

**DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY DIVISION  
ACTIVITY REPORT: On-site Inspection**

B614572526

<b>FACILITY:</b> DTE Electric Company - Greenwood Energy Center		<b>SRN / ID:</b> B6145
<b>LOCATION:</b> 7000 KILGORE ROAD, AVOCA		<b>DISTRICT:</b> Warren
<b>CITY:</b> AVOCA		<b>COUNTY:</b> SAINT CLAIR
<b>CONTACT:</b> Zachary Josefiak , Environmental Specialist Coordinator		<b>ACTIVITY DATE:</b> 07/03/2024
<b>STAFF:</b> Robert Joseph	<b>COMPLIANCE STATUS:</b> Compliance	<b>SOURCE CLASS:</b> MAJOR
<b>SUBJECT:</b> Schedule inspection of DTE Power Plant		
<b>RESOLVED COMPLAINTS:</b>		

On July 3, 2024, I, Michigan Department Environment, Great Lakes, and Energy-Air Quality Division staff Robert Joseph, conducted a scheduled inspection of DTE Electric Company – Greenwood Energy Center (SRN: B6145) also referred to as “the plant” located at 7000 Kilgore Road, Avoca, Michigan 48006. The purpose of the inspection was to determine the facility’s compliance with the requirements of the Federal Clean Air Act; Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451; and the Michigan Department Environment, Great Lakes, and Energy-Air Quality Division (EGLE-AQD) Administrative Rules, and conditions of the facility’s Renewable Operating Permit (ROP) MI-ROP-B6145-2024.

### General Facility Information

The DTE Greenwood facility began construction in 1972 and became DTE’s first inland plant designed for both oil and nuclear-fueled generating units. Post-completion of construction, the project was commissioned in July 1979. The project is currently owned by DTE Electric and is located on a 1,780-acre site that is comprised of grasslands intermixed with trees and wetlands. The power plant runs on dual-fuel with the primary fuel being natural gas, however, it can also operate using fuel oil in case of a natural gas shortage. Nearby MichCon supplies the natural gas. The facility is an operating power station of 815.4 Megawatts (MW) and was developed in a single phase and supplies electrical power to Southeast Michigan.

The plant also consists of three gas turbines (Section 2) which each produce 85 MW. DTE has 100% ownership of all three units. The plant is considered a Cycling Plant that operates based on system demand. In contrast to a Peaker Plant, which runs during peak demand times, the DTE Greenwood Plant operates to fill long-term gaps in electricity demand. For example, a Peaker Plant may run only during peak afternoon hours, while the DTE Greenwood Plant may need to run for weeks or months at a time to help meet electricity demand. In addition, due to the shutdown and phase-out of coal-fired electric generating facilities, DTE Greenwood has been operating more in the last five years than in previous years.

The plant operates non-stop with approximately 40 employees during normal business hours and with four operations staff on-site during non-business hours. The plant’s ROP is two-sectioned; Section 1 of the ROP contains permit conditions regarding the operations and equipment associated with the electrical generation of the 815-MW main unit. This section includes the main boiler (EU-BOILER1), auxiliary boiler (EU-EASTAUXBOILER), gasoline underground storage tank (EU-GDF), a diesel compression engine for power supply (EU-EMGFIREPUMP), and COLDCLEANERS (FG-COLDCLEANERS). Section 2 consists of the three (3) natural gas-fired combustion turbine generators (FG-CTGS).

Predictive emissions monitoring system (PEMS) are installed to measure NO<sub>x</sub> emissions for the combustion turbine generators.

### **Facility Tour**

I arrived on-site shortly after 11 a.m. and met with Zack Josefiak, Environmental Engineer, DTE Greenwood Center. Zack provided me with some of the facility's background history (as previously described) and provided me with a tour of the facility and its operations.

**MI-ROP-B6145-2024** (only those sections with applicable conditions are referenced)

### **Section 1 – Main Boiler**

#### **General Conditions**

There were no observed concerns with any of the listed conditions here.

### **EU-BOILER1**

This emission unit is rated at 785 MW and is primarily fueled by natural gas with the ability to operate on specified fuel oil. The unit was installed during the initial construction phase of the facility in 1972. The unit maintains a flue gas injection system which is installed to reduce nitrous oxide (NO<sub>x</sub>) emissions. By injecting flue gas into the combustion air before it enters the burners, it lowers the oxygen level in the combustion air and consequently reduces the flame temperature – thus causing less (NO<sub>x</sub>) to be generated.

The facility has both a Continuous Emissions Monitoring Systems (CEMS) and Continuous Opacity Monitoring System (COMS) – which each measure emissions and opacity generated by the main boiler that exits through the main stack at the facility, respectively. The CEMS unit is required for SO<sub>2</sub> monitoring as specified in 40 CFR Part 75, Subpart B, and for NO<sub>x</sub> monitoring as specified in 40 CFR Part 75, Subpart H.

#### **I. EMISSION LIMIT(S)**

<b>Pollutant</b>	<b>Limit</b>	<b>Result</b>
1. Sulfur dioxide (SO <sub>2</sub> )	0.80 lb/MMBTU heat input	0.67 to 0.78 lb/MMBTU per fuel oil footnote (a)
2. Sulfur dioxide (SO <sub>2</sub> )	5760 lbs. per hour	0 lbs/hr per CEMS data (natural gas)
3. Particulate matter (PM)	0.072 lb/MMBTU heat input	Less than 0.01 lb/MMBTU (CEMS data)
	0.10 lb/MMBTU heat input	

4. Particulate matter (PM)		Less than 0.01 lb/MMBTU (CEMS data)
5. Particulate matter (PM)	518.4 lbs. per hour	Less than 0.01 lbs per hour
6. Particulate matter (PM)	0.10 lb. per 1,000 lbs. of exhaust gases on a wet basis, corrected to 50% excess air	Stack Test 2022 0.001 lbs/1000 lbs. of exhaust gases
7. Nitrogen Oxides (NOx) (when firing oil fuels only)	0.30 lb/MMBTU heat input	0.0003 CEMS data
8. Nitrogen Oxides (NOx) (When firing oil fuels only)	2,160 lbs. per hour	Less than 1 lb/hr per CEMS data
9. Nitrogen Oxides (NOx) (When firing natural gas only)	0.20 lb/MMBTU heat input	0 lbs/hr per CEMS data (natural gas)
10. Nitrogen Oxides (NOx) (When firing natural gas only)	1,494 lbs. per hour	0.225 lbs per hour (CEMS data)
11. Nitrogen Oxides (NOx) (When co-firing oil fuels and natural gas only)	Prorated between 0.20 and 0.30 lb/MMBTU	0.0003 CEMS data
12. Visible Emissions	20% opacity average per 6-minute period except for one 6-minute period per hour of not more than 27% opacity	Less than 1% visible emissions

All emission limits are below the permitted limits.

## II. MATERIAL LIMIT(S)

The facility has burned specification oil in the boiler.

## III. PROCESS/OPERATIONAL RESTRICTION(S)

The facility does not burn used oil on-site. Per the requirements of 40 CFR 52.21, based on the site inspection and records review, it appears the federal Prevention of Significant Deterioration rules and regulations are being met. DTE Greenwood has begun the process for developing a MAP for the EUBOILER1 given this new condition was added to the facility's ROP (issued June 30, 2024). The facility must submit this by September 28, 2024.

## IV. DESIGN/EQUIPMENT PARAMETER(S)

The flue gas injection system (FGIS) is driven by constant speed (13.2 kW/4000 hp motor) and the fan output is regulated by the inlet dampers. The fan is equipped with an electric turning gear to rotate it at a very low speed when not operating to prevent bowing due to flue gas temperatures in excess of 600 F. The FGIS fan is to operate when the boiler is hot, and the fan is not running.

## V. TESTING/SAMPLING

The facility conducted PM testing in July 2022 and will be required to conduct testing again in 2025. The ROP requires the facility to conduct PM testing every three years or more frequently upon AQD request. The facility does not burn used oil therefore has no quality control program in-place.

## VI. MONITORING/RECORDKEEPING

- a. Heating value of oil fuels, as fired (BTU/lb): #2 fuel oil – 19,616 Btu/lb, #6 fuel oil – 17,490 BTU/lb.
- b. Heat input from natural gas, (MMBTU/hr): Input ranged between 0 MMBTU/hr (Jan. and March) to 3,526 MMBTU/hr (April) in 2023, and 2,400 MMBTU/hr (April) to 4,217 MMBTU/hr (Jan) in 2024.
- c. Heat input from oil fuels (MMBTU/hr): 0 MMBTU/hr (very little fuel oil has been used in 2023 and 2024).
- d. Sulfur content of oil fuels, percentage by weight: #2 fuel oil – 0.001%, #6 fuel oil – 0.62%.
- e. Total operating hours: Hours ranged between 0 hrs (Jan. and March) to 620 hrs (Aug) in 2023, and 143 hrs (April) to 575 hrs (May) in 2024.
- f. Quantity of used oil burned: No used oil burned.

## VII. REPORTING

The facility has submitted the required quarterly, semi-annual, and excess emissions reports and there were no concerns or deviations/excess emissions reported by the facility. The facility reported a downtime of 30 minutes in 2023 for the monitoring system due to calibration.

#### VIII. STACK/VENT RESTRICTION(S)

No visible emissions were observed emanating from the facility's stack.

#### IX. OTHER REQUIREMENTS

The U.S. EPA maintains regulatory oversight of the facility's Cross-State Air Pollution Rules regarding NO<sub>x</sub> and SO<sub>2</sub> in conjunction with the AQD Environmental Quality Specialist, Brian Carley. There have been no concerns with this requirement reported to the Warren District Office.

#### ***EU-EASTAUXBOILER***

The East Auxiliary Boiler is rated at 181.4 MMBTU/hr and is equipped with a continuous oxygen trim system and only utilizes natural gas. The maximum steam output is 150,000 lbs/hr. It is subject to 40 CFR Part 63, Subpart DDDDD, National Emissions Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters (Boiler MACT). In order to comply with these standards, the facility is required to complete five-year tune-ups and submit boiler tune-up reports to U.S EPA. In addition, the facility is to maintain records of each notification and prepare reports to comply with the Boiler MACT standards.

#### I. EMISSION LIMIT(S)

Pollutant	Limit	Result
1. Nitrogen oxides (NO <sub>x</sub> )	0.90 lb/MMBTU heat input	0.67 to 0.78 lb/MMBTU per fuel oil footnote
2. Nitrogen oxides (SO <sub>2</sub> )	202.5 lbs. per hour	0 lbs/hr per CEMS data (natural gas)
3. Visible Emissions (PM)	20% opacity average per 6-minute period except for one 6-minute period per hour of not more than 27% opacity	0% visible emissions

The facility is required to meet the above emission limits for Nitrogen Oxides within 180-days after permit issuance and then every five years thereafter. Previously, under MI-ROP-B6145-2018, testing was only required upon request from the AQD supervisor.

## II. MATERIAL LIMIT(S)

The facility only burns natural gas in the Auxiliary Boiler.

## III. PROCESS/OPERATIONAL RESTRICTION(S)

DTE Greenwood has begun the process for developing a MAP for the EU-EASTAUXBOILER given this new condition was added to the facility's ROP which (issued June 30, 2024). The facility must submit this by September 28, 2024.

## IV. DESIGN/EQUIPMENT PARAMETER(S)

DTE Greenwood has installed, calibrated, maintained, and operates a device to monitor and record the natural gas usage in EU-EASTAUXBOILER on a continuous basis. The last calibration date occurred on May 15, 2024.

## V. TESTING/SAMPLING

The facility is now required to conduct Nitrogen Oxide (NOx) testing to meet the emission limits in Section I for pollutants 1 and 2. Testing will be required to be performed within 180 days of permit issuance and then every five years thereafter.

## VI. MONITORING/RECORDKEEPING

No visible emissions were observed by the facility. The facility performs daily readings, typically by a non-certified reader from the maintenance staff. The following records are maintained by the facility:

a. Hours of operation of EU-EASTAUXBOILER: Hours ranged between 0 hrs (Jan) to 42 hrs (May) in 2023, and 8 hrs (May) to 57 hrs (January) in 2024.

b. Total volume of natural gas consumed in EU-EASTAUXBOILER (MCF): Usage ranged between 0 MCF (Jan) to 2,162 MCF (May) in 2023, and 245 MCF (May) to 4,255 MCF (January) in 2024.

c. Heat input EU-EASTAUXBOILER (MMBTU): Input ranged between 0 MMBTU (Jan) to 2,266 MMBTU (May) in 2023, and 257 MMBTU (May) to 4,451 MMBTU (Jan) in 2024.

## VII. REPORTING

The facility has submitted semi-annual and annual reports.

## VIII. STACK/VENT RESTRICTION(S)

No visible emissions were emanating from the facility's stack.

## IX. OTHER REQUIREMENT(S)

The facility appears to be meeting all provisions of the National Emission Standards for Hazardous Air Pollutants as specified in 40 CFR Part 63, Subparts A and DDDDD, as they apply to EU-EASTAUXBOILER.

### ***EU-GDF***

The 2,500-gallon gasoline storage tank is utilized on-site to fuel DTE transportation vehicles. It is exempt from a permit to install (Rule 201) per Rule 284(2)(g)(ii). The gasoline dispensing equipment is subject to 40 CFR Part 63, Subpart CCCCC, National Emissions Standards for Hazardous Air Pollutants for Gasoline Dispensing Facilities. To achieve compliance with the MACT standard, the facility is required to maintain the pump with a permanent submerged fill pipe and a vapor balance system to prevent gas vapors from escaping.

## IV. DESIGN/EQUIPMENT PARAMETER(S)

The storage tank is equipped with permanent submerged fill pipe and a vapor balance system – as well as a vapor-tight collection line to capture displaced gasoline vapor. This also returns at least 90% by weight of the displaced gasoline vapor. An interlocking system was also viewed – in addition to a locking device on the vapor-tight collection line to prevent gasoline vapor release.

## VI. MONITORING/RECORDKEEPING

DTE Greenwood initially did not have the manufacturer's specifications (installation, operating, maintenance instructions, and emission) readily available for the gasoline storage tank since this was not required in the facility's previous as this was added to the facility's recent ROP renewal (issued June 30, 2024). The facility later provided this information which included the operator's manual, installation details, and the piping to dispenser.

## VII. REPORTING

The facility has submitted semi-annual and annual reports.

### ***EU-EMGFIREPUMP***

This emergency fire pump is exempt from a permit to install (Rule 201) per Rule 285(2)(g) for internal combustion engines that have less than 10,000,000 Btu/hour maximum heat input. This engine is subject to 40 CFR Part 60, Subpart IIII Standards of Performance for Stationary Compression Ignition Internal Combustion Engines. The engine was manufactured on April 14, 2016. The engine is a turbocharged, air-cooled, 4-cycle, and in-line 6-cylinder diesel compression ignition with an 8.9-liter total cylinder displacement. It has a maximum heat input of 1.98 MMBtu/hr with a nameplate (Model # CFP9E-F10, Serial # 73983634) that rates the engine output at 260 HP at 1760 RPM.

## I. EMISSION LIMIT(S)

The emission limits reference pollutants (CO, PM, NMHC + NO<sub>x</sub>) that require testing if operated in a non-certified manner, however, this engine is certified and therefore performance tests have not been conducted.

## II. MATERIAL LIMIT(S)

The engine only burns diesel fuel with a sulfur content of 15 ppm by weight and a cetane index of 40. The facility provided a fuel agreement it has with the Marathon Petroleum Company.

## III. PROCESS/OPERATIONAL RESTRICTION(S)

The facility maintains the engine's usage per the manufacturer's instructions (emissions related) and 40 CFR Part 1068 (non-road engines). The engine, per facility records, performs weekly tests and has done so for the last two years for 1-2 hours/month.

## IV. DESIGN/EQUIPMENT PARAMETER(S)

The engine is equipped with a non-resettable hour meter track operating hours which read 162.4 hours.

## V. TESTING/SAMPLING

Testing has not been conducted since the engine is certified and is operating in a certified manner per the manufacturer's instructions.

## VI. MONITORING/RECORDKEEPING

The engine has operated for approximately two hours each month (weekly testing approximately for 30 minutes) for the last two years. DTE Greenwood provided the fuel supplier certification records for the diesel fuel from its agreement with the Marathon Petroleum Company (15 ppm with a cetane index 40). The engine operates in a certified manner and maintenance records were viewed pertaining to an equipment inspection checklist, annual fire pump test, fire pump performance curve, diesel preventative maintenance, and visual inspection.

## VII. REPORTING

The facility has submitted semi-annual and annual reports.

## IX. OTHER REQUIREMENT(S)

The facility appears to be meeting all provisions of the National Emission Standards for Hazardous Air Pollutants as specified in 40 CFR Part 63, Subparts A and ZZZZ, Stationary Reciprocating Internal Combustion Engines, and the Standards of Performance for New Stationary Sources as specified in 40 CFR Part 60, Subpart A and Subpart IIII, as they apply to EU-EMGFIREPUMP.

**FG-EASTAUXBOILER-MACT**



### III. PROCESS/OPERATIONAL RESTRICTION(S)

The facility performed a boiler tune-up on April 11, 2024. An outer inspection was also performed on May 15, 2024, by the manufacturer (John Zink). This included an inspection of the burner. The tune-up indicates the air-to-fuel ratio was adjusted, the outer nozzles required cleaning, and combustion data was implemented into the Programmable Logistics Controller. There were no concerns with the internal operations of the boiler (no worn components or erosion) and no adjustments were made to the burner.

### VI. MONITORING/RECORDKEEPING

The facility maintains notifications required to comply with 40 CFR Part 63, Subpart DDDDD. The boiler only utilizes natural gas and the volume consumed as well as the operating hours are maintained. The AQD has not requested an annual tune-up be performed on the boiler. The facility maintains all corrective actions (maintenance activity) performed on the boiler during each tune-up session and maintains five years of records for any results or actions performed.

### VII. REPORTING

The facility has submitted semi-annual and annual reports (no other reporting has occurred for fuel other than natural gas). The facility has also submitted boiler and heater tune-up compliance reports. The facility maintains an Emission Unit Compliance Condition (Inspection Activities) form which details the facility name and address, process unit information (emissions limitations and operating parameter limitations), the date of the report (beginning and ending dates of the reporting period), the last tune-up/burner inspection, and verification by a responsible official.

### IX. OTHER REQUIREMENT(S)

The facility appears to be meeting all provisions of the National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters as specified in, 40 CFR Part 63, Subparts A and DDDDD.

### ***FG-COLDCLEANERS***

Any coldcleaner that is grandfathered or exempt from a permit to install (Rule 201) pursuant to Rule 278, Rule 278a and Rule 281(2)(h) or Rule 285(2)(r)(iv). Existing cold cleaners were placed into operation prior to July 1, 1979. New cold cleaners were placed into operation on or after July 1, 1979. The facility utilizes two cold cleaners, one on the main plant floor and the other in the machine shop.

### II. MATERIAL LIMIT(S)

The facility utilizes Zep Dyna 143. Per the solvent description, it dissolves grease and dirt and is composed of a blend of odorless solvents with a relatively slow evaporation rate reducing losses to the atmosphere. It leaves a light oil film on parts to protect against rust

and corrosion and has an elevated flash point which provides safety in use and storage. None of the listed compounds appears to be present.

### III. PROCESS/OPERATIONAL RESTRICTION(S)

There were no parts being drained, and per the facility, all routine maintenance is performed on each cold cleaner as recommended by the manufacturer.

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

Both cold cleaners, the machine shop (2.8 ft<sup>2</sup>) and plant floor (5.5 ft<sup>2</sup>), are below the air/vapor interface of 10ft<sup>2</sup> – as well as release emissions into the general plant environment. Both are equipped with a device to drain parts, both have covers (and both were closed at the time of inspection), and both have Reid vapor pressures below 0.3 lb/in<sup>2</sup> at 0.0097 lb/in<sup>2</sup>. No solvents are used with a Reid vapor pressure greater than 0.6 lb/in<sup>2</sup>.

### VI. MONITORING/RECORDKEEPING

The facility has not heated any solvents and maintains all solvent SDS information for the solvents used (Zep Dyna 143). The cold cleaners were installed on April 1, 1998 (machine shop, Model # E1000, Serial # 3077801) and on August 8, 2007 (plant main floor, Model # 90320W, Serial # 5081388). Each cold cleaner is maintained with written operating procedures, and they are located on the cold cleaners, and waste solvents per Rule 611 and 707 are demonstrated as safety hazards.

### VII. REPORTING

The facility has submitted semi-annual and annual reports.

## ***Section 2 – Combustion Turbine Generators***

This section of the ROP consists of three peaking units (FG-CTGS identified as EU-CTG 11 -1, 11-2, and 12-1) that produce electricity to meet power demands during times of need (meteorological, seasonal, etc). The units were installed in 1998 and have an 82.4 MW capacity. They are natural gas-fired with low NO<sub>x</sub> combustors. The units are subject to 40 CFR Part 60 Subpart A and Subpart GG.

### General Conditions

There were no observed concerns with any of the listed conditions here.

### I. EMISSION LIMIT(S)

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Pollutant	Limit	Time Period	Result
1. NOx	9 ppm dry gas basis at 15% O <sub>2</sub> and 100% load	Averaged over operating hours in a calendar day	6.9 ppm (high)
2. NOx	100 ppmv at 15% O <sub>2</sub> , dry	Hourly	To be determined during upcoming performance test
3. NOx	522 tons per year	12-month rolling total determined at the end of each calendar month	287 tons
4. CO	25 ppm by volume, dry gas basis at 15% O <sub>2</sub>	Averaged over operating hours in a calendar day	17.1 ppm (high)
5. CO	856 tons per year	12-month rolling total determined at the end of each calendar	336 tons
6. Formaldehyde (HCHO)	9.9 tons per year	12-month rolling total determined at the end of each calendar month	6.9 tons
7. Visible emissions	10% six-minute average opacity	At least once every 1,812 hours of operation	0% opacity
8. PM <sub>10</sub>	9.0 pounds per hour	Averaged over operating hours in a calendar day	4.7 lb/hr (high)
9. PM <sub>10</sub>	102 tons per year	12-month rolling total determined at the end of each calendar month	55 tons

All are below the permit limits.

## II. MATERIAL LIMIT(S)

The facility is limited to 27,300 MMcf of natural gas per 12-month rolling time period for FG-CTGS. Current usage is under 22,000 MMcf. The facility only burns natural gas and does not burn any sulfur-containing fuels.

## III. PROCESS/OPERATIONAL RESTRICTION(S)

There were no deviations noted in the facility's Emissions Minimization Plan and the peaking units only burn natural gas. DTE Greenwood has begun the process for developing a MAP for FG-CTGS given this new condition was added to the facility's ROP (issued June 30, 2024). The facility must submit this by September 28, 2024.

## IV. DESIGN/EQUIPMENT PARAMETER(S)

Each peaking unit is equipped with dry low-NO<sub>x</sub> combustors (DLN1 + model).

## V. TESTING/SAMPLING

The facility last conducted performance testing in July 2022 and will be required to conduct testing for NO<sub>x</sub> and CO in 2025, and for Formaldehyde and PM<sub>10</sub> no later than 2027. The AQD has not required the facility to conduct additional performance testing beyond the required ROP test requirements.

## VI. MONITORING/RECORDKEEPING

The facility continuously monitors and records the hourly natural gas usage of each peaking unit (turbine) utilizing a gas flow transmitter as the instrumentation method. In addition, the total number of start-up and shutdown hours per month of each turbine are recorded – with the following high and low hours the last two years as follows:

Turbine (hours)	CTG 11-1	CTG 11-2	CTG 12-1
HIGH	51.5 (Jan. 2023)	44.9 (March 2023)	52.8 (Jan. 2023)
LOW	8.58 (Dec. 2023)	8.58 (Dec. 2023)	9.24 (Dec. 2023)

Also, the calendar day average, monthly, and 12-month emission calculations for NO<sub>x</sub>, CO, PM<sub>10</sub>, and HCHO are also maintained. The calendar day averages are determined via stack testing, and the monthly high emission and current 12-month rolling emissions of each are as follows:

### *Monthly*

Turbine/Pollutant	CTG 11-1	CTG 11-2	CTG 12-1
NO <sub>x</sub>	<b>1.6 (April 2023)</b>	<b>1.8 (July 2023)</b>	<b>1.5 (July 2023)</b>
CO	<b>0.6 (July 2023)</b>	<b>2.5 (July 2023)</b>	<b>1.3 (July 2023)</b>
PM 10	<b>0.2 (April/July 2023)</b>	<b>0.3 (July 2023)</b>	<b>0.1 (July/Aug 2023)</b>
HCHO	<b>0</b>	<b>0</b>	<b>0</b>

The current 12-month rolling emissions are as follows: NO<sub>x</sub> (20 tons), CO (17 tons), PM<sub>10</sub> (2.1 tons), HCHO (0.2 tons).

In addition, the total number of start-up and shutdown hours per month for each turbine is also maintained;

### *Monthly (highest total – hours)*

CTG 11-1	CTG 11-2	CTG 12-1
5.94 (July 2023)	4.62 (July/Aug 2023, May 2024)	3.96 (June/Sept 2023, May 2024)

The facility provided visible emissions records which are required every 1,812 operating hours. VE's were last performed on November 15, 2022. No visible emissions were observed. DTE Greenwood is also required to monitor and record the capacity factor of each turbine included in FG-CTGS each calendar year. If the capacity factor for each individual turbine exceeds 20 percent in any calendar year, or exceeds 10 percent averaged over the previous three calendar years, a continuous emission monitor (CEM) for NO<sub>x</sub> must be installed, certified and operated no later than December 31 of the following calendar year. The following records were observed:

- 2023 Capacity Factor:

GRNEC CTG 11-1 2023 cap factor 4.9%, 3-year cap factor 4.7%

GRNEC CTG 11-2 2023 cap factor 5.6%, 3-year cap factor 4.6%

GRNEC CTG 12-1 2023 cap factor 4.3%, 3-year cap factor 5.8%

- 2024 Capacity Factor:

GRNEC CTG 11-1 2024 cap factor unknown until year is over, 3-year cap factor 5.7%

GRNEC CTG 11-2 2024 cap factor unknown until year is over, 3-year cap factor 6.2%

GRNEC CTG 12-1 2024 cap factor unknown until year is over, 3-year cap factor 5.7%

The above records indicate a (CEM) is not required.

The facility maintains records of the total sulfur content of the fuel being fired demonstrating that the fuel meets the definition of natural gas in 40 CFR 60.331(u), specifying that the maximum total sulfur content of the fuel is 20.0 grains/100 scf or less. The most recent laboratory analysis indicates a value of 0.041 grains/100 scf.

In addition, all maintenance work performed on the turbines is maintained. Finally, the facility has not elected the option under 40 CFR 60.334(f) to monitor combustion parameters or parameters indicative of proper operation of NO<sub>x</sub> emission controls as indicated in Condition VI.8.

## VII. REPORTING

The facility has submitted semi-annual and annual reports.

## VIII. STACK/VENT RESTRICTION(S)

There were observed concerns nor visible emissions regarding the stacks.

## IX. OTHER REQUIREMENT(S)

The U.S. EPA maintains regulatory oversight of the facility's Cross-State Air Pollution Rules regarding NO<sub>x</sub> and SO<sub>2</sub> in conjunction with the AQD Environmental Quality Specialist, Brian Carley. There have been no concerns with this requirement reported to the Warren District Office.

## Conclusion

Based on the AQD inspection and records review, DTE Greenwood is in compliance with the aforementioned requirements and the conditions of the facility's ROP MI-ROP-B6145-2024.

NAME Robert Joseph

DATE 08-19-24

SUPERVISOR Joyce