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

B279566852

FACILITY: DTE Electric Company - Colfax Peaking Facility		**SRN / ID:** B2795
LOCATION: 4025 GREGORY, FOWLERVILLE		**DISTRICT:** Lansing
CITY: FOWLERVILLE		**COUNTY:** LIVINGSTON
CONTACT: Zachary (Zack) Josefiak , Environmental Engineer - DTE Peaker Division		**ACTIVITY DATE:** 03/24/2023
STAFF: Matthew Karl	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** MAJOR
SUBJECT: Site inspection as part of a full compliance evaluation (FCE) to determine compliance with permit MI-ROP-B2795-2023.		
RESOLVED COMPLAINTS:		

The purpose of this site inspection was to determine compliance with permit MI-ROP-B2795-2023 as part of a full compliance evaluation (FCE).

Facility Contacts:

Barry Marietta, Manager, Emissions Quality, DTE

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Zachary M. Josefiak: Zachary.josefiak@dteenergy.com

Alexis D. Thomas: alexis.thomas@dteenergy.com

Facility Description:

DTE Energy Company- Colfax Peaking Facility is a power plant that consists of five (5) diesel fuel-fired engines that provide electric power to the transmission grid during peak electrical demand periods or when required for load stability. The engines were installed in 1969. The five (5) engines are identical GM Power, EMD MP45 diesel fuel-fired compression ignition (CI) reciprocating internal combustion engines (RICE) non-emergency, non-black start. The engines have 20 cylinders and are each rated at 2.75 megawatts (MW) or 3600 horsepower (hp). The engines are electric start and are capable of being remotely started from DTE headquarters. An on-site operator is not required.

Catalytic converter carbon monoxide (CO) emission controls were installed on the engines in 2012. The catalytic converters were installed to comply with the requirements of 40 CFR Part 63, Subpart ZZZZ- National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary RICE. These requirements include testing and recordkeeping requirements to demonstrate proper operation of the engines and the catalytic convertor controls.

Regulatory Overview:

The stationary source is subject to Title 40 Part 70 because the potential to emit (PTE) of CO and nitrogen oxides (NOx) exceeds 100 tons per year. The stationary source is considered a minor

source in terms of hazardous air pollutants (HAPs), because the PTE of each individual HAP is less than 10 tons per year, and the PTE of total HAPs is less than 25 tons per year.

The 5 engines at the facility, identified as EUDG11-1, EUDG11-2, EUDG11-3, EUDG11-4 and EUDG11-5 are subject to the NESHAP for Stationary RICE promulgated in 40 CFR Part 63, Subparts A and ZZZZ. The requirements include a CO emission limitation of 23 ppmvd at 15% O2 or a CO reduction of 70% or more from the oxidation catalyst control.

MAERS 2022 Report:

Pollutant	Amount (pounds per year)	Amount (tons per year)
CO	565.80	0.28
NOx	13482.08	6.74
PM10, PRIMARY	241.62	0.12
PM2.5, PRIMARY	232.40	0.12
SO2	6.38	0.003
VOC	421.70	0.21

Site Inspection:

I (Matt Karl) arrived on site at ~11:00. I met with facility personnel at the perimeter fence. We discussed proper personal protective equipment (PPE) which consists of fire resistant (FR) gear, steel toe boots, hearing protection (earmuffs or plugs), safety glasses and hard hat. We then proceeded to the facility office, and I met with facility contact Zack Josefiak. We had a pre-inspection safety meeting.

We then proceeded with the site inspection. At the time of my visit, none of the engines were operating.

The engines are organized in a row of individual enclosure sheds numbered 1 through 5 from east to west. The engines are vented through the roof of each shed to a catalyst control. The catalyst control is used to reduce carbon monoxide (CO) emissions from the engines. A short elbow in the horizontal ductwork directs exhaust gases upwards to the ambient air between 10 and 15 feet above ground level. The peaking station mostly operates during the summer and occasionally during the winter as required during peak demand periods.

From the clocks on each engine the following operating hours were recorded. I have compared the operating hours during my inspection to the operating hours noted during the previous inspection and during the third party annual inspection in the table below:

Unit	7/22/21 Hours	4/25/22 Hours	3/22/23 Hours
EUDG11-1	16825.9	16834.0	16860.0
EUDG11-2	21738.9	21754.1	21782.9
EUDG11-3	20403	20411.8	20438.6
EUDG11-4	20646	20663.4	20692.2
EUDG11-5	21636	21652.5	21681.3

The engines are required to be tested by FGPEAKERS SC V.1 to determine compliance with the emission limit FGPEAKERS SC I.1 for CO. The facility demonstrates compliance through the % CO reduction provided by the catalyst control. Each engine is tested every three (3) years or 8760 hours of operation. The engines are usually tested every three years, with the next tests expected in fall 2024. I have included the date of the most recent stack test and the % CO reduction for each unit in the table below:

Unit	Date of Last Test	Average CO Destruction Efficiency (%)
EUDG11-1	12/21/21	85.0
EUDG11-2	9/14/21	81.3
EUDG11-3	10/27/21	85.3
EUDG11-4	9/15/21	84.7
EUDG11-5	9/16/21	84.6

Additionally, there is a 28,000-gallon horizontal fuel storage tank with secondary containment that contains the diesel fuel for the engines. The tank is exempt from permitting requirements per exemption rule 284(2)(d) and is not included in the ROP.

I departed the facility at ~11:30.

Records Review:

1. 2022 maintenance records. Received "J0025793_DTE_Colfax 5-2022 annual maintenance.pdf"

I noted the following information from this record:

Unit #	Engine SN	Turbo SN	Generator SN	Unit SN
11-1	26-G3-1508	11151124	20-F3-1038	63785
11-2	69-E1-1153	13-J3-1014	71-D3-1120	63787
11-3	69-F1-1015	11151125	69-F1-1015	63783
11-4	69-F1-1023	76-E3-1237	69-E1-1212	63784
11-5	69-E1-1163	12191984	69-F1-1029	63786

The facility had an annual inspection conducted on 4/25/2022 by third party contractor Peaker Services, Inc (PSI). During this inspection they checked the lube oil, fuel oil, starting system, engine, emission system, electrical system, Megger generator, filters, load settings and miscellaneous items.

On 4/28/2022 units 11-1 and 11-2 had site repairs performed to fix an "erratic acting gov, won't hold 60 cyl, keeps tripping 67 flag" and "left bank water pump slow leak" respectively.

2. Fuel supplier certification records or fuel sample test data, for diesel fuel oil used in FGPEAKERS, demonstrating the fuel meets requirements (maximum sulfur content of 0.0015%) and includes the name of the oil supplier or laboratory, the sulfur content, and cetane index or aromatic content of the fuel oil.

Received "F-11553 Fully Executed Supplier Contract-Certification.pdf"

I noted this Fuel Oil Supply Agreement between Marathon Petroleum Company LP and DTE Electric Company in effect from January 1, 2021 through December 31, 2023 and specified Ultra Low Sulfur No. 2 Diesel with sulfur wt. ppm (ASTM D 5453, D 2622); Cetane Index 40 min. (ASTM D 4737-B, D 976).

Semiannual and Annual Compliance Reports:

The facility appears to be submitting the semiannual and annual compliance reports and associated with MACT ZZZZ. There have been no deviations reported for the monitoring requirements.

Summary:

DTE Energy Company- Colfax Peaking Facility appears to be in compliance with the requirements of MI-ROP-B2795-2023.

NAME Matthew K. Karl DATE 3/30/23 SUPERVISOR RB