

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

August 1, 2024

**PERMIT TO INSTALL**  
206-14

**ISSUED TO**  
Wolverine Power Supply Cooperative Incorporated – Alpine Power Plant

**LOCATED AT**  
7432 M-32  
Elmira, Michigan 49730

**IN THE COUNTY OF**  
Otsego

**STATE REGISTRATION NUMBER**  
P0582

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:<br><b>June 12, 2024</b> |            |
| DATE PERMIT TO INSTALL APPROVED:<br><b>August 1, 2024</b>                        | SIGNATURE: |
| DATE PERMIT VOIDED:  | SIGNATURE: |
| DATE PERMIT REVOKED:   | SIGNATURE: |

## PERMIT TO INSTALL

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## COMMON ACRONYMS

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

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

## POLLUTANT / MEASUREMENT ABBREVIATIONS

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

## GENERAL CONDITIONS

1. The process or process equipment covered by this permit shall not be reconstructed, relocated, or modified, unless a Permit to Install authorizing such action is issued by the Department, except to the extent such action is exempt from the Permit to Install requirements by any applicable rule. **(R 336.1201(1))**
2. If the installation, construction, reconstruction, relocation, or modification of the equipment for which this permit has been approved has not commenced within 18 months, or has been interrupted for 18 months, this permit shall become void unless otherwise authorized by the Department. Furthermore, the permittee or the designated authorized agent shall notify the Department via the Supervisor, Permit Section, Air Quality Division, Michigan Department of Environment, Great Lakes, and Energy, P.O. Box 30260, Lansing, Michigan 48909-7760, if it is decided not to pursue the installation, construction, reconstruction, relocation, or modification of the equipment allowed by this Permit to Install. **(R 336.1201(4))**
3. If this Permit to Install is issued for a process or process equipment located at a stationary source that is not subject to the Renewable Operating Permit program requirements pursuant to Rule 210 (R 336.1210), operation of the process or process equipment is allowed by this permit if the equipment performs in accordance with the terms and conditions of this Permit to Install. **(R 336.1201(6)(b))**
4. The Department may, after notice and opportunity for a hearing, revoke this Permit to Install if evidence indicates the process or process equipment is not performing in accordance with the terms and conditions of this permit or is violating the Department's rules or the Clean Air Act. **(R 336.1201(8), Section 5510 of Act 451, PA 1994)**
5. The terms and conditions of this Permit to Install shall apply to any person or legal entity that now or hereafter owns or operates the process or process equipment at the location authorized by this Permit to Install. If the new owner or operator submits a written request to the Department pursuant to Rule 219 and the Department approves the request, this permit will be amended to reflect the change of ownership or operational control. The request must include all of the information required by subrules (1)(a), (b), and (c) of Rule 219 and shall be sent to the District Supervisor, Air Quality Division, Michigan Department of Environment, Great Lakes, and Energy. **(R 336.1219)**
6. Operation of this equipment shall not result in the emission of an air contaminant which causes injurious effects to human health or safety, animal life, plant life of significant economic value, or property, or which causes unreasonable interference with the comfortable enjoyment of life and property. **(R 336.1901)**
7. The permittee shall provide notice of an abnormal condition, start-up, shutdown, or malfunction that results in emissions of a hazardous or toxic air pollutant which continue for more than one hour in excess of any applicable standard or limitation, or emissions of any air contaminant continuing for more than two hours in excess of an applicable standard or limitation, as required in Rule 912, to the Department. The notice shall be provided not later than two business days after start-up, shutdown, or discovery of the abnormal condition or malfunction. Written reports, if required, must be filed with the Department within 10 days after the start-up or shutdown occurred, within 10 days after the abnormal 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.

| <b>Emission Unit ID</b> | <b>Emission Unit Description<br/>(Including Process Equipment &amp; Control<br/>Device(s))</b>                         | <b>Installation<br/>Date /<br/>Modification<br/>Date</b> | <b>Flexible Group ID</b> |
|-------------------------|--|--|--------------------------|
| EUCTG1                  | A nominal 203 MW natural gas fired simple cycle combustion turbine generator with a peak heat input of 2,045 MMBtu/hr. | 06-13-2016   | FGCTG                    |
| EUCTG2                  | A nominal 203 MW natural gas fired simple cycle combustion turbine generator with a peak heat input of 2,045 MMBtu/hr. | 06-13-2016   | FGCTG                    |

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.

## FLEXIBLE GROUP SPECIAL CONDITIONS

### FLEXIBLE GROUP SUMMARY TABLE

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

| <b>Flexible Group ID</b> | <b>Flexible Group Description</b>   | <b>Associated Emission Unit IDs</b> |
|--------------------------|---|-------------------------------------|
| FGCTG                    | Two nominal 203 MW natural gas fired simple cycle combustion turbine generators, each with a peak load of 2,045 MMBtu/hr. | EUCTG1, EUCTG2                      |

**FGCTG  
FLEXIBLE GROUP CONDITIONS**

**DESCRIPTION**

Two nominal 203 MW natural gas fired simple cycle combustion turbine generators, each with a peak load of 2,045 MMBtu/hr.

**Emission Unit:** EUCTG1, EUCTG2

**POLLUTION CONTROL EQUIPMENT**

NA

**I. EMISSION LIMIT(S)**

| <b>Pollutant</b> | <b>Limit</b>   | <b>Time Period / Operating Scenario</b>                                       | <b>Equipment</b>       | <b>Monitoring / Testing Method</b> | <b>Underlying Applicable Requirements</b> |
|------------------|--|---|------------------------|------------------------------------|---|
| 1. NOx           | 3.27E-2 lb/MMBTU not including startup/shutdown                  | Hourly  | EUCTG1 and EUCTG2 each | SC IV.4, SC VI.9                   | R 336.1205(1)<br>40 CFR 52.21(c & d)      |
| 2. NOx           | 15 ppm at 15 percent O <sub>2</sub><br><br>or<br><br>0.43 lb/MWh | Hourly as determined on a 4-hour rolling average                              | EUCTG1 and EUCTG2 each | SC IV.4, SC VI.8                   | 40 CFR 60.4320(a)<br>40 CFR 60.4380(b)    |
| 3. NOx           | 66.8 pph not including startup/shutdown                          | Hourly  | EUCTG1 and EUCTG2 each | SC IV.4, SC VI.9                   | R 336.1205(1)<br>40 CFR 52.21(c & d)      |
| 4. NOx           | 30 lb/event  | Each startup event  | EUCTG1 and EUCTG2 each | SC VI.3                            | R 336.1205(1)<br>40 CFR 52.21(c & d)      |
| 5. NOx           | 25 lb/event  | Each startup event  | EUCTG1 and EUCTG2 each | SC VI.3                            | R 336.1205(1)<br>40 CFR 52.21(c & d)      |
| 6. NOx           | 244 tpy  | 12-month rolling time period as determined at the end of each calendar month. | FGCTG                  | SC VI.2 & Appendix A               | R 336.1205(1)<br>40 CFR 52.21(c & d)      |
| 7. CO            | 2.0E-2 lb/MMBTU not including startup/shutdown                   | Hourly  | EUCTG1 and EUCTG2 each | SC V.1                             | R 336.1205(1)<br>40 CFR 52.21(d)          |
| 8. CO            | 40.9 pph not including startup/shutdown                          | Hourly  | EUCTG1 and EUCTG2 each | SC V.1                             | R 336.1205(1)<br>40 CFR 52.21(d)          |
| 9. CO            | 320 lb/event   | Each startup event  | EUCTG1 and EUCTG2 each | SC VI.3                            | R 336.1205(1)<br>40 CFR 52.21(d)          |
| 10. CO           | 336 lb/event   | Each startup event  | EUCTG1 and EUCTG2 each | SC VI.3                            | R 336.1205(1)<br>40 CFR 52.21(d)          |

| Pollutant           | Limit   | Time Period / Operating Scenario  | Equipment              | Monitoring / Testing Method | Underlying Applicable Requirements                               |
|---------------------|---|---|------------------------|-----------------------------|--|
| 11. CO              | 246 tpy   | 12-month rolling time period as determined at the end of each calendar month. | FGCTG                  | SC VI.2 & Appendix A        | R 336.1205(1)<br>40 CFR 52.21(d)                                 |
| 12. VOC as methane  | 1.40E-3 lb/MMBTU not including startup/shutdown | Hourly  | EUCTG1 and EUCTG2 each | SC V.1                      | R 336.1205(1)<br>R 336.1702(a)                                   |
| 13. VOC as methane  | 2.9 pph not including startup/shutdown          | Hourly  | EUCTG1 and EUCTG2 each | SC V.1                      | R 336.1205(1)<br>R 336.1702(a)                                   |
| 14. PM10            | 6.6E-3 lb/MMBTU not including startup/shutdown  | Hourly  | EUCTG1 and EUCTG2 each | SC V.1                      | R 336.1205(1)<br>40 CFR 52.21(c & d)                             |
| 15. PM10            | 13.5 pph not including startup/shutdown         | Hourly  | EUCTG1 and EUCTG2 each | SC V.1                      | R 336.1205(1)<br>40 CFR 52.21(c & d)                             |
| 16. PM2.5           | 6.6E-3 lb/MMBTU not including startup/shutdown  | Hourly  | EUCTG1 and EUCTG2 each | SC V.1                      | R 336.1205(1)<br>40 CFR 52.21(c & d)                             |
| 17. PM2.5           | 13.5 pph not including startup/shutdown         | Hourly  | EUCTG1 and EUCTG2 each | SC V.1                      | R 336.1205(1)<br>40 CFR 52.21(c & d)                             |
| 18. CO <sub>2</sub> | 120 lb/MMBTU                                    | Hourly  | EUCTG1 and EUCTG2 each | SC II.1<br>SC VI.4          | 40 CFR 60.5520 (a&d)(1),<br>40 CFR Part 60 Subpart TTTT, Table 2 |

## II. MATERIAL LIMIT(S)

1. The permittee shall only combust natural gas in FGCTG. **(R 336.1205(1), R 336.1225, R 336.1702(a), 40 CFR 60.4330, 40 CFR 60.5520(d)(1))**
2. The total natural gas use for FGCTG shall not exceed 14,567 MMSCF per year on a 12-month rolling time period basis as determined at the end of each calendar month. **(R 336.1205(1), R 336.1225, R 336.1702(a), 40 CFR 52.21(c & d))**
3. The permittee shall not burn in FGCTG any fuel which contains total potential sulfur emissions in excess of 26 ng SO<sub>2</sub>/J (0.060 lb SO<sub>2</sub>/MMBTU) heat input. **(40 CFR 60.4330(a)(2))**

## III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not operate FGCTG unless a Malfunction Abatement Plan (MAP) as described in Rule 911(2) is implemented and 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 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 336.1225, R 336.1331, R 336.1702(a), R 336.1910, R 336.1911, 40 CFR 52.21(c & d))**

2. The permittee shall not operate FGCTG unless the AQD District Supervisor has approved 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 incorporating standard industry practices. Unless notified by the AQD District Supervisor within 30 business days after plan submittal, the plan shall be deemed approved. **(R 336.1205(1), R 336.1911, R 336.1912, 40 CFR 60.4333(a))**
3. Startup and shut down operations for each combustion turbine in FGCTG shall be minimized as specified in SC III.2. Startup is defined as the period of time from initial combustion of fuel until the unit reaches a minimum load of 101.2 MW of electrical output (loads greater than 50% of design capacity). Shutdown is defined as that period of time from the initial lowering of the turbine output below 101.2 MW of electrical output (50% of full operating load), with the intent to shut down, until fuel is no longer burned in the unit. **(R 336.1205(1))**
4. The permittee shall not operate EUCTG1 or EUCTG2 unless low NOx and CO manufacturer installed combustion technologies are maintained and operated in a satisfactory manner, for each combustion turbine generator. Satisfactory manner includes operating and maintaining each unit in accordance with an approved MAP for FGCTG as required in SC III.1. **(R 336.1205(1), R 336.1225, R 336.1910, 40 CFR 52.21(c & d))**

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

1. The maximum design heat input capacity for FGCTG shall not exceed, on a fuel heat input basis, a nominal 2,045 MMBtu per hour for each combustion turbine generator. **(R 336.1205(1), R 336.1225, 40 CFR 52.21(c & d))**
2. The permittee shall install, calibrate, maintain and operate in a satisfactory manner a device to monitor and record the natural gas flow rate to EUCTG1 and EUCTG2 each on a continuous basis. **(R 336.1205(1), 40 CFR 52.21(c & d))**
3. The permittee shall install, calibrate, maintain and operate in a satisfactory manner a device to monitor and record the gross energy output from EUCTG1 and EUCTG2 each on a continuous basis. **(R 336.1205(1), 40 CFR 52.21(c & d))**
4. The permittee shall install, calibrate, maintain and operate, in a satisfactory manner, devices to monitor and record the NO<sub>x</sub> and either oxygen (O<sub>2</sub>), or carbon dioxide (CO<sub>2</sub>) content of the exhaust gas from each turbine in FGCTG on a continuous basis. The permittee shall install and operate the Continuous Emission Monitoring System (CEMS) to meet the timelines, requirements and reporting detailed in Appendix B. **((R 336.1205(1), 40 CFR 52.21(c & d), 40 CFR Part 75, 40 CFR 60.4320, 40 CFR 60.4340(b)(1), 40 CFR 60.4345, Table 1 of 40 CFR Part 60 Subpart KKKK, 40 CFR Part 75)**

#### **V. TESTING/SAMPLING**

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

1. The permittee shall verify the CO, VOC, PM<sub>10</sub>, and PM<sub>2.5</sub> emission rates and mass emissions in SC I.7, I.8, I.12-17 from each turbine, EUCTG1 and EUCTG2, at maximum emitting normal operating conditions or other loads as approved by AQD, by testing at owner's expense, in accordance with Department requirements. The hourly emission rates shall be determined by the average of three test runs per the method requirements. The permittee shall complete testing once every five years unless an alternate testing schedule is approved by the District Supervisor. No less than 30 days prior to testing, a complete test plan shall be submitted to the AQD Technical Programs Unit Supervisor and to the District Supervisor. The final plan must be approved by the AQD prior to testing. Verification of emission rates includes the submittal of a complete report of the test results to the AQD Technical Programs Unit Supervisor and to the District Supervisor within 60 days following the last date of the test. **(R 336.1203(3), R 336.1205(1), R 336.2001, R 336.2003, R 336.2004)**

2. Testing shall be performed using an approved EPA Method listed in:

| Pollutant  | Test Method Reference      |
|------------|----------------------------|
| NOx        | 40 CFR Part 60, Appendix A |
| CO         | 40 CFR Part 60, Appendix A |
| PM10/PM2.5 | 40 CFR Part 51, Appendix M |
| VOC        | 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. 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. **(R 336.1203(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 336.1201(3))**

1. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor by the 30<sup>th</sup> day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1203(3), 40 CFR 52.21(c & d))**
2. The permittee shall keep, in a satisfactory manner, records of monthly and 12-month rolling NOx and CO emission records for each turbine in FGCTG, as required by SC I.6 and SC I.11. The calculations shall be performed as specified in Appendix A. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(1)(a) &(b), 40 CFR 52.21(c & d))**
3. The permittee shall keep, in a satisfactory manner, daily records of each startup and shut down event, including duration of the event. The permittee shall calculate startup and shut down emissions using the data as supplied by the vendor on a per event basis. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(1)(a & b), 40 CFR 52.21(c & d))**
4. The permittee shall monitor and record, in a satisfactory manner, the natural gas usage for EUCTG1 and EUCTG2 each on a daily, monthly and 12-month rolling time period basis. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(1)(a & b), R 336.1225, R 336.1702(a), 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. This information shall include, but shall not be limited to the following:
  - a) Compliance tests and any testing required under the special conditions of this permit;
  - b) Monitoring data;
  - c) Total sulfur content of the natural gas as required by 40 CFR 60.4365(a);
  - d) Verification of heat input capacity required to show compliance with SC IV.1;
  - e) Amounts of fuel combusted in each turbine, EUCTG1 and EUCTG2, on a calendar month basis;
  - f) All records required by 40 CFR 60.7;
  - g) Records of the dates, times, duration and associated number of startup and shutdown events;
  - h) All calculations necessary to show compliance with the limits contained in this permit.

All of the above information shall be stored in a format acceptable to the Air Quality Division and shall be consistent with the requirements of 40 CFR 60.7(f). **(R 336.1205(1)(a), R 336.1224, R 336.1225, R 336.1301, R 336.1331, R 336.1702(a), R 336.1912, 40 CFR 52.21(c & d), 40 CFR 60.7(f))**

6. The permittee may elect not to monitor the total sulfur content of the fuel combusted in FGCTG as required in SC VI.5. The required demonstration must be made by maintaining the fuel quality characteristics in a current, valid purchase contract, tariff sheet, or transportation contract for the fuel, specifying that the maximum total sulfur content for natural gas is 20 grains of sulfur or less per 100 standard cubic feet, or the natural gas has potential sulfur emissions of less than 0.060 lb. SO<sub>2</sub>/MMBtu heat input. **(40 CFR 60.4365)**

7. The permittee shall keep, in a satisfactory manner, purchase records for the natural gas burned in FGCTG. **(40 CFR 60.5520(d)(1))**
8. The permittee shall use the data from SC IV.4 to calculate the 4-hour rolling average NO<sub>x</sub> emissions for each turbine in FGCTG for each hour of operation, as described in [§60.4350 & §60.4380\(b\)\(1\)](#). The permittee shall keep all records on file and make them available to the Department upon request. **(40 CFR 60.4350, 40 CFR 60.4380(b)(1))**
9. The permittee shall keep, in a satisfactory manner, hourly NO<sub>x</sub> concentration, mass emission, and lb/MMBtu records for each turbine in FGCTG, as required by SC IV.4. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(1), 40 CFR 52.21(c & d))**
10. The permittee shall develop and keep on-site a quality assurance (QA) plan for all continuous monitoring equipment described in 40 CFR 60.4335(a), (c), and (d). For the CEMS and fuel flow meters, the owner or operator may, with District Supervisor approval, satisfy the requirements of this condition by implementing the QA program and plan described in 40 CFR 75 (Appendix B)(1). **(40 CFR 60.4345)**

## **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:

| <b>Stack &amp; Vent ID</b> | <b>Maximum Exhaust Diameter / Dimensions (inches)</b> | <b>Minimum Height Above Ground (feet)</b> | <b>Underlying Applicable Requirements</b>     |
|----------------------------|---|---|---|
| SV-CTG1                    | 264   | 85  | <b>R 336.1225<br/>40 CFR 52.21(c &amp; d)</b> |
| SV-CTG2                    | 264   | 85  | <b>R 336.1225<br/>40 CFR 52.21(c &amp; d)</b> |

## **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 KKKK, as they apply to FGCTG. **(40 CFR Part 60, Subparts A & KKKK)**
2. 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 TTTT, as they apply to FGCTG. **(40 CFR Part 60, Subpart TTTT)**
3. The permittee shall comply with the acid rain permitting provisions of 40 CFR 72.1 to 72.94, as outlined in a complete Phase II, Acid Rain Permit issued by the AQD. Phase II, Acid Rain Permit No. MI-AR-59926-2019 is hereby incorporated into this ROP as Appendix 9. **(R 336.1299(2)(a))**
4. The permittee shall not allow the emission of an air pollutant to exceed the amount of any emission allowances that an affected source lawfully holds as of the allowance transfer deadline pursuant to R 336.1299(2)(a) and 40 CFR 72.9(c)(1)(i). **(R 336.1213(10))**
5. The permittee shall comply with the provisions of the Transport Rule NO<sub>x</sub> Annual Trading Program, as specified in 40 CFR Part 97, Subpart AAAAA, as they apply to FGCTG. **(40 CFR Part 97, Subpart AAAAA)**

6. The permittee shall comply with the provisions of the Transport Rule NO<sub>x</sub> Ozone Season Trading program, as specified in 40 CFR Part 97, Subpart BBBBB, as they apply to FGCTG. **(40 CFR Part 97, Subpart BBBBB)**
7. The permittee shall comply with the provisions of the Transport Rule SO<sub>2</sub> Group 1 Trading Program, as specified in 40 CFR Part 97, Subpart CCCCC, as they apply to FGCTG. **(40 CFR Part 97, Subpart CCCCC)**

**Footnotes:**

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

## APPENDIX A

### NO<sub>x</sub>

The permittee shall use the following formulas to calculate NO<sub>x</sub> emissions for FGCTG. The calculations will be used to demonstrate compliance with the FGCTG emission limit of 244 tpy based on a 12-month rolling time period average.

#### Monthly Emissions:

Daily combustion turbine operating status (start up and shut down operation as defined in FGCTG SC III.3 or normal operations) operating load, and fuel usage must be monitored and recorded.

To estimate emissions during start up and shut down events the permittee shall use the lb/event emission rate as specified in FGCTG Emission Limits Table.

The actual combustion turbine NO<sub>x</sub> emissions, as provided by the NO<sub>x</sub> CEMS data, shall be used to calculate the tons per month (TPM) for FGCTG. (An average is not acceptable.)

Emissions of NO<sub>x</sub> in TPM from FGCTG are calculated as follows:

$$TPM = NO_x \text{ Emissions from } CEMS_{EU-CTG1} \left( \frac{ton}{month} \right) + NO_x \text{ Emissions from } CEMS_{EU-CTG2} \left( \frac{ton}{month} \right) + \left( NO_x EF_{EU-CTG1} * \frac{Number \ of \ Events}{month} * \frac{1 \ ton}{2000 \ lbs} \right) + \left( NO_x EF_{EU-CTG2} * \frac{Number \ of \ Events}{month} * \frac{1 \ ton}{2000 \ lbs} \right)$$

NO<sub>x</sub> Emissions from CEMS<sub>EU-CTG</sub> = The NO<sub>x</sub> emission rate from CEMS for the specific turbine included in FGCTG.

NO<sub>x</sub>EF<sub>EU-CTG#</sub> = NO<sub>x</sub> start up and shut down lb/event emission rates as specified in FGCTG Emission Limits Table.

#### 12-Month Rolling Emissions:

The permittee shall sum the NO<sub>x</sub> emissions from FGCTG in a given month to the NO<sub>x</sub> emissions from FGCTG from the previous eleven (11) months to calculate the 12-month rolling emissions.

#### FG-FACILITY Emissions:

The permittee shall sum the emissions calculated for FGCTG in Appendix A, EU-EMERGEN, EU-FIREPUMP, FG-FUElhTR and any other later permitted or exempt equipment to demonstrate compliance with the NO<sub>x</sub> FG-FACILITY limit of less than 249 tpy.

## CO

The permittee shall use the following formulas to calculate CO emissions for FGCTG. The calculations will be used to demonstrate compliance with the FGCTG emission limit of 246 tpy based on a 12-month rolling time period average.

### Monthly Emissions:

Daily combustion turbine operating status (start up and shut down operation as defined in FGCTG SC III.3 or normal operations) operating load, and fuel usage must be monitored and recorded.

To estimate emissions during start up and shut down events the permittee shall use the lb/event emission rate as specified in FGCTG Emission Limits Table.

Stack testing the combustion turbines must be completed to develop emission factors (EF).

The actual combustion turbine monthly fuel usage in MMBtu, as determined by CEMS, shall be used to calculate the TPM for FGCTG. (An average is not acceptable.)

Emissions of CO in TPM from FGCTG are calculated as follows:

$$TPM = (COEF_{EU-CTG1} * \frac{MMBtu_{EUCTG1}}{Month * \frac{1 \text{ ton}}{2000 \text{ lbs}}} + (COEF_{EU-CTG2} * \frac{MMBtu_{EUCTG2}}{Month * \frac{1 \text{ ton}}{2000 \text{ lbs}}}) + \left( COEF_{EU-CTG1\_SUSD} * \frac{\text{Number of Events}}{\text{month}} * \frac{1 \text{ ton}}{2000 \text{ lbs}} \right) + \left( COEF_{EU-CTG2\_SUSD} * \frac{\text{Number of Events}}{\text{month}} * \frac{1 \text{ ton}}{2000 \text{ lbs}} \right)$$

COEF<sub>EU-CTG</sub> = The CO emission factor for the specific turbine included in FGCTG in lb/MMBtu.

COEF<sub>EU-CTG#\_SUSD</sub> = CO start up and shut down lb/event emission rates as specified in FGCTG Emission Limits Table.

MMBtu<sub>EUCTG</sub>/mo = The monthly fuel heat input rate for the specific turbine included in FGCTG as measured by the CEMS.

### 12-Month Rolling Emissions:

The permittee shall sum the CO emissions from FGCTG in a given month to the CO emissions from FGCTG from the previous eleven (11) months to calculate the 12-month rolling emissions.

### FG-FACILITY Emissions:

The permittee shall sum the emissions calculated for FGCTG in Appendix A, EU-EMERGEN, EU-FIREPUMP, FG-FUElhTR and any other later permitted or exempt equipment to demonstrate compliance with the CO FG-FACILITY limit of less than 249 tpy.

**APPENDIX B**  
**Continuous Emission Monitoring System (CEMS) Requirements**

1. Within 30 calendar days after commencement of trial start-up, the permittee shall submit two copies of a Monitoring Plan to the AQD, for review and approval. The Monitoring Plan shall include drawings or specifications showing proposed locations and descriptions of the required CEMS.
2. Within 150 calendar days after commencement of trial start-up, the permittee shall submit two copies of a complete test plan for the CEMS to the AQD for approval.
3. Within 180 calendar days after commencement of trial start-up, the permittee shall complete the installation and testing of the CEMS.
4. Within 60 days of completion of testing, the permittee shall submit to the AQD two copies of the final report demonstrating the CEMS complies with the requirements of the corresponding Performance Specifications (PS) in the following table:

| <b>Pollutant</b>                 | <b>Applicable PS</b> |
|----------------------------------|----------------------|
| NO <sub>x</sub>                  | 2                    |
| O <sub>2</sub> & CO <sub>2</sub> | 3                    |
| CO                               | 4                    |

5. The span value shall be 2.0 times the lowest emission standard or as specified in the federal regulations.
6. The CEMS shall be installed, calibrated, maintained, and operated in accordance with the procedures set forth in 40 CFR 60.13 and PS, listed in the table above, of Appendix B to 40 CFR Part 60.
7. Each calendar quarter, the permittee shall perform the Quality Assurance Procedures of the CEMS set forth in Appendix F of 40 CFR Part 60. Within 30 days following the end of each calendar quarter, the permittee shall submit the results to the AQD in the format of the data assessment report (Figure 1, Appendix F).
8. In accordance with 40 CFR 60.7(c) and (d), the permittee shall submit two copies of an excess emission report (EER) and summary report in an acceptable format to the AQD, within 30 days following the end of each calendar quarter. The Summary Report shall follow the format of Figure 1 in 40 CFR 60.7(d). The EER shall include the following information:
  - a) A report of each exceedance above the limits specified in the conditions of this permit. This includes the date, time, magnitude, cause and corrective actions of all occurrences during the reporting period.
  - b) A report of all periods of CEMS downtime and corrective action.
  - c) A report of the total operating time of each turbine in FGCTG during the reporting period.
  - d) A report of any periods that the CEMS exceeds the instrument range.
  - e) If no exceedances or CEMS downtime occurred during the reporting period, the permittee shall report that fact.

The permittee shall keep all monitoring data on file for a period of at least five years and make them available to the AQD upon request.