

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

B432135657

FACILITY: THE DTE ELECTRIC COMPANY - FERMI ENERGY CENTER		SRN / ID: B4321
LOCATION: 6400 DIXIE HWY, NEWPORT		DISTRICT: Jackson
CITY: NEWPORT		COUNTY: MONROE
CONTACT: Kailyn Gerzich , Associate Environmental Engineer		ACTIVITY DATE: 07/13/2016
STAFF: Zachary Durham	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: Scheduled, announced inspection of MI-ROP-B4321-2013a and PTI 3-14.		
RESOLVED COMPLAINTS:		

Contacts

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Purpose

I arrived at the Fermi Energy Center at about 10:00am on July 13, 2016. This was a scheduled, announced inspection of the facilities and equipment listed in the sectioned Renewable Operating Permit (ROP) No. MI-ROP-B4321-2013a and Permit to Install (PTI) 3-14 issued to DTE Electric Company. The purpose of the inspection was to determine compliance with the federal and state applicable requirements, including Act 451, Part 55, Air Pollution Control regulations and conditions of their ROP and PTI. I met with three representatives from DTE including Kailyn Gerzich, Mark Nederveld, and Mary Hana. The inspection occurred in both the protected and unprotected areas of the facility. Section 1 and 2 of the ROP were both inspected during this visit, as was PTI 3-14, which has yet to be rolled into the ROP.

Background

Section 1 of the ROP for Fermi Energy Center has equipment installed on site that provides backup power in emergency situations to the nuclear plant operations, and is regulated by the Air Quality Division (AQD). Most of this power is generated and routed to fire pumps in the event that the main nuclear core cooling water system fails, thus providing essential emergency backup required by the Nuclear Regulatory Commission (NRC). This section also includes auxiliary boilers and cold cleaners on site.

Section 2 of the ROP for the Combustion Turbine Generators (CTGs), which are outside of the protected area, includes four diesel-fired turbines and one black start diesel-fired engine. This group of equipment operates to provide electricity to the grid during peak energy needs (i.e. peakers). This part of the ROP was sectioned out because a different internal division of DTE, separate from Fermi Energy Center, is in charge of their operation.

Source wide emission limits are included in both sections of the ROP.

In 2014, DTE applied for Permit to Install (PTI) 3-14 for eleven (11) emergency engines at Fermi Energy Center. The permit was approved and the engines were ordered, installed, and AQD received a notification. On July 5, 2016 I received an Engine Notification letter from Phillis Rynne indicating that the equipment originally identified in PTI 3-14 is not all the same that is physically on site. Two of the engines are not NSPS IIII certified, which does not match what they had ordered from the supplier. Additionally, a twelfth engine was brought onsite which was initially overlooked during the PTI application. Phillis is now working to either modify PTI 3-14 or work with their supplier to have the correct equipment delivered. Special Condition (SC) III.3 of PTI 3-14 includes operational restrictions for non-certified engines, and similarly, SC V.1&2 includes testing requirements for non-certified engines. Should these two non-certified engines be maintained on site, they will be required to undergo initial performance testing within one year after startup. From records received during the inspection, it appears that the engines were first started in April and May 2016. The testing, therefore, should be completed before April/May 2017 to meet this condition.

PTI 3-14 will need to be rolled into the ROP during renewal.

This facility was last inspected by Diane Kavanaugh Vetort on 8/20/2014 using conditions in MI-ROP-B4321-2013. Since the inspection, the permit has been modified to its current form: MI-ROP-B4321-2013a.

Compliance Evaluation

Section 1 – Fermi Energy Center

Source-Wide Conditions

DTE is maintaining an electronic record of emissions as required under this section. Their spreadsheet includes 12-month rolling calculations for SO₂, NO_x, HAP, and fuel use. Attached is a copy of the most recent 12-month rolling air emissions through June 2016 as well as a monthly summary from June 2016. The limits identified in the source-wide conditions versus 12-month rolling emissions are as follows:

- SO₂ limit = 89.4 tpy. Actual 12-month rolling SO₂ emissions = 0.1 tons
- NO_x limit = 89.4 tpy. Actual 12-month rolling NO_x emissions = 37 tons
- Individual HAP limit = 9.0 tpy
- Aggregate HAP limit = 22.4 tpy. Actual 12-month rolling HAP emissions = 132.3 lbs. (0.07 tons) Note: Aggregate HAP emissions are lower than the limit for individual HAP limits.

Also, while on site I observed a copy of the most recent fuel drop, which specified that DTE is purchasing Ultra Low Sulfur Diesel (ULSD). The last purchase dated 5/10/16 indicated that the ULSD is certified to meet 15ppm standards. It appeared that the fuel was produced by the Marathon refinery and delivered via Crystal Flash.

Additionally, the 2015 MAERS submittal was audited and demonstrated compliance with their applicable emission limits. Their most recent MAERS report included the new equipment installed as listed in PTI 3-14 as well as equipment in the ROP. A copy of the additions report is attached to this document.

EU-BSE_STANDBYDG-S1

The June 2016 monthly summary includes fuel usage monitoring and run hours sections as required for this emission unit (EU). This EU did not operate in June 2016. The material limit of 0.05% sulfur by weight for diesel fuel is being met by the use of ULSD at 15ppm (0.0015% by weight).

FG-AUXBLRS-S1

The June 2016 monthly summary contains fuel use for the diesel-fired boilers. It does not appear that the boilers were active in June 2016. Kailyn confirmed that the boilers were last ran in May 2016. The material limit of 0.50% sulfur by weight for diesel fuel is being met by the use of ULSD at 15ppm.

FG-EDG1-4-S1

The June 2016 monthly summary shows this flexible group (FG) as using 1174.092 gallons of diesel fuel and in operation for 9.2 hours. The 0.36% sulfur by weight limit is being met by use of ULSD at 15ppm.

FG-EMERGENS-S1

This is the flexible group that covers EU's subject to 40 CFR 63 Subpart ZZZZ (RICE MACT), 40 CFR 60 Subpart JJJJ and Subpart IIII (NSPS IIII). The facility currently has no Subpart JJJJ subject engines onsite for gasoline. EU-NOCEMERGEN and EU-EMERGFIREPUMP are subject to the RICE MACT. EU-SECEDG-01 and EU-SECEDG-02 are subject to NSPS IIII. The June 2016 monthly summary includes the four listed engines and is tracking monthly fuel use and run hours. Last month's data is as follows:

- EU-NOCEMERGEN: 12.6 gal, 0.7 hours

- EU-EMERGFIREPUMP: 140.83 gal, 6.55 hours
- EU-SECEDG-01: 6.55 gal, 0.77 hours
- EU-SECEDG-02: 17.17 gal, 2.02 hours

Also attached are the most recent maintenance logs for each engine listed above. The material limit on diesel fuel of 15ppm is being satisfied for EU's subject to NSPS IIII.

FG-COLDCLEANERS-S1

The facility maintains three cold cleaners on site in maintenance areas. I provided copies of our cold cleaner stickers for their use.

Section 2 – Combustion Turbine Generators

Source-Wide Conditions

This section is the same as the source-wide conditions listed in Section 1 of the ROP. See above.

FG-FERMIPKS-S2

This is the FG that covers the Combustion Turbine Generator (CTG) peaker units 11-1 through 11-4 that supply electricity to the power grid during peak energy needs. Also included is one smaller engine used to black start CTG 11-1. The June 2016 monthly summary includes fuel use data for each turbine. The material limit on diesel fuel of 0.36% sulfur by weight is being satisfied by use of diesel fuel at 15ppm.

PTI 3-14

It was determined that the two non-NSPS certified Volvo engines that differed from what was originally ordered first started operational testing in April and May 2016. According to SC V.1&2, non-certified engines shall be tested within one year after startup. Should the engines remain on site, testing will be required by April 2017 for EUNEPLIFT1 and May 2017 for EUDOMBOOSTER1. Additionally, the company is beginning to work on a PTI modification to include the twelfth engine (EUFLEXCOMP-02(B)) that is not currently in the PTI. This twelfth engine is identical to EUFLEXCOMP-01, which is a 35hp air compressor. PTI 3-14 was meant to list two sets of identical equipment that serve as redundant backup power to the plant.

At this time, DTE is taking steps to correct permitting and supplier errors.

Summary

After arriving I proceeded to the Technical Assistance Center (TAC) and met with Kailyn, Mark, and Mary. Next, I handed out the Environmental Inspections Brochure while discussing the purpose of the visit and what they should expect. We then parsed through the ROP and PTI so that I could inform them what equipment I was interested in seeing during the walking tour portion of the inspection. Having never been to this facility, I asked them to determine the best course of action for taking the walk through. During the course of the tour we had to gain access to the protected area of the plant, which required that I provide my state issued driver's license and other personal identification materials for security purposes. I was given a visitor badge after the process was complete and allowed to enter while accompanied by company personnel.

The areas I observed included the Auxiliary Boiler House, a missile-proof building housing one set of Security Emergency Diesel Generators (SECEDG), two of the four 2,850 kW EDGs, and the CTG area. None of the equipment listed in the ROP or PTI were operating while I was on site.

While in the Secondary EDG building I observed one of the non-certified, EPA Tier II Volvo engines delivered as a part of PTI 3-14. The engine, as is all of the other equipment in the building, is mounted on a trailer in preparation to be dispatched when needed. The equipment appeared to be maintained for emergency purposes only, thus following the intentions of their permit.

Following the walk through of the facility, we headed back to the TAC building and conducted a brief wrap up meeting and I was provided with the requested records, which are attached to this report. They showed me the

manifest of the fuel drop from 5/10/16, which I verified as being 15ppm ULSD, but did not request a copy of. I then left the facility.

Since the inspection, I have contacted Phillis Rynne with DTE's Environmental Management & Resources group regarding permitting and testing requirements. As stated above, DTE is actively seeking to resolve issues incurred by their engine supplier. The engines will remain on site due to NRC requirements, though testing will be required before one year has elapsed (April/May 2017). Also, Kailyn has sent me electronic copies of the RICE MACT ZZZZ engine maintenance logs for FG-EMERGENS-S1.

Compliance Determination and Recommendations

After review of the records, MAERS, and on-site inspection, I have determined that this facility is in compliance with their ROP and PTI.

I recommend that DTE begin to schedule testing on the non-certified engines they received in error from their supplier in the event that they will be installed for more than one year after startup to avoid potential violations of PTI 3-14. Additionally, begin working to modify PTI 3-14 to include EUFLEXCOMP-02(B). I also recommend that PTI 3-14 be rolled into the ROP during renewal.

NAME Zack Durham DATE 7/25/16 SUPERVISOR 