

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

B280570709

<b>FACILITY:</b> DTE Electric Company - Hancock Peaking Facility		<b>SRN / ID:</b> B2805
<b>LOCATION:</b> 1781 HAGGERTY ROAD, COMMERCE TWP		<b>DISTRICT:</b> Warren
<b>CITY:</b> COMMERCE TWP		<b>COUNTY:</b> OAKLAND
<b>CONTACT:</b> Zachary Josefiak , Environmental Engineer		<b>ACTIVITY DATE:</b> 01/31/2024
<b>STAFF:</b> Marie Reid	<b>COMPLIANCE STATUS:</b> Compliance	<b>SOURCE CLASS:</b> MAJOR
<b>SUBJECT:</b> FY24 on-site inspection.		
<b>RESOLVED COMPLAINTS:</b>		

On January 31, 2024, I (Marie Reid, EGLE-AQD) conducted a schedule inspection of DTE Electric Company – Hancock Peaking Facility (Hancock Peakers) SRN (B2805) located at 1781 Haggerty Rd, 48390, MI. The purpose of this inspection was to evaluate the facility’s compliance with the requirements of the Federal Clean Air Act; Article II, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451); Michigan Administrative Rules; and the conditions of ROP No. MI-ROP-B2805-2022.

### **Safety Equipment**

Flame resistant clothing, hard hat, safety glasses, hearing protection, and steel toed boots.

### **Facility Description**

The DTE Electric Company Hancock Peaking Facility is located near residential and commercial buildings. This peaking facility’s function is to provide electrical power during peak periods of consumer demand occurring mainly in the summer months. DTE staff informed me that the turbine generators are activated by staff on-site when asked by Midwest Independent System Operator (MISO).

Hancock Peakers consists of two natural gas-fired combustion turbo-generators (CTGs) (EUCTG11-1 and EUCTG11-3) and two jet turbo-generators (JTGs) (EUJTG12-1 and EUJTG12-2). Two natural gas-fired CTGs, EGCTG11-2 and EGCTG11-4, were retired as of December 22, 2019. The Hancock Peakers emission units are not equipped with a control device.

The CTGs are Westinghouse W-251A industrial gas turbine models that were specifically designed for industrial power generation. In a CTG, hot combustion gas expands through a turbine which spins a generator to produce electricity.

The JTGs are Pratt & Whitney FT-4 Twin-Pack Models. These units are considered aeroderivative gas turbines (Jet Turbine Generators). Each of the two JTGs have coaxial “A” and “B” jet engines on either side of the generator. Each jet engine can run simultaneously, or they can be decoupled to run separately as needed. These types of units were originally developed for use in the aviation industry; however, due to their flexibility, compact size, and lightweight design, they are ideally suited for power generation.

### **Regulatory Analysis**

Hancock Peakers is located in Oakland County. Oakland County is currently designated by the United States Environmental Protection Agency (USEPA) as attainment / maintenance

for all criteria pollutants. This facility is a major source for nitrogen oxides (NO<sub>x</sub>) and carbon monoxide (CO) and a minor source for hazardous air pollutants (HAP).

EGJTG12-2 was installed prior to August 15, 1967. As a result, this equipment is considered "grandfathered" and is not subject to New Source Review (NSR) permitting requirements. However, future modifications of this equipment may be subject to NSR.

Although EGCTG11-1, EGCTG11-3, and EGJTG12-1 were installed after August 15, 1967, this equipment was exempt from New Source Review (NSR) permitting requirements at the time it was installed. At the time of installation, the combustion turbo-generators and jet turbo-generator were exempt under Administrative Rule 336.36(c) since the combustion turbo-generators and jet turbo-generator are internal combustion engines. Rule 336.36(c) has been rescinded. The exemption still applies but future modifications of this equipment may be subject to NSR.

Unit JTG12-1 and JTG12-2 meet the definition of an electric generating unit (a unit with a nameplate capacity of more than 25 megawatts and which produces electricity for sale) and therefore are subject to the Cross-State Air Pollution Rule (CSAPR). The two units are subject to the NO<sub>x</sub> Annual Trading Program, NO<sub>x</sub> Ozone Group 3 Trading Program, and SO<sub>2</sub> Group 1 Trading Program, pursuant to 40 CFR 97, Subpart AAAAA, Subpart GGGGG, and Subpart CCCCC, respectively.

### **Michigan Air Emissions Reporting System (MEARS)**

The following table lists Hancock Peakers emission information as reported to MAERS for the year 2022.

<b>Pollutant Name</b>	<b>Total Emissions (tons)</b>
CO	15.605
NO <sub>x</sub>	109.1
Particulate Matter (PM)	1.2559
Sulfur Dioxide (SO <sub>2</sub> )	0.01824
Volatile Organic Compounds (VOC)	0.39964

### **Inspection & Compliance Evaluation**

I arrived at the front gate of the facility around 10:30 AM. The DTE Combustion Turbine Specialist, Felix Fesili opened the gate and led me to the building where the JTGs are located. Here, we met with Zach Josefiak, Environmental Engineer, and Raine Polzin, DTE Operator. I entered the building, signed in, introduced myself, showed ID, and explained the purpose of the inspection. DTE staff gave a pre-job safety brief and explained that there have been no major projects on any of the permitted turbines since the last inspection. DTE staff then escorted me on a tour of the facility. At the time of the inspection, the turbines were not operating; therefore, I did not observe visible emissions.

I visually inspected the control panels for each turbine. I noted the following readings from each turbine's run hours meter:

<b>Unit</b>	<b>Run Hours as of 1/31/2024</b>
EGCTG 11-1	773.9
EGCTG 11-3	534.2
EGJTG 12-1A	19,784.2

EGJTG 12-1B	19,999.2
EGJTG 12-2A	20,760.0
EGJTG 12-2B	20,956.5

### FGPEAKING

This flexible group consists of emission units EGCTG11-1, EGCTG11-3, EGJTG12-1, and EGJTG12-2.

I was escorted to the source-wide natural gas meter at the southwest corner of the property. The engines are only fired with pipeline-quality natural gas as required by SC III.1. I noted a reading of 948,515 thousand cubic feet (MCF) from the meter.

Since the emission units at Hancock Peakers are grandfathered, MI-ROP-B2805-2022 FGPEAKING contains only one recordkeeping special condition. Hancock Peakers is required to record source-wide natural gas consumption for each calendar month (SC VI.1). The facility provided these records from April 2022 through December 2023. During these 21 months, the monthly facility-wide natural gas usage rate ranged from zero (0) MCF (8 of the 21 months), to 108,631 MCF during June 2022. These records indicate that the permittee complies with SC VI.1.

<b>Source-wide natural gas consumption for April 2022 – December 2023 (MCF):</b>	
<b>Date</b>	<b>Source-Wide Natural Gas Consumption (MCF)</b>
April 2022	18,533
May 2022	41,192
June 2022	108,631
July 2022	100,105
August 2022	76,719
September 2022	0
October 2022	660
November 2022	0
December 2022	25,219
January 2023	0
February 2023	0
March 2023	2,359
April 2023	1,000
May 2023	6,801
June 2023	3,542
July 2023	12,834
August 2023	11,156
September 2023	0
October 2023	0
November 2023	0
December 2023	0

Semiannual reporting and annual certifications have been submitted to the AQD District Office on time since the last inspection (SC VII.2 & SC VII.3, respectively). Additionally, no deviations occurred at Hancock Peakers since the last inspection (SC VII.1).

**Conclusion**

Based on my on-site inspection and review of the records, DTE Electric Company – Hancock Peaking Facility (SRN: B2805) is in compliance with the conditions of ROP No. MI -ROP-B2805-2022, as well as all applicable air quality rules and regulations.

NAME *Mark Reid*

DATE 02/01/2024

SUPERVISOR *K. Kelly*