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

B280265584

FACILITY: DTE Electric Company - Oliver Peaking Facility		**SRN / ID:** B2802
LOCATION: 346 GAGETOWN ROAD, OLIVER TWP		**DISTRICT:** Bay City
CITY: OLIVER TWP		**COUNTY:** HURON
CONTACT: Zack Josefiak , Environmental Engineer		**ACTIVITY DATE:** 11/29/2022
STAFF: Adam Shaffer	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** MAJOR
SUBJECT: On-site inspection.		
RESOLVED COMPLAINTS:		

An onsite inspection and records review was conducted by Air Quality Division (AQD) staff Adam Shaffer of the DTE Electric Company – Oliver Peaking Facility (DTE). Applicable records were requested on November 17, 2022, to verify compliance with Renewable Operating Permit (ROP) No. MI-ROP-B2802-2018. An in-person inspection to verify onsite compliance was later completed on November 29, 2022.

Facility Description

DTE is an energy company with the site being a peaking facility that is used for energy production during periods of elevated demand on the local grid. The facility is a major source of nitric oxides, sulfur dioxide, carbon monoxide and greenhouse gases. The site is in operation with ROP No. MI-ROP-B2802-2018. Additionally, the facility is subject to the National Emission Standards for Hazardous Air Pollutants Subpart ZZZZ for Stationary Reciprocating Internal Combustion Engines (NESHAP Subpart ZZZZ).

Offsite Compliance Review

DTE is required to submit semi-annual and annual compliance reports per Part A General Conditions 19-23 of MI-ROP-B2802-2018. Semi-annual and annual compliance reports were reviewed back for select time periods, with no issues identified.

Per MI-ROP-B2802-2018, and the NESHAP Subpart ZZZZ, DTE is required to submit semi-annual compliance reports indicating compliance with this NESHAP. Compliance reports received were reviewed back for select time periods with no issues identified.

Based on the timing of the inspection, the 2021 Michigan Air Emissions Reporting System (MAERS) Report that was submitted on March 23, 2022, was reviewed. It was noted that the submittal was in correlation with the extension given and later submittal of the 2021 MAERS Report. Upon review, the control efficiencies used for carbon monoxide are adjusted based on the date of the last stack test completed in 2021 and the test results. This appears acceptable. After further review, the 2021 MAERS Report appears acceptable.

Compliance Evaluation

A request was sent to Mr. Zack Josefiak, Environmental Engineer, with DTE on November 17, 2022, for various records required by ROP No. MI-ROP-B2802-2018. The onsite inspection of the facility was later completed on November 29, 2022.

AQD staff AS arrived at the facility at 9:09am. Weather conditions at the time of the inspection were cloudy skies, winds to the north at 10-15mph and temperatures in the high 30's degrees Fahrenheit. Upon arriving onsite, AS met with Mr. Josefiak and several other

DTE staff who provided a tour of the site and answered site specific questions. Requested records were provided by Mr. Josefiak.

As mentioned above DTE is a peaking facility that is used for energy production during periods of elevated demand on the local grid. The five engines were observed during the course of the site inspection. It was noted that all five engines were not being used for energy production at the time of the inspection.

ROP No. MI-ROP-B2802-2018

FG-PEAKERS

This flexible group is for Oliver's five diesel fired compression ignition reciprocating internal combustion engines (CI RICE) used for peaking. This flexible group is for emission units EU00001, EU00002, EU00003, EU00004, and EU00005 (DG 11-1 through 11-5) for each respective engine.

Onsite Observations

As mentioned above all five units were observed during the course of the site inspection. Per Special Condition (SC) III.1, the permittee may operate any engine equipped with an add-on control device for up to 200 hours per engine change-out or per maintenance event that requires reseating the piston rings without the control device consistent with the Startup, Shutdown, Malfunction Plan (SSM). Speaking with company staff it was determined that the company only utilizes the five engines with the catalyst control.

Per SC III.2, the permittee shall not operate an engine in FG-PEAKERS unless the pressure drop across the catalyst does not change by more than two inches of water from the pressure drop across the catalyst that was measured during the initial performance test of the oxidation catalyst. Though the engines were not in operation at the time of the inspection, based on the records reviewed, DTE appears to be meeting the requirements of this condition when the units are in operation.

Per SC III.3, the permittee shall not operate an engine in FG-PEAKERS unless the oxidation catalyst inlet temperature is greater than or equal to 450°F and less than or equal to 1,350°F. The permittee may petition the Administrator pursuant to the requirements of 40 CFR 63.8(f) for a different temperature range. The company has not requested a change in the temperature range. Though the engines were not in operation at the time of the inspection, based on the records reviewed, DTE appears to be meeting the requirements of this condition when the units are in operation.

Per SC III.4-5, the permittee shall operate the engines in compliance with the emission limitations and operating conditions per SC I.1, and III.2-3 at all times, minimize the time spent at idle during startup and minimize the startup times needed for appropriate and safe loading of the engines. Though the engines were not in use at the time of the inspection, these conditions appeared to be being met based on the documents reviewed and speaking with company staff.

Per SC III.6, the permittee shall prepare a site-specific monitoring plan that addresses the monitoring system design, data collection, and the quality assurance and quality control elements outlined in this condition. The company most recently submitted a copy of their

SSM and Continuous Parameter Monitoring System (CPMS) Plans, dated November 2021, along with their ROP renewal application. Upon review, the plans appear acceptable.

Per SC III.7, the permittee shall if a CPMS is used to meet SC IV.2, ensure the CPMS collects data at least once every 15 minutes, and verify, if applicable, the temperature sensor has a minimum tolerance of 2.8°C or 1% of the measurement range, whichever is larger. Speaking with company staff, the tolerance is verified annually to make sure the engines remain in compliance. The 2022 checkup results didn't directly state that this was completed and moving forward the company had planned to list that this was checked so it will be easier to demonstrate compliance with this condition. This appears acceptable at this time. Upon review of records provided, the CPMS appeared to be collecting data every 15 minutes to demonstrate compliance.

Per SC IV.1, the permittee shall not operate an engine in FG-PEAKERS unless the catalytic oxidation system for that engine is installed, maintained and operated in a satisfactory manner. Based on the records reviewed and speaking with company staff, this condition appeared to be being met.

Per SC IV.2, the permittee shall install, operate and maintain a CPMS or have installed equipment to automatically shut down the engine if the catalyst inlet temperature exceeds 1,350°F. A CPMS was determined to be installed. Speaking with company staff, there also appear to be setpoints for when the temperature would approach both the higher and lower temperature limits in order to give DTE staff time to respond, assess and correct any potential issues. Based on the records reviewed and speaking with company staff, DTE appears to be meeting the requirements for this condition for each engine.

Per SC V.1, the permittee shall verify the catalyst system efficiency from each engine, by testing at owners expense. Testing shall be completed every 8,760 hours or 3 years, whichever comes sooner. DTE most recently tested FG-PEAKERS in July-August of 2021, and demonstrated all engines appear to be in compliance with the applicable emission limit.

Five stacks are listed in association with this flexible group, however, no specific dimensions are listed for each stack. Each engine was observed with a stack during the inspection.

Records

This flexible group is subject to a CO emission limit of 23 ppmv dry at 15% oxygen or at least a 70% reduction during all periods of operation except during periods of start-up. This is verified during performance tests with the last test for these five units being completed on July 19-21, 28, 2021, and August 24, 2021. Test results indicated at least a 70% reduction or a CO concentration less than 23 ppmv dry at 15% oxygen while being operated at 100% load conditions. After further review, DTE appeared to be meeting this emission limit for all five engines.

This flexible group is subject to a #2 Fuel Oil material limit of 1.5% sulfur by weight with a heat value of 18,000 BTU/lb. DTE has a fuel oil supply agreement with Marathon Petroleum Company LP that was most recently renewed from January 1, 2021, through December 31, 2023. The agreement includes providing #2 fuel oil that has a max sulfur content of 15ppmv. This appears acceptable.

Per SC VI.1, the permittee shall maintain a complete record of fuel oil specifications and/or a fuel oil analysis for each delivery or storage tank, of fuel oil. As mentioned above DTE has a fuel oil agreement between Marathon Petroleum Company LP that all fuel oil received shall meet the sulfur limits per SC II.1. This appears acceptable.

Per SC VI.2, the permittee shall continuously monitor the catalyst parameters at all times that the stationary RICE is operating except for monitor malfunctions, associated repairs, required performance evaluations, and required quality assurance or control activities. Records were requested and reviewed for select time periods. Based on the records reviewed, this condition appeared to be being met.

Per SC VI.3, the permittee shall not use data records during monitoring malfunctions, associated repairs, and required quality assurance or control activities in data averages and calculations used to report emission or operating levels. After further review, the records provided appear acceptable.

Per SC VI.4-9, the permittee shall keep track of various applicable items including all required maintenance, information on any malfunctions and all notifications / performance tests. Records were requested for select time periods. It appears there have been no recent malfunctions to any of the units. After further review, no issues were noted.

Per SC VI.10, the permittee shall maintain the following records as required to demonstrate continuous compliance with the operating limitations in SC III.2-3: a). catalyst inlet temperature data reduced to four-hour rolling averages if CPMS is used to comply with SC IV.2; and b). pressure drop across the catalyst measured monthly. Records were requested and provided for select time periods. Based on the records reviewed, DTE appears to be keeping track of temperature and pressure drop readings. No issues were noted while reviewing the records.

Per SC IX.1, the permittee shall comply with the NESHAP Subpart ZZZZ rules and regulations. Based on the observations made and records reviewed, the company appears to be in compliance with the NESHAP Subpart ZZZZ.

Additional Observations

During the inspection, a 30,000-gallon #2 diesel fuel tank was observed onsite. At the time of the inspection, the tank contained 21,500 gallons of diesel. The diesel tank appears to be exempt per Rule 284(2)(d).

A non-resettable hour meter was noted for each engine and the following hours were noted for each unit.

Engine	Hours
11-1	11,411.2
11-2	12,139.2
11-3	3,394.1
11-4	11,948.4
11-5	62,560

Several exempt emission units were historically listed in the 2017 ROP application. These units were not listed in the most recent ROP application received in 2022. This was brought to the attention of DTE staff and was later determined to have been components of transformers / breakers onsite and do not need to be included in the ROP application. After further review, this appears acceptable.

Conclusion

Based on the facility walkthrough, observations made, and records received, DTE appears to be in compliance with the MI-ROP-B2802-2018, NESHAP Subpart ZZZZ, and applicable air quality rules.

NAME Adam J. Krafft DATE 01/23/23 SUPERVISOR C. Hare