

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

B432143869

FACILITY: DTE Electric Company - Fermi Energy Center		SRN / ID: B4321
LOCATION: 6400 DIXIE HWY, NEWPORT		DISTRICT: Jackson
CITY: NEWPORT		COUNTY: MONROE
CONTACT: Ann Hunt, Specialist		ACTIVITY DATE: 03/28/2018
STAFF: Zachary Durham	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: Scheduled inspection of MI-ROP-B4321-2013b and PTI 3-14a.		
RESOLVED COMPLAINTS:		

**Contact**

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Associate Engineer – Environmental  
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**Purpose**

This was a scheduled inspection of DTE - Fermi Energy Center located at 6400 N. Dixie Hwy, Newport, MI and the equipment in Renewable Operating Permit (ROP) MI-ROP-B4321-2013b and Permit to Install (PTI) 3-14A. I arrived at 10am on 3/28/18 and met with Caleb Kiser and Mary Hana.

**Background**

DTE Fermi Energy Center is the site of a nuclear power plant on in Monroe County on the shores of Lake Erie. The Air Quality Division (AQD) has issued an ROP under the Title V program for its equipment that supports the facilities main, nuclear operation. This equipment includes emergency backup engines and associated pumps, auxiliary boilers for building heat, and combustion turbine generators (CTG) that serve as electrical peaking units.

The ROP is split into two sections. Section 1 encompasses all of the emergency backup equipment and other equipment that help maintain daily facility operations. Section 2 is comprised of the CTGs, which operate independently of the nuclear aspects on site and are managed by a different internal DTE group.

Since the last inspection in June 2016 the ROP was modified to remove source wide emission limits on NOx and SO2 due to upgrades to the onsite electrical substation that required the CTGs to operate much more frequently. This project is ongoing, but upon the completion the CTGs will return to historical levels of use as peaking units.

The 2017 Michigan Air Emission Reporting System (MAERS) submittal was audited and passed. The summary of emissions has been placed in the file.

The facility submitted an ROP renewal application on 4/6/18. PTI 3-14A will be rolled into the ROP during renewal.

**Compliance Evaluation****Section 1 – Fermi Energy Center****Source-Wide Conditions**

Attached is the 12-month rolling total for emissions through December 2017. The individual and aggregate Hazardous Air Pollutant (HAP) emission limits are 9.0 and 22.4 tons per year, respectively. The aggregate HAP emissions for 2017 are reported as 0.07 tons, and this demonstrates compliance with both individual and aggregate limits.

Also attached is a spreadsheet of each engines fuel use, run hours, and a shipment manifest of the most recent

fuel delivery on March 19, 2018 of Ultra Low Sulfur Diesel (ULSD) that indicates a sulfur content of not more than 15ppm.

#### EU-BSE\_STANDBYDG-S1

This is the emission unit (EU) for an emergency black start engine. The engine is physically located amongst the peaking units covered in Section 2 and is used in conjunction with peaking units 2, 3, and 4.

Both hours and fuel use are tracked in the attached spreadsheet as required by Special Condition (SC) VI.1 and 2 of this part. Only ULSD has been used in this EU.

#### FG-AUXBLRS-S1

These two diesel fuel-fired boilers are used to provide building heat in the winter months. Boiler 1 was last tuned in January 2017 and boiler 2 was tuned in January 2018. The boiler tune ups were conducted in order to comply with the area source boiler MACT in 40 CFR Part 63, Subpart JJJJJJ (6J). Only boiler 2 was running during the time of the inspection. The material limit of 0.5% sulfur by weight is being met through the use of ULSD at 15ppm (0.0015% sulfur). Fuel use and hours are contained in the attached log.

#### FG-EDG1-4-S1

This is the flexible group (FG) for four (4) identical emergency diesel generators (EDG) that serve to provide plant power in the case of an emergency. I observed EU-EDG14 during the inspection, which was not operating. Each unit has its own 42,000 gallon fuel tank and ~1,000 gallon day tank. These units are rebuilt about every twelve years to conduct necessary maintenance.

These EDGs are also contained in the attached spreadsheet where run hours and fuel use is tracked for the entire FG on a monthly basis. The material limit of 0.36% sulfur is met by the use of ULSD at 15ppm.

#### FG-EMERGENS-S1

This is the FG that covers engines subject to 40 CFR Part 63, Subpart ZZZZ (RICE MACT) and 40 CFR Part 60, Subpart IIII (NSPS IIII). Four engines are identified in this section, which are included in the attached spreadsheet that list run hours and fuel use for each engine. Also attached is the facility checklist which identifies compliance actions performed on each piece of facility equipment, including required maintenance and testing in RICE ZZZZ and NSPS IIII.

During 2017 the security diesel emergency generators (EU-SECEDG-01 and -02), which are subject to NSPS IIII, exceeded run hour limits for designated emergency engines. This was reported as a deviations from the permit language, however, were operated under non-emergency operating practices as described in NSPS IIII. These engines will no longer be considered emergency engines, and will be updated in the renewal ROP.

Use of ULSD of 15ppm sulfur satisfies material limits on NSPS IIII subject units.

#### FG-COLDCLEANERS-S1

Attached is a list of cold cleaners currently on site. ZEP DYNA 143 is listed as being used, which is a hydrocarbon based solvent, and contains no halogenated solvents. Some cleaners use a simple green or soap for cleaning parts, and others even use plastic beads. One cleaner designated for firearms on site uses a commercially available solvent called Hoppes #9, which also does not contain halogenated solvents.

#### Section 2 – Combustion Turbine Generators

##### Source-Wide Conditions

These are the same conditions included in Section 1 of the ROP (see above).

#### FG-FERMIPKS-S2

This the FG that covers the four (4) CTGs and one black start engine. This equipment has switch from being used intermittently for peaking purposes to running on a more continuous basis while the plant completes

updates to their electric substation. These units are connected to an adjacent ~845,000 gallon diesel fuel tank, which DTE plans to remove and replace with a 300,000 gallon tank sometime during 2018.

The material limit of 0.36% sulfur content is met by the use of ULSD.

CTG 11-1 and 11-2 were operating during the time of the inspection. No visible emissions were observed while on site.

PTI 3-14A

This is the PTI for 12 emergency backup engines.

FGEMERGRICE

The engines are not to be run for more than 500 hours per 12-month rolling time period, which includes maintenance and readiness testing. The attached document listing engines includes monthly run hours and fuel consumption for these 12 engines, none of which exceed 500 hours per year. No engine exceeded 5 hours of use per month during 2017.

FGNSPS4I

This FG includes conditions contained in the federal rule for diesel fueled engines in NSPS IIII. The engines are not to exceed 100 hours of operation for maintenance and readiness testing. As indicated by the engine log, none of these engines approached this limit. The engines comply with the sulfur material limit of 15ppm sulfur by using ULSD.

#### Compliance Determination

After review of records and on site inspection, I have determined that DTE Fermi is in compliance with State of Michigan and Federal air quality rules and regulations, including MI-ROP-B4321-2013b and PTI 3-14A.

#### Recommendations

I recommend that the emergency engine references be removed from the security diesel engines description and operating scenario due to the reported deviation. This change will occur during renewal.

NAME Zack Durham DATE 4/24/18 SUPERVISOR 