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

September 13, 2022

PERMIT TO INSTALL
136-20A

ISSUED TO
Mid Michigan Gas Storage Company - Capac Compressor Station

LOCATED AT
4876 Kettlehut Road
Capac, Michigan 48014

IN THE COUNTY OF
St. Clair

STATE REGISTRATION NUMBER
B6481

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

DATE OF RECEIPT OF ALL INFORMATION REQUIRED BY RULE 203: **August 29, 2022**	
DATE PERMIT TO INSTALL APPROVED: **September 13, 2022**	SIGNATURE:
DATE PERMIT VOIDED:	SIGNATURE:
DATE PERMIT REVOKED:	SIGNATURE:

PERMIT TO INSTALL

Table of Contents

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

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

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

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

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

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

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

EMISSION UNIT SPECIAL CONDITIONS

EMISSION UNIT SUMMARY TABLE

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

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date / Modification Date	Flexible Group ID
EUCP003	Glycol Dehydration system used to remove moisture from natural gas withdrawn from the storage field. The system equipment consists of a flash vessel, heat exchangers and filters, distillation column, and a reboiler/surge tank. The emissions to the atmosphere from the system are destroyed initially by a thermal oxidizer. A condenser is used as a back up to the thermal oxidizer.	01/01/1982	NA
EUCPGENERATOR	CAT 3406DI diesel fuel-fired compression ignition (CI) engine, standby emergency electricity generator (305 hp, 4 stroke) installed in 1978	09/01/1978	NA

Changes to the equipment described in this table are subject to the requirements of R 336.1201, except as allowed by R 336.1278 to R 336.1291.

EUCP003
EMISSION UNIT CONDITIONS

DESCRIPTION

Glycol Dehydration system used for removing moisture from natural gas withdrawn from the storage field. The system equipment consists of a flash vessel, heat exchangers and filters, distillation column, and a reboiler/surge tank. The emissions to the atmosphere from the system are destroyed initially by a thermal oxidizer. A condenser is used as a back up to the thermal oxidizer.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

Thermal oxidizer with condenser as backup control

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. Volatile Organic Compounds (VOC)	45.5 pounds	Daily	EUCP003	SC V.1, SC VI.7 - 8	R 336.1205(1)(a) & (3), R 336.1901, R 336.1702(a)
2. VOC	8.3 tons	12-month rolling time period as determined at the end of each calendar month	EUCP003	SC V.1 SC VI.8	R 336.1205(1)(a) & (3), R 336.1901, R 336.1702(a)
3. Benzene	1 ton (0.9 mega gram)	12-month rolling time period as determined at the end of each calendar month	EUCP003	SC V.1 SC VI.8	R 336.1205(1)(a) & (3), R 336.1901

II. MATERIAL LIMIT(S)

Material	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. Dry natural gas throughput	6 MMscf/day	Daily	EUCP003	SC VI.5	R 336.1205(1)(a) & (3)

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not operate the glycol dehydration unit unless the thermal oxidizer operating temperature is at least 760˚C (1400˚F), a minimum residence time of at least 0.5 second is maintained, and the VOC destruction efficiency is at least 95 percent by weight, except during a thermal oxidizer malfunction as specified in SC IV.3. **(R 336.1205(1)(a), R 336.1702(a), R 336.1901)**

2. The permittee shall not operate the glycol dehydration unit during thermal oxidizer malfunction unless the condenser exhaust temperature is 140˚F or less. **(R 336.1205(1)(a), R 336.1702(a), R 336.1901)**

3. The permittee shall not use stripping gas in EUCP003. **(R 336.1205, R 336.1225, R 336.1702(a))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall not operate the glycol dehydration unit unless a properly operating flash tank, which would volatilize organic compounds out of the rich glycol stream and route them to the glycol dehydration unit reboiler unit, is installed and operating properly. **(R 336.1205(1), R 336.1702(a), R 336.1901)**

2. The permittee shall not operate the glycol dehydration unit unless the glycol regenerator still is equipped with a properly installed and operating thermal oxidizer, except as specified in the SC IV.3 below. **(R 336.1205(1), R 336.1702(a), R 336.1901)**

3. The permittee may operate the glycol dehydration unit in the event of a thermal oxidizer malfunction, if the glycol regenerator still is equipped with a properly installed and operating condenser. **(R 336.1205(1)(a) & (3), R 336.1702(a), R 336.1901)**

4. The permittee shall equip and maintain an operating temperature monitor for the thermal oxidizer. **(R 336.1205(1)(a) & (3), R 336.1901, R 336.1702(a))**

5. The permittee shall equip and maintain an exhaust gas temperature monitor for the condenser. **(R 336.1205(1)(a) & (3), R 336.1901, R 336.1702(a))**

6. The permittee shall install, operate and maintain a device to monitor and record the natural gas throughput on a dry basis through the glycol dehydration unit. **(R 336.1205(1)(a) & (3))**

V. TESTING/SAMPLING

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

1. The permittee shall determine the composition, including the VOC and benzene content, of the natural gas processed in the glycol dehydration system at least once every five years. The natural gas composition shall be determined by a method or methods which are standard in the natural gas industry, subject to approval by the Air Quality Division. The permittee shall recalculate the emission factor specified in SC VI.9 each time the natural gas is analyzed to determine composition including VOC and benzene content. **(R 336.1205(1)(a) & (3), R 336.1702(a))**

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205(1)(a) & (3), 40 CFR 52.21(c) & (d))**

2. The permittee shall monitor and record the thermal oxidizer operating temperature on a daily basis when the glycol dehydration unit is operating, except in the event of a thermal oxidizer malfunction. **(R 336.1205(1)(a) & (3), R 336.1901, R 336.1702(a))**

3. The permittee shall monitor and record the condenser exhaust gas temperature on a daily basis when the glycol dehydration unit is operating, as specified in SC IV.3 above. **(R 336.1205(1)(a) & (3), R 336.1901, R 336.1702(a))**

4. The permittee shall monitor and record total hours of operation of the glycol dehydration unit for each day. **(R 336.1205(1)(a) & (3), R 336.1901, R 336.1702(a))**

5. The permittee shall monitor and record the maximum dry gas throughput of the glycol dehydrator system on a daily basis. **(R 336.1205(1)(a) & (3), R 336.1901, R 336.1702(a))**

6. The permittee shall monitor and record total hours of operation of the thermal oxidizer for each day. **(R 336.1205(1)(a) & (3), R 336.1901, R 336.1702(a))**

7. The permittee shall calculate and record the amount of VOC emissions, in pounds, from the glycol dehydration unit for each calendar day. The calculated VOC emissions for each day of a calendar month shall be available to the AQD upon request no later than 15th of the next calendar month. **(R 336.1205(1)(a) & (3), R 336.1901, R 336.1702(a))**

8. The permittee shall separately calculate and record VOC and benzene emissions from the glycol dehydration unit on a monthly basis, in tons, and on a 12-month rolling time period basis, in tons per year. The permittee shall make these monthly and 12-month rolling time period records available to the AQD upon request no later than the 15th of the next calendar month. **(R 336.1205(1)(a) & (3), R 336.1901, R 336.1702(a))**

VII. REPORTING

NA

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. SVCP007 (oxidizer)	NA	16[1]	R 336.1225
2. SVCP003 (condenser)	2[1]	16[1]	R 336.1225

IX. OTHER REQUIREMENT(S)

NA

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

EUCPGENERATOR
EMISSION UNIT CONDITIONS

DESCRIPTION

CAT 3406DI diesel fuel-fired compression ignition (CI) engine, standby emergency electricity generator (305 hp, 4 stroke) installed in 1978

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

1. The permittee shall burn only ultra-low sulfur diesel fuel, in EUCPGENERATOR with the maximum sulfur content of 15 ppm (0.0015 percent) by weight, and a minimum Cetane index of 40 or a maximum aromatic content of 35 volume percent. **(R 336.1205(1)(a) & (3), 40 CFR 52.21(c) & (d))**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not operate EUCPGENERATOR for more than 500 hours per year on a 12-month rolling time period basis as determined at the end of each calendar month. The 500 hours includes the hours for the purpose of necessary maintenance checks and readiness testing. **(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 permittee shall equip and maintain EUCPGENERATOR with a non-resettable hours meter to track the operating hours. **(R 336.1205(1)(a) & (3), R 336.1225)**

2. The EUCPGENERATOR nameplate capacity shall not exceed 305 HP at full prime for the engine, 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))**

V. TESTING/SAMPLING

NA

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205(1)(a) & (3), 40 CFR 52.21(c) & (d))**

2. The permittee shall monitor an record, in a satisfactory manner, the hours of operation for EUCPGENERATOR on a monthly and 12-month rolling time period basis. **(R 336.1205(1)(a) & (3), R 336.1225, R 336.1702(a), 40 CFR 52.21(c) & (d))**

3. The permittee shall maintain fuel supplier certification records, ASTM specifications, or fuel sample analyses for each delivery, or storage tank of fuel oil, used in EUCPGENERATOR, demonstrating that the fuel meets the requirements of 40CFR 80.510(b). The certification or analyses shall include the name of the oil suppler or laboratory, the sulfur content, and cetane index or aromatic content of the fuel oil. **(R 336.1205(1)(a) & (3), R 336.1910, 40 CFR 52.21(c) & (d))**

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

1. 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 ZZZZ, as they apply to EUCPGENERATOR. **(40 CFR Part 63, Subparts A and ZZZZ, 40 CFR 63.6595)**

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

Glycol dehydrator has a thermal oxidizer with condenser as backup control

I. EMISSION LIMIT(S)

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

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

NA

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor by the last 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))**

2. The permittee shall keep, in a satisfactory manner, emission calculations for individual HAPs and aggregated HAPs, in tons per 12-month rolling time period. Emission calculations shall be performed based on throughput records and emission factors obtained from the most recent source-specific emission testing, or other methods approved by the AQD District Supervisor. **(R 336.1205(3))**

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

NA