

State Registration Number

B2805

**RENEWABLE OPERATING PERMIT
STAFF REPORT**

ROP Number

MI-ROP-B2805-2022

DTE Electric Company – Hancock Peaking Facility

State Registration Number (SRN): B2805

Located at

1781 Haggerty Road, Commerce Township, Oakland County, Michigan 48390

Permit Number: MI-ROP-B2805-2022

Staff Report Date: March 14, 2022

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 Environment, Great Lakes, and Energy (EGLE), Air Quality Division (AQD), prepare a report that sets forth the factual basis for the terms and conditions of the Renewable Operating Permit (ROP).

TABLE OF CONTENTS

MARCH 14, 2022 - STAFF REPORT	3
APRIL 20, 2022 - STAFF REPORT ADDENDUM	7

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RENEWABLE OPERATING PERMIT

MARCH 14, 2022 - STAFF REPORT

ROP Number

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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:	DTE Electric Company - Hancock Peaking Station 1781 Haggerty Road Commerce Township, Michigan 48390
Source Registration Number (SRN):	B2805
North American Industry Classification System (NAICS) Code:	221112
Number of Stationary Source Sections:	1
Is Application for a Renewal or Initial Issuance?	Renewal
Application Number:	202100103
Responsible Official:	Margaret Guillaumin, Plant Manager, Fossil Generation Peakers 313-701-3383 Brian Rice, Plant Director, Fossil Generation – North Plants & Peaker’s 810-326-3199
AQD Contact:	Shamim Ahammod, Environmental Engineer 586-212-0508
Date Application Received:	June 30, 2021
Date Application Was Administratively Complete:	July 12, 2021
Is Application Shield in Effect?	Yes
Date Public Comment Begins:	March 14, 2022
Deadline for Public Comment:	April 13, 2022

Source Description

The DTE Electric Company Hancock Peaking Facility is located near residential and commercial buildings at 1781 Haggerty Road in Commerce Township. This peaking facility's function is to provide electrical power during peak periods of consumer demand occurring mainly in the summer months.

The facility is composed of four natural gas-fired peaking units consisting of two combustion turbo-generators (two 18.5 MW) and two jet turbo-generators (41.27 MW capacity, each).

One Natural gas-fired combustion turbo-generator with 18.5 MW capacity (EGCTG11-2), and one Natural gas-fired jet turbo-generator with 21.5 MW capacity (EGCTG11-4) were retired on December 22, 2019.

Each turbine electric generator has its own stack and building that it is housed in.

Hancock units identified as EUCTG11-1, and EUCTG11-3 are Westinghouse W-251A industrial gas turbine models that were specifically designed for industrial power generation. These units are considered Combustion Turbine Generators (CTG's). In a combustion turbine generator, hot combustion gas expands through a turbine which spins a generator to produce electricity.

Hancock units EUJTG12-1 and EUJTG12-2 are Pratt & Whitney FT-4 Twin-Pack Models. These units are considered aeroderivative gas turbines (Jet Turbine Generators). These types of units were originally developed for use in the aviation industry; however, due to their flexibility, compact size, and lightweight design, they are ideally suited for power generation.

The following table lists stationary source emission information as reported to the Michigan Air Emissions Reporting System (MAERS) for the year **2020**.

TOTAL STATIONARY SOURCE EMISSIONS

Pollutant	Tons per Year
Carbon Monoxide (CO)	2.80
Lead (Pb)	0
Nitrogen Oxides (NO _x)	23.61
Particulate Matter (PM)	0.225
Sulfur Dioxide (SO ₂)	0.00025
Volatile Organic Compounds (VOCs)	0.0715

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.

Oakland County is currently designated by the United States Environmental Protection Agency (USEPA) as a non-attainment area with respect to the eight-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 carbon monoxide exceeds 100 tons per year.

The stationary source is a minor source of HAP emissions because the potential to emit of any single HAP regulated by Section 112 of the federal Clean Air Act, is less than 10 tons per year and the potential to emit of all HAPs combined are less than 25 tons per year.

No emission units at the stationary source are currently subject to the Prevention of Significant Deterioration (PSD) regulations of The Michigan Air Pollution Control Rules Part 18, Prevention of Significant Deterioration of Air Quality or 40 CFR 52.21 because the process equipment was constructed/installed prior to June 19, 1978, the promulgation date of the PSD regulations. However, future modifications of this equipment may be subject to PSD regulations.

EGJTG12-2 was installed prior to August 15, 1967. As a result, this equipment is considered "grandfathered" and is not subject to New Source Review (NSR) permitting requirements. However, future modifications of this equipment may be subject to NSR.

Although EGCTG11-1, EGCTG11-3, and EGJTG12-1 were installed after August 15, 1967, this equipment was exempt from New Source Review (NSR) permitting requirements at the time it was installed. At the time of installation, the combustion turbo-generators and jet turbo-generator were exempt under Administrative Rule 336.36(c) since the combustion turbo-generators and jet turbo-generator are internal combustion engines. Rule 336.36(c) has been rescinded. The exemption still applies but future modifications of this equipment may be subject to NSR.

EGJTG12-1 and EGJTG12-2 at the stationary source are subject to the Cross-State Air Pollution Rule NO_x Annual Trading Program pursuant to 40 CFR Part 97, Subpart AAAAA.

The permittee shall comply with the provisions of the Cross State Air Pollution Rule NO_x Ozone Group 3 Trading Program, as specified in 40 CFR Part 97 Subpart GGGGG, and identified in Appendix 9. **(40 CFR Part 97 Subpart GGGGG)**

EGJTG12-1 and EGJTG12-2 at the stationary source are subject to the Cross-State Air Pollution Rule SO₂ Group 1 Trading Program pursuant to 40 CFR Part 97, Subpart CCCCC.

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 do not have a control device.

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.

Streamlined/Subsumed Requirements

This ROP does not include any streamlined/subsumed requirements pursuant to Rules 213(2) and 213(6).

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

There were no processes listed in the ROP Application as exempt devices under Rule 212(4). Exempt devices are not subject to any process-specific emission limits or standards in any applicable requirement.

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 EGLE, 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 Ms. Joyce Zhu, Warren 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.

State Registration Number

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RENEWABLE OPERATING PERMIT
APRIL 20, 2022 - STAFF REPORT ADDENDUM

ROP Number

MI-ROP-B2805-2022

Purpose

A Staff Report dated April 19, 2022, 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:	Margaret Guillaumin, Plant Manager, Fossil Generation Peakers, 313-701-3383 Brian Rice, Plant Director, Fossil Generation-North Plants & Peakers
AQD Contact:	Mark Dziadosz, Senior Environmental Quality Analyst 586-854-1611

Summary of Pertinent Comments

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

Changes to the March 14, 2022 Draft ROP

No changes were made to the draft ROP.