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

B432172363		
FACILITY: DTE Electric Company - Fermi Energy Center		SRN / ID: B4321
LOCATION: 6400 NORTH DIXIE HIGHWAY, NEWPORT		DISTRICT: Jackson
CITY: NEWPORT		COUNTY: MONROE
CONTACT: Jacob Maas, Senior Environmental Engineer 2024		ACTIVITY DATE: 06/26/2024
STAFF: Stephanie Weems	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: Scheduled on-site inspection for FY24.		
RESOLVED COMPLAINTS:		

Facility Contacts:

Contact: Jacob Maas, Environmental Engineer

Phone: 734-645-7627

Email: jacob.maas@dteenergy.com

Purpose

On June 26, 2024, I conducted an announced inspection of DTE – Fermi Energy Center (Fermi), located at 6400 N. Dixie Hwy, Newport, Michigan in Monroe County. This inspection was announced due to the security restrictions in place at the facility. The purpose of the inspection was to determine the facility's compliance status with the applicable federal and state air pollution regulations, particularly Michigan Act 451, Part 55, Air Pollution Control Act and administrative rules, and Renewable Operating Permit (ROP) MI-ROP-B4321-2019. I was accompanied by Brian Merle, AQD Environmental Engineer.

Facility Location

The facility is located in Frenchtown Township, with a mailing address of Newport, Michigan. It is situated approximately 20 miles southwest of Detroit and 25 miles northeast of Toledo. It is bounded on the east by Lake Erie and on the north by Swan Creek.

Facility Background

Fermi is a nuclear power plant located on the shores of Lake Erie in Monroe County. Fermi provides electricity to the power grid from the GE, Mark IV, Boiling Water Reactor nuclear power plant.

Regulatory Applicability

MI-ROP-B4321-2019 covers units associated with the daily facility operations and back-up of the nuclear reactor, as well as emission units associated with the diesel fuel-fired combustion turbines that provide extra power to the grid during peak power usage events. Fermi's ROP renewal is in-house at this time.

Fermi is subject to the Standards of Performance for Stationary Compression Ignition Internal Combustion Engines promulgated in 40 CFR Part 60, Subparts A and IIII. AQD has delegated authority to implement and enforce these standards.

Fermi is subject to the NESHAP for Industrial, Commercial, and Institutional Boilers Area Sources promulgated in 40 CFR Part 63, Subparts A and JJJJJJ (Boiler Area Source MACT). Currently, AQD does not have delegated authority to implement or enforce this standard.

Fermi is considered a "synthetic minor" source regarding hazardous air pollutant (HAP) emissions because they accepted a legally enforceable permit condition limiting the potential to emit (PTE) of any single HAP to less than 10 tons per year and the PTE of all HAPs combined to less than 25 tons per year. This is reflected in the source wide conditions of the ROP.

Therefore, Fermi is subject to the National Emissions Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines promulgated in 40 CFR Part 63, Subparts A and ZZZZ (RICE MACT) and is regulated as an area source under the standard.

Additionally, Fermi as installed a 4,000 gallon gasoline tank that is used for refueling motor vehicles. This tank makes the facility subject to the National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities promulgated in 40 CFR Part 63, Subpart CCCCCC.

Arrival & Facility Contact

The inspection was scheduled prior to my arrival on site as the facility employs extensive security measures, making it is necessary to notify Fermi staff for entrance.

Other than steam, no visible emissions or odors were observed upon my approach to the facility. I arrived at approximately 9:00AM, met with Brian Merle, proceeded to the facility office to request access for an inspection, provided my identification, and met with Jacob Mass, Environmental Engineer. He was accompanied by John Sawnick and Lisa Lockwood. I informed them of my intent to conduct a facility inspection and to review any necessary records. They extended their full cooperation during the inspection, accompanied Brian and me during the full duration of the inspection, and fully addressed our questions.

Pre-Inspection Meeting

We began with discussions about the basics of the facility. This site employs approximately 742 people, and they run 24 hours a day, seven days a week.

I asked if there had been any changes at the facility since the last onsite inspection in 2020. Jacob and John stated that the only change that has occurred is the addition of the 4,000-gallon gasoline storage tank and the replacement of the facility's emergency fire pump. The tank is used for refueling motor vehicles, and it is operated under a Rule 283(2)(g)(ii) exemption. The emergency fire pump is a Cummins CFP15EVS-F10, Tier 3 certified, 460 hp engine that was installed under a Rule 285(2)(g) exemption. Fermi had submitted a Rule 215 notification for the gasoline tank in October of 2022 and a Rule 215 notification of the emergency fire pump in January of 2023.

I then asked about the concrete batch plant that AQD had received notification about in 2020. This was a concrete batch plant that had been brought onsite under a Rule 289 exemption. Jacob explained that the concrete batch plant is only brought on site for specific jobs and that it was not onsite at the time of this inspection.

Onsite Inspection

Hard hat, high-visibility vest, sturdy shoes, and safety glasses are needed for the inspection. Hearing protection is required to enter some areas.

We started out the facility tour by observing the units outside the fence (units not within the security check zone). We began by observing FG-FERMIPKS. These are four 16,000 kW GE Frame 5 diesel fuelfired peaking turbines (EU-CTG11-1 through 4) and one 350 hp, 4 stroke, diesel engine (EU-BSE_CTG11-1) used to black start EU-CTG11-1. They are only used during peak operating times. These units are in a separate area that requires a separate security access. We were able to go inside the fence surrounding these units and see that they were not operating at the time of the inspection. Jacob and John explained that these units all have meters for hours and fuel usage.

We then proceeded to observe EU-NOCEMERGEN (part of FGEMERGENS). This engine is located at a separate office building structure set off away from the main power plant area. I was able to see that this engine is equipped with a non-resettable hour meter.

From there, we went to the Flex building that is located outside of the secure area, referred to as Flex 2. The two Flex buildings house units that are included in FGNSPS4I and FGEMERGRICE. At the time of this inspection, this building housed EUNEPLIFTN, EUNEPLIFTN+1, EUFLEXGENFSF2, EUNEPSOURCEN, and EUNEPSOURCEN+1. We were able to see that these units are equipped with non-resettable hour meters. It was explained that these units would only be used for non-maintenance use if the plant were melting down.

After leaving the Flex building, Jacob drove us around to observe the new 4,000-gallon gasoline tank that was installed before heading over to view the emergency fire pump (part of FGEMERGENS). We attempted to observe this unit, but we needed to have someone from security provide us access so we continued with our inspection until we could be provided access.

The remaining units are located inside the fenced in area. In order to access this area, everyone must go through a security check. This check includes going through metal detectors. All coats and metal objects must be placed in bins to go through a separate conveyor belt scan check. If steel-toed boots are worn, these must be removed and sent through the conveyor belt scan. Once through the metal detectors, safety rules must be read and signed, and then a visitor pass will be issued.

After completing the security check and obtaining my badge we walked out to the building that houses FG-EDG1-4. This building is extremely well protected, and each person must scan their badge to access each door inside. We observed EDG-1 and 2 and were able to see the non-resettable hour meter installed. We then proceeded to the door for EDG-3 and 4, but there was a sign that additional security was needed for access, so we continued on with the inspection until we could return with security personnel.

From there, we went to the Flex building located inside the fenced area (Flex Building 1). At the time of this inspection, this building housed EUFLEX550N, EUFLEX550N+1, EUDOMBOOSTERN, EUDOMBOOSTERN+1, EUFLEXGENFSF1, EUFLEXCOMPN, and EUFLEXCOMPN+1. We were able to observe the non-resettable hour meters on these units.

Next, we observed EU-SECENGINE-01. This is one of the two Rule 285(2)(g) exempt security, nonemergency diesel engine and generator sets located on site before walking over to the building that houses FG-AUXBLRS. These boilers are used seasonally for heat and are located right next to each other. This building has a tall stack that appears to meet the permitted requirements.

We then walked over to where the second Rule 285(2)(g) exempt security, non-emergency diesel engine and generator set (EU-SECENGINE-02) is housed.

From there, we proceeded to the office building to request access to the other two EDG engines and the fire pump. From there, the security personal escorted us to the EDG building where we were able to observe EDG 3 and 4. I was able to see that the non-resettable hour meters were installed.

This concluded our inspection of the units inside the fenced area. We returned my visitor badge and exited the security area.

We then proceeded to the building with the emergency fire pump where I was able to see that the unit is equipped with a non-resettable hour meter.

Recordkeeping Review

On June 4th an email was sent to Jacob requesting the following records be available for review during the inspection:

RECORD REQUEST

Source-wide conditions

- Monthly and previous 12-month individual and aggregate HAP emission calculation records for FG -FACILITY.
- · Monthly fuel use records for FG-FACILITY.
- A complete record of fuel oil specifications and/or fuel 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, or analytical results from laboratory

- A statement of the type of fuel used in EU-BSE_STANDBYDG.
- Monthly records for the fuel usage rate for EU-BSE_STANDBYDG.
- Records for all maintenance conducted on EU-BSE_STANDBYDG. <u>EU-BSE_CTG11-1</u>
- A statement of the fuel type used in EU-BSE_CTG11-1.
- Monthly records for the fuel usage rate for EU-BSE_CTG11-1. FG-AUXBLRS
- A statement of the fuel type used in FG-AUXBLRS.
- · Monthly records for the fuel usage rate for FG-AUXBLRS
- A copy of each notification and report that has been submitted to comply wit 40 CFR Part 63 Subpart JJJJJJ and all documentation supporting any Initial Notification or Notification of Compliance Status that have been submitted.
- Records that identify each boiler, the date of tune-up, the procedures followed for tune-up, and the manufacturer's specifications to which the boiler was tuned.
- A report containing the following information:
 - The concentration of CO in the effluent stream in parts per million, by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tuneup of the boiler.
 - A description of any corrective actions taken as a part of the tune-up of the boiler.
- A copy of the energy assessment report for each boiler. <u>FG-EDG1-4</u>
- A statement of the fuel type used in FG-EDG1-4.
- Monthly records for the fuel usage rate for FG-EDG1-4.
- Monthly records of the hours of operation of FG-EDG1-4, the reason for operation, whether the operation was for emergency or nonemergency use, and, if applicable, what classified the operation as an emergency.
- Records for all maintenance conducted on FG-EDG1-4. <u>FG-EMERGENS</u>
- Monthly records for fuel type and usage rate for FG-EMERGENS.
- Records for the reason for operation each time the engine is started, hours of operation, the reason for operation, whether the operation was for emergency or nonemergency use, and, if applicable, what classified the operation as an emergency.
- Records for all maintenance conducted on the emission units. FG-SECENGINES
- Monthly records of the fuel type and usage rates for FGSECENGINES.
- Records for all maintenance conducted on emission units.
 <u>FGEMERGRICE</u>
- Monthly and 12-month rolling records of the hours of operation of each engine for FGEMERGRICE.
 FGNSPS4I
- The following records for each engine:
 - For engines operated in a certified manner, engine certification documentation for each engine.
 - For engines operated in a non-certified manner, stack test results and records of a maintenance plan and maintenance activities for each engine.
- Monthly records of the operation of each engine in emergency and non-emergency service, including the time of operation of the engine and the reason the engine was in operation.

- Diesel fuel records demonstrating that the fuel meets the requirements of Special Condition II.1 of the ROP. **FG-FERMIPKS**
- A statement of the type of fuel used in FG-FERMIPKS.
- Monthly records for the fuel usage rate for FG-FERMIPKS. **FG-COLDCLEANERS**
- For each new cold cleaner in which the solvent is heated, weekly records of the solvent temperature during routine operating conditions.
- The following information for each cold cleaner:
 - A serial number, model number, or other unique identifier for each cold cleaner.
 - The date the unit was installed, manufactured or that it commenced operation.
 - The air/vapor interface area for any unit claimed to be exempt under Rule 281(2)(h).
 - The applicable Rule 201 exemption.
 - The Reid vapor pressure of each solvent used.
 - If applicable, the option chosen to comply with Rule 707(2). Other
- Any records necessary to show compliance for any emission units operating under a PTI exemption.

During our time at the facility, I was able to review the requested documents. We observed documents for the calendar year 2023.

I was able to see that the facility is keeping all of the necessary maintenance, run time, and fuel usage records for EU-BSE_STANDBYDG, EU-BSE_CTG11-1, FG-AUXBLRS, FG-EMERGENS, FG-SECENGINES, FGNSPS4I, and FG-FERMIPKS. I was also able to see that the facility reports a 12month rolling aggregate HAP total of about 0.05 tons per year (tpy), well below the 22.4 tpy limit. Additionally, for individual HAPs, Nickel was the highest at 43 lbs for the 12-month time frame. This is well below the 9.0 tpy limit.

Jacob was able to show me records of fuel oil specifications for each delivery, as required by their permit. Jacob and Lisa confirmed that diesel is the only fuel used, as is required by permit conditions. These records appear to show compliance.

Jacob showed me the necessary notifications and reports submitted to comply with 40 CFR Part 63 Subpart 6J, as well as necessary tune-up information for FG-AUXBLRS. He explained that they alternate tune-ups for the North and South side boilers every other year. The North side was completed in 2023, and the South side was last done in February 2024. These records appear to show compliance.

Jacob also showed me the facility's spreadsheet for FG-COLDCLEANERS. He confirmed that there have been no changes to these units since the last inspection.

Post-Inspection Meeting

Upon completion of the inspection, I held a post-inspection discussion with Jacob and Lisa. I asked if they had any questions. They didn't. I then explained that a written report would be developed documenting the inspection, and once approved by my supervisor, a copy would be sent to them.

We thanked them for their cooperation and assistance and departed the facility around 1:30PM.

Compliance Summary

Based upon the facility inspection and review of the records, it appears that DTE - Fermi is in compliance at the time of this inspection.

NAME

Stiph Weems

DATE 07/11/2024 SUPERVISOR