

State Registration Number
B4321

Michigan Department of Environmental Quality
Air Quality Division
**RENEWABLE OPERATING PERMIT
STAFF REPORT**

ROP Number
MI-ROP-B4321-2019

The DTE Electric Company-Fermi Energy Center

State Registration Number (SRN): B4321

Located at

6400 North Dixie Highway, Newport, Monroe County, Michigan 48166

Permit Number: MI-ROP-B4321-2019

Staff Report Date: March 11, 2019

This Staff Report is published in accordance with Sections 5506 and 5511 of Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451). Specifically, Rule 214(1) of the administrative rules promulgated under Act 451, requires that the Michigan Department of Environmental Quality (MDEQ), Air Quality Division (AQD), prepare a report that sets forth the factual basis for the terms and conditions of the Renewable Operating Permit (ROP).

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RENEWABLE OPERATING PERMIT

MARCH 11, 2019 - STAFF REPORT

Purpose

Major stationary sources of air pollutants, and some non-major sources, are required to obtain and operate in compliance with an ROP pursuant to Title V of the federal Clean Air Act; and Michigan's Administrative Rules for Air Pollution Control promulgated under Section 5506(1) of Act 451. Sources subject to the ROP program are defined by criteria in Rule 211(1). The ROP is intended to simplify and clarify a stationary source's applicable requirements and compliance with them by consolidating all state and federal air quality requirements into one document.

This Staff Report, as required by Rule 214(1), sets forth the applicable requirements and factual basis for the draft ROP terms and conditions including citations of the underlying applicable requirements, an explanation of any equivalent requirements included in the draft ROP pursuant to Rule 212(5), and any determination made pursuant to Rule 213(6)(a)(ii) regarding requirements that are not applicable to the stationary source.

General Information

Stationary Source Mailing Address:	The DTE Electric Company-Fermi Energy Center 6400 North Dixie Highway Newport, Michigan 48166
Source Registration Number (SRN):	B4321
North American Industry Classification System (NAICS) Code:	221113
Number of Stationary Source Sections:	2
Is Application for a Renewal or Initial Issuance?	Renewal
Application Number:	201800048
Responsible Official:	Mathew S. Caragher Director – Nuclear Production 734-586-5325
AQD Contact:	Brian Carley, Environmental Quality Specialist 13 517-416-4631
Date Application Received:	April 6, 2018
Date Application Was Administratively Complete:	April 18, 2018
Is Application Shield in Effect?	Yes
Date Public Comment Begins:	March 11, 2019
Deadline for Public Comment:	April 10, 2019

Source Description

The DTE Electric - Fermi Energy Center (DTE Electric – Fermi) is located on approximately 1,120 acres in Frenchtown Township, with a mailing address of Newport, Michigan in Monroe County. It is situated approximately 20 miles southwest of Detroit, Michigan and 25 miles northeast of Toledo, Ohio. It is bounded on the east by Lake Erie and on the north by Swan Creek. DTE Electric - Fermi provides electricity to the power grid from the GE, Mark IV, Boiling Water Reactor nuclear power plant (Fermi 2).

Permit to install (PTI) 39-17, issued on June 1, 2017, was incorporated into the ROP on July 10, 2017, which removed the synthetic minor nitrogen oxides (NO_x) and sulfur dioxide (SO₂) emission limits that were originally established so the facility would not be subject to Title V requirements. The facility later became subject to the requirements of Title V due to greenhouse gases but the NO_x and SO₂ limits were not removed from their permit, and therefore removed during this permitting process. Source wide conditions limit the HAP emissions for the entire facility.

The previous ROP consisted of two sections with one that covered units associated with the nuclear reactor and the other covering the emission units that are associated with the diesel fuel-fired combustion turbines that provide extra power to the grid during peak power usage events. The two sections have been combined into one section with only one responsible official. The equipment in this ROP covers two auxiliary boilers, four emergency diesel generators (EDGs), one diesel driven fire pump, one standby diesel generator that service the internal needs of the facility, 14 small diesel emergency reciprocating internal combustion engines that are either generators, backup fire pumps, and running air compressors, four combustion turbine generators used as peakers, and a diesel engine used to black start EU-CTG11-1, a combustion turbine generator. All sources operate with diesel, distillate or No. 2 fuel oil. There are also existing cold cleaners on site.

The following table lists stationary source emission information as reported to the Michigan Air Emissions Reporting System (MAERS) for the year **2017**.

TOTAL STATIONARY SOURCE EMISSIONS

Pollutant	Tons per Year
Carbon Monoxide (CO)	3
Lead (Pb)	0
Nitrogen Oxides (NO _x)	53
Particulate Matter (PM)	1
Sulfur Dioxide (SO ₂)	0
Volatile Organic Compounds (VOCs)	0

See Parts C and D in the ROP for summary tables of all processes at the stationary source that are subject to process-specific emission limits or standards.

Regulatory Analysis

The following is a general description and history of the source. Any determinations of regulatory non-applicability for this source are explained below in the Non-Applicable Requirement part of the Staff Report and identified in Part E of the ROP.

Monroe County is currently designated by the United States Environmental Protection Agency (USEPA) as a non-attainment area with respect to the 8-hour ozone standard.

The stationary source is subject to Title 40 of the Code of Federal Regulations (CFR) Part 70, because the potential to emit of nitrogen oxides and sulfur dioxides exceeds 100 tons per year.

The stationary source is a "synthetic minor" source regarding HAP emissions because the stationary source accepted a legally enforceable permit condition limiting the potential to emit of any single HAP regulated by Section 112 of the federal Clean Air Act, to less than 10 tons per year and the potential to emit of all HAPs combined to less than 25 tons per year.

EU-BSE_STANDBYDG, EU-EDG11, EU-EDG12, EU-EDG13, EU-EDG14, EU-AUXBLR1, and EU-AUXBLR2, EU-CTG11-1, EU-CTG11-2, EU-CTG11-3, EU-CTG11-4, and EU-BSE_CTG11-1 at the stationary source were subject to review under the Prevention of Significant Deterioration regulations of 40 CFR 52.21, because at the time of New Source Review permitting the potential to emit of nitrogen oxides and sulfur dioxides was greater than 250 tons per year.

EUFLEX550N, EUFLEX550N+1, EUNEPLIFTN, EUNEPLIFTN+1, EUNEPSOURCEN, EUNEPSOURCEN+1, EUDOMBOOSTERN, EUDOMBOOSTERN+1, EUFLEXGENFSF1, EUFLEXGENFSF2, EUFLEXCOMPN, and EUFLEXCOMPN+1 at the stationary source were subject to review under the Prevention of Significant Deterioration regulations of the Michigan Air Pollution Control Rules Part 18, Prevention of Significant Deterioration of Air Quality because at the time of New Source Review permitting the potential to emit of nitrogen oxides and sulfur dioxides was greater than 250 tons per year.

EU-SECENGINE-01, EU-SECENGINE-02, EUFLEX550N, EUFLEX550N+1, EUNEPLIFTN, EUNEPLIFTN+1, EUNEPSOURCEN, EUNEPSOURCEN+1, EUDOMBOOSTERN, EUDOMBOOSTERN+1, EUFLEXGENFSF1, EUFLEXGENFSF2, EUFLEXCOMPN, and EUFLEXCOMPN+1 at the stationary source are subject to the Standards of Performance for Stationary Compression Ignition Internal Combustion Engines promulgated in 40 CFR Part 60, Subparts A and IIII.

EU-NOCEMERGEN, EU-EMERGFIREPUMP, EU-EDG11, EU-EDG12, EU-EDG13, EU-EDG14, EU-BSE_STANDBYDG, and EU-BSE_CTG11-1 at the stationary source are subject to the National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines promulgated in 40 CFR Part 63, Subparts A and ZZZZ (RICE Area Source MACT). The ROP contains special conditions provided by DTE Electric Company in their application for applicable requirements from 40 CFR Part 63, Subparts A and ZZZZ. The AQD is not delegated the regulatory authority for this area source MACT.

EU-AUXBLR1, EU-AUXBLR2 at the stationary source are subject to the National Emissions Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources promulgated in 40 CFR Part 63, Subparts A and JJJJJ (Boiler Area Source MACT). The ROP contains special conditions for applicable requirements from 40 CFR Part 63, Subparts A and JJJJJ. The AQD is not delegated the regulatory authority for this area source MACT.

The monitoring conditions contained in the ROP are necessary to demonstrate compliance with all applicable requirements and are consistent with the "Procedure for Evaluating Periodic Monitoring Submittals."

No emission units have emission limitations or standards that are subject to the federal Compliance Assurance Monitoring rule pursuant to 40 CFR Part 64, because all emission units at the stationary source either do not have a control device or those with a control device do not have potential pre-control emissions over the major source thresholds.

Please refer to Parts B, C and D in the draft ROP for detailed regulatory citations for the stationary source. Part A contains regulatory citations for general conditions.

Source-Wide Permit to Install (PTI)

Rule 214a requires the issuance of a Source-Wide PTI within the ROP for conditions established pursuant to Rule 201. All terms and conditions that were initially established in a PTI are identified with a footnote designation in the integrated ROP/PTI document.

The following table lists all individual PTIs that were incorporated into previous ROPs. PTIs issued after the effective date of ROP No. MI-ROP-B4321-2013 are identified in Appendix 6 of the ROP.

PTI Number			
462-99B			

Streamlined/Subsumed Requirements

The following table lists explanations of any streamlined/subsumed requirements included in the ROP pursuant to Rules 213(2) and 213(6). All subsumed requirements are enforceable under the streamlined requirement that subsumes them.

Emission Unit/Flexible Group ID	Condition Number	Streamlined Limit/ Requirement	Subsumed Limit/ Requirement	Stringency Analysis
EU-BSE_STANDB YDG	II.1	15 ppm No. 2 Fuel Oil sulfur content (40 CFR 63.6604(b) and 40 CFR 80.510(b))	0.05% sulfur by weight with a heat value of 18,000 BTU/lb (R 336.1401)	The diesel fuel sulfur limit as required by 40 CFR Part 63 Subpart ZZZZ (15 ppm sulfur limit, which is 0.0015%) is more stringent than the diesel fuel sulfur limit in R 336.14101
FG-EDG1-4	II.1	15 ppm No. 2 Fuel Oil sulfur content (40 CFR 63.6604(b) and 40 CFR 80.510(b))	0.36% sulfur by weight with a heat value of 18,000 BTU/lb (R 336.1401)	The diesel fuel sulfur limit as required by 40 CFR Part 63 Subpart ZZZZ (15 ppm sulfur limit, which is 0.0015%) is more stringent than the diesel fuel sulfur limit in R 336.14101
EU-BSE_CTG11-1	II.1	15 ppm No. 2 Fuel Oil sulfur content (40 CFR 63.6604(b) and 40 CFR 80.510(b))	0.36% sulfur by weight with a heat value of 18,000 BTU/lb (R 336.1401)	The diesel fuel sulfur limit as required by 40 CFR Part 63 Subpart ZZZZ (15 ppm sulfur limit, which is 0.0015%) is more stringent than the diesel fuel sulfur limit in R 336.14101

Non-applicable Requirements

Part E of the ROP lists requirements that are not applicable to this source as determined by the AQD, if any were proposed in the ROP Application. These determinations are incorporated into the permit shield provision set forth in Part A (General Conditions 26 through 29) of the ROP pursuant to Rule 213(6)(a)(ii).

Processes in Application Not Identified in Draft ROP

The following table lists processes that were included in the ROP Application as exempt devices under Rule 212(4). These processes are not subject to any process-specific emission limits or standards in any applicable requirement.

PTI Exempt Emission Unit ID	Description of PTI Exempt Emission Unit	Rule 212(4) Citation	PTI Exemption Rule Citation
EU-BLDGxx-HTRxx	Sixty-six (66) Natural-gas or propane building heaters. Various identifiers, sizes, and various building locations.	Rule 212(4)(b)	R 336.1282(b)(i)

Draft ROP Terms/Conditions Not Agreed to by Applicant

This draft ROP does not contain any terms and/or conditions that the AQD and the applicant did not agree upon pursuant to Rule 214(2).

Compliance Status

The AQD finds that the stationary source is expected to be in compliance with all applicable requirements as of the effective date of this ROP.

Action taken by the MDEQ, AQD

The AQD proposes to approve this ROP. A final decision on the ROP will not be made until the public and affected states have had an opportunity to comment on the AQD's proposed action and draft permit. In addition, the USEPA is allowed up to 45 days to review the draft ROP and related material. The AQD is not required to accept recommendations that are not based on applicable requirements. The delegated decision maker for the AQD is Scott Miller, Jackson District Supervisor. The final determination for ROP approval/disapproval will be based on the contents of the ROP Application, a judgment that the stationary source will be able to comply with applicable emission limits and other terms and conditions, and resolution of any objections by the USEPA.

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APRIL 17, 2019 - STAFF REPORT ADDENDUM

Purpose

A Staff Report dated March 11, 2019, was developed to set forth the applicable requirements and factual basis for the draft Renewable Operating Permit (ROP) terms and conditions as required by Rule 214(1) of the administrative rules promulgated under Act 451. The purpose of this Staff Report Addendum is to summarize any significant comments received on the draft ROP during the 30-day public comment period as described in Rule 214(3). In addition, this addendum describes any changes to the draft ROP resulting from these pertinent comments.

General Information

Responsible Official:	Mathew S. Caragher, Director – Nuclear Production 734-586-5325
AQD Contact:	Brian Carley, Environmental Quality Specialist 13 517-416-4631

Summary of Pertinent Comments

No pertinent comments were received during the 30-day public comment period.

Changes to the March 11, 2019 Draft ROP

No changes were made to the draft ROP.