ACID RAIN REGULATIONS

Bridgman is not subject to the federal acid rain regulations found in 40 CFR Parts 72 through 77 because the Station does not own or operate an affected unit as defined in 40 CFR part 72.6.

1.4.7 MICHIGAN STATE AIR POLLUTION CONTROL RULES (R336)

The following paragraphs discuss the general compliance with the Michigan state air pollution control rules.

Part 2 – Air Use Approval

This part requires facilities in Michigan to obtain a permit to install prior to installation, construction, reconstruction, relocation, or modification of any process or process equipment that has the potential to emit any pollutant to the atmosphere. In addition, some facilities will be required to obtain a renewable operating permit. All processes or process equipment at this facility have either a permit to install or construction was authorized under one of the various exemptions provided in the rule. This facility is also required to obtain a renewable operating permit. A complete and timely application was submitted in 2017 and a renewable operating permit was issued in 2018. This application is being submitted in order to renew this renewable operating permit.

Part 3 – Emission Limitations and Prohibitions- Particulate Matter

The processes and the process equipment at this facility are subject to the visible emission limitations specified in R336.1301(1). All sources at the facility are operated in compliance with these requirements. It should be noted that for natural gas-fired fuel burning equipment, compliance with this requirement is demonstrated by using pipeline quality natural gas.

R336.1331 of this part limits the emissions of particulate matter from a process or process equipment. This facility does not operate any sources listed in Table 31. The rule also establishes a particulate matter emission limit based on a process weight rate. However, no particulate matter emissions, other than fuel combustion sources, are anticipated from the processes at this facility. Therefore, the rule is not currently applicable to the facility.

Part 4 – Emissions Limitations and Prohibitions- Sulfur-Bearing Compounds

R336.1403 limits emissions of sour gas from an oil- or natural gas-producing or transporting facility, of a natural gas-producing facility. This facility does not handle sour gas. Therefore, this part is not applicable.

Part 6 – Emission Limitations and Prohibitions- Existing Sources of Volatile Organic Compound Emissions

This part limits emissions of volatile organic compounds from various sources including storage vessels, loading facilities, and natural gas processing plants. The facility is in compliance with all the applicable requirements of this regulation. R336.1629 requires a monitoring program to control emissions of volatile organic compounds from components of existing process equipment used in natural gas processing. The rule only applies to facilities located in Kent, Livingston, Macomb, Monroe, Muskegon, Oakland, Ottawa, St. Clair, Washtenaw, and Wayne. This facility is not a natural gas processing plant and is not located in one of the counties listed above. Therefore, the rule does not apply.

Part 7 – Emission Limitations and Prohibitions- New Sources of Volatile Organic Compound Emissions

This part limits emissions of volatile organic compounds from all new sources. A “new source” is defined as a process or process equipment which is either placed into operation on or after July 1, 1979, or for which a permit to install is made to the DEQ on or after July 1, 1979. Some of the sources at the facility may be subject to this regulation. The facility is in compliance with all the applicable requirements of this regulation.

Part 8 – Emission Limitations and Prohibitions- Oxides of Nitrogen

This part regulates emissions of NOx from electric generating units and fossil fuel-fired units with a maximum design heat input of more than 250 million Btu per hour. On April 1, 2004, the US EPA finalized the second phase of the rule known as the “the NOx SIP Call Rule.” In response to this action, MI EGLE promulgated R336.1818 regulating NOx emissions from stationary internal combustion engines.

None of the equipment has a maximum design heat input capacity greater than 250 million Btu per hour. The equipment being installed is not subject to this rule since these are not reciprocating engines.

Part 9 – Emission Limitations and Prohibitions- Miscellaneous

Part 9 specifies numerous miscellaneous limitations and prohibitions. Rule 336.1901 prohibits emission of an air contaminant which may result in injurious effects to human health or safety, animal life, plant life of significant economic value, property, or interference with the comfortable enjoyment of life and property. Rule 336.1906 prohibits dilution or concealment of emissions. This facility operates in compliance with these requirements.

Rule 336.1911 requires the facility to develop a malfunction abatement plan if and when requested by the department. The facility will develop and implement a malfunction abatement plan upon receipt of such request from the department.

This part also specifies the operating, notification, and reporting procedures associated with start-up, shutdown, and malfunction of a source, process or process equipment in R336.1912. The facility complies with all the requirements of this part in the event of a start-up, shutdown, or a malfunction as required by the general conditions section of the ROP.

Part 10 – Intermittent Testing and Sampling

Part 10 allows the department to require the owner or operator of a source to conduct performance tests using reference test methods or the department to conduct the tests on behalf of the state. Upon receipt of any such request from the department, the facility will conduct the specified performance test within the established timelines and following the agreed upon reference test methods. If the department intends to perform the test, the owner or operator will provide the necessary performance test facilities.

Part 11 – Continuous Emissions Monitoring

Part 11 sets the procedures for continuous emissions monitoring for fossil fuel-fired steam generators, sulfuric acid-producing facilities, fluid bed catalytic cracking unit catalyst regenerators at petroleum refineries, and coal-fired electric generating units at a power plant. The facility and none of the equipment falls into these categories; therefore, this part does not apply.

1.5 Proposed Changes to Existing Renewable Operating Permit

ANR has proposed the addition of flexible group FGRULE285(2)(mm) for routine and emergency venting of natural gas from transmission and distribution systems or field gas from gathering lines, exempt from the requirement of obtaining a PTI under 212(4). ANR has proposed language to incorporate the process-specific standards under Rule 285(2)(mm) using language provided by the EGLE template for the rule.

The fuel gas heater, EUFUELGASHTR was originally permitted as a 1.2 MMBtu/hr heater. The final heater installed at the facility was slightly smaller at 0.775 MMBtu/hr.

ANR was issued a PTI (Permit No. 92-20) on February 23, 2021. As part of the PTI, ANR installed the equipment listed above and removed all existing equipment from the facility except one 10,000 condensate tank. The new turbines were installed on May 8, 2022 and the emergency generator was installed on May 20, 2022. ANR is requesting to incorporate the PTI requirements except for flexible group FGTRANSITION into the facility ROP. FGTRANSITION covered the commissioning period of the new equipment. However, these conditions are null and void as described in the PTI and not proposed to be transitioned to the ROP.

1.6 Summary

This document contains all the necessary elements for ANR to meet the requirements for a complete ROP renewal application under the EGLE rules and guidance. ANR requests that this renewal application be reviewed, and a draft ROP be issued at the earliest convenience.

2 Application Form

EGLE

RENEWABLE OPERATING PERMIT
RENEWAL APPLICATION FORM

This information is required by Article II, Chapter 1, Part 55 (Air Pollution Control) of P.A. 451 of 1994, as amended, and the Federal Clean Air Act of 1990. Failure to obtain a permit required by Part 55 may result in penalties and/or imprisonment. Refer to instructions for additional information to complete the Renewable Operating Permit Renewal Application Form.

GENERAL INSTRUCTIONS

This application form should be submitted as part of an administratively complete application package for renewal of a Renewable Operating Permit (ROP). This application form consists of nine parts. Parts A – H must be completed for all applications and must also be completed for each section of a sectioned ROP. Answer all questions in all parts of the form unless directed otherwise. Detailed instructions for this application form can be found at http://michigan.gov/air (select the Permits Tab, "Renewable Operating Permits (ROP)/Title V", then "ROP Forms & Templates").

PART A: GENERAL INFORMATION

Enter information about the source, owner, contact person and the responsible official.

SOURCE INFORMATION

SRN	SIC Code	NAICS Code	Existing ROP Number	Section Number (if applicable)
N5575	4922	486210	MI-ROP-N5575-2018	

Source Name: ANR Pipeline Company – Bridgman Compressor Station

Street Address: 3372 Browntown Road

City	State	ZIP Code	County
Bridgman	MI	49106	Berrien

Section/Town/Range (if address not available):

Source Description:
The ANR Pipeline Company owns and operates several sites in Michigan including facilities used in both natural gas transmission and storage. This facility is a compressor station that has a function of maintaining pressure in pipelines transporting natural gas to other companies and end users. The Bridgman Compressor Station operates two natural gas fired turbines, a natural gas-fired boiler, a natural gas-fired emergency generator, and several insignificant sources including space heaters and storage vessels.

X Check here if any of the above information is different than what appears in the existing ROP. Identify any changes on the marked-up copy of your existing ROP.

OWNER INFORMATION

Owner Name	Section Number (if applicable)
ANR Pipeline Company	

Mailing address (☐ check if same as source address): 700 Louisiana Street, Ste. 700

City	State	ZIP Code	County	Country
Houston	TX	77002	Harris	USA

☐ Check here if any information in this ROP renewal application is confidential. Confidential information should be identified on an Additional Information (AI-001) Form.

SRN: N5575	Section Number (if applicable):

PART A: GENERAL INFORMATION (continued)

At least one contact and responsible official must be identified. Additional contacts and responsible officials may be included if necessary.

CONTACT INFORMATION

Contact 1 Name			Title	
Chris McFarlane			Environmental Analyst – Air	
Company Name & Mailing address (☐ check if same as source address)				
ANR Pipeline Company				
City	State	ZIP Code	County	Country
700 Louisiana Street	TX	77002	Harris	USA
Phone number		E-mail address		
832-320-5490		Chris_mcfarlane@tcenergy.com		

Contact 2 Name (optional)			Title	
Company Name & Mailing address (☐ check if same as source address)				
City	State	ZIP Code	County	Country
Phone number		E-mail address		

RESPONSIBLE OFFICIAL INFORMATION

Responsible Official 1 Name			Title	
Dustin Enright			Director	
Company Name & Mailing address (☐ check if same as source address)				
ANR Pipeline Company				
City	State	ZIP Code	County	Country
				USA
Phone number		E-mail address		
563-289-3338		Dustin_enright@tcenergy.com		

Responsible Official 2 Name (optional)			Title	
Company Name & Mailing address (☐ check if same as source address)				
City	State	ZIP Code	County	Country
Phone number		E-mail address		

☐ Check here if an AI-001 Form is attached to provide more information for Part A. Enter AI-001 Form ID:

SRN: N5575	Section Number (if applicable):

PART B: APPLICATION SUBMITTAL and CERTIFICATION by Responsible Official

Identify the items that are included as part of your administratively complete application in the checklist below. For your application to be complete, it must include information necessary to evaluate the source and to determine all applicable requirements. Answer the compliance statements as they pertain to all the applicable requirements to which the source is subject. The source's Responsible Official must sign and date this form.

Listing of ROP Application Contents. Check the box for the items included with your application.

☒ Completed ROP Renewal Application Form (and any AI-001 Forms) (required)	☐ Compliance Plan/Schedule of Compliance
☒ Mark-up copy of existing ROP using official version from the AQD website (required)	☐ Stack information
☒ Copies of all Permit(s) to Install (PTIs) that have not been incorporated into existing ROP (required)	☐ Acid Rain Permit Initial/Renewal Application
☒ Criteria Pollutant/Hazardous Air Pollutant (HAP) Potential to Emit Calculations	☐ Cross-State Air Pollution Rule (CSAPR) Information
☐ MAERS Forms (to report emissions not previously submitted)	☐ Confidential Information
☐ Copies of all Consent Order/Consent Judgments that have not been incorporated into existing ROP	☒ Paper copy of all documentation provided (required)
☐ Compliance Assurance Monitoring (CAM) Plan	☒ Electronic documents provided (optional)
☒ Other Plans (e.g., Malfunction Abatement, Fugitive Dust, Operation and Maintenance, etc.)	☐ Other, explain:

Compliance Statement

This source is in compliance with **all** of its applicable requirements, including those contained in the existing ROP, Permits to Install that have not yet been incorporated into that ROP, and other applicable requirements not currently contained in the existing ROP.	☒ Yes ☐ No
This source will continue to be in compliance with all of its applicable requirements, including those contained in the existing ROP, Permits to Install that have not yet been incorporated into that ROP, and other applicable requirements not currently contained in the existing ROP.	☒ Yes ☐ No
This source will meet in a timely manner applicable requirements that become effective during the permit term.	☒ Yes ☐ No

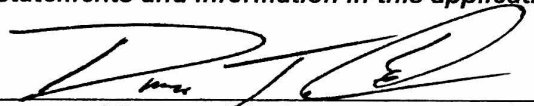
The method(s) used to determine compliance for each applicable requirement is/are the method(s) specified in the existing ROP, Permits to Install that have not yet been incorporated into that ROP, and all other applicable requirements not currently contained in the existing ROP.

If any of the above are checked No, identify the emission unit(s) or flexible group(s) affected and the specific condition number(s) or applicable requirement for which the source is or will be out of compliance at the time of issuance of the ROP renewal on an AI-001 Form. Provide a compliance plan and schedule of compliance on an AI-001 Form.

Name and Title of the Responsible Official (Print or Type)

Dustin Enright, Director

As a Responsible Official, I certify that, based on information and belief formed after reasonable inquiry, the statements and information in this application are true, accurate, and complete.



Signature of Responsible Official

3-9-2023

Date

SRN: N5575	Section Number (if applicable):

PART C: SOURCE REQUIREMENT INFORMATION

Answer the questions below for specific requirements or programs to which the source may be subject.

C1.	Actual emissions and associated data from **all** emission units with applicable requirements (including those identified in the existing ROP, Permits to Install and other equipment that have not yet been incorporated into the ROP) are required to be reported in MAERS. Are there any emissions and associated data that have not been reported in MAERS for the most recent emissions reporting year? If Yes, identify the emission unit(s) that was/were not reported in MAERS on an AI-001 Form. Applicable MAERS form(s) for unreported emission units must be included with this application.	☐ Yes ☒ No
C2.	Is this source subject to the federal regulations on ozone-depleting substances? (40 CFR Part 82)	☐ Yes ☒ No
C3.	Is this source subject to the federal Chemical Accident Prevention Provisions? (Section 112(r) of the Clean Air Act Amendments, 40 CFR Part 68) If Yes, a Risk Management Plan (RMP) and periodic updates must be submitted to the USEPA. Has an updated RMP been submitted to the USEPA?	☐ Yes ☒ No ☐ Yes ☐ No
C4.	Has this stationary source **added or modified** equipment since the last ROP renewal that changes the potential to emit (PTE) for criteria pollutant (CO, NOx, PM10, PM2.5, SO_2, VOC, lead) emissions? If Yes, include potential emission calculations (or the PTI and/or ROP revision application numbers, or other references for the PTE demonstration) for the added or modified equipment on an AI-001 Form. If No, criteria pollutant potential emission calculations do not need to be included.	☒ Yes ☐ No
C5.	Has this stationary source **added or modified** equipment since the last ROP renewal that changes the PTE for hazardous air pollutants (HAPs) regulated by Section 112 of the federal Clean Air Act? If Yes, include potential emission calculations (or the PTI and/or ROP revision application numbers or other references for the PTE demonstration) for the added or modified equipment on an AI-001 Form. Fugitive emissions must be included in HAP emission calculations. If No, HAP potential emission calculations do not need to be included.	☒ Yes ☐ No
C6.	Are any emission units subject to the Cross-State Air Pollution Rule (CSAPR)? If Yes, identify the specific emission unit(s) subject to CSAPR on an AI-001 Form.	☐ Yes ☒ No
C7.	Are any emission units subject to the federal Acid Rain Program? If Yes, identify the specific emission unit(s) subject to the federal Acid Rain Program on an AI-001 Form. Is an Acid Rain Permit Renewal Application included with this application?	☐ Yes ☒ No ☐ Yes ☒ No
C8.	Are any emission units identified in the existing ROP subject to compliance assurance monitoring (CAM)? If Yes, identify the specific emission unit(s) subject to CAM on an AI-001 Form. If a CAM plan has not been previously submitted to EGLE, one must be included with the ROP renewal application on an AI-001 Form. If the CAM Plan has been updated, include an updated copy. Is a CAM plan included with this application? If a CAM Plan is included, check the type of proposed monitoring included in the Plan: 1. Monitoring proposed by the source based on performance of the control device, or 2. Presumptively Acceptable Monitoring, if eligible	☐ Yes ☒ No ☐ Yes ☒ No ☐ ☐
C9.	Does the source have any plans such as a malfunction abatement plan, fugitive dust plan, operation/maintenance plan, or any other monitoring plan that is referenced in an existing ROP, Permit to Install requirement, or any other applicable requirement? If Yes, then a copy must be submitted as part of the ROP renewal application.	☒ Yes ☐ No
C10.	Are there any specific requirements that the source proposes to be identified in the ROP as non-applicable? If Yes, then a description of the requirement and justification must be submitted as part of the ROP renewal application on an AI-001 Form.	☐ Yes ☒ No

☐ Check here if an AI-001 Form is attached to provide more information for Part C. Enter AI-001 Form ID: **AI-**Part C

SRN: N5775	Section Number (if applicable):

PART D: PERMIT TO INSTALL (PTI) EXEMPT EMISSION UNIT INFORMATION

Review all emission units at the source and answer the question below.

D1. Does the source have any emission units that do not appear in the existing ROP but are required to be listed in the ROP application under R 336.1212(4) (Rule 212(4)) of the Michigan Air Pollution Control Rules? If Yes, identify the emission units in the table below. ☒ Yes ☐ No

If No, go to Part E.

Note: Emission units that are subject to process specific emission limitations or standards, even if identified in Rule 212, must be captured in either Part G or H of this application form. Identical emission units may be grouped (e.g. PTI exempt Storage Tanks).

Emission Unit ID	**Emission Unit Description**	**Rule 212(4) Citation** [e.g. Rule 212(4)(c)]	**Rule 201 Exemption Rule Citation** [e.g. Rule 282(2)(b)(i)]
EUFUELGASHTR	Fuel gas heater, 0.775 MMBtu/hr	R336.1282(2)(b)(i)	R336.1212(4)(c)
EUSPACEHEATERS	30 space heaters, each 0.0725 MMbtu/hr	R336.1282(2)(b)(i)	R336.1212(4)(c)
EUFLUIDSTANK	4,100 gallon Pipeline Fluids Tank	R336.1284(2)(i)	R336.1212(4)(d)
EUWATERTANK	1,200 gallon Wastewater Tank	R336.1284(2)(i)	R336.1212(4)(d)

Comments:

☐ Check here if an AI-001 Form is attached to provide more information for Part D. Enter AI-001 Form ID: **AI-**

SRN: N5575	Section Number (if applicable):

PART E: EXISTING ROP INFORMATION

Review all emission units and applicable requirements (including any source wide requirements) in the existing ROP and answer the questions below as they pertain to **all** emission units and **all** applicable requirements in the existing ROP.

E1. Does the source propose to make any additions, changes or deletions to terms, conditions and underlying applicable requirements as they appear in the existing ROP? If Yes, identify changes and additions on Part F, Part G and/or Part H.	☒ Yes ☐ No
E2. For each emission unit(s) identified in the existing ROP, all stacks with applicable requirements are to be reported in MAERS. Are there any stacks with applicable requirements for emission unit(s) identified in the existing ROP that were not reported in the most recent MAERS reporting year? If Yes, identity the stack(s) that was/were not reported on applicable MAERS form(s).	☒ Yes ☐ No
E3. Have any emission units identified in the existing ROP been modified or reconstructed that required a PTI? If Yes, complete Part F with the appropriate information.	☐ Yes ☒ No
E4. Have any emission units identified in the existing ROP been dismantled? If Yes, identify the emission unit(s) and the dismantle date in the comment area below or on an AI-001 Form.	☒ Yes ☐ No

Comments:

E2 - EUBG013, EUBG014, and EUBG015 will be included in the 2022 MAERS report.

E4 - EUBG001, EUBG002, EUBG003, EUBG004, EUBG005, EUBG006, EUBG007, EUBG008, EUBG009, EUBG011, EUBG012 – Permanently removed from service on May 24, 2022.

☐ Check here if an AI-001 Form is attached to provide more information for Part E. Enter AI-001 Form ID: **AI-**

SRN: N5575	Section Number (if applicable):

PART F: PERMIT TO INSTALL (PTI) INFORMATION

Review all emission units and applicable requirements at the source and answer the following questions as they pertain to **all** emission units with PTIs. Any PTI(s) identified below must be attached to the application.

F1. Has the source obtained any PTIs where the applicable requirements from the PTI have not been incorporated into the existing ROP? If Yes, complete the following table. If No, go to Part G. ☒ Yes ☐ No

Permit to Install Number	Emission Units/Flexible Group ID(s)	Description (*Include Process Equipment, Control Devices and Monitoring Devices*)	Date Emission Unit was Installed/ Modified/ Reconstructed
92-20	FGTURBINES	EUBG013, EUBG014	5/8/2022
92-20	EUBG015	EUBG015	5/20/2022
92-20	FGHEATERS	EUFUELGASHTR, EUSPACEHEAT	5/8/2022
92-20	FGTANKS	EUFLUIDSTANK, EUWATERTANK	5/8/2022

F2. Do any of the PTIs listed above change, add, or delete terms/conditions to **established emission units** in the existing ROP? If Yes, identify the emission unit(s) or flexible group(s) affected in the comments area below or on an AI-001 Form and identify all changes, additions, and deletions in a mark-up of the existing ROP. ☒ Yes ☐ No

F3. Do any of the PTIs listed above identify **new emission units** that need to be incorporated into the ROP? If Yes, submit the PTIs as part of the ROP renewal application on an AI-001 Form, and include the new emission unit(s) or flexible group(s) in the mark-up of the existing ROP. ☒ Yes ☐ No

F4. Are there any stacks with applicable requirements for emission unit(s) identified in the PTIs listed above that were not reported in MAERS for the most recent emissions reporting year? If Yes, identity the stack(s) that were not reported on the applicable MAERS form(s). ☒ Yes ☐ No

F5. Are there any proposed administrative changes to any of the emission unit names, descriptions or control devices in the PTIs listed above for any emission units not already incorporated into the ROP? If Yes, describe the changes on an AI-001 Form. ☐ Yes ☒ No

Comments:
F4 - EUBG013, EUBG014, and EUBG015 will be included in the 2022 MAERS report.

☐ Check here if an AI-001 Form is attached to provide more information for Part F. Enter AI-001 Form ID: **AI-**

SRN: N5575	Section Number (if applicable):

PART G: EMISSION UNITS MEETING THE CRITERIA OF RULES 281(2)(h), 285(2)(r)(iv), 287(2)(c), OR 290

Review all emission units and applicable requirements at the source and answer the following questions.

G1. Does the source have any new and/or existing emission units which do not already appear in the existing ROP and which meet the criteria of Rules 281(2)(h), 285(2)(r)(iv), 287(2)(c), or 290.

If Yes, identify the emission units in the table below. If No, go to Part H. ☐ Yes ☒ No

Note: If several emission units were installed under the same rule above, provide a description of each and an installation/modification/reconstruction date for each.

Origin of Applicable Requirements	**Emission Unit Description – *Provide Emission Unit ID and a description of Process Equipment, Control Devices and Monitoring Devices***	**Date Emission Unit was Installed/ Modified/ Reconstructed**
☐ Rule 281(2)(h) or 285(2)(r)(iv) cleaning operation		
☐ Rule 287(2)(c) surface coating line		
☐ Rule 290 process with limited emissions		

Comments:

☐ Check here if an AI-001 Form is attached to provide more information for Part G. Enter AI-001 Form ID: **AI-**

SRN:	Section Number (if applicable):

PART H: REQUIREMENTS FOR ADDITION OR CHANGE

Complete this part of the application form for all proposed additions, changes or deletions to the existing ROP. This includes state or federal regulations that the source is subject to and that must be incorporated into the ROP or other proposed changes to the existing ROP. **Do not include additions or changes that have already been identified in Parts F or G of this application form.** If additional space is needed copy and complete an additional Part H.

Complete a separate Part H for each emission unit with proposed additions and/or changes.

H1. Are there changes that need to be incorporated into the ROP that have not been identified in Parts F and G? If Yes, answer the questions below.	☐ Yes ☒ No
H2. Are there any proposed administrative changes to any of the existing emission unit names, descriptions or control devices in the ROP? If Yes, describe the changes in questions H8 – H16 below and in the affected Emission Unit Table(s) in the mark-up of the ROP.	☐ Yes ☒ No
H3. Does the source propose to add a new emission unit or flexible group to the ROP not previously identified in Parts F or G? If Yes, identify and describe the emission unit name, process description, control device(s), monitoring device(s) and applicable requirements in questions H8 – H16 below and in a new Emission Unit Table in the mark-up of the ROP. See instructions on how to incorporate a new emission unit/flexible group into the ROP.	☐ Yes ☒ No
H4. Does the source propose to add new state or federal regulations to the existing ROP? If Yes, on an AI-001 Form, identify each emission unit/flexible group that the new regulation applies to and identify each state or federal regulation that should be added. Also, describe the new requirements in questions H8 – H16 below and add the specific requirements to existing emission units/flexible groups in the mark-up of the ROP, create a new Emission Unit/Flexible Group Table, or add an AQD template table for the specific state or federal requirement.	☐ Yes ☒ No
H5. Has a Consent Order/Consent Judgment (CO/CJ) been issued where the requirements were not incorporated into the existing ROP? If Yes, list the CO/CJ number(s) below and add or change the conditions and underlying applicable requirements in the appropriate Emission Unit/Flexible Group Tables in the mark-up of the ROP.	☐ Yes ☒ No
H6. Does the source propose to add, change and/or delete **source-wide** requirements? If Yes, identify the addition/change/deletion in a mark-up of the corresponding section of the ROP and provide a justification below.	☐ Yes ☒ No
H7. Are you proposing to **streamline** any requirements? If Yes, identify the streamlined and subsumed requirements and the EU ID, and provide a justification for streamlining the applicable requirement below.	☐ Yes ☒ No

SRN: N5575	Section Number (if applicable):

PART H: REQUIREMENTS FOR ADDITION OR CHANGE – (continued)

H8. Does the source propose to add, change and/or delete **emission limit** requirements? If Yes, identify the addition/change/deletion in a mark-up of the corresponding section of the ROP and provide a justification below.	☐ Yes ☒ No
H9. Does the source propose to add, change and/or delete **material limit** requirements? If Yes, identify the addition/change/deletion in a mark-up of the corresponding section of the ROP and provide a justification below.	☐ Yes ☒ No
H10. Does the source propose to add, change and/or delete **process/operational restriction** requirements? If Yes, identify the addition/change/deletion in a mark-up of the corresponding section of the ROP and provide a justification below.	☐ Yes ☒ No
H11. Does the source propose to add, change and/or delete **design/equipment parameter** requirements? If Yes, identify the addition/change/deletion in a mark-up of the corresponding section of the ROP and provide a justification below.	☐ Yes ☒ No
H12. Does the source propose to add, change and/or delete **testing/sampling** requirements? If Yes, identify the addition/change/deletion in a mark-up of the corresponding section of the ROP and provide a justification below.	☐ Yes ☒ No
H13. Does the source propose to add, change and/or delete **monitoring/recordkeeping** requirements? If Yes, identify the addition/change/deletion in a mark-up of the corresponding section of the ROP and provide a justification below.	☐ Yes ☒ No
H14. Does the source propose to add, change and/or delete **reporting** requirements? If Yes, identify the addition/change/deletion in a mark-up of the corresponding section of the ROP and provide a justification below.	☐ Yes ☒ No

SRN: N5575	Section Number (if applicable):

PART H: REQUIREMENTS FOR ADDITION OR CHANGE – (continued)

H15.	Does the source propose to add, change and/or delete **stack/vent restrictions**? If Yes, identify the addition/change/deletion in a mark-up of the corresponding section of the ROP and provide a justification below.	☐ Yes ☒ No
H16.	Does the source propose to add, change and/or delete any **other** requirements? If Yes, identify the addition/change/deletion in a mark-up of the corresponding section of the ROP and provide a justification below.	☐ Yes ☒ No
H17.	Does the source propose to add terms and conditions for an alternative operating scenario or intra-facility trading of emissions? If Yes, identify the proposed conditions in a mark-up of the corresponding section of the ROP and provide a justification below.	☐ Yes ☒ No

☐ Check here if an AI-001 Form is attached to provide more information for Part H. Enter AI-001 Form ID: **AI-**

EGLE

RENEWABLE OPERATING PERMIT APPLICATION
AI-001: ADDITIONAL INFORMATION

This information is required by Article II, Chapter 1, part 55 (Air Pollution Control) of P.A. 451 of 1994, as amended, and the Federal Clean Air Act of 1990. Failure to obtain a permit required by Part 55 may result in penalties and/or imprisonment. Please type or print clearly. Refer to instructions for additional information to complete this form.

	SRN: N5575	Section Number (if applicable):

1. Additional Information ID
AI-PARTC

Additional Information

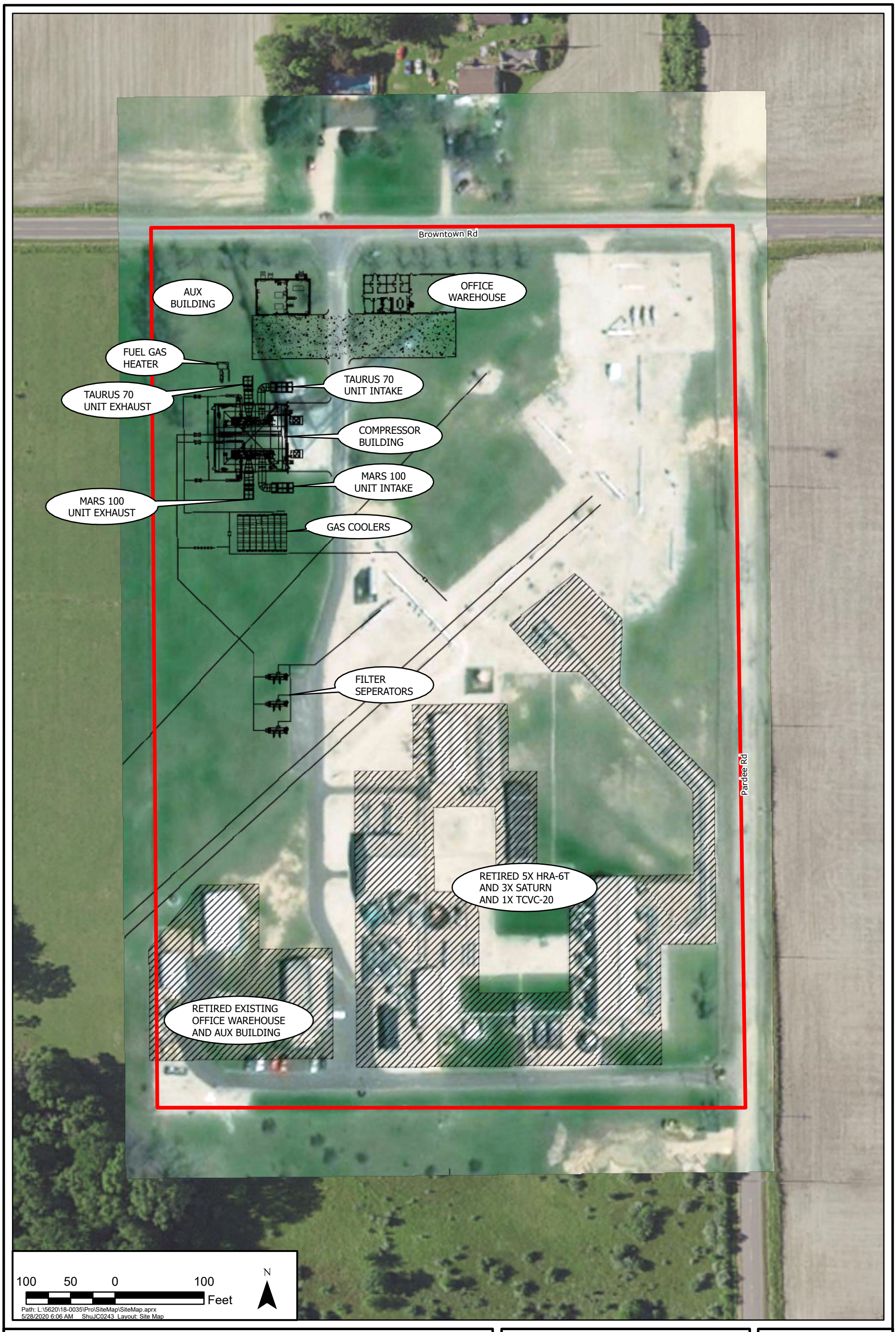
2. Is This Information Confidential? ☐ Yes ☒ No

See Appendix B for Criteria Pollutant, HAP, and GHG emissions calculations.

Page of

APPENDICIES

Appendix A Site Map and Process Flow Diagram



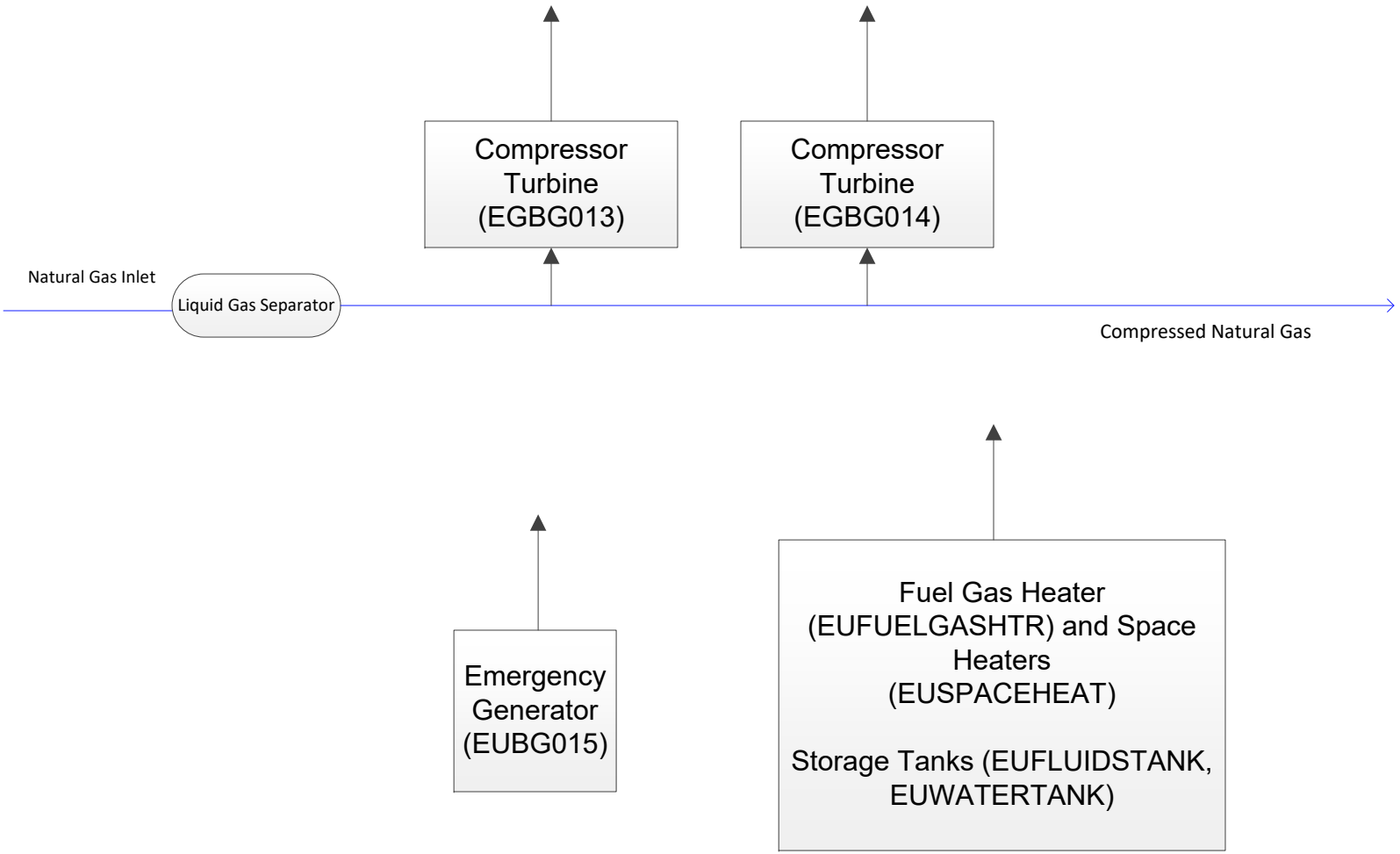
Bridgeman Compressor Station

TC Energy

MAR 2023

Figure 1

Appendix A
Figure 2
ANR Pipeline Company
Bridgman Compressor Station Process Flow Diagram



Appendix B Emission Calculations

TITLE V RENEWAL
ANR PIPELINE COMPANY
BRIDGMAN COMPRESSOR STATION, MICHIGAN
March 2023

Significant Activities

Emission Point ID	Source	Manufacturer	Model/Type	Rated Capacity (hp)	Heat Input (MMBtu/hr)
EUBG013	Natural Gas Fired Turbine 4	Solar	Mars 100	15,327	119.700
EUBG014	Natural Gas Fired Turbine 5	Solar	Taurus 70	10,953	82.160
EUBG015	Emergency Generator	Waukesha	L36GL	880	6.827

Insignificant Activities

Emission Point ID	Source Description	Rating/ Capacity	RO Permit Exemption Rule	NSR Permit Exemption Rule	Basis for Permit Exemption
EUBGTANK12	One (1) Pipeline liquids storage tank (T12)	2000 gallons	R336.1212(4)(d)	R336.1284(2)(i)	
EUBGTANK13	One (1) waste water storage tank (T13)	1200 gallons	R336.1212(4)(d)	R336.1284(2)(i)	
EUBGFUELGASHEATER	One (1) Fuel Gas heater	0.775 MMBtu/hr	R336.1212(4)(c)	R336.1282(2)(b)(i)	< 50 MMBtu/hr
EUBGSPACEHEATERS	30 Space Heaters, each at 0.072 MMBtu/hr	2.18 MMBtu/hr (total)	R336.1212(4)(c)	R336.1282(2)(b)(i)	< 50 MMBtu/hr

ANR Pipeline Company
Bridgman Compressor Station
March 2023 Renewable Operating Permit Renewal Application

Table B-1. Facility Total PTE

Source	Capacity	Annual Emissions (tpy)									
		NO_x	CO	CO_2e	PM	$PM_{10}/PM_{2.5}$	VOC	SO_2	Lead	CH_2O	Total HAP
EUBG013 Natural Gas Fired Turbine 4 (Solar Mars 100)[2]	15,327 hp (32 °F)	38.67	124.83	68,146	3.84	3.84	9.02	0.42	0	0.41	0.60
EUBG014 Natural Gas Fired Turbine 5 (Solar Taurus 70)[2]	10,953 hp (32 °F)	18.90	79.89	46,774	2.64	2.64	6.22	0.29	0	0.28	0.41
IA - Fuel Gas Heater	0.78 MMBtu/hr	0.33	0.28	397	0.03	0.03	0.018	0.002	0.000002	0.0002	0.006
IA - Space Heaters (30 each at 0.0725 MMBtu/hr)	2.18 MMBtu/hr	0.93	0.78	1,116	0.07	0.07	0.051	0.0068	0.000005	0.0007	0.018
EUBG015 Waukesha VGF-L36GL Emergency Generator (G1)	880 hp	0.97	1.94	200	0.02	0.02	0.49	0.0012	0	0.0922	0.125
IA - Pipeline Fluids Tank	4,100 gallons						0.04				
IA - Wastewater Tank	1,200 gallons						0.02				
Equipment Leaks (fugitive emissions)[1]				1,253			0.61				
Venting				26,323			12.76				
Facility PTE1		59.80	207.72	142,956	6.59	6.59	28.55	0.71	0.000006	0.79	1.16
Non-Attainment NSR/PSD Major Source Threshold		100	250	n/a	250	250	100	250	250	n/a	n/a
Title V Threshold		100	100	n/a	100	100	100	100	100	10	25
Applicability		None, Natural Minor	Title V	n/a	None, Natural Minor	None, Natural Minor	None, Natural Minor	None, Natural Minor	None, Natural Minor	None, Area Source	None, Area Source

1. Excludes fugitive emissions (compressor stations are not one of the named source categories that include fugitive emissions).
2. Turbine emissions based on 200 Start up / shut down cycles per year, 200 low-load hours per year and 240 low-temperature hours per year.

ANR Pipeline Company
Bridgman Compressor Station
March 2023 Renewable Operating Permit Renewal Application

Table B-2. HAP Summary

Compound	Emission Rate										Total	
	EUBG013		EUBG014		EUBG015		IA - Fuel Gas Heaters		IA - Space Heaters			
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
1,1,2,2-Tetrachloroethane					2.73E-04	6.83E-05					2.73E-04	6.83E-05
1,1,2-Trichloroethane					2.17E-04	5.43E-05					2.17E-04	5.43E-05
1,3-Butadiene	5.71E-05	2.50E-04	3.92E-05	1.72E-04	1.82E-03	4.56E-04					1.92E-03	8.78E-04
1,3-Dichloropropene					1.80E-04	4.51E-05					1.80E-04	4.51E-05
2,2,4-Trimethylpentane					1.71E-03	4.27E-04					1.71E-03	4.27E-04
2-Methylnaphthalene					2.27E-04	5.67E-05	1.82E-08	7.99E-08	5.12E-08	2.24E-07	2.27E-04	5.70E-05
3-Methylchloranthrene							1.37E-09	5.99E-09	3.84E-09	1.68E-08	5.21E-09	2.28E-08
7,12-Dimethylbenz(a)anthracene							1.22E-08	5.32E-08	3.41E-08	1.49E-07	4.63E-08	2.03E-07
Acenaphthene					8.53E-06	2.13E-06	1.37E-09	5.99E-09	3.84E-09	1.68E-08	8.54E-06	2.16E-06
Acenaphthylene					3.78E-05	9.44E-06	1.37E-09	5.99E-09	3.84E-09	1.68E-08	3.78E-05	9.46E-06
Acetaldehyde	5.31E-03	2.33E-02	3.65E-03	1.60E-02	5.71E-02	1.43E-02	1.82E-09	7.99E-09	5.12E-09	2.24E-08	6.60E-02	5.35E-02
Acrolein	8.50E-04	3.72E-03	5.84E-04	2.56E-03	3.51E-02	8.77E-03					3.65E-02	1.51E-02
Anthracene							1.82E-09	7.99E-09	5.12E-09	2.24E-08	6.94E-09	3.04E-08
Benz(a)anthracene							1.37E-09	5.99E-09	3.84E-09	1.68E-08	5.21E-09	2.28E-08
Benzene	1.59E-03	6.98E-03	1.09E-03	4.79E-03	3.00E-03	7.51E-04	1.60E-06	6.99E-06	4.48E-06	1.96E-05	5.70E-03	1.26E-02
Benzo(a)pyrene							9.12E-10	3.99E-09	2.56E-09	1.12E-08	3.47E-09	1.52E-08
Benzo(b)fluoranthene					1.13E-06	2.83E-07	1.37E-09	5.99E-09	3.84E-09	1.68E-08	1.14E-06	3.06E-07
Benzo(e)pyrene					2.83E-06	7.08E-07					2.83E-06	7.08E-07
Benzo(g,h,i)perylene					2.83E-06	7.07E-07	9.12E-10	3.99E-09	2.56E-09	1.12E-08	2.83E-06	7.22E-07
Benzo(k)fluoranthene							1.37E-09	5.99E-09	3.84E-09	1.68E-08	5.21E-09	2.28E-08
Biphenyl					1.45E-03	3.62E-04					1.45E-03	3.62E-04
Carbon Tetrachloride					2.51E-04	6.26E-05					2.51E-04	6.26E-05
Chlorobenzene					2.08E-04	5.19E-05					2.08E-04	5.19E-05
Chloroform					1.95E-04	4.86E-05					1.95E-04	4.86E-05
Chrysene					4.73E-06	1.18E-06	1.37E-09	5.99E-09	3.84E-09	1.68E-08	4.74E-06	1.21E-06
Dichlorobenzene							9.12E-10	3.99E-09	2.56E-09	1.12E-08	3.47E-09	1.52E-08
Ethylbenzene	4.25E-03	1.86E-02	2.92E-03	1.28E-02	2.71E-04	6.78E-05					7.44E-03	3.15E-02
Ethylene Dibromide					3.02E-04	7.56E-05					3.02E-04	7.56E-05
Fluoranthene					7.58E-06	1.89E-06	2.28E-09	9.98E-09	6.40E-09	2.80E-08	7.59E-06	1.93E-06
Fluorene					3.87E-05	9.68E-06	2.13E-09	9.32E-09	5.97E-09	2.62E-08	3.87E-05	9.71E-06
Formaldehyde	9.43E-02	4.13E-01	6.48E-02	2.84E-01	3.69E-01	9.22E-02	5.70E-05	2.50E-04	1.60E-04	7.00E-04	5.28E-01	7.90E-01
Indeno(1,2,3-c,d)pyrene							1.37E-09	5.99E-09	3.84E-09	1.68E-08	5.21E-09	2.28E-08
Methanol					1.71E-02	4.27E-03					1.71E-02	4.27E-03
Methylene Chloride					1.37E-04	3.41E-05					1.37E-04	3.41E-05
n-Hexane					7.58E-03	1.89E-03	1.37E-03	5.99E-03	3.84E-03	1.68E-02	1.28E-02	2.47E-02
Naphthalene	1.73E-04	7.57E-04	1.19E-04	5.19E-04	5.08E-04	1.27E-04	4.63E-07	2.03E-06	1.30E-06	5.70E-06	8.01E-04	1.41E-03
PAH	2.92E-04	1.28E-03	2.01E-04	8.79E-04	1.84E-04	4.59E-05					6.77E-04	2.20E-03
Phenanthrene					7.10E-05	1.78E-05	1.29E-08	5.66E-08	3.63E-08	1.59E-07	7.11E-05	1.80E-05
Phenol					1.64E-04	4.10E-05					1.64E-04	4.10E-05
Propylene Oxide	3.85E-03	1.69E-02	2.64E-03	1.16E-02	9.28E-06	2.32E-06					6.51E-03	2.85E-02
Pyrene					1.61E-04	4.03E-05	3.80E-09	1.66E-08	1.07E-08	4.67E-08	1.61E-04	4.03E-05
Styrene					1.69E-05	4.23E-06					1.69E-05	4.23E-06
Toluene	1.73E-02	7.57E-02	1.19E-02	5.19E-02	2.79E-03	6.96E-04	2.58E-06	1.13E-05	7.25E-06	3.18E-05	3.19E-02	1.28E-01
Vinyl Chloride					1.02E-04	2.54E-05					1.02E-04	2.54E-05
Xylene	8.50E-03	3.72E-02	5.84E-03	2.56E-02	1.26E-03	3.14E-04					1.56E-02	6.31E-02
Arsenic							1.52E-07	6.66E-07	4.26E-07	1.87E-06	5.78E-07	2.53E-06
Beryllium							9.12E-09	3.99E-08	2.56E-08	1.12E-07	3.47E-08	1.52E-07
Cadmium							8.36E-07	3.66E-06	2.35E-06	1.03E-05	3.18E-06	1.39E-05
Chromium							1.06E-06	4.66E-06	2.99E-06	1.31E-05	4.05E-06	1.77E-05
Cobalt							6.38E-08	2.80E-07	1.79E-07	7.85E-07	2.43E-07	1.06E-06
Manganese							2.89E-07	1.26E-06	8.10E-07	3.55E-06	1.10E-06	4.81E-06
Mercury							1.98E-07	8.65E-07	5.54E-07	2.43E-06	7.52E-07	3.29E-06
Nickel							1.60E-06	6.99E-06	4.48E-06	1.96E-05	6.07E-06	2.66E-05
Selenium							1.82E-08	7.99E-08	5.12E-08	2.24E-07	6.94E-08	3.04E-07
Total (all Units)	**0.14**	**0.60**	**0.09**	**0.41**	**0.50**	**0.13**	**0.001**	**0.01**	**0.004**	**0.02**	**0.74**	**1.16**

ANR Pipeline Company
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Table B-3. Solar Mars 100 Turbine (EUBG013)

Horsepower	15,327	hp (32 °F)
Brake Specific Fuel Consumption	7810	Btu/Bhp-hr (LHV, 32 °F)
Total Heat Input	119.70	MMBtu/hr (LHV, 32 °F)
	132.87	MMBtu/hr (HHV, 32 °F)[3]
Maximum Heat Input (at 0 °F)	125.63	MMBtu/hr (LHV, 0 °F)
	139.45	MMBtu/hr (HHV, 0 °F)[3]
Operating Hours	8760	hr/yr
Natural Gas Heat Content	1020	Btu/scf
Fuel Consumption	1141.09	MMscf/yr (based on 32 °F)
	136,715.0	scf/hr (based on 0 °F)
Quantity	1	

Pollutant	Emission Factor			Emission Rate		Emission Factor Reference
	ppmvd@15%O_2	lb/MMBtu		lb/hr[1]	ton/yr[2]	
NO_x	15.00	0.060	LHV	7.17	38.67	Vendor Data
CO	25.00	0.061	LHV	7.28	124.83	Vendor Data
CO_2e		117.1	HHV	15,558	68,146	40 CFR 98 Subpart C
PM		0.0066	HHV	0.88	3.84	AP-42 Table 3.1-2a (4/00)
PM_{10}		0.0066	HHV	0.88	3.84	AP-42 Table 3.1-2a (4/00)
$PM_{2.5}$		0.0066	HHV	0.88	3.84	AP-42 Table 3.1-2a (4/00)
VOC	5.00	0.007	LHV	0.83	9.02	Vendor Data (20% of UHC)[4]
SO_2 (Maximum Hourly)		0.0571	HHV	7.59		20 grains S / 100 scf
SO_2 (Average Annual)		0.000714	HHV		0.42	0.25 grains S / 100 scf
Lead		ND			0.00	AP-42 Table 3.1-2a (4/00)
Formaldehyde		0.00071	HHV	0.09	0.41	AP-42 Table 3.1-3 (4/00)
Total HAPs		0.00103	HHV	0.14	0.60	AP-42 Table 3.1-3 (4/00)

1. Maximum hourly emission rate based on normal operation at 32 °F. Heat input, fuel consumption, and emissions increase as temperature decreases, and for the purpose of this application, hourly emissions are characterized by Solar emissions data for 32 °F.

2. Annual emission rate based on combination of potential operating modes as provided on following page for NOx, CO, and VOC. The operating modes are 200 hours at low load (low load hours are based on <50% load), 240 hours of low temperature (<0 deg F) and 200 startups and shutdowns per year. The remainder of the hours per year are based on emissions at normal load (32 °F). Normal operation is considered to be 50%-100% load. All other pollutants are based on horsepower and brake specific fuel consumption at 32 °F.

3. HHV heat input based on HHV=1.11*LHV

4. VOC based on 20% of vendor data for unburned hydrocarbon.

ANR Pipeline Company
Bridgman Compressor Station
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Table B-4. Solar Mars 100 (EUBG013) - Emission Rates

Emission Rates per Operating Mode

Operating Mode	Units	NO_x	CO	VOC
Normal Load @ 32°F[1]	lb/hr	7.17	7.28	0.83
Low Temp (0 to -20 °F)[4]	lb/hr	62.33	47.43	1.81
Low-Load (<40%)[2]	lb/hr	14.00	851.00	48.60
Startup/ Shutdown[3]	lb/event	2.00	40.00	5.00

1. Based on data from Solar Mars 100-16000S Compressor Set Predicted Emission Performance data sheet and the following concentrations:
   15 ppm NOx; 25 ppm CO; 5 ppm VOC
2. For the purpose of calculating potential annual emissions, non-startup/shutdown operation at <40% load is based on emissions data provided by Solar for 30% load.
3. Based on data from Solar PIL170 for SoLoNOx CS/MD Application Nominal Start-up and Shutdown, Natural Gas Fuel, Production Units with Enhanced Emissions Control.
4. Based on data from Solar Mars 100-16000S Compressor Set Predicted Emission Performance data sheet and the following concentrations:
   120 ppm NOx; 150 ppm CO; 50 ppm VOC

Potential Annual Emissions Per Turbine

Operating Mode	Operating Time		NO_x	CO	VOC
	Cycles	hr/yr	ton/yr	ton/yr	ton/yr
Normal Load @ 32 °F		8253	29.59	30.04	3.44
Low Temp (0 to -20 °F)		240	7.48	5.69	0.217
Low-Load (<40%)		200	1.40	85.10	4.86
Startup/ Shutdown	200	67	0.20	4.00	0.50
Total		8,760	38.67	124.83	9.02

Emission Rates During Normal Operation (g/hp-hr)[1]

Emission Point ID / Model	NO_x	CO	VOC[2]	SO_2[3]	PM_{10} / $PM_{2.5}$	CH_2O
EUBG013 / Solar Mars 100	0.21	0.22	0.02	0.22	0.03	0.003

1. Based on vendor performance data; values in italics based on AP-42 emission factors.
2. VOC is based on 20 percent of unburned hydrocarbons per Solar Product Information Letter 168.
3. Conservatively based on 20 grains sulfur per 100 standard cubic feet of natural gas for maximum short-term emissions.

ANR Pipeline Company
Bridgman Compressor Station
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Table B-5. Solar Taurus 70 Turbine (EUBG014)

Horsepower	10,953	hp (32 °F)
Brake Specific Fuel Consumption	7502	Btu/Bhp-hr (LHV, 32 °F)
Total Heat Input	82.16	MMBtu/hr (LHV, 32 °F)
	91.20	MMBtu/hr (HHV, 32 °F)[3]
Maximum Heat Input (at 0 °F)	85.84	MMBtu/hr (LHV, 0 °F)
	95.28	MMBtu/hr (HHV, 0 °F)[3]
Operating Hours	8760	hr/yr
Natural Gas Heat Content	1020	Btu/scf
Fuel Consumption	783.23	MMscf/yr (based on 32 °F)
	93,414.1	scf/hr (based on 0 °F)
Quantity	1	

Pollutant	Emission Factor			Emission Rate		Emission Factor Reference
	ppmvd@15%O_2	lb/MMBtu		lb/hr[1]	ton/yr[2]	
NO_x	9.00	0.060	LHV	42.32	18.90	Vendor Data
CO	15.00	0.061	LHV	32.20	79.89	Vendor Data
CO_2e		117.1	HHV	10,679	46,774	40 CFR 98 Subpart C
PM		0.0066	HHV	0.60	2.64	AP-42 Table 3.1-2a (4/00)
PM_{10}		0.0066	HHV	0.60	2.64	AP-42 Table 3.1-2a (4/00)
$PM_{2.5}$		0.0066	HHV	0.60	2.64	AP-42 Table 3.1-2a (4/00)
VOC	3.00	0.007	LHV	1.23	6.22	Vendor Data (20% of UHC)[4]
SO_2 (Maximum Hourly)		0.0571	HHV	5.21		20 grains S / 100 scf
SO_2 (Average Annual)		0.000714	HHV		0.29	0.25 grains S / 100 scf
Lead		ND			0.00	AP-42 Table 3.1-2a (4/00)
Formaldehyde		0.00071	HHV	0.06	0.28	AP-42 Table 3.1-3 (4/00)
Total HAPs		0.00103	HHV	0.09	0.41	AP-42 Table 3.1-3 (4/00)

1. Maximum hourly emission rate based on normal operation at 32 °F. Heat input, fuel consumption, and emissions increase as temperature decreases, and for the purpose of this application, hourly emissions are characterized by Solar emissions data for 32 °F.

2. Annual emission rate based on combination of potential operating modes as provided on following page for NOx, CO, and VOC. The operating modes are 200 hours at low load (low load hours are based on <50% load), 240 hours of low temperature (<0 deg F) and 200 startups and shutdowns per year. The remainder of the hours per year are based on emissions at normal load (32 °F). Normal operation is considered to be 50%-100% load. All other pollutants are based on horsepower and brake specific fuel consumption at 32 °F.

3. HHV heat input based on HHV=1.11*LHV

4. VOC based on 20% of vendor data for unburned hydrocarbon.

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Table B-6. Solar Taurus 70 (EUBG014) - Emission Rates

Emission Rates per Operating Mode

Operating Mode	Units	NO_x	CO	VOC
Normal Load @ 32°F[1]	lb/hr	2.95	3.00	0.34
Low Temp (0 to -20 °F)[4]	lb/hr	42.32	32.20	1.23
Low-Load (<40%)[2]	lb/hr	14.45	586.42	33.51
Startup/ Shutdown[3]	lb/event	2.00	50.00	13.00

1. Based on data from Solar Taurus 70 10802D Compressor Set Predicted Emission Performance data sheet and the following concentrations:
   9 ppm NOx; 15 ppm CO; 3 ppm VOC
2. For the purpose of calculating potential annual emissions, non-startup/shutdown operation at <40% load is based on emissions data provided by Solar for 30% load.
3. Based on data from Solar PIL170 for SoLoNOx CS/MD Application Nominal Start-up and Shutdown, Natural Gas Fuel, Production Units with Enhanced Emissions Control
4. Based on data from Solar Mars 100-16000S Compressor Set Predicted Emission Performance data sheet and the following concentrations:
   120 ppm NOx; 150 ppm CO; 50 ppm VOC

Potential Annual Emissions Per Turbine

Operating Mode	Operating Time		NO_x	CO	VOC
	Cycles	hr/yr	ton/yr	ton/yr	ton/yr
Normal Load @ 32 °F		8253	12.17	12.38	1.42
Low Temp (0 to -20 °F)		240	5.078	3.864	0.147
Low-Load (<40%)		200	1.45	58.64	3.35
Startup/ Shutdown	200	67	0.20	5.00	1.30
Total		8,760	18.90	79.89	6.22

Emission Rates During Normal Operation (g/hp-hr)[1]

Emission Point ID / Model	NO_x	CO	VOC[2]	SO_2[3]	PM_{10} / $PM_{2.5}$	CH_2O
EUBG014 / Solar Taurus 70	1.75	1.33	0.05	0.22	0.02	0.003

1. Based on vendor performance data; values in italics based on AP-42 emission factors.
2. VOC is based on 20 percent of unburned hydrocarbons per Solar Product Information Letter 168.
3. Conservatively based on 20 grains sulfur per 100 standard cubic feet of natural gas for maximum short-term emissions.

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Table B-7. Emissions from Venting - Solar Mars 100 (EUBG013) and Solar Taurus 70 (EUBG014)

Number of Pneumatic Actuators:	10	per turbine
Pneumatic Actuator Vent Rate:	3	scf/hr/actuator
Number of Startup/Shutdown Cycles:	200	per turbine per year
Electric Starter Emissions per Startup:	0	scf
Blowdown Emissions per Shutdown per turbine:	132,106	scf
Number of Turbines	2	
Number of Dry Seals:	2	per turbine
Dry Seal Vent Rate:	0.5	scf/min/seal
Annual Operating Hours:	8760	

Component	Emission Rate								
	Total	CH_4[2]	CO_2[2]	CH_4[3]	CO_2[3]	CH_4	CO_2	CO_2e[4]	VOC[6]
Continuous During Operation	**scf/hr**	**scf/hr**	**scf/hr**	**lb/hr**	**lb/hr**	**ton/yr**	**ton/yr**	**ton/yr**	**ton/yr**
Pneumatic Actuator (Total for number of units)	60.00	54.84	0.11	2.32	0.01	10.17	0.06	254.23	0.12
Dry Seals (Total for number of units)	120.00	109.68	0.23	4.64	0.03	20.33	0.11	508.47	0.25
Intermittent During Startup/Shutdown	**scf/event**	**scf/event**	**scf/event**	**lb/event**	**lb/event**	**ton/yr**	**ton/yr**	**ton/yr**	**ton/yr**
Electric Starter (Total for number of units)[1]	0	0	0	0	0	0	0	0	0.00
Blowdowns (Total for number of units)[1,5]	264,212	241,484	498	10,222	58	1,022	6	25,560	12.39
							Total:	26,323	12.76

1. Emission rates per event instead of per hour
2. CH4 and CO2 emission rates based on 91.40 vol% CH4 and 0.19 vol% CO2 in natural gas
3. Conversion based on densities of GHG as provided in 40 CFR 98.233(v)
4. Based on 40 CFR 98 Subpart A Global Warming Potentials
5. Conservative estimate based on 1 blowdown per shutdown. It is not expected that a blowdown will occur after each shutdown.
6. Based on a 0.0121 ratio of VOC to methane as calculated from gas composition.

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Table B-8. Fugitive Emissions from Leaks - Solar Mars 100 (EUBG013) and Solar Taurus 70 (EUBG014)

Number of Compressors: 2
Annual Operating Hours: 8760
Percent of Leaking Compressor Service Components: 2%

Component	Average Number of Leaking Components[1]	Emission Factor[2]	Total Emission Rate (2 compressors)								
			Total	CH_4[3]	CO_2[3]	CH_4[4]	CO_2[4]	CH_4	CO_2	CO_2e[5]	VOC[6]
	component leaks / compressor	scf/hr / component	scf/hr	scf/hr	scf/hr	lb/hr	lb/hr	ton/yr	ton/yr	ton/yr	ton/yr
Compressor Service											
Valve	9	14.84	135.34	123.70	0.26	5.24	0.03	22.93	0.13	573	0.28
Connector	23	5.59	128.91	117.82	0.24	4.99	0.03	21.84	0.12	546	0.26
Open-Ended Line	0.44	17.27	7.60	6.95	0.01	0.29	0.002	1.29	0.01	32	0.02
Pressure Relief Valve	0.18	39.66	7.14	6.52	0.01	0.28	0.002	1.21	0.01	30	0.01
Meter	0.06	19.33	1.16	1.06	0.00	0.04	0.0003	0.20	0.001	4.91	0.002
Non-Compressor Service											
Valve	0.60	6.42	3.85	3.52	0.0073	0.15	0.00084	0.65	0.0037	16.32	0.008
Connector	0.82	5.71	4.68	4.28	0.0088	0.18	0.0010	0.79	0.0045	19.84	0.010
Open-Ended Line	0.59	11.27	6.65	6.08	0.013	0.26	0.0015	1.13	0.0064	28.17	0.014
Pressure Relief Valve	0.12	2.01	0.24	0.22	0.0005	0.0093	0.0001	0.041	0.0002	1.02	0.0005
Meter	0.01	2.93	0.029	0.027	0.0001	0.0011	0.00001	0.005	0.0000	0.124	0.0001
							Total:	50.09	0.28	1,253	0.61

1. Estimated component leaks per compressor based on projected equipment counts for the project. Values represent both compressor turbines.
Percent of leaking compressor service components is based on actual survey data for ANR compressor stations. Recent surveys indicated a leaking component rate of less than 1%. Therefore, 2% is a conservative estimate.
2. Emission factors from 40 CFR 98 Subpart W Table W-3
3. CH_4 and CO_2 emission rates based on 91.40 vol% CH_4 and 0.19 vol% CO_2 in natural gas
4. Conversion based on densities of GHG as provided in 40 CFR 98.233(v)
5. Based on 40 CFR 98 Subpart A Global Warming Potentials
6. Based on a 0.0121 ratio of VOC to methane as calculated from gas composition.

ANR Pipeline Company
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Table B-9. Waukesha VGF-L36GL Emergency Generator (EUBG015)

Horsepower	880	hp
Brake Specific Fuel Consumption	7758	Btu/Bhp-hr (HHV)
	7013	Btu/Bhp-hr (LHV)
Total Heat Input	6.83	MMBtu/hr
Operating Hours	500	hr/yr
Natural Gas Heat Content	1020	Btu/scf
Fuel Consumption	3.35	MMscf/yr
	6693.2	scf/hr

Pollutant	Emission Factor		Emission Rate		Emission Factor Reference
	g/bhp-hr	lb/MMBtu	lb/hr	ton/yr	
NO_x	2.00		3.88	0.97	NSPS JJJJ Limit
CO	4.00		7.76	1.94	NSPS JJJJ Limit
CO_2e		117.1	799	200	40 CFR 98 Subpart C
PM		0.010	0.068	0.017	AP-42 Table 3.2-2 (7/00) - 4SLB
PM_{10}		0.010	0.068	0.017	AP-42 Table 3.2-2 (7/00) - 4SLB
$PM_{2.5}$		0.010	0.068	0.017	AP-42 Table 3.2-2 (7/00) - 4SLB
VOC	1.00		1.94	0.49	NSPS JJJJ Limit
SO_2 (Maximum Hourly)		0.0571	0.39		20 grains S / 100 scf
SO_2 (Average Annual)		0.000714		1.22E-03	0.25 grains S / 100 scf
Lead		ND		0.00	AP-42 Table 3.2-2 (7/00) - 4SLB
Formaldehyde [1]	0.19		0.37	0.092	Vendor Data
Total HAPs		0.07339	0.50	0.13	AP-42 Table 3.2-2 (7/00) - 4SLB

ANR Pipeline Company
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Table B-10. Fuel Gas Heater (IA)

Heat Input	0.775	MMBtu/hr
Operating Hours	8760	hr/yr
Natural Gas Heat Content	1020	Btu/scf
Fuel Consumption	6.66	MMscf/yr
	759.8	scf/hr

Pollutant	Emission Factor		Emission Rate		Emission Factor Reference
	lb/MMscf	lb/MMBtu	lb/hr	ton/yr	
NO_x	100	0.098	0.08	0.33	AP-42 Table 1.4-1 (7/98)
CO	84	0.082	0.06	0.28	AP-42 Table 1.4-1 (7/98)
CO_2e		117.1	91	397	40 CFR 98 Subpart C
PM	7.6	0.0075	5.77E-03	0.025	AP-42 Table 1.4-2 (7/98)
PM_{10}	7.6	0.0075	5.77E-03	0.025	AP-42 Table 1.4-2 (7/98)
$PM_{2.5}$	7.6	0.0075	5.77E-03	0.025	AP-42 Table 1.4-2 (7/98)
VOC	5.5	0.0054	4.18E-03	0.018	AP-42 Table 1.4-2 (7/98)
SO_2 (Maximum Hourly)		0.0571	0.04		20 grains S / 100 scf
SO_2 (Average Annual)		0.000714		2.42E-03	0.25 grains S / 100 scf
Lead	0.0005	4.90E-07	3.80E-07	1.66E-06	AP-42 Table 1.4-2 (7/98)
Formaldehyde	0.075	0.00007	5.70E-05	2.50E-04	AP-42 Table 1.4-3 (7/98)
Total HAPs	1.89	0.00185	1.43E-03	6.28E-03	AP-42 Table 1.4-3 & 4 (7/98)

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Table B-11. Space Heaters (IA - 30 x 0.0725 MMBtu/hr)

Total Heat Input	2.18	MMBtu/hr
Operating Hours	8760	hr/yr
Natural Gas Heat Content	1020	Btu/scf
Fuel Consumption	18.68	MMscf/yr
	2132.4	scf/hr

Pollutant	Emission Factor		Emission Rate		Emission Factor Reference
	lb/MMscf	lb/MMBtu	lb/hr (30 heaters)	ton/yr	
NO_x	100	0.098	0.21	0.93	AP-42 Table 1.4-1 (7/98)
CO	84	0.082	0.18	0.78	AP-42 Table 1.4-1 (7/98)
CO_2e		117.1	255	1,116	40 CFR 98 Subpart C
PM	7.6	0.0075	0.016	0.071	AP-42 Table 1.4-2 (7/98)
PM_{10}	7.6	0.0075	0.016	0.071	AP-42 Table 1.4-2 (7/98)
$PM_{2.5}$	7.6	0.0075	0.016	0.071	AP-42 Table 1.4-2 (7/98)
VOC	5.5	0.0054	0.012	0.051	AP-42 Table 1.4-2 (7/98)
SO_2 (Maximum Hourly)		0.0571	0.12		20 grains S / 100 scf
SO_2 (Average Annual)		0.000714		0.01	0.25 grains S / 100 scf
Lead	0.0005	4.90E-07	1.07E-06	4.67E-06	AP-42 Table 1.4-2 (7/98)
Formaldehyde	0.075	0.00007	1.60E-04	7.00E-04	AP-42 Table 1.4-3 (7/98)
Total HAPs	1.89	0.00185	4.03E-03	0.018	AP-42 Table 1.4-3 & 4 (7/98)

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Table B-12. Pipeline Fluids Tank

Volume	4,100	gallons
Turnovers	12	
Net throughput	49,200	gal/year
Operating Hours	280	hr/yr

Pollutant	Losses		Emission Rate		Reference
	Working	Breathing	lb/year	ton/year	
VOC	61.82	26.70	88.52	0.04	TANKS 4.09d

Notes:
Chicago, IL meteorological data (from TANKS database) used in emissions calculations
Vertical tank, unheated and above ground
Double Walled

Tank Diameter	10'
Tank Height	7'

ANR Pipeline Company
Bridgman Compressor Station
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Table B-13. Wastewater Tank

Volume	1,200	gallons
Turnovers	12	
Net throughput	14,400	gal/year
Operating Hours	8,760	hr/yr

Pollutant	Losses		Emission Rate		Reference
	Working	Breathing	lb/year	ton/year	
VOC	18.04	12.97	31.01	0.02	TANKS 4.09d

Notes:
Chicago, IL meteorological data (from TANKS database) used in emissions calculations
Vertical tank, unheated and above ground
Double Walled

Tank Diameter	5'10"
Tank Height	6'

Appendix C Current Permit and PTI Markup

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_2e	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_2S	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 conditions or malfunction has been corrected, or within 30 days of discovery of the abnormal condition or malfunction, whichever is first. The written reports shall include all of the information required in Rule 912(5). **(R 336.1912)**

8. Approval of this permit does not exempt the permittee from complying with any future applicable requirements which may be promulgated under Part 55 of 1994 PA 451, as amended or the Federal Clean Air Act.

9. Approval of this permit does not obviate the necessity of obtaining such permits or approvals from other units of government as required by law.

10. Operation of this equipment may be subject to other requirements of Part 55 of 1994 PA 451, as amended and the rules promulgated thereunder.

11. Except as provided in subrules (2) and (3) or unless the special conditions of the Permit to Install include an alternate opacity limit established pursuant to subrule (4) of Rule 301, the permittee shall not cause or permit to be discharged into the outer air from a process or process equipment a visible emission of density greater than the most stringent of the following. The grading of visible emissions shall be determined in accordance with Rule 303 (R 336.1303). **(R 336.1301)**
    a) A six-minute average of 20 percent opacity, except for one six-minute average per hour of not more than 27 percent opacity.
    b) A visible emission limit specified by an applicable federal new source performance standard.
    c) A visible emission limit specified as a condition of this Permit to Install.

12. Collected air contaminants shall be removed as necessary to maintain the equipment at the required operating efficiency. The collection and disposal of air contaminants shall be performed in a manner so as to minimize the introduction of contaminants to the outer air. Transport of collected air contaminants in Priority I and II areas requires the use of material handling methods specified in Rule 370(2). **(R 336.1370)**

13. The Department may require the permittee to conduct acceptable performance tests, at the permittee's expense, in accordance with Rule 1001 and Rule 1003, under any of the conditions listed in Rule 1001. **(R 336.2001)**

EMISSION UNIT SPECIAL CONDITIONS

EMISSION UNIT SUMMARY TABLE

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

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date / Modification Date	Flexible Group ID
EUBG013	Natural gas-fired Solar Mars 100 turbine rated at 15,327 hp, with a maximum design heat input capacity of 132.9 million British thermal units per hour (MMBtu/hr) at 32°F. The turbine is equipped with SoLoNOx dry-low-NOx combustion control.	TBD	FGTURBINES, ~~FGTRANSITION~~
EUBG014	Natural gas-fired Solar Taurus 70 turbine rated at 10,953 hp with a maximum design heat input capacity of 91.2 MMBtu/hr at 32°F. The turbine is equipped with SoLoNOx dry-low-NOx combustion control.	TBD	FGTURBINES, ~~FGTRANSITION~~
EUBG015	Natural gas-fired 4-stroke, lean burn Waukesha L36GL emergency engine rated at 880hp, powering an electric generator.	TBD	~~FGTRANSITION~~
EUFUELGASHTR	Fuel gas heater: Natural gas-fired fuel gas heater with a maximum heat input rating of ~~1.2~~0.775 MMBtu/hr.	TBD	FGHEATERS, ~~FGTRANSITION~~
EUSPACEHEAT	Space heating units, with a maximum total heat input rating of 2.2 MMBtu/hr.	TBD	FGHEATERS, ~~FGTRANSITION~~
EUFLUIDSTANK	Pipeline fluids tank: 4,100 gallon storage tank for pipeline fluids.	TBD	FGTANKS, ~~FGTRANSITION~~
EUWATERTANK	Waste water tank: 1,200 gallon storage tank for wastewater.	TBD	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.

EUBG015
EMISSION UNIT CONDITIONS

DESCRIPTION

Emergency engine: Natural gas-fired 4-stroke, lean burn Waukesha L36GL emergency engine rated at 880hp, powering an electric generator.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. NO_X	2.0 g/hp-hr OR 160 ppmvd	Hourly	EUBG015	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	Hourly	EUBG015	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	Hourly	EUBG015	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 NSPS 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 EUBG015. **(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 EUBG015 for more than 500 hours per year based on a 12-month rolling time period as determined at the end of each calendar month. The 500 hours includes the hours for the purpose of necessary maintenance checks and readiness testing as described in SC III.2. **(R 336.1205(1)(a), R 336.1225, R 336.1702(a), 40 CFR 52.21(c) & (d))**

2. The permittee may operate EUBG015 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. The permittee may operate EUBG015 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 EUBG015 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 EUBG015 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 EUBG015 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 EUBG015 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 EUBG015 shall not exceed 880 HP, 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 EUBG015 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 emission limits in SC I.1 – I.3 within 1 year after EUBG015 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 EUBG015:
   a) For a certified engine: The permittee shall keep records from the manufacturer that the EUBG015 is certified to meet the emission standards and information as required in 40 CFR Parts 90, 1048, 1054, and 1060, as applicable.
   b) For an uncertified engine: The permittee shall keep records of testing required in SC V.1.

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

2. The permittee shall keep, in a satisfactory manner, the following records of maintenance activity for EUBG015:
   a) For a certified engine: The permittee shall keep records of the manufacturer's emission-related written instructions, and records demonstrating that the engine has been maintained according to those instructions, as specified in SC III.4.
   b) For an uncertified engine: 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 60.4211)**

3. The permittee shall keep records of notifications submitted for the completion of construction and start-up of EUBG015. **(40 CFR 60.4245(a))**

4. The permittee shall monitor and record, the total hours of operation for EUBG015 on a monthly and 12-month rolling time period basis, and the hours of operation during emergency and non-emergency service that are recorded through the non-resettable hour meter for EUBG015, on a calendar year basis, in a manner acceptable to the AQD District Supervisor. The permittee shall document how many hours are spent for emergency operation of EUBG015, including what classified the operation as emergency and how many hours are spent for non-emergency operation. **(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 EUBG015. **(R 336.1201(7)(a))**

2. The permittee shall submit a notification specifying whether EUBG015 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 EUBG015 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 EUBG015 commenced;
   b) Name and address of the owner or operator;
   c) The address of the affected source;
   d) EUBG015 information including make, model, engine family, serial number, model year, maximum engine power, and engine displacement;
   e) EUBG015 emission control equipment; and
   f) Fuel used in EUBG015.

   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 EUBG015. 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 EUBG015 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. SVBG015	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 EUBG015. **(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 EUBG015**. (40 CFR Part 63 Subparts A and ZZZZ, 40 CFR 63.6595)**

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

FLEXIBLE GROUP SPECIAL CONDITIONS

FLEXIBLE GROUP SUMMARY TABLE

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

Flexible Group ID	Flexible Group Description	Associated Emission Unit IDs
FGTURBINES	Two (2) natural gas turbines with a combined heat input of 224.1 MMBtu/hr.	EUBG013, EUBG014
FGHEATERS	Various natural gas-fueled heating units with a maximum combined heat input rating of 3.~~4~~ 0 MMBtu/hr.	EUFUELGASHTR, EUSPACEHEAT
FGTANKS	Two (2) storage tanks.	EUFLUIDSTANK, EUWATERTANK
~~FGTRANSITION~~	~~Operation of ANR Bridgman during the commissioning period.~~	~~EUBG013, EUBG014, EUBG015, EUFUELGASHTR, EUSPACEHEAT, EUFLUIDSTANK, EUWATERTANK~~

FGTURBINES
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Two (2) natural gas turbines with a combined heat input of 224.1 MMBtu/hr.

Emission Unit: EUBG013, EUBG014

POLLUTION CONTROL EQUIPMENT

Each turbine is equipped with SoLoNOx dry-low-NOx combustion control.

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. NO_X	25 ppmvd or 150 ng/J of useful output (1.2 lb/MWh) [A,B,C]	Hourly	EUBG013, EUBG014 (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. NO_X	7.6 pph [A, B, D, E]	Hourly, except during startup and shutdown, low load operations, and cold weather operations	EUBG013	SC V.1, SC VI.5	R 336.1205(1)(a)&(3), 40 CFR 52.21(c) & (d)
3. NO_X	3.1 pph [A, B, D, E]	Hourly, except during startup and shutdown, low load operations, and cold weather operations	EUBG014	SC V.1, SC VI.5	R 336.1205(1)(a)&(3), 40 CFR 52.21(c) & (d)
4. NO_X	59.7 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)
5. CO	7.7 pph [A, B, D, E]	Hourly, except during startup and shutdown, low load operations, and cold weather operations	EUBG013	SC V.1, SC VI.5	R 336.1205(1)(a)&(3), 40 CFR 52.21(d)
6. CO	3.2 pph [A, B, D, E]	Hourly, except during startup and shutdown, low load operations, and cold weather operations	EUBG014	SC V.1, SC VI.5	R 336.1205(1)(a)&(3), 40 CFR 52.21(d)
7. CO	207 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)
8. SO_2	0.060 lb/MMBtu	Hourly	EUBG013, EUBG014 (each unit)	SC VI.5	40 CFR 60.4330

ppmvd = parts per million by volume at 15 percent O_2 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 NOx 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	Monitoring / Testing 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) A complete preventative maintenance program including identification of the supervisory personnel responsible for overseeing the inspection, maintenance, and repair of air-cleaning devices, a description of the items or conditions that shall be inspected, the frequency of the inspections or repairs, and an identification of the major replacement parts that shall be maintained in inventory for quick replacement.
   b) An identification of the source and air-cleaning device operating variables that shall be monitored to detect a malfunction or failure, the normal operating range of these variables, and a description of the method of monitoring or surveillance procedures.
   c) A description of the corrective procedures or operational changes that shall be taken in the event of a malfunction or failure to achieve compliance with the applicable emission limits.
   d) Operating variables and ranges under various load conditions shall be monitored and recorded. The normal operating range of these variables and a description of the method of monitoring shall be maintained.

   If at any time the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the MAP within 45 days after such an event occurs. The permittee shall also amend the MAP within 45 days, if new equipment is installed or upon request from the AQD District Supervisor. The permittee shall submit the MAP and any amendments to the MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the MAP or amended MAP shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes to achieve compliance with all applicable emission limits. **(R 336.1205(1)(a) & (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 200 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 EUBG013 shall not exceed, on a fuel heat input basis, 132.9 MMBTU per hour (HHV) at 32°F, as described in the manufacturer's product documentation. **(R 336.1205(1)(a) & (3), 40 CFR 52.21(c) & (d))**

2. The maximum design heat input capacity for EUBG014 shall not exceed, on a fuel heat input basis, 91.2 MMBTU per hour (HHV) at 32°F, as described in the manufacturer's product documentation. **(R 336.1205(1)(a) & (3), 40 CFR 52.21(c) & (d))**

3. The permittee shall not operate FGTURBINES unless the dry-low-NO_x (SoLoNOx) 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)**

4. 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 NO_X 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;
   b) Total sulfur content and potential sulfur emissions, as applicable, of the natural gas as required by 40 CFR 60.4365(a) or (b);
   c) Verification of heat input capacity as required by SC IV.1 and IV.2;
   d) Identification, type, and amount of fuel combusted on a calendar month basis;
   e) All records required by 40 CFR 60.7;
   f) Records of the duration of all dates and times of startup and shutdown events;
   g) Records of the duration of all dates and times of low load operations;
   h) Records of the duration of all dates and times of cold weather operations;
   i) All calculations necessary to show compliance with the limits contained in this permit;
   j) All records related to, or as required by, the MAP and the startup and shutdown plan.

All of the above information shall be stored in a format acceptable to the AQD District Supervisor. **(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. SVBG013	123 x 116	55	R 336.1225, 40 CFR 52.21(c) & (d)
2. SVBG014	114 x 114	55	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)**

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

FGHEATERS
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Various natural gas-fueled heating units with a maximum combined heat input rating of 3.~~4~~ 0 MMBtu/hr.

Emission Unit: EUFUELGASHTR, EUSPACEHEAT

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 3.4 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

DESCRIPTION

Two (2) storage tanks.

Emission Unit: EUFLUIDSTANK, EUWATERTANK

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) EUFLUIDSTANK: 4,100 Gallons
   b) EUWATERTANK: 1,200 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 Bridgman during the commissioning period.

Emission Unit: EUBG013, EUBG014, EUBG015, EUFUELGASHTR, EUSPACEHEAT, EUFLUIDSTANK, EUWATERTANK

POLLUTION CONTROL EQUIPMENT

The turbines are equipped with SoLoNOx dry-low-NOx combustion control

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. CO	51.3 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 (d)
2. NO_x	35.4 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 EUBG001, EUBG002, EUBG003, EUBG004, EUBG005, EUBG006, EUBG007, EUBG008, EUBG009, EUBG011, and EUBG012, 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 EUBG013 or EUBG014 for more than 6,000 hours each 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))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The total events for startup and shutdown for EUBG013 and EUBG014 shall not exceed 30 startup and shutdown events for each turbine, 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 EUBG013 and EUBG014 shall not exceed 20 hours for each turbine 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. Low load operation does not include startups and shutdowns. **(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))**

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 NO_x 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 EUBG013 and EUBG014, 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 (EUBG013 and EUBG014) 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 EUBG001, EUBG002, EUBG003, EUBG004, EUBG005, EUBG006, EUBG007, EUBG008, EUBG009, EUBG011, and EUBG012, 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 EUBG001, EUBG002, EUBG003, EUBG004, EUBG005, EUBG006, EUBG007, EUBG008, EUBG009, EUBG011, and EUBG012, 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)**

Footnotes:

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

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 [A]	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 [A]	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	SC VI.2	R 336.1205(3)

[A] Beginning during the first month that either EUBG013, EUBG014, EUBG015, or EUFUELGASHTR 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

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

NA

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall 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 EUBG013, EUBG014, EUBG015, or EUFUELGASHTR 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

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION

EFFECTIVE DATE: September 12, 2018

ISSUED TO

ANR Pipeline Company – Bridgman Compressor Station

State Registration Number (SRN): N5575

LOCATED AT

3372 Browntown Road, Bridgman, Michigan 49106

RENEWABLE OPERATING PERMIT

Permit Number: MI-ROP-N5575-2018

Expiration Date: September 12, 2023

Administratively Complete ROP Renewal Application Due Between March 12, 2022 and March 12, 2023

This Renewable Operating Permit (ROP) is issued in accordance with and subject to Section 5506(3) of Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451). Pursuant to Michigan Air Pollution Control Rule 210(1), this ROP constitutes the permittee's authority to operate the stationary source identified above in accordance with the general conditions, special conditions and attachments contained herein. Operation of the stationary source and all emission units listed in the permit are subject to all applicable future or amended rules and regulations pursuant to Act 451 and the federal Clean Air Act.

SOURCE-WIDE PERMIT TO INSTALL

Permit Number: MI-PTI-N5575-2018

This Permit to Install (PTI) is issued in accordance with and subject to Section 5505(5) of Act 451. Pursuant to Michigan Air Pollution Control Rule 214a, the terms and conditions herein, identified by the underlying applicable requirement citation of Rule 201(1)(a), constitute a federally enforceable PTI. The PTI terms and conditions do not expire and remain in effect unless the criteria of Rule 201(6) are met. Operation of all emission units identified in the PTI is subject to all applicable future or amended rules and regulations pursuant to Act 451 and the federal Clean Air Act.

Michigan Department of Environmental Quality

_____

Mary A. Douglas, Kalamazoo District Supervisor

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AUTHORITY AND ENFORCEABILITY

For the purpose of this permit, the **permittee** is defined as any person who owns or operates an emission unit at a stationary source for which this permit has been issued. The **department** is defined in Rule 104(d) as the Director of the Michigan Department of Environmental Quality (MDEQ) or his or her designee.

The permittee shall comply with all specific details in the permit terms and conditions and the cited underlying applicable requirements. All terms and conditions in this ROP are both federally enforceable and state enforceable unless otherwise footnoted. Certain terms and conditions are applicable to most stationary sources for which an ROP has been issued. These general conditions are included in Part A of this ROP. Other terms and conditions may apply to a specific emission unit, several emission units which are represented as a flexible group, or the entire stationary source which is represented as a Source-Wide group. Special conditions are identified in Parts B, C, D and/or the appendices.

In accordance with Rule 213(2)(a), all underlying applicable requirements are identified for each ROP term or condition. All terms and conditions that are included in a PTI are streamlined, subsumed and/or is state-only enforceable will be noted as such.

In accordance with Section 5507 of Act 451, the permittee has included in the ROP application a compliance certification, a schedule of compliance, and a compliance plan. For applicable requirements with which the source is in compliance, the source will continue to comply with these requirements. For applicable requirements with which the source is not in compliance, the source will comply with the detailed schedule of compliance requirements that are incorporated as an appendix in this ROP. Furthermore, for any applicable requirements effective after the date of issuance of this ROP, the stationary source will meet the requirements on a timely basis, unless the underlying applicable requirement requires a more detailed schedule of compliance.

Issuance of this permit does not obviate the necessity of obtaining such permits or approvals from other units of government as required by law.

A. GENERAL CONDITIONS

Permit Enforceability

- All conditions in this permit are both federally enforceable and state enforceable unless otherwise noted. **(R 336.1213(5))**
- Those conditions that are hereby incorporated in a state-only enforceable Source-Wide PTI pursuant to Rule 201(2)(d) are designated by footnote one. **(R 336.1213(5)(a), R 336.1214a(5))**
- Those conditions that are hereby incorporated in a federally enforceable Source-Wide PTI pursuant to Rule 201(2)(c) are designated by footnote two. **(R 336.1213(5)(b), R 336.1214a(3))**

General Provisions

1. The permittee shall comply with all conditions of this ROP. Any ROP noncompliance constitutes a violation of Act 451, and is grounds for enforcement action, for ROP revocation or revision, or for denial of the renewal of the ROP. All terms and conditions of this ROP that are designated as federally enforceable are enforceable by the Administrator of the United States Environmental Protection Agency (USEPA) and by citizens under the provisions of the federal Clean Air Act (CAA). Any terms and conditions based on applicable requirements which are designated as "state-only" are not enforceable by the USEPA or citizens pursuant to the CAA. **(R 336.1213(1)(a))**

2. It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this ROP. **(R 336.1213(1)(b))**

3. This ROP may be modified, revised, or revoked for cause. The filing of a request by the permittee for a permit modification, revision, or termination, or a notification of planned changes or anticipated noncompliance does not stay any ROP term or condition. This does not supersede or affect the ability of the permittee to make changes, at the permittee's own risk, pursuant to Rule 215 and Rule 216. **(R 336.1213(1)(c))**

4. The permittee shall allow the department, or an authorized representative of the department, upon presentation of credentials and other documents as may be required by law and upon stating the authority for and purpose of the investigation, to perform any of the following activities: **(R 336.1213(1)(d))**
   a. Enter, at reasonable times, a stationary source or other premises where emissions-related activity is conducted or where records must be kept under the conditions of the ROP.
   b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of the ROP.
   c. Inspect, at reasonable times, any of the following:
      i. Any stationary source.
      ii. Any emission unit.
      iii. Any equipment, including monitoring and air pollution control equipment.
      iv. Any work practices or operations regulated or required under the ROP.
   d. As authorized by Section 5526 of Act 451, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the ROP or applicable requirements.

5. The permittee shall furnish to the department, within a reasonable time, any information the department may request, in writing, to determine whether cause exists for modifying, revising, or revoking the ROP or to determine compliance with this ROP. Upon request, the permittee shall also furnish to the department copies of any records that are required to be kept as a term or condition of this ROP. For information which is claimed by the permittee to be confidential, consistent with the requirements of the 1976 PA 442, MCL §15.231 et seq., and known as the Freedom of Information Act, the person may also be required to furnish the records directly to the USEPA together with a claim of confidentiality. **(R 336.1213(1)(e))**

6. A challenge by any person, the Administrator of the USEPA, or the department to a particular condition or a part of this ROP shall not set aside, delay, stay, or in any way affect the applicability or enforceability of any other condition or part of this ROP. **(R 336.1213(1)(f))**

7. The permittee shall pay fees consistent with the fee schedule and requirements pursuant to Section 5522 of Act 451. **(R 336.1213(1)(g))**

8. This ROP does not convey any property rights or any exclusive privilege. **(R 336.1213(1)(h))**

Equipment & Design

9. Any 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).[2] **(R 336.1370)**

10. Any air cleaning device shall be installed, maintained, and operated in a satisfactory manner and in accordance with the Michigan Air Pollution Control rules and existing law. **(R 336.1910)**

Emission Limits

11. Unless otherwise specified in this ROP, the permittee shall comply with Rule 301, which states, in part, "Except as provided in subrules 2, 3, and 4 of this rule, a person shall not cause or permit to be discharged into the outer air from a process or process equipment a visible emission of a density greater than the most stringent of the following:"[2] **(R 336.1301(1))**
    a. A 6-minute average of 20% opacity, except for one 6-minute average per hour of not more than 27% opacity.
    b. A limit specified by an applicable federal new source performance standard.

    The grading of visible emissions shall be determined in accordance with Rule 303.

12. The permittee shall not cause or permit the emission of an air contaminant or water vapor in quantities that cause, alone or in reaction with other air contaminants, either of the following:
    a. Injurious effects to human health or safety, animal life, plant life of significant economic value, or property.[1] **(R 336.1901(a))**
    b. Unreasonable interference with the comfortable enjoyment of life and property.[1] **(R 336.1901(b))**

Testing/Sampling

13. The department may require the owner or operator of any source of an air contaminant to conduct acceptable performance tests, at the owner's or operator's expense, in accordance with Rule 1001 and Rule 1003, under any of the conditions listed in Rule 1001(1).[2] **(R 336.2001)**

14. Any required performance testing shall be conducted in accordance with Rule 1001(2), Rule 1001(3) and Rule 1003. **(R 336.2001(2), R 336.2001(3), R 336.2003(1))**

15. Any required test results shall be submitted to the Air Quality Division (AQD) in the format prescribed by the applicable reference test method within 60 days following the last date of the test. **(R 336.2001(5))**

Monitoring/Recordkeeping

16. Records of any periodic emission or parametric monitoring required in this ROP shall include the following information specified in Rule 213(3)(b)(i), where appropriate: **(R 336.1213(3)(b))**
    a. The date, location, time, and method of sampling or measurements.
    b. The dates the analyses of the samples were performed.
    c. The company or entity that performed the analyses of the samples.
    d. The analytical techniques or methods used.
    e. The results of the analyses.
    f. The related process operating conditions or parameters that existed at the time of sampling or measurement.

17. All required monitoring data, support information and all reports, including reports of all instances of deviation from permit requirements, shall be kept and furnished to the department upon request for a period of not less than 5 years from the date of the monitoring sample, measurement, report or application. Support information includes all calibration and maintenance records and all original strip-chart recordings, or other original data records, for continuous monitoring instrumentation and copies of all reports required by the ROP. **(R 336.1213(1)(e), R 336.1213(3)(b)(ii))**

Certification & Reporting

18. Except for the alternate certification schedule provided in Rule 213(3)(c)(iii)(B), any document required to be submitted to the department as a term or condition of this ROP shall contain an original certification by a Responsible Official which states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. **(R 336.1213(3)(c))**

19. A Responsible Official shall certify to the appropriate AQD District Office and to the USEPA that the stationary source is and has been in compliance with all terms and conditions contained in the ROP except for deviations that have been or are being reported to the appropriate AQD District Office pursuant to Rule 213(3)(c). This certification shall include all the information specified in Rule 213(4)(c)(i) through (v) and shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the certification are true, accurate, and complete. The USEPA address is: USEPA, Air Compliance Data - Michigan, Air and Radiation Division, 77 West Jackson Boulevard, Chicago, Illinois 60604-3507. **(R 336.1213(4)(c))**

20. The certification of compliance shall be submitted annually for the term of this ROP as detailed in the special conditions, or more frequently if specified in an applicable requirement or in this ROP. **(R 336.1213(4)(c))**

21. The permittee shall promptly report any deviations from ROP requirements and certify the reports. The prompt reporting of deviations from ROP requirements is defined in Rule 213(3)(c)(ii) as follows, unless otherwise described in this ROP: **(R 336.1213(3)(c))**
    a. For deviations that exceed the emissions allowed under the ROP, prompt reporting means reporting consistent with the requirements of Rule 912 as detailed in Condition 25. All reports submitted pursuant to this paragraph shall be promptly certified as specified in Rule 213(3)(c)(iii).
    b. For deviations which exceed the emissions allowed under the ROP and which are not reported pursuant to Rule 912 due to the duration of the deviation, prompt reporting means the reporting of all deviations in the semiannual reports required by Rule 213(3)(c)(i). The report shall describe reasons for each deviation and the actions taken to minimize or correct each deviation.
    c. For deviations that do not exceed the emissions allowed under the ROP, prompt reporting means the reporting of all deviations in the semiannual reports required by Rule 213(3)(c)(i). The report shall describe the reasons for each deviation and the actions taken to minimize or correct each deviation.

22. For reports required pursuant to Rule 213(3)(c)(ii), prompt certification of the reports is described in Rule 213(3)(c)(iii) as either of the following: **(R 336.1213(3)(c))**
    a. Submitting a certification by a Responsible Official with each report which states that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.
    b. Submitting, within 30 days following the end of a calendar month during which one or more prompt reports of deviations from the emissions allowed under the ROP were submitted to the department pursuant to Rule 213(3)(c)(ii), a certification by a Responsible Official which states that; "based on information and belief formed after reasonable inquiry, the statements and information contained in each of the reports submitted during the previous month were true, accurate, and complete." The certification shall include a listing of the reports that are being certified. Any report submitted pursuant to Rule 213(3)(c)(ii) that will be certified on a monthly basis pursuant to this paragraph shall include a statement that certification of the report will be provided within 30 days following the end of the calendar month.

23. Semiannually for the term of the ROP as detailed in the special conditions, or more frequently if specified, the permittee shall submit certified reports of any required monitoring to the appropriate AQD District Office. All instances of deviations from ROP requirements during the reporting period shall be clearly identified in the reports. **(R 336.1213(3)(c)(i))**

24. On an annual basis, the permittee shall report the actual emissions, or the information necessary to determine the actual emissions, of each regulated air pollutant as defined in Rule 212(6) for each emission unit utilizing the emissions inventory forms provided by the department. **(R 336.1212(6))**

25. 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 appropriate AQD District Office. The notice shall be provided not later than two business days after the start-up, shutdown, or discovery of the abnormal conditions or malfunction. Notice shall be by any reasonable means, including electronic, telephonic, or oral communication. Written reports, if required under Rule 912, must be submitted to the appropriate AQD District Supervisor 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 conditions or malfunction, whichever is first. The written reports shall include all of the information required in Rule 912(5) and shall be certified by a Responsible Official in a manner consistent with the CAA.[2] **(R 336.1912)**

Permit Shield

26. Compliance with the conditions of the ROP shall be considered compliance with any applicable requirements as of the date of ROP issuance, if either of the following provisions is satisfied: **(R 336.1213(6)(a)(i), R 336.1213(6)(a)(ii))**
    a. The applicable requirements are included and are specifically identified in the ROP.
    b. The permit includes a determination or concise summary of the determination by the department that other specifically identified requirements are not applicable to the stationary source.

    Any requirements identified in Part E of this ROP have been identified as non-applicable to this ROP and are included in the permit shield.

27. Nothing in this ROP shall alter or affect any of the following:
    a. The provisions of Section 303 of the CAA, emergency orders, including the authority of the USEPA under Section 303 of the CAA. **(R 336.1213(6)(b)(i))**
    b. The liability of the owner or operator of this source for any violation of applicable requirements prior to or at the time of this ROP issuance. **(R 336.1213(6)(b)(ii))**
    c. The applicable requirements of the acid rain program, consistent with Section 408(a) of the CAA. **(R 336.1213(6)(b)(iii))**

d. The ability of the USEPA to obtain information from a source pursuant to Section 114 of the CAA. **(R 336.1213(6)(b)(iv))**

28. The permit shield shall not apply to provisions incorporated into this ROP through procedures for any of the following:
    a. Operational flexibility changes made pursuant to Rule 215. **(R 336.1215(5))**
    b. Administrative Amendments made pursuant to Rule 216(1)(a)(i)-(iv). **(R 336.1216(1)(b)(iii))**
    c. Administrative Amendments made pursuant to Rule 216(1)(a)(v) until the amendment has been approved by the department. **(R 336.1216(1)(c)(iii))**
    d. Minor Permit Modifications made pursuant to Rule 216(2). **(R 336.1216(2)(f))**
    e. State-Only Modifications made pursuant to Rule 216(4) until the changes have been approved by the department. **(R 336.1216(4)(e))**

29. Expiration of this ROP results in the loss of the permit shield. If a timely and administratively complete application for renewal is submitted not more than 18 months, but not less than 6 months, before the expiration date of the ROP, but the department fails to take final action before the end of the ROP term, the existing ROP does not expire until the renewal is issued or denied, and the permit shield shall extend beyond the original ROP term until the department takes final action. **(R 336.1217(1)(c), R 336.1217(1)(a))**

Revisions

30. For changes to any process or process equipment covered by this ROP that do not require a revision of the ROP pursuant to Rule 216, the permittee must comply with Rule 215. **(R 336.1215, R 336.1216)**

31. A change in ownership or operational control of a stationary source covered by this ROP shall be made pursuant to Rule 216(1). **(R 336.1219(2))**

32. For revisions to this ROP, an administratively complete application shall be considered timely if it is received by the department in accordance with the time frames specified in Rule 216. **(R 336.1210(10))**

33. Pursuant to Rule 216(1)(b)(iii), Rule 216(2)(d) and Rule 216(4)(d), after a change has been made, and until the department takes final action, the permittee shall comply with both the applicable requirements governing the change and the ROP terms and conditions proposed in the application for the modification. During this time period, the permittee may choose to not comply with the existing ROP terms and conditions that the application seeks to change. However, if the permittee fails to comply with the ROP terms and conditions proposed in the application during this time period, the terms and conditions in the ROP are enforceable. **(R 336.1216(1)(c)(iii), R 336.1216(2)(d), R 336.1216(4)(d))**

Reopenings

34. A ROP shall be reopened by the department prior to the expiration date and revised by the department under any of the following circumstances:
    a. If additional requirements become applicable to this stationary source with three or more years remaining in the term of the ROP, but not if the effective date of the new applicable requirement is later than the ROP expiration date. **(R 336.1217(2)(a)(i))**
    b. If additional requirements pursuant to Title IV of the CAA become applicable to this stationary source. **(R 336.1217(2)(a)(ii))**
    c. If the department determines that the ROP contains a material mistake, information required by any applicable requirement was omitted, or inaccurate statements were made in establishing emission limits or the terms or conditions of the ROP. **(R 336.1217(2)(a)(iii))**
    d. If the department determines that the ROP must be revised to ensure compliance with the applicable requirements. **(R 336.1217(2)(a)(iv))**

Renewals

35. For renewal of this ROP, an administratively complete application shall be considered timely if it is received by the department not more than 18 months, but not less than 6 months, before the expiration date of the ROP. **(R 336.1210(9))**

Stratospheric Ozone Protection

36. If the permittee is subject to Title 40 of the Code of Federal Regulations (CFR), Part 82 and services, maintains, or repairs appliances except for motor vehicle air conditioners (MVAC), or disposes of appliances containing refrigerant, including MVAC and small appliances, or if the permittee is a refrigerant reclaimer, appliance owner or a manufacturer of appliances or recycling and recovery equipment, the permittee shall comply with all applicable standards for recycling and emissions reduction pursuant to 40 CFR Part 82, Subpart F.

37. If the permittee is subject to 40 CFR Part 82, and performs a service on motor (fleet) vehicles when this service involves refrigerant in the MVAC, the permittee is subject to all the applicable requirements as specified in 40 CFR Part 82, Subpart B, Servicing of Motor Vehicle Air Conditioners. The term "motor vehicle" as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed by the original equipment manufacturer. The term MVAC as used in Subpart B does not include the air-tight sealed refrigeration system used for refrigerated cargo or an air conditioning system on passenger buses using Hydrochlorofluorocarbon-22 refrigerant.

Risk Management Plan

38. If subject to Section 112(r) of the CAA and 40 CFR Part 68, the permittee shall register and submit to the USEPA the required data related to the risk management plan for reducing the probability of accidental releases of any regulated substances listed pursuant to Section 112(r)(3) of the CAA as amended in 40 CFR 68.130. The list of substances, threshold quantities, and accident prevention regulations promulgated under 40 CFR Part 68, do not limit in any way the general duty provisions under Section 112(r)(1).

39. If subject to Section 112(r) of the CAA and 40 CFR Part 68, the permittee shall comply with the requirements of 40 CFR Part 68, no later than the latest of the following dates as provided in 40 CFR 68.10(a):
    a. June 21, 1999,
    b. Three years after the date on which a regulated substance is first listed under 40 CFR 68.130, or
    c. The date on which a regulated substance is first present above a threshold quantity in a process.

40. If subject to Section 112(r) of the CAA and 40 CFR Part 68, the permittee shall submit any additional relevant information requested by any regulatory agency necessary to ensure compliance with the requirements of 40 CFR Part 68.

41. If subject to Section 112(r) of the CAA and 40 CFR Part 68, the permittee shall annually certify compliance with all applicable requirements of Section 112(r) as detailed in Rule 213(4)(c)). **(40 CFR Part 68)**

Emission Trading

42. Emission averaging and emission reduction credit trading are allowed pursuant to any applicable interstate or regional emission trading program that has been approved by the Administrator of the USEPA as a part of Michigan's State Implementation Plan. Such activities must comply with Rule 215 and Rule 216. **(R 336.1213(12))**

Permit to Install (PTI)

43. The process or process equipment included in this permit shall not be reconstructed, relocated, or modified unless a PTI authorizing such action is issued by the department, except to the extent such action is exempt from the PTI requirements by any applicable rule.[2] **(R 336.1201(1))**

44. The department may, after notice and opportunity for a hearing, revoke PTI terms or conditions if evidence indicates the process or process equipment is not performing in accordance with the terms and conditions of the PTI or is violating the department's rules or the CAA.[2] **(R 336.1201(8), Section 5510 of Act 451)**

45. The terms and conditions of a PTI 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 the PTI. If a new owner or operator submits a written request to the department pursuant to Rule 219 and the department approves the request, this PTI 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. The written request shall be sent to the appropriate AQD District Supervisor, MDEQ.[2] **(R 336.1219)**

46. If the installation, reconstruction, relocation, or modification of the equipment for which PTI terms and conditions have been approved has not commenced within 18 months of the original PTI issuance date, or has been interrupted for 18 months, the applicable terms and conditions from that PTI, as incorporated into the ROP, shall become void unless otherwise authorized by the department. Furthermore, the person to whom that PTI was issued, or the designated authorized agent, shall notify the department via the Supervisor, Permit Section, MDEQ, AQD, P.O. Box 30260, Lansing, Michigan 48909, if it is decided not to pursue the installation, reconstruction, relocation, or modification of the equipment allowed by the terms and conditions from that PTI.[2] **(R 336.1201(4))**

Footnotes:
[1]This condition is state-only enforceable and was established pursuant to Rule 201(1)(b).
[2]This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

B. SOURCE-WIDE CONDITIONS

Part B outlines the Source-Wide Terms and Conditions that apply to this stationary source. The permittee is subject to these special conditions for the stationary source in addition to the general conditions in Part A and any other terms and conditions contained in this ROP.

The permittee shall comply with all specific details in the special conditions and the underlying applicable requirements cited. If a specific condition type does not apply to this source, NA (not applicable) has been used in the table. If there are no Source-Wide Conditions, this section will be left blank.

C. EMISSION UNIT CONDITIONS

Part C outlines terms and conditions that are specific to individual emission units listed in the Emission Unit Summary Table. The permittee is subject to the special conditions for each emission unit in addition to the General Conditions in Part A and any other terms and conditions contained in this ROP.

The permittee shall comply with all specific details in the special conditions and the underlying applicable requirements cited. If a specific condition type does not apply, NA (not applicable) has been used in the table. If there are no conditions specific to individual emission units, this section will be left blank.

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
EUBG001	Clark model HBA6T; 1550 HP natural gas fired reciprocating internal combustion compressor engine.	01-01-1950/NA	FGEQUIPMENT
EUBG002	Clark model HBA6T; 1550 HP natural gas fired reciprocating internal combustion compressor engine.	01-01-1950/NA	FGEQUIPMENT
EUBG003	Clark model HBA6T; 1550 HP natural gas fired reciprocating internal combustion compressor engine.	01-01-1950/NA	FGEQUIPMENT
EUBG004	Clark model HBA6T; 1550 HP natural gas fired reciprocating internal combustion compressor engine.	01-01-1950/NA	FGEQUIPMENT
EUBG005	Clark model HBA6T; 1550 HP natural gas fired reciprocating internal combustion compressor engine.	01-01-1950/NA	FGEQUIPMENT
EUBG006	Solar model Saturn-SC; 1125 HP natural gas fired turbine.	08-01-1967/NA	FGEQUIPMENT
EUBG007	Solar model Saturn-SC; 1125 HP natural gas fired turbine.	08-01-1967/NA	FGEQUIPMENT
EUBG008	Solar model Saturn-SC; 1125 HP natural gas fired turbine. Installed under exemption.	08-01-1968/NA	FGEQUIPMENT
EUBG009	Clark model TCVC20M; 12,000 HP natural gas fired reciprocating internal combustion compressor engine. Installed under exemption.	01-01-1973/NA*	NA
EUBG011	Waukesha model H24GL HCR; 585 HP natural gas fired emergency generator. Installed under exemption.	09-01-2007/NA	NA
EUBG012	Kewanee model L3S-150-G; 5.021 MMBtu-hr natural gas fired boiler.	01-01-1972/NA	NA
EUPIPEMAINT	Routine and emergency venting of natural gas from transmission and distribution systems	1950	FGRULE285(2)(mm)

*Facility was permitted to install a modified fuel injection system in 2003 to improve combustion and lower NOx emissions.

EUBG009
EMISSION UNIT CONDITIONS

DESCRIPTION

Clark model TCVC20M; 12,000 HP natural gas fired reciprocating internal combustion compressor engine. Installed under exemption.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. NOx (Oxides of Nitrogen)	174.6 pph[2,3]	Pounds per hour. This limit applies during the non-ozone control period of October 1 through April 30 of each calendar year.	EUBG009	SC V.1 SC VI.1 SC VI.2	**40 CFR 52.21** **R 336.1213(3)**
2. NOx	6.6 grams per brake horsepower-hour	Grams per brake horsepower hour. This limit applies during the ozone control period of May 1 through September 30 of each calendar year.	EUBG009	SC VI.3 SC VI.4	**R 336.1818(3)**

II. MATERIAL LIMIT(S)

Material	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
NA	NA	NA	NA	NA	NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not operate any affected engine (as defined in R 336.1818(1)(a)) during the ozone control period of May 1 through September 30 of each calendar year unless the permittee complies with a department approved compliance plan as described in R 336.1818(3)(a). **(R 336.1818(3))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

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

1. The permittee shall verify NOx emission rates from EUBG009 by testing at the owner's expense, in accordance with the Department requirements, at a minimum, every five years from the date of the last test. Testing shall be performed using an approved EPA Method listed in 40 CFR Part 60, Appendix A. An alternate method, or a modification to the approved EPA Method, may be specified in an AQD-approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, 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 336.1213(3), R 336.2001, R 336.2003, R 336.2004)**

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall monitor and record, in a satisfactory manner, the natural gas usage rate for EUBG009 on a monthly basis.[2,3] **(40 CFR 52.21)**

2. The permittee shall record, in a satisfactory manner, the hours of operation of EUBG009 on a monthly basis. **(R 336.1213(3)(b))**

3. The permittee shall perform monitoring sufficient to yield data for each ozone period that is representative of a source's compliance with the NOx emission rate limit. The monitoring may include one of the following: **(R 336.1818(4)(a)(ii))**
   a. Performance tests consistent with either of the following:
      i. The provisions of 40 CFR Part 60, Subpart A and appendices A, B, and F and Part 75 (2005).
      ii. The provisions of ASTM D6522-00 (2005).
   b. A parametric monitoring program that specifies operating parameters, and their ranges, that shall provide reasonable assurance that each engine's emissions are consistent with the requirements of R 336.1818(3).
   c. A predictive emissions measurement system that relies on automated data collection from instruments.
   d. A continuous emission monitoring system that complies with procedures set forth in 40 CFR Part 60, Subpart A and Appendix B, and with the quality assurance procedures in Appendix F; or 40 CFR Part 75, and associated appendices, as applicable and acceptable to the department.

4. The permittee shall maintain records of the following: **(R 336.1818(4)(b)(ii))**
   a. Identification and location of each engine subject to R 336.1818.
   b. Calendar date of record.
   c. The number of hours the unit is operated during each ozone control period compared to the projected operating hours.
   d. Quantity of natural gas used on a monthly basis.
   e. The results of all compliance tests.

VII. REPORTING

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**

2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**

3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

4. The permittee shall submit any performance test reports to the AQD Technical Programs Unit and District Office, in a format approved by the AQD. **(R 336.1213(3)(c), R 336.2001(5)**

5. For all compliance/performance testing conducted to meet the requirements of R 336.1818(3), the permittee shall submit the following:
   a. A test plan not less than 30 days before the scheduled test date. **(R 336.1818(4)(a)(i))**
   b. Test results (two copies) within 60 days following completion of the testing. **(R 336.1818(4)(c))**

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

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

Stack & Vent ID	Maximum Exhaust Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
NA	NA	NA	NA

IX. OTHER REQUIREMENT(S)

1. The permittee shall implement, maintain, have on site, and make available for review, the "Compliance Plan for Stationary Internal Combustion Engines" dated April 2006, or any subsequently approved plan that describes how NOx emission rate requirements for EUBG009 will be met during the ozone season. The permittee shall submit any modifications to this compliance plan to the department for review and approval. **(R 336.1818(3)(a))**

Footnotes:
[1] This condition is state only enforceable and was established pursuant to Rule 201(1)(b).
[2] This condition is federally enforceable and was established pursuant to Rule 201(1)(a).
[3] This condition was originally established in a Permit to Install (PTI) under the federal PSD Rule for Pollution Control Projects (40 CFR 52.21(z)) and was subsequently vacated by the US Court of Appeals, DC Circuit, on February 8, 2008.

EUBG011
EMISSION UNIT CONDITIONS

DESCRIPTION

Waukesha model H24GL HCR; 585 HP natural gas fired emergency generator. Installed under exemption.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
NA	NA	NA	NA	NA	NA

II. MATERIAL LIMIT(S)

Material	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
NA	NA	NA	NA	NA	NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. If you own or operate an emergency stationary RICE, you must operate the emergency stationary RICE according to the requirements in paragraphs (f)(1) through (4) of this section. In order for the engine to be considered an emergency stationary RICE under this subpart, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (f)(1) through (4) of this section, is prohibited. If you do not operate the engine according to the requirements in paragraphs (f)(1) through (4) of this section, the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines: **(40 CFR 63.6640(f))**
   a. There is no time limit on the use of emergency stationary RICE in emergency situations. **(40 CFR 63.6640(f)(1))**
   b. You may operate your emergency stationary RICE for any combination of the purposes specified in paragraphs (f)(2)(i) through (iii) of this section for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraphs (f)(3) and (4) of this section counts as part of the 100 hours per calendar year allowed by this paragraph (f)(2):
      i. Emergency stationary RICE may be operated for 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 owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but 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 RICE beyond 100 hours per calendar year.
      ii. Emergency stationary RICE may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (incorporated by reference, see 40 CFR 63.14), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3.

iii. Emergency stationary RICE may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency. **(40 CFR 63.6640(f)(2)(i))**

c. Emergency stationary RICE located at major sources of HAP may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in paragraph (f)(2) of this section. 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 power to an electric grid or otherwise supply power as part of a financial arrangement with another entity. **(40 CFR 63.6640(f)(3))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

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

NA

VI. MONITORING/RECORDKEEPING

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

1. Records of the occurrence and duration of each malfunction of operation or the air pollution control monitoring equipment. **(40 CFR 63.6655(a)(2), 40 CFR 63.6660)**

2. Records of actions taken during periods of malfunction to minimize emissions, including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation. **(40 CFR 63.6655(a)(5), 40 CFR 63.6660, 40 CFR 63.6605(b))**

3. Records to demonstrate compliance with the operating limitations in SC III.1. **(40 CFR 63.6655(d), 40 CFR 63.6660)**

4. Records of the maintenance conducted to demonstrate the stationary RICE was operated and maintained according to the manufacturer's emission related written instructions or developed maintenance plan. **(40 CFR 63.6655(e), 40 CFR 63.6660)**

5. Records of hours of operation recorded through the non-resettable hour meter. The permittee shall document how many hours were spent during emergency operation, including what classified the operation as emergency and how many hours were spent during non-emergency operation. **(40 CFR 63.6655(f), 40 CFR 63.6660)**

VII. REPORTING

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**

2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**

3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

4. The permittee shall submit any performance test reports to the AQD Technical Programs Unit and District Office, in a format approved by the AQD. **(R 336.1213(3)(c), R 336.2001(5))**

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

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

Stack & Vent ID	Maximum Exhaust Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
NA	NA	NA	NA

IX. OTHER REQUIREMENT(S)

The permittee shall comply with all provisions of the federal National Emission Standards for Hazardous Air Pollutants (NESHAP) as specified in 40 CFR Part 63 Subparts A and ZZZZ, as they apply to EUBG011 at a major source of HAPs. **(40 CFR Part 63, Subparts A and ZZZZ)**

Footnotes:
[1] This condition is state only enforceable and was established pursuant to Rule 201(1)(b).
[2] This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

EUBG012
EMISSION UNIT CONDITIONS

DESCRIPTION

Kewanee model L3S-150-G; 5.021 MMBtu-hr natural gas fired boiler.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

1. The permittee shall only burn fuels as allowed in the Unit designed to burn gas 1 subcategory definition in 40 CFR 63.7575. **(40 CFR 63.7499(l))**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee must meet the requirements in paragraphs (a)(1) and (3) of 40 CFR 63.7500, as listed below, except as provided in paragraphs (b) and (e) of 40 CFR 63.7500, stated in SC III.2 and SC III.3. The permittee must meet these requirements at all times the affected unit is operating, except as provided in paragraph (f) of 40 CFR 63.7500, stated in SC III.4: **(40 CFR 63.7500(a))**
   a. The permittee must meet each work practice standard in Table 3 of 40 CFR Part 63, Subpart DDDDD that applies to the boiler or process heater, for each boiler or process heater at the source. **(40 CFR 63.7500(a)(1))**
   b. At all times, the permittee must operate and maintain any affected source (as defined in 40 CFR 63.7490, stated in SC IX.1), including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. **(40 CFR 63.7500(a)(3))**

2. As provided in 40 CFR 63.6(g), EPA may approve use of an alternative to the work practice standards. **(40 CFR 63.7500(b))**

3. Boilers and process heaters in the units designed to burn gas 1 fuels subcategory are not subject to the emission limits in Tables 1 and 2 or 11 through 13 of 40 CFR Part 63, Subpart DDDDD, or the operating limits in Table 4 of 40 CFR Part 63, Subpart DDDDD. Boilers and process heaters in the units designed to burn gas 1 fuel subcategory with a heat input capacity: **(40 CFR 63.7500(e))**
   a. Greater than 5 million Btu per hour and less than 10 million Btu per hour must complete a tune-up every 2 years as specified in 40 CFR 63.7540, stated in. **(40 CFR 63.7500(e))**

4. The above standards apply at all times the affected unit is operating, except during periods of startup and shutdown during which time the permittee must comply only with items 5 and 6 of Table 3 of 40 CFR Part 63, Subpart DDDDD. **(40 CFR 63.7500(f))**

5. The permittee must complete an initial tune-up by following the procedures described in 40 CFR 63.7540(a)(10)(i) through (vi), stated in SC IX.7, no later than the compliance date specified in 40 CFR 63.7495, stated in SC IX.3 (no later than January 31, 2016, except as provided in 40 CFR 63.6(i)), except as specified in paragraph (j) of 40 CFR 63.7510. The permittee must complete the one-time energy assessment specified in Table 3 of 40 CFR Part 63, Subpart DDDDD no later than the compliance date specified in 40 CFR 63.7495, stated in SC IX.3 (no later than January 31, 2016). **(40 CFR 63.7510(e))**

6. If the permittee is required to meet an applicable tune-up work practice standard, the permittee must conduct an annual performance tune-up according to 40 CFR 63.7540(a)(10), stated in SC IX.7.a; biennial performance tune-up according to 40 CFR 63.7540(a)(11), stated in SC IX.7.b; or 5-year performance tune-up according to 40 CFR 63.7540(a)(12), stated in SC IX.7.c. Each annual tune-up specified in 40 CFR 63.7540(a)(10) must be no more than 13 months after the previous tune-up. Each biennial tune-up specified in 40 CFR 63.7540(a)(11) must be conducted no more than 25 months after the previous tune-up. Each 5-year tune-up specified in 40 CFR 63.7540(a)(12) must be conducted no more than 61 months after the previous tune-up. **(40 CFR 63.7515(d))**

7. For startup and shutdown, the permittee must meet the work practice standards according to items 5 and 6 of Table 3 of 40 CFR Part 63, Subpart DDDDD. **(40 CFR 63.7540(d))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The boiler or process heater shall have a heat input capacity of less than 10 MMBtu per hour. **(40 CFR Part 63, Subpart DDDDD)**

V. TESTING/SAMPLING

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

NA

VI. MONITORING/RECORDKEEPING

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

1. The permittee must keep records according to paragraphs (a)(1) and (2) of 40 CFR 63.7555, as listed below: **(40 CFR 63.7555(a))**
   a. A copy of each notification and report that the permittee submitted to comply with 40 CFR Part 63, Subpart DDDDD, including all documentation supporting any Initial Notification or Notification of Compliance Status or semiannual compliance report that the permittee submitted, according to the requirements in 40 CFR 63.10(b)(2)(xiv). **(40 CFR 63.7555(a)(1))**
   b. Records of performance tests, fuel analyses, or other compliance demonstrations and performance evaluations as required in 40 CFR 63.10(b)(2)(viii). **(40 CFR 63.7555(a)(2))**

2. If the permittee operates a unit in the unit designed to burn gas 1 subcategory that is subject to 40 CFR Part 63, Subpart DDDDD, and the permittee uses an alternative fuel other than natural gas, refinery gas, gaseous fuel subject to another subpart under 40 CFR Part 63, other gas 1 fuel, or gaseous fuel subject to another subpart of 40 CFR Part 63 or Parts 60, 61, or 65, the permittee must keep records of the total hours per calendar year that alternative fuel is burned and the total hours per calendar year that the unit operated during periods of gas curtailment or gas supply emergencies. **(40 CFR 63.7555(h))**

3. The permittee's records must be in a form suitable and readily available for expeditious review, according to 40 CFR 63.10(b)(1). **(40 CFR 63.7560(a))**

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 63.7560(b))**

5. The permittee must keep each record on site, or they must be accessible from on-site (for example, through a computer network), for at least 2 years after the date of each occurrence, measurement, maintenance, corrective

action, report, or record, according to 40 CFR 63.10(b)(1). The permittee can keep the records off site for the remaining 3 years. **(40 CFR 63.7560(c))**

VII. REPORTING

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**

2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**

3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

4. The permittee must meet the notification requirements in 40 CFR 63.7545 according to the schedule in 40 CFR 63.7545, both stated in SC VII.8 through SC VII.11, and in Subpart A of 40 CFR Part 63. **(40 CFR 63.7495(d))**

5. If the permittee owns or operates an existing unit with a heat input capacity of less than 10 million Btu per hour or a unit in the unit designed to burn gas 1 subcategory, the permittee must submit a signed statement in the Notification of Compliance Status report that indicates that the permittee conducted a tune-up of the unit. **(40 CFR 63.7530(d))**

6. The permittee must include with the Notification of Compliance Status a signed certification that either the energy assessment was completed according to Table 3 of 40 CFR Part 63, Subpart DDDDD, and that the assessment is an accurate depiction of the facility at the time of the assessment, or that the maximum number of on-site technical hours specified in the definition of energy assessment applicable to the facility has been expended. **(40 CFR 63.7530(e))**

7. The permittee must submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in 40 CFR 63.7545(e), stated in SC VII.11. **(40 CFR 63.7530(f))**

8. The permittee must report each instance in which they did not meet each emission limit and operating limit in Tables 1 through 4 to this subpart that applies. These instances are deviations from the emission limits or operating limits, respectively, in this subpart. These deviations must be reported according to the requirements in 40 CFR 63.7550, cited in SC VII 14. **(40 CFR 63.7540(b))**

9. The permittee must submit to the Administrator all of the notifications in 40 CFR 63.7(b) and (c), 40 CFR 63.8(e), (f)(4) and (6), and 40 CFR 63.9(b) through (h) that apply to the permittee by the dates specified. **(40 CFR 63.7545(a))**

10. As specified in 40 CFR 63.9(b)(2), if the permittee starts up the affected source before January 31, 2013, the permittee must submit an Initial Notification not later than 120 days after January 31, 2013. **(40 CFR 63.7545(b))**

11. If the permittee is required to conduct an initial compliance demonstration as specified in 40 CFR 63.7530, the permittee must submit a Notification of Compliance Status according to 40 CFR 63.9(h)(2)(ii). For the initial compliance demonstration for each boiler or process heater, the permittee must submit the Notification of Compliance Status, including all performance test results and fuel analyses, before the close of business on the 60th day following the completion of all performance test and/or other initial compliance demonstrations for all boiler or process heaters at the facility according to 40 CFR 63.10(d)(2). The Notification of Compliance Status report must contain all the information specified in paragraphs (e)(1) through (8), as applicable. If the permittee is not required to conduct an initial compliance demonstration as specified in 40 CFR 63.7530(a), the Notification of Compliance Status must only contain the information specified in paragraphs (e)(1) and (8) and must be submitted within 60 days of the January 31, 2016 compliance date: **(40 CFR 63.7545(e))**
    a. A description of the affected unit(s) including identification of which subcategories the unit is in, the design heat input capacity of the unit, a description of the add-on controls used on the unit to comply with

40 CFR Part 63, Subpart DDDDD, description of the fuel(s) burned, including whether the fuel(s) were a secondary material determined by the permittee or the EPA through a petition process to be a non-waste under 40 CFR 241.3, whether the fuel(s) were a secondary material processed from discarded non-hazardous secondary materials within the meaning of 40 CFR 241.3, and justification for the selection of fuel(s) burned during the compliance demonstration. **(40 CFR 63.7545(e)(1))**

b. In addition to the information required in 40 CFR 63.9(h)(2), your notification of compliance status must include the following certification(s) of compliance, as applicable, and signed by a responsible official: **(40 CFR 63.7545(e)(8))**
   i. "This facility completed the required initial tune-up for all of the boilers and process heaters covered by 40 CFR Part 63, Subpart DDDDD at this site according to the procedures in 40 CFR 63.7540(a)(10)(i) through (vi)." **(40 CFR 63.7545(e)(8)(i))**
   ii. "This facility has had an energy assessment performed according to 40 CFR 63.7530(e)." **(40 CFR 63.7545(e)(8)(ii))**
   iii. Except for units that burn only natural gas, refinery gas, or other gas 1 fuel, or units that qualify for a statutory exemption as provided in section 129(g)(1) of the Clean Air Act, include the following: "No secondary materials that are solid waste were combusted in any affected unit." **(40 CFR 63.7545(e)(8)(iii)))**

12. If the permittee has switched fuels or made a physical change to the boiler or process heater and the fuel switch or physical change resulted in the applicability of a different subcategory, the permittee must provide notice of the date upon which the permittee switched fuels or made the physical change within 30 days of the switch/change. The notification must identify: **(40 CFR 63.7545(h))**
    a. The name of the owner or operator of the affected source, as defined in 40 CFR 63.7490, stated in SC IX.1, the location of the source, the boiler(s) and process heater(s) that have switched fuels, were physically changed, and the date of the notice. **(40 CFR 63.7545(h)(1))**
    b. The currently applicable subcategory under 40 CFR Part 63, Subpart DDDDD. **(40 CFR 63.7545(h)(2))**
    c. The date upon which the fuel switch or physical change occurred. **(40 CFR 63.7545(h)(3))**

13. The permittee must submit each report in Table 9 of 40 CFR Part 63, Subpart DDDDD that applies. **(40 CFR 63.7550(a))**

14. Unless the EPA Administrator has approved a different schedule for submission of reports under 40 CFR 63.10(a), the permittee must submit each report, according to paragraph (h) of 40 CFR 63.7550, stated in SC VII.17, by the date in Table 9 of 40 CFR Part 63, Subpart DDDDD and according to the requirements in paragraphs (b)(1) through (4) of 40 CFR 63.7550, as listed below. For units that are subject only to a requirement to conduct an annual tune-up according to 40 CFR 63.7540(a)(10), stated in SC IX.7.a, biennial tune-up according to 40 CFR 63.7540(a)(11), stated in SC IX.7.b, or 5-year tune-up according to 40 CFR 63.7540(a)(12), stated in SC IX.7.c, and not subject to emission limits or Table 4 operating limits, the permittee may submit only an annual, biennial, or 5-year compliance report, as applicable, as specified in paragraphs (b)(1) through (4) of 40 CFR 63.7550, as listed below, instead of a semiannual compliance report: **(40 CFR 63.7550(b))**
    a. The first semiannual compliance report must cover the period beginning on the compliance date that is specified for each boiler or process heater in 40 CFR 63.7495, stated in SC IX.3, and ending on June 30 or December 31, whichever date is the first date that occurs at least 180 days after the compliance date that is specified for the source in 40 CFR 63.7495, stated in SC IX.3. If submitting an annual, biennial, or 5-year compliance report, the first compliance report must cover the period beginning on the compliance date that is specified for each boiler or process heater in 40 CFR 63.7495 and ending on December 31 within 1, 2, or 5 years, as applicable, after the January 31, 2016 compliance date. **(40 CFR 63.7550(b)(1))**
    b. The first semiannual compliance report must be postmarked or submitted no later than July 31 or January 31, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for each boiler or process heater in 40 CFR 63.7495, stated in SC IX.3. The first annual, biennial, or 5-year compliance report must be postmarked or submitted no later than January 31. **(40 CFR 63.7550(b)(2), (40 CFR 63.10(a)(5))**
    c. Each subsequent semiannual compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31. Annual, biennial, and 5-year compliance reports must cover the applicable 1, 2, or 5-year periods from January 1 to December 31. **(40 CFR 63.7550(b)(3))**

d. Each subsequent semiannual compliance report must be postmarked or submitted no later than September 15 or March 15, whichever date is the first date following the end of the semiannual reporting period. Annual, biennial, and 5-year compliance reports must be postmarked or submitted no later than March 15. **(40 CFR 63.7550(b)(4), (40 CFR 63.10(a)(5))**

15. The first and subsequent compliance reports may be submitted according to the dates specified in SC VII.2 for semiannual ROP reporting. **(40 CFR 63.7550(b)(5))**

16. A compliance report must contain the following information depending on how the permittee chooses to comply with the limits set in this rule: **(40 CFR 63.7550(c))**
    a. If the facility is subject to the requirements of a tune up the permittee must submit a compliance report with the information in SC VII.18 (d)(i) through (iii) and (ix) **(40 CFR 63.7550(c)(1))**
    b. 40 CFR 63.7550(c)(5) is as follows:
        i. Company and Facility name and address. **(40 CFR 63.7550(c)(5)(i))**
        ii. Process unit information, emissions limitations, and operating parameter limitations. **(40 CFR 63.7550(c)(5)(ii))**
        iii. Date of report and beginning and ending dates of the reporting period. **(40 CFR 63.7550(c)(5)(iii))**
        iv. The total operating time during the reporting period. **(40 CFR 63.7550(c)(5)(iv))**
        v. Include the date of the most recent tune-up for each unit subject to only the requirement to conduct an annual tune-up according to 40 CFR 63.7540(a)(10), stated in SC IX.7.a, biennial tune-up according to 40 CFR 63.7540(a)(10), stated in SC IX.7.b, or 5-year tune-up according to 40 CFR 63.7540(a)(12), stated in SC IX.7.c. Include the date of the most recent burner inspection if it was not done annually, biennially, or on a 5-year period and was delayed until the next scheduled or unscheduled unit shutdown. **(40 CFR 63.7550(c)(5)(xiv))**

17. The permittee must submit the reports according to the procedures specified in paragraphs (h)(1) through (3) of 40 CFR 63.7550, as listed below: **(40 CFR 63.7550(h))**
    a. The permittee must submit all reports required by Table 9 of 40 CFR Part 63, Subpart DDDDD electronically to the EPA via the CEDRI. (CEDRI can be accessed through the EPA's CDX.) The permittee must use the appropriate electronic report in CEDRI for this subpart. Instead of using the electronic report in CEDRI for this subpart, the permittee may submit an alternate electronic file consistent with the XML schema listed on the CEDRI website (http://www.epa.gov/ttn/chief/cedri/index.html), once the XML schema is available,. If the reporting form specific to 40 CFR Part 63, Subpart DDDDD is not available in CEDRI at the time that the report is due, the permittee must submit the report to the Administrator at the appropriate address listed in 40 CFR 63.13. The permittee must begin submitting reports via CEDRI no later than 90-days after the form become available in CEDRI. **(40 CFR 63.7550(h)(3))**

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

1. 40 CFR Part 63, Subpart DDDDD applies to existing affected sources as described in paragraph (a)(1) of 40 CFR 63.7490, as listed below: **(40 CFR 63.7490(a))**
    a. The affected source of 40 CFR Part 63, Subpart DDDDD is the collection at a major source of all existing industrial, commercial, and institutional boilers and process heaters within a subcategory as defined in 40 CFR 63.7575. **(40 CFR 63.7490(a)(1))**

2. A boiler or process heater is existing if it is not new or reconstructed, as defined below: **(40 CFR 63.7490(d))**
   a. A boiler or process heater is new if the permittee commences construction of the boiler or process heater after June 4, 2010, and the permittee meets the applicability criteria at the time the permittee commences construction. **(40 CFR 63.7490(b))**
   b. A boiler or process heater is reconstructed if the permittee meets the reconstruction criteria as defined in 40 CFR 63.2, the permittee commences reconstruction after June 4, 2010, and the permittee meets the applicability criteria at the time the permittee commence reconstruction. **(40 CFR 63.7490(c))**

3. If the permittee has an existing boiler or process heater, the permittee must comply with 40 CFR Part 63, Subpart DDDDD no later than January 31, 2016, except as provided in 40 CFR 63.6(i). **(40 CFR 63.7495(b))**

4. If the permittee has an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP, paragraph (c)(2) of 40 CFR 63.7495, as listed below, applies to the permittee: **(40 CFR 63.7495(c))**
   a. Any existing boiler or process heater at the existing source must be in compliance with 40 CFR Part 63, Subpart DDDDD within 3 years after the source becomes a major source. **(40 CFR 63.7495(c)(2))**

5. The permittee must be in compliance with the emission limits, work practice standards, and operating limits of 40 CFR Part 63, Subpart DDDDD. These emission and operating limits apply at all times the affected unit is operating except for the periods noted in 40 CFR 63.7500(f), stated in SC III.4. **(40 CFR 63.7505(a))**

6. For affected sources (as defined in 40 CFR 63.7490, stated in SC IX.1) that have not operated since the previous compliance demonstration and more than one year has passed since the previous compliance demonstration, the permittee must complete a subsequent tune-up by following the procedures described in 40 CFR 63.7540(a)(10)(i) through (vi), stated in SC IX.7.a, and the schedule described in 40 CFR 63.7540(a)(13), stated in SC IX.7.d, for units that are not operating at the time of their scheduled tune-up. **(40 CFR 63.7515(g))**

7. The permittee must demonstrate continuous compliance with the work practice standards in Table 3 of 40 CFR Part 63, Subpart DDDDD that applies according to the methods specified in paragraphs (a)(10) through (13) of 40 CFR 63.7540, as listed below: **(40 CFR 63.7540(a))**
   a. If the boiler or process heater has a heat input capacity of 10 million Btu per hour or greater, the permittee must conduct an annual tune-up of the boiler or process heater to demonstrate continuous compliance as specified in paragraphs (a)(10)(i) through (vi) of 40 CFR 63.7540, as listed below. The tune-up must be conducted while burning the type of fuel (or fuels in case of units that routinely burn a mixture) that provided the majority of the heat input to the boiler or process heater over the 12 months prior to the tune-up. This frequency does not apply to units with continuous oxygen trim systems that maintain an optimum air to fuel ratio: **(40 CFR 63.7540(a)(10))**
      i. As applicable, inspect the burner, and clean or replace any components of the burner as necessary (the permittee may perform the burner inspection any time prior to tune-up or delay the burner inspection until the next scheduled unit shutdown). Units that produce electricity for sale may delay the burner inspection until the first outage, not to exceed 36 months from the previous inspection. At units where entry into a piece of process equipment or into a storage vessel is required to complete the tune-up inspections, inspections are required only during planned entries into the storage vessel or process equipment. **(40 CFR 63.7540(a)(10)(i))**
      ii. Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available. **(40 CFR 63.7540(a)(10)(ii))**
      iii. Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (the permittee may delay the inspection until the next scheduled unit shutdown). Units that produce electricity for sale may delay the inspection until the first outage, not to exceed 36 months from the previous inspection. **(40 CFR 63.7540(a)(10)(iii))**
      iv. Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available, and with any NO_x requirement to which the unit is subject. **(40 CFR 63.7540(a)(10)(iv))**

v. Measure the concentrations in the effluent stream of CO in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer. **(40 CFR 63.7540(a)(10)(v))**

vi. Maintain on-site and submit, if requested by the Administrator, a report containing the information in paragraphs (a)(10)(vi)(A) through (C) of 40 CFR 63.7540, as listed below: **(40 CFR 63.7540(a)(10)(vi))**

1) The concentrations of CO in the effluent stream in parts per million by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler or process heater. **(40 CFR 63.7540(a)(10)(vi)(A))**

2) A description of any corrective actions taken as a part of the tune-up. **(40 CFR 63.7540(a)(10)(vi)(B))**

3) The type and amount of fuel used over the 12 months prior to the tune-up, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel used by each unit. **(40 CFR 63.7540(a)(10)(vi)(C))**

b. If the boiler or process heater has a heat input capacity of less than 10 million Btu per hour (except as specified in paragraph (a)(12) of 40 CFR 63.7540), the permittee must conduct a biennial tune-up of the boiler or process heater as specified in paragraphs (a)(10)(i) through (vi) of 40 CFR 63.7540 to demonstrate continuous compliance. **(40 CFR 63.7540(a)(11))**

c. If the boiler or process heater has a continuous oxygen trim system that maintains an optimum air to fuel ratio, or a heat input capacity of less than or equal to 5 million Btu per hour and the unit is in the units designed to burn gas 1 subcategory, the permittee must conduct a tune-up of the boiler or process heater every 5 years as specified in paragraphs (a)(10)(i) through (vi) of 40 CFR 63.7540 to demonstrate continuous compliance. The permittee may delay the burner inspection specified in paragraph (a)(10)(i) of 40 CFR 63.7540 until the next scheduled or unscheduled unit shutdown, but the permittee must inspect each burner at least once every 72 months. If an oxygen trim system is utilized on a unit without emission standards to reduce the tune-up frequency to once every 5 years, set the oxygen level no lower than the oxygen concentration measured during the most recent tune-up. **(40 CFR 63.7540(a)(12))**

d. If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 calendar days of startup. **(40 CFR 63.7540(a)(13))**

8. Table 10 of 40 CFR Part 63, Subpart DDDDD shows which parts of the General Provisions in 40 CFR 63.1 through 63.15 applies to the permittee. **(40 CFR 63.7565)**

Footnotes:

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

[2] This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

~~D. FLEXIBLE GROUP CONDITIONS~~

~~Part D outlines the terms and conditions that apply to more than one emission unit. The permittee is subject to the special conditions for each flexible group in addition to the General Conditions in Part A and any other terms and conditions contained in this ROP.~~

~~The permittee shall comply with all specific details in the special conditions and the underlying applicable requirements cited. If a specific condition type does not apply, NA (not applicable) has been used in the table. If there are no special conditions that apply to more than one emission unit, this section will be left blank.~~

~~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~~
~~FGEQUIPMENT~~	~~Engines and turbines installed as grandfathered or exempt sources and have not been modified.~~	~~EUBG001~~ ~~EUBG002~~ ~~EUBG003~~ ~~EUBG004~~ ~~EUBG005~~ ~~EUBG006~~ ~~EUBG007~~ ~~EUBG008~~

FLEXIBLE GROUP CONDITIONS

Part D outlines the terms and conditions that apply to more than one emission unit. The permittee is subject to the special conditions for each flexible group in addition to the General Conditions in Part A and any other terms and conditions contained in this ROP.

The permittee shall comply with all specific details in the special conditions and the underlying applicable requirements cited. If a specific condition type does not apply, NA (not applicable) has been used in the table. If there are no special conditions that apply to more than one emission unit, this section will be left blank.

FLEXIBLE GROUP SUMMARY TABLE

Flexible Group ID	Flexible Group Description	Associated Emission Unit IDs
FGRULE285(2)(mm)	Routine and emergency venting of natural gas from transmission and distribution systems exempt from the requirements of Rule 201 pursuant to Rule 278, Rule 278a and Rule 285(2)(mm)	EUPIPEMAINT

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FGEQUIPMENT
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Engines and turbines installed as grandfathered or exempt sources and have not been modified.

Emission Units: EUBG001, EUBG002, EUBG003, EUBG004, EUBG005, EUBG006, EUBG007, EUBG008

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
NA	NA	NA	NA	NA	NA

II. MATERIAL LIMIT(S)

Material	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
NA	NA	NA	NA	NA	NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall only fire natural gas in the turbines and engines at this facility.[2] **(R 336.1201(1))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

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

NA

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall monitor and record the natural gas consumption rate for each emission unit listed in FGEQUIPMENT on a monthly basis. **(R 336.1213(3)(b))**

VII. REPORTING

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**

2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**

3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

4. The permittee shall submit any performance test reports to the AQD Technical Programs Unit and District Office, in a format approved by the AQD. **(R 336.1213(3)(c), R 336.2001(5))**

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

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

Stack & Vent ID	Maximum Exhaust Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
NA	NA	NA	NA

IX. OTHER REQUIREMENT(S)

NA

Footnotes:
[1] This condition is state only enforceable and was established pursuant to Rule 201(1)(b).
[2] This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

FGRULE285(2)(mm)
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Any emission unit that emits air contaminants and is exempt from the requirements of Rule 201 pursuant to Rule 278, Rule 278a and Rule 285(2)(mm).

Emission Unit: EUPIPEMAINT

POLLUTION CONTROL EQUIPMENT

NA

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. For venting of natural gas for routine maintenance or relocation of transmission and distribution systems in amounts greater than 1,000,000 standard cubic feet, the permittee shall, at a minimum, implement measures to assure safety of employees and the public and minimize impacts to the environment. **(R 336.1285(2)(mm)(ii)(B))**

2. For venting of field gas for routine maintenance or relocation of gathering pipelines in amounts greater than 1,000,000 standard cubic feet, the permittee shall, at a minimum, implement measures to assure safety of employees and the public and minimize impacts to the environment. **(R 336.1285(2)(mm)(iii)(B))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

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

NA

VI. MONITORING/RECORDKEEPING

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

NA

VII. REPORTING

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**

2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**

3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

4. For venting of natural gas for routine maintenance or relocation of transmission and distribution systems in amounts greater than 1,000,000 standard cubic feet, the permittee shall notify the AQD District Supervisor prior to a scheduled pipeline venting. **(R 336.1285(2)(mm)(ii)(A))**

5. For venting of natural gas for routine maintenance or relocation of transmission and distribution systems in amounts greater than 1,000,000 standard cubic feet, the permittee shall provide necessary notification in accordance with the Michigan gas safety standards, the federal pipeline and hazardous materials safety administration standards, and the federal energy regulatory commission standards, as applicable. The permittee is not required to copy the AQD on the notifications. **(R 336.1285(2)(mm)(ii)(B))**

6. For venting of field gas for routine maintenance or relocation of gathering pipelines in amounts greater than 1,000,000 standard cubic feet, the permittee shall notify the AQD District Supervisor prior to a scheduled pipeline venting. **(R 336.1285(2)(mm)(iii)(A))**

7. For venting of field gas for routine maintenance or relocation of gathering pipelines in amounts greater than 1,000,000 standard cubic feet, the permittee shall provide necessary notification in accordance with the Michigan Department of Environmental Quality, Office of Geological Survey, and the Michigan Public Service Commission Standards, as applicable. The permittee is not required to copy the AQD on the notifications. **(R 336.1285(2)(mm)(iii)(B))**

8. For emergency venting of natural gas or field gases in amounts greater than 1,000,000 standard cubic feet per event, the permittee shall notify the pollution emergency alert system (PEAS) within 24 hours of an emergency pipeline venting. For purposes of this requirement, an emergency is considered an unforeseen event that disrupts normal operating conditions and poses a threat to human life, health, property, or the environment if not controlled immediately. **(R 336.1285(2)(mm)(iv))**

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

NA

Footnotes:
[1] This condition is state only enforceable and was established pursuant to Rule 201(1)(b).
[2] This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

E. NON-APPLICABLE REQUIREMENTS

At the time of the ROP issuance, the AQD has determined that no non-applicable requirements have been identified for incorporation into the permit shield provision set forth in the General Conditions in Part A pursuant to Rule 213(6)(a)(ii).

APPENDICES

Appendix 1. Acronyms and Abbreviations

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
		gr	Grains
EU	Emission Unit	HAP	Hazardous Air Pollutant
FG	Flexible Group	Hg	Mercury
GACS	Gallons of Applied Coating Solids	hr	Hour
GC	General Condition	HP	Horsepower
GHGs	Greenhouse Gases	H_2S	Hydrogen Sulfide
HVLP	High Volume Low Pressure*	kW	Kilowatt
ID	Identification	lb	Pound
IRSL	Initial Risk Screening Level	m	Meter
ITSL	Initial Threshold Screening Level	mg	Milligram
LAER	Lowest Achievable Emission Rate	mm	Millimeter
MACT	Maximum Achievable Control Technology	MM	Million
MAERS	Michigan Air Emissions Reporting System	MW	Megawatts
MAP	Malfunction Abatement Plan	NMOC	Non-methane Organic Compounds
MDEQ	Michigan Department of Environmental Quality	NO_x	Oxides of Nitrogen
		ng	Nanogram
MSDS	Material Safety Data Sheet	PM	Particulate Matter
NA	Not Applicable	PM10	Particulate Matter equal to or less than 10 microns in diameter
NAAQS	National Ambient Air Quality Standards		
NESHAP	National Emission Standard for Hazardous Air Pollutants	PM2.5	Particulate Matter equal to or less than 2.5 microns in diameter
NSPS	New Source Performance Standards	pph	Pounds per hour
NSR	New Source Review	ppm	Parts per million
PS	Performance Specification	ppmv	Parts per million by volume
PSD	Prevention of Significant Deterioration	ppmw	Parts per million by weight
PTE	Permanent Total Enclosure	psia	Pounds per square inch absolute
PTI	Permit to Install	psig	Pounds per square inch gauge
RACT	Reasonable Available Control Technology	scf	Standard cubic feet
ROP	Renewable Operating Permit	sec	Seconds
SC	Special Condition	SO_2	Sulfur Dioxide
SCR	Selective Catalytic Reduction	TAC	Toxic Air Contaminant
SNCR	Selective Non-Catalytic Reduction	Temp	Temperature
SRN	State Registration Number	THC	Total Hydrocarbons
TEQ	Toxicity Equivalence Quotient	tpy	Tons per year
USEPA/EPA	United States Environmental Protection Agency	µg	Microgram
		µm	Micrometer or Micron
VE	Visible Emissions	VOC	Volatile Organic Compounds
		yr	Year

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

Appendix 2. Schedule of Compliance

The permittee certified in the ROP application that this stationary source is in compliance with all applicable requirements and the permittee shall continue to comply with all terms and conditions of this ROP. A Schedule of Compliance is not required. **(R 336.1213(4)(a), R 336.1119(a)(ii))**

Appendix 3. Monitoring Requirements

Specific monitoring requirement procedures, methods or specifications are detailed in Part A or the appropriate Source-Wide, Emission Unit and/or Flexible Group Special Conditions. Therefore, this appendix is not applicable.

Appendix 4. Recordkeeping

Specific recordkeeping requirement formats and procedures are detailed in Part A or the appropriate Source-Wide, Emission Unit and/or Flexible Group Special Conditions. Therefore, this appendix is not applicable.

Appendix 5. Testing Procedures

There are no specific testing requirement plans or procedures for this ROP. Therefore, this appendix is not applicable.

Appendix 6. Permits to Install

The following table lists any PTIs issued or ROP revision applications received since the effective date of the previously issued ROP No. MI-ROP-N5575-2013. Those ROP revision applications that are being issued concurrently with this ROP renewal are identified by an asterisk (*). Those revision applications not listed with an asterisk were processed prior to this renewal.

Source-Wide PTI No MI-PTI-N5575-2013 is being reissued as Source-Wide PTI No. MI-PTI-N5575-2018.

Permit to Install Number	ROP Revision Application Number	Description of Equipment or Change	Corresponding Emission Unit(s) or Flexible Group(s)
NA	NA	NA	NA

Appendix 7. Emission Calculations

There are no specific emission calculations to be used for this ROP. Therefore, this appendix is not applicable.

Appendix 8. Reporting

A. Annual, Semiannual, and Deviation Certification Reporting

The permittee shall use the MDEQ, AQD, Report Certification form (EQP 5736) and MDEQ, AQD, Deviation Report form (EQP 5737) for the annual, semiannual and deviation certification reporting referenced in the Reporting Section of the Source-Wide, Emission Unit and/or Flexible Group Special Conditions. Alternative formats must meet the provisions of Rule 213(4)(c) and Rule 213(3)(c)(i), respectively, and be approved by the AQD District Supervisor.

B. Other Reporting

Specific reporting requirement formats and procedures are detailed in Part A or the appropriate Source-Wide, Emission Unit and/or Flexible Group Special Conditions. Therefore, Part B of this appendix is not applicable.

Appendix D Plans Referenced within the PTI

TC Energy
700 Louisiana
Houston Texas 77002

March 17, 2022

FedEx No. 776328034470

Michigan Department of Environment, Great Lakes and Energy
Air Quality Division – Kalamazoo District Office
7953 Adobe Road
Kalamazoo, MI 49009

RE: Startup/Shutdown Plan
Malfunction Abatement Plan
ANR Pipeline Company - Bridgman Compressor Station (N5575)

Dear Sir/Madam,

ANR Pipeline Company (ANR) respectfully submits the enclosed Malfunction Abatement Plan and Startup/Shutdown Plan for consideration and approval by EGLE for the following units in accordance with PTI 92-20 FGTURBINES SC III.1 and 2.

Emission Unit ID	Emission Unit Description
EUBG013	15,327 hp (132.9 MMBtu/hr at 32°F) natural gas-fueled Solar Mars 100 Turbine with dry-low-NOx (SoLoNOx) control
EUBG014	10,953 hp (91.2 MMBtu/hr at 32°F) natural gas-fueled Solar Mars 70 Turbine with dry-low-NOx (SoLoNOx) control

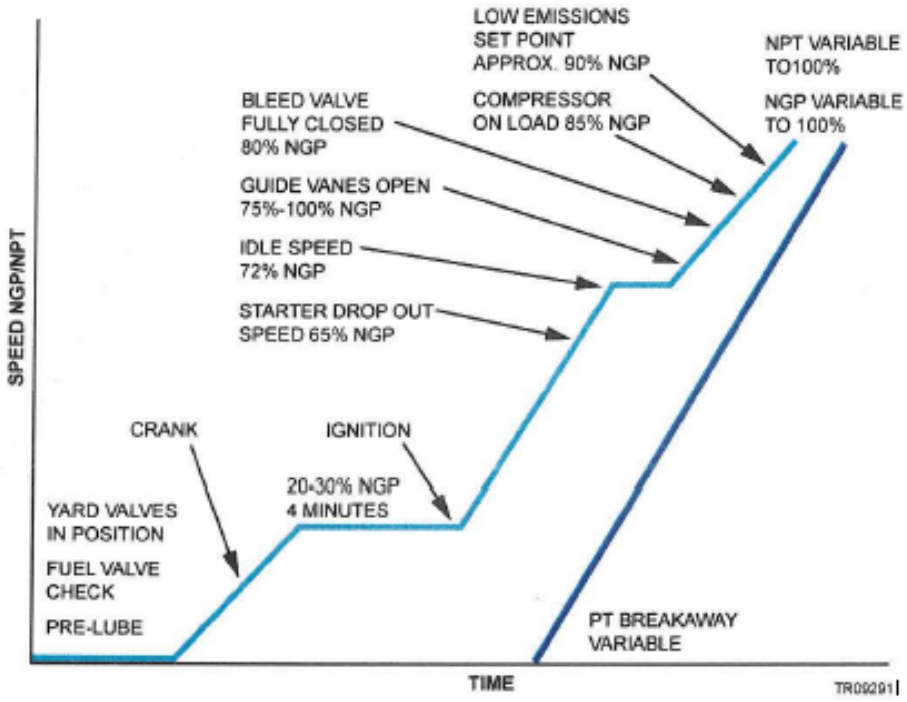
If you have any questions regarding this submittal please contact me at (832) 320-5490 or by email at chris_mcfarlane@tcenergy.com.

Sincerely,

Christopher McFarlane
Chris McFarlane
Analyst – US Natural Gas Environmental

Attachment – Solar Turbines Startup/Shutdown Plan and Malfunction Abatement Plan

STARTUP SEQUENCE



1. Select the Engine Summary display screen to monitor the package start.

2. Press the green START/STARTING Switch/Light on the Local control console.

3. The START/STARTING Switch/Light begins flashing and [Starting] is highlighted on Engine Summary display screen. The following system operational checks occur.

   a) The Backup lube oil pump is tested for operation.
   b) Pre-lube oil pressure is established using the Pre/Post lube oil pump.
   c) The control system begins a fuel system check.
   d) The seal system is tested for proper operation.

4. After the pre-lube cycle is complete, the compressor begins a purge cycle, and is then pressurized up to line pressure.

5. When the compressor has reached line pressure and the yard valves are in the proper start positions, the engine begins to crank.

6. After the starter has cranked the engine to crank speed, the exhaust purge timer begins providing a period of exhaust system purging via engine air flow. [Purge Crank] is highlighted on Engine Summary display screen.

7. After the turbine purge timer times out, [Ignition] is highlighted on the Engine Summary display screen and the ignition sequence begins.

8. When the engine temperature increases to light off temperature, [Light Off] is highlighted on the Engine Summary display screen, the fuel ramp is activated, and ignition is de-energized.

9. Engine speed will increase to starter dropout speed.

    a) The engine-driven lube oil pump pressure increases, and the pre/post lube oil pump stops.
    b) The Start system is de-energized and the starter clutch overruns.

10. The engine speed increases to idle speed. START/STARTING Switch/Light is extinguished and [Running] is highlighted on the Engine Summary display screen.

OPERATION

After idle speed has been reached, the engine/compressor is ready to load. If process control has been set to automatic, then the control system will increase the engine speed to load the compressor. Once the Anti-Surge Control Valve has closed and the compressor is loaded, the process control system will control NGP to achieve the selected set point (typically suction pressure, discharge pressure, or compressor flow).

Above SO% load the SoLoNox system will be enabled if the unit is equipped with a SoLoNOx system. The control system will automatically modulate the bleed valve open and closed to control TS temperature at the SoLoNox TS set point. This will control the CO emissions. At the same time the Pilot Fuel Valve will be commanded to its minimum open position to reduce NOx emissions.

At this point the process control system or the operator should adjust the speed setpoint to obtain the desired output. This may be maximum power based on engine control limits or a lower value to maintain the desired process conditions.

There are typically two control limits to which the engine will normally be controlled: NGP and TS. The control system will restrict fuel flow preventing the engine from exceeding these limits. The ability to reach either of these two limits will be affected by ambient temperature. When temperature is high, the TS limit will be reached first and when low the NGP limit will be reached first.

In addition to these two main limits, the control system will also automatically restrict the fuel flow to prevent other limits being exceeded, such as maximum NPT.

POST START

The control system monitors parameters such as engine speed, temperatures, gas and air pressures, oil pressure and level, gas fuel pressure, engine and compressor vibration, dc control voltage, compressor suction and discharge pressures, and compressor discharge temperature. The control system provides fuel topping (throttling) in the event certain monitored conditions exceeds preset limits. For all monitored parameters, it also provides the appropriate malfunction indication on the display screen and provides automatic control of shutdown sequencing and post lubrication of the engine and compressor bearings.

Observe the Operation Summary display screen on the operator interface display for a summation of system conditions. Observe individual display screens for detailed and expanded system data. Use the following list as a basic guide to record speeds, pressures, temperatures, and vibration levels for comparison with established norms. If radical deviations exist, shut down the engine and determine causes.

1. Ambient temperature (T 1)
2. Engine compressor discharge pressure (Ped)
3. Gas producer speed (N gp)
4. Engine temperature (T5 and possibly T7)
5. Power turbine speed (Npt)
6. Lube oil header pressure
7. Engine fuel pressure
8. Vibration monitor readings
9. Compressor suction and discharge pressures and temperatures
10. Compressor flow
11. Anti-surge I recycle valve position
12. Seal gas differential pressure
13. Buffer air differential pressure
14. Malfunctions (if any)
15. Operating hours

SHUTDOWN

To initiate normal stop from turbine control panel, press the STOP/STOPPING Switch/Light. The following events occur:

1. [Cooldown] highlights on the Engine Summary display screen.
2. The surge control valve is opened to unload the compressor.
3. The engine speed decreases to idle speed and continues to run for a preset.

After the preset cooldown period the following events occur:

1. The fuel system valves close, combustion ceases, and the engine begins to decelerate.
2. The [Cooldown] indication changes to normal, the STOP/STOPPING Switch/Light illuminates, and the [Stopping] indication highlights on the Engine Summary display screen.
3. The compressor suction valve and discharge valve close and the vent valve remains closed to maintain pressure in the compressor and process piping for a preselected pressurization hold time period.
4. The [Running] indication changes to normal.
5. After the engine coasts to a stop and the rundown timer is complete, a preset post lubrication cycle will be initiated.
6. After a preselected pressurization hold time period ends, the vent valve opens to depressurize the compressor and process piping and the seal system is de-energized.

ANR Pipeline Company

Malfunction and Abatement Plan

Bridgman Compressor Station
ANR Pipeline Company
Michigan

February 2022

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1.0 Background

Facility:	Bridgman Compressor Station
	ANR Pipeline Company (ANR)
Physical Address:	3372 Browntown Road
	Bridgman, Berrien County, Michigan
Plan Adoption Date:	February 17, 2022
Revisions:	

In accordance with flexible group conditions FGTURBINES, Part III (1) of the Michigan Permit to Install (PTI) #92-20 and the Michigan Administrative Code (MAC) R.336.1911, this Malfunction Abatement Plan (MAP) has been prepared for the above reference ANR facility which operates two natural gas-fired turbines (Solar Mars 100, 15,327 hp and Solar Taurus 70 10,953 hp), and one natural gas-fired Waukesha 880 HP RICE emergency generator

The purpose of this MAP is to prevent, detect, and correct malfunctions or equipment failures which may cause any applicable emission limitation to be violated or which may cause air pollution.

Please note none of the above-referenced emission sources is equipped with any air pollution control or monitoring equipment per Michigan PTI #92-20.

2.0 Elements of the Plan

In accordance with the PTI #92-20 FGTURBINES, Part III (1) and the elements specified in MAC R.336.1911 (2)(a) – (d) are addressed as follows:

(a) This element specifies that the MAP identified an individual responsible for inspecting, maintaining, and repairing the air pollution control equipment. Although no units will be equipped with any air pollution control equipment as mentioned above, ANR is appointing the Area Manager for this facility as the responsible person. At this time the Area Manager is:

Jacob Schultz
Area Manager, Michigan Area
ANR Pipeline Company
4193 134th Avenue
Hamilton, Michigan 49419
Office: (269) 751-3135

(b) This element is not applicable as no unit is equipped with any air pollution control equipment or monitoring equipment at the Bridgman Compressor Station.

(c) Please see Section 3.0 below for Malfunction Correction Procedures

(d) The Bridgman Compressor Station is equipped with an automatic control system which will generate an alarm and/or shutdown the unit(s) in case of a malfunction or equipment failure. The calibration schedule for any device(s) that monitor the units' operational variables may not exceed one year or as specified in this plan, whichever is shorter.

Malfunction Corrective Procedures

MAC R.336.1911(2)(c) specifies that the plan include the corrective procedures that will be taken in the event of a malfunction or failure that results in the exceedence of the applicable emission limitation.

In the event of a malfunction or failure that has the potential to exceed applicable emission limitation or cause air pollution as indicated by visual observations, the following corrective actions will be implemented.

- Shut the unit down as soon as possible consistent with safe operating procedures;
- Troubleshoot or investigate the cause of a potential malfunction or failure;
- Repair and/or replace components as required;
- Restart the unit and confirm normal operation.

A limited selection of replacement parts are maintained on site with a more extensive selection of spare parts maintained in a centralized warehouse facility. The spare parts list is frequently updated based on materials management analysis with input from engineering groups, the facility and other stakeholders (e.g., CS&E).

Maintenance on the listed equipment is guided by Integrity Plans, implemented by Operating Procedures and directed by TC Energy's Computerized Maintenance Management System (CMMS). Work tasks are based on vendor literature, industry best practices and company experience operating an extensive fleet of engines. The task list includes preventive and corrective maintenance activities and is updated on a regular basis. There are no monitors for the emergency generator.

The above malfunction corrective procedures are consistent with good air pollution control practices and are developed with intent to minimize the release of any air contaminant and restore normal operations as soon as practicable.