

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

B280446899

FACILITY: DTE Electric Company - Wilmot Peaking Facility		SRN / ID: B2804
LOCATION: 5977 E BEVENS, KINGSTON TWP		DISTRICT: Saginaw Bay
CITY: KINGSTON TWP		COUNTY: TUSCOLA
CONTACT: Stefanie Zanke, Associate Environmental Engineer		ACTIVITY DATE: 10/18/2018
STAFF: Matthew Karl	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: Scheduled inspection to determine compliance with ROP No. MI-ROP-B2804-2018.		
RESOLVED COMPLAINTS:		

On 10/18/18, I (Matt Karl) conducted a compliance inspection at DTE Electric Company – Wilmot Peaking Facility located at 5977 East Bevens Road, Kingston Township, Michigan. The purpose of the inspection was to determine compliance with the Federal Clean Air Act; Article II, Part 55, Air Pollution Control of Natural Resources and Environmental Protection Act, 1994 Public Act 451; Michigan Department of Environmental Quality, Air Quality Division (MDEQ-AQD) Administrative Rules; Renewable Operating Permit (ROP) No. MI-ROP-B2804-2018. Ms. Stefanie Zanke assisted by providing requested records.

Facility Description:

The subject site is a peaking station that has historically been put in service at times of heavy electrical load on the local grid. The emission units consist of five (5) diesel (No.2 fuel oil) engines and associated fuel tanks. Each of the engines is equipped with an oxidation catalyst. The following table summarizes the emission units:

Emission Unit ID	Emission Unit Description	Model/Type	Fuel Type	Rated Capacity (hp)	Rated Capacity (MW)	Install/Mod Date
EU00001	Wilmot Peaker DG 11-1	MP45 20 Cylinder/ CI RICE	Diesel (No. 2)	3,600	2.75	12/19/1968
EU00002	Wilmot Peaker DG 11-2	MP45 20 Cylinder/ CI RICE	Diesel (No. 2)	3,600	2.75	12/19/1968
EU00003	Wilmot Peaker DG 11-3	MP45 20 Cylinder/ CI RICE	Diesel (No. 2)	3,600	2.75	12/19/1968
EU00004	Wilmot Peaker DG 11-4	MP45 20 Cylinder/ CI RICE	Diesel (No. 2)	3,600	2.75	12/19/1968
EU00005	Wilmot Peaker DG 11-5	MP45 20 Cylinder/ CI RICE	Diesel (No. 2)	3,600	2.75	12/19/1968

Site Inspection: 10/18/18

I arrived on site at approximately 10:45; at the time of my inspection the site was secured by a chain link fence with barbed wire and there were no DTE personnel on site. There was 1 large diesel storage tank and 5 engines on-site. There was one exterior building within the fenced in grounds. There was 1 black drum used for disposal. Signage near the refueling station contained the following contact information:

System Operations Supervisor: 1-313-235-9444

DTE Energy Spill Hotline: 313-235-8122

I noted the presence of a meter near the refueling station which indicated 20,224 gallons in storage. The Renewable Operating Permit Staff Report accompanying MI-ROP-B2804-2018 indicated that the storage tanks onsite were using permit to install exemptions, containers R 336.1284(2)(i):

"The requirement of R 336.1201(1) to obtain a permit to install does not apply to containers, reservoirs, or tanks used exclusively for any of the following: Storage, mixing, blending, or transfer operations of volatile organic compounds or noncarcinogenic liquids in a vessel that has a capacity of not more than 40,000 gallons where the contents have a true vapor pressure of not more than 1.5 psia at the actual storage conditions."

This exemption appears to apply to the diesel storage tank. Reviewing AP-42 Chapter 7, Table 7.1-2. PROPERTIES OF SELECTED PETROLEUM LIQUIDS, Distillate fuel Oil No. 2 (diesel) has true vapor pressures ranging from 0.0031-0.022 psi over the temperature range of 40-100 F.

Records Review:

I received the following records from Ms. Stefanie Zanke via email on 11/2/18:

- FUEL OIL SUPPLY AGREEMENT dated December 9, 2016
- MACT ZZZZ Notification of Compliance Status dated June 12, 2013
- MACT ZZZZ Notification of Compliance Status dated April 8, 2016
- ANNUAL INSPECTION dated June 13, 2018
- ALL SITES_Peaker Catalyst Compliance Data

FG-PEAKERS:

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. These records may include purchase records for ASTM specification fuel oil, specifications or analyses provided by the vendor at the time of delivery, analytical results from laboratory testing, or any other records adequate to demonstrate compliance with the percent sulfur limit in fuel oil.

The 'FUEL OIL SUPPLY AGREEMENT' dated December 9, 2016 indicated that the fuel used at this facility was ultra-low sulfur No. 2 diesel fuel. The sulfur content was identified at 15 ppm (wt) by ASTM D 5453, D 2622. The contract was automatically renewed for 2018 at the identified specifications.

SC VI.4. The permittee shall maintain a copy of each notification and report submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status submitted. The document copies shall be kept on file and made available to the Department upon request.

I reviewed the MACT ZZZZ Notification of Compliance Status' for 6/12/13 and 4/8/18. The results of the performance testing are summarized in the following table:

Source ID	Test Date	CO Reduction (%)	Test Date	CO Reduction (%)
DG 11-1	4/16/13	76.3	2/11/16	72.3
DG 11-2	4/17/13	73.7	2/11/16	81.8
DG 11-3	4/17/13	80.0	2/11/16	82.2
DG 11-4	4/18/13	83.3	2/10/16	74.4
DG 11-5	4/18/13	83.4	2/10/16	78.9

The results show that the oxidation catalyst control devices are achieving the control efficiency requirement of 70% carbon monoxide (CO) emissions reduction.

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.

I reviewed the ANNUAL INSPECTION dated June 13, 2018. The record indicates that the facility has been inspecting and calibrating the air pollution control and monitoring equipment for FGPEAKERS; both the temperature and pressure drop monitoring equipment for the oxygen catalysts were calibrated at the time of the annual inspection.

SC VI.10. The permittee shall maintain the following records as required to demonstrate continuous compliance with the operating limitations in SC III.2 and SC III.3. These records shall be kept on file and made available to the Department upon request:

- 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.

I reviewed the Continuous Parameter Monitoring System (CPMS) data for each engine contained in the "ALL

SITES_Peaker Catalyst Compliance Data" spreadsheet. The spreadsheet contained CPMS data from September 2017 to June 2018 for DG 11-1 and July 2018 for the other units. The results are contained in the following table:

Source ID	Performance Test Pressure Drop ("H2O) 2013	Pressure Drop ("H2O) Monthly Range	Inlet Temperature 4-Hour Rolling Average Range (F)
DG 11-1	0.035	0.00025 to 0.00586	578 to 718
DG 11-2	0.071	0.0005 to 0.00744	567 to 725
DG 11-3	0.069	-0.0165 to 0.00696	579 to 786
DG 11-4	0.047	-0.0002 to 0.00582	595 to 717
DG 11-5	0.007	-1.38x10 ⁻⁵ to 0.00224	562 to 745

The pressure drops across the catalysts did not appear to change by more than two inches of water from the pressure drops across the catalysts that were measured during the initial performance test of the oxidation catalysts. The inlet temperature appeared to be ≥450°F and ≤1350°F during this time period as well.

Stack Test Schedule:

The Wilmot Peaking Facility will be conducting performance testing on the engines over 11/26 through 11/30/2018.

Summary:

At the time of my inspection and records review it appears that the DTE Electric Company – Wilmot Peaking Facility is in compliance with permit No. MI-ROP-B2804-2018.

NAME Matthew R. Korch

DATE 11/19/18

SUPERVISOR C. Hare