DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: Scheduled Inspection

B280347390

FACILITY: DTE Electric Company - Placid Peaking Facility		**SRN / ID:** B2803
LOCATION: 4912 EDGAR, CLARKSTON		**DISTRICT:** Southeast Michigan
CITY: CLARKSTON		**COUNTY:** OAKLAND
CONTACT: Stefanie Zanke , Document Control Analyst		**ACTIVITY DATE:** 11/05/2018
STAFF: Shamim Ahammod	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** MAJOR
SUBJECT: Conducted a scheduled inspection of DTE Electric Company-Placid Peaking Facility (facility) to determine the company'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, as amended (Act 451); the Air Pollution Control Rules; and the conditions of ROP No. MI-ROP-B2803-2018.		
RESOLVED COMPLAINTS:		

On Monday, November 5, 2018, at about 12:00 PM, I (Shamim Ahammod), Michigan Department of Environmental Quality-Air Quality Division (MDEQ-AQD) staff, conducted a scheduled inspection of DTE Electric Company-Placid Peaking Facility (facility) located at 4812 Edgar, Clarkston, Michigan. The purpose of the inspection was to determine the company'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, as amended (Act 451); the Air Pollution Control Rules; and the conditions of ROP No. MI-ROP-B2803-2018. Flame resistant clothing, hard hat, safety glasses, hearing protection, and hard soled boots are required to be worn when on-site.

SOURCE DESCRIPTION:

The facility has five Peaker engines: EU00001, EU00002, EU00003, EU00004, and EU00005. Each engine is a General Motors Electro-Motive Division model MP45-B, 3600 horsepower, 20-cylinder, 2 stroke compression ignitions, reciprocating internal combustion (RICE) diesel engine with a displacement of 10.57 liters per cylinder used to drive a 2.75-megawatt electrical generator connection to each engine. All engines were installed in 1970. These engines are used to generate additional electricity during periods of high customer demand.

SOURCE TYPE:

DTE -Electric Company -Placid Peaking Facility is subject to Title V-Renewable Operating Permit (ROP) program because the potential to emit (PTE) of nitrogen oxides (NOX), Sulphur dioxide (SO_2), and carbon monoxide (CO) exceeds 100 tons per year (TPY) each.

FGPEAKERS at the stationary source are subject to the National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines promulgated in 40 CFR Part 63, Subparts A and ZZZZ (RICE Area Source MACT).

No emissions units at the stationary source are currently subject to the Prevention of Significant Deterioration (PSD) of Air Quality or 40 CFR 52.21 because the process equipment was constructed/installed prior to June 19, 1978, the promulgation date of the PSD regulations.

INSPECTION:

At the facility, I met with Ms. Stefanie Zanke, Associate Environmental Engineer and Mr. Keith Klee, Substation Operator. I introduced myself, provided credentials and stated

the purpose of the inspection.

During the pre-inspection meeting, we discussed the facility's operations and emissions units those are included in the current ROP. After that we toured the plant to get an idea of the overall operations at the facility.

During the inspection, five Peaker engines were not in operation. I was informed that these engines only need to be operated when the electricity demand is high. The engines run mainly in summer and during really cold winter weather. The engines are remotely started, and startup typically lasts 15 minutes. The engines do have a alarm that is triggered when inlet temperature to the catalystic incinerator is too low. All operating data is recorded electronically in accordance with the site-specific monitoring plan as required by special conditions (SC) III.7. The operating records are not kept on-site. At the time of inspection, no visible emissions were observed from any of the facility operations. No odors were identified surrounding the facility.

POST INSPECTION & REGULATORY ANALYSIS:

After completing a brief tour to the facility, I discussed the conditions of ROP No. MI-ROP-B6480-2018 with Ms. Stefanie Zanke and requested the records.

FGPEAKERS
FLEXIBLE GROUP CONDITIONS

FGPEAKERS consists of five Peaker engines. These emissions unit are identified as EU00001, EU00002, EU00003, EU00004, and EU00005, each with emissions controlled by a diesel oxidation catalyst.

Pollution Control Equipment: Diesel oxidation catalyst

I. Emission Limits

On July 9-13, 2018, emission tests were performed on Units 12-1 to 12-5 for carbon monoxide (CO) destruction efficiency. The results of the emissions testing are given below:

Test Date	Source Unit	CO Reduction (%)	CO reduction limit (%)
7-9-18	DG 12-1	81.3	70% or more
7-10-18	DG 12-2	81.1	70% or more
7-13-18	DG 12-3	79.4	70% or more
7-12-18	DG 12-4	83.3	70% or more
7-11-18	DG 12-5	80.3	70% or more

The results of the testing indicate that Units 12-1 to 12-5 comply with 40 CFR part 63 Subpart ZZZZ requirements of reducing CO emissions by 70% or more.

Note: there is a typographical error in the renewable operating permit (ROP) emission unit summary table on pages 12 and 13. The emission unit description incorrectly identifies the Peakers as 11-1 through 11-5 but the correct identifications are 12-1 through 12-5. This typographical error is an administrative error.

II. Material Limits:

A copy of the Fuel Oil Supply Agreement dated December 9, 2016 between Marathon Petroleum Company and DTE was provided via email for Ultra Low Sulfur No. 2

Diesel (No. 2 MV15). It lists by wt. as 15 ppm (0.0015% by wt) which is far below the limit of 1.5% sulfur by weight as specified in SC II.1.

III. Process/Operational Restrictions

As required in SC III.2 and SC III.3, I was provided the CPMS (Continuous Parameter Monitoring Systems) data from September 2017 through July 2018 for each of the five engines at Placid Peaking Station. This includes temperature at the catalyst inlet, 4 hour rolling averages, and pressure drop (monthly) across the catalyst. The facility appeared to be within the required ranges.

IV. Design/Equipment Parameters

Per SC IV.1, the permittee shall not operate an engine in FGPEAKERS unless the catalytic oxidation system for that engine is install, maintained, and operated in satisfactory manner and according tie the procedures in their site-specific monitoring plan (40 CFR 63.66039(a), 40 CFR 63.6625(b), 40 CFR 63.6640). At the time of inspection, I observed the catalytic oxidation system were installed for all five of the Placid Peaker engines.

As required in SC IV.2, I was provided the CPMS (Continuous Parameter Monitoring Systems) data from September 2017 through July 2018 via email for each of the five engines.

V. Testing/Sampling

On July 9-13, 2018, emission testing on five (5) 3,600 Brake-HP diesel engines were conducted to satisfy requirements of 40 CFR Part 63 Subpart ZZZZ. This report is attached to this inspection report.

VI. Monitoring/Record keeping

Per SC VI.1, the permittee shall maintain a complete record of fuel oil specification and/or a fuel oil analysis for each delivery, or storage tank of fuel oi. A copy of the Fuel Oil Supply Agreement dated December 9, 2016 between Marathon Petroleum Company and DTE was provided via email for Ultra Low Sulfur No. 2 Diesel (No. 2 MV15). The initial term of this agreement was from January 1, 2017 to December 31, 2017. It automatically renewed for up to one successive year, which includes 2018. It lists by wt. as 15 ppm (0.0015% by wt) and a Cetane Index of 40 min.

As required in SC VI.2 and SC VI.3, I was provided the CPMS (Continuous Parameter Monitoring Systems) data from September 2017 through July 2018 for each of the five engines at Placid Peaking Station. This includes temperature at the catalyst inlet, 4 hour rolling averages, and pressure drop (monthly) across the catalyst. The facility appeared to be within the required ranges.

Per SC VI.4, Ms. Zanke provided the notification of compliance status report via email. As specified in SC VI.5, the permittee shall maintain records of the occurrence and duration of each malfunction of operation (i.e., process equipment) or of the air pollution control and monitoring equipment. These records shall be kept on file and made available to the Department upon request. (40 CFR 63.6655(a)(2), 40 CFR 63.6660) There were no occurrence of malfunction of operation or of the air pollution control and monitoring equipment from September 2017 through July 2018.

Per SC VI.7, the permittee shall maintain records of all required maintenance performed on the air pollution control and monitoring equipment. These records shall be kept on file and made available to the Department upon request. (40 CFR 63.6655(a)(5), 40 CFR 63.6660, 40 CFR 63.6605(b) I was provided a copy of the annual maintenance inspection form (attached) via email from Ms. Zanke. Placid Peaker's annual inspection was performed on May 29, 2018.

According to SC VI.8, The permittee shall maintain records of action taken during periods of malfunction to minimize, including corrective actions to restore malfunction process and air pollution control and monitoring equipment to its normal or usual manner of operation. These records shall be kept on fil and made avaible to the Department upon request (40 CFR 63.6655(a)(5), 40 CFR 63.6660, 40 CFR 63.6605(b). I was provided a copy of the annual maintenance inspection form (attached) via email. There were no periods of malfunction at Placid Peaker Station from September 2017 through July 2018.

Per SC VI.9(a), I was provided the CPMS (Continuous Parameter Monitoring Systems) data from September 2017 through July 2018 for each of the five engines at Placid Peaking Station. This includes temperature at the catalyst inlet, 4 hour rolling averages, and pressure drop (monthly) across the catalyst.

Per SC VI.9(c), there were no out of control periods from September 2017 through July 2018 (record attached).

Per SC VI.9(d), There were no excess emissions or parameter monitoring exceedances during startups, shutdowns or malfunctions from September 2017 though July 2018 (record attached).

Per SC VI.9(c), there were no excess emissions or parameter monitoring exceedances from September 2017 through July 2018 (record attached).

Per SC VI.10(a) and SC VI.10(b), I was provided the CPMS (Continuous Parameter Monitoring Systems) data from September 2017 through July 2018 for each of the five engines at Placid Peaking Station. This includes temperature at the catalyst inlet, 4 hour rolling averages, and pressure drop (monthly) across the catalyst.

VII. Reporting

As specified in SC VII.2 and SC VII.3, semiannual and annual reports are being submitted in a timely manner and no deviations were noticed.

Per SC VII.6, I was provided a notification of compliance status report via email from Ms. Stefanie Zanke.

VIII. Stack/vent Restrictions: NA

IX. Other Requirements

As mentioned in SC IX.1, the permittee shall comply with all applicable provisions of the National Emission Standards for Hazardous Air Pollutants, as specified in 40 CFR Part 63, Subpart A and Subpart ZZZZ, for Stationary Reciprocating Internal Combustion Engines. Emission testing on five (5) 3,600 Brake-HP diesel engines were conducted on July 9-13, 2018 to satisfy requirements of 40 CFR Part 63 Subpart ZZZZ.

Based on onsite inspection, review of records, and discussion with facility's staff, the facility appears to be in compliance with the conditions of ROP No. MI-ROP-B2803-2018.

NAME _____ DATE 12.27.2018 SUPERVISOR SK