

Michigan Department of
Environment, Great Lakes, and Energy
Air Quality Division

State Registration Number
N5935

**RENEWABLE OPERATING PERMIT
STAFF REPORT**

ROP Number
MI-ROP-N5935-2019

**DTE ENERGY COMPANY
DTE Gas Company - Alpena Compressor Station**

State Registration Number (SRN): N5935

Located at

8512 East Arnold Lake Road, Harrison, Clare County, Michigan 48625

Permit Number: MI-ROP-N5935-2019

Staff Report Date: August 19, 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 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).

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RENEWABLE OPERATING PERMIT

AUGUST 19, 2019 - STAFF REPORT

ROP Number

MI-ROP-N5935-2019

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 Gas Company - Alpena Compressor Station 8512 East Arnold Lake Road Harrison, Michigan 48625
Source Registration Number (SRN):	N5935
North American Industry Classification System (NAICS) Code:	221210
Number of Stationary Source Sections:	1
Is Application for a Renewal or Initial Issuance?	Renewal
Application Number:	201900034
Responsible Official:	Karla Shawhan-Bonnee, Manager Transmission/ Storage & Operations 231-258-3750
AQD Contact:	Meg Sheehan, Environmental Quality Analyst 989-439-5001
Date Application Received:	March 5, 2019
Date Application Was Administratively Complete:	March 5, 2019
Is Application Shield in Effect?	Yes
Date Public Comment Begins:	August 19, 2019
Deadline for Public Comment:	September 18, 2019

Source Description

DTE Energy Company's Alpena Compressor Station is located about 5.5 miles east of US-27 on the south side of East Arnold Lake Road in Clare County. East Arnold Lake Road intersects US-27 about three miles north of Harrison at the northern Harrison, Michigan exit. The facility is surrounded by large, wooded, privately owned, residential parcels.

The Alpena Compressor Station consists of a 2,000 horsepower (HP), spark ignition (SI), 4 stroke lean burn (4SLB), reciprocating internal combustion engine (RICE) installed in 1975 (EUWHITESUPERIOR); a 259 HP, SI, emergency rich burn RICE installed in 2015 (EUEMERGEN); a water heater rated at 37,000 BTU/Hr (EUWATERHEATER); a boiler rated at 1.25 million BTU/Hr (EUBOILER); and a 1,000-gallon crude oil hydrocarbon storage tank (EUHYDROCARBONTANK), that all use sweet natural gas. It should be noted that the engine is basically on standby and has not been in service for well over 10 years.

The Alpena Compressor Station moves natural gas along the pipeline and its name reflects the location of the largest recipient of the natural gas lines when the facility was in operation. When the Antrim gas fields came into production, there was no longer a need for the facility to push gas, so the station was taken out of full-time operation.

The following table lists stationary source emission information as reported to the Michigan Air Emissions Reporting System (MAERS) for the year **2018**.

TOTAL STATIONARY SOURCE EMISSIONS

Pollutant	Tons per Year
Carbon Monoxide (CO)	0.11
Lead (Pb)	0.00
Nitrogen Oxides (NO _x)	0.38
Particulate Matter (PM)	0.00
Sulfur Dioxide (SO ₂)	0.00
Volatile Organic Compounds (VOCs)	0.01

In addition to the pollutants listed above that have been reported in MAERS, the potential to emit of greenhouse gases of CO₂e is 11,070 tons per year. CO₂e is a calculation of the combined global warming potentials of six greenhouse gases (carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride).

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.

The stationary source is in Clare County, which is currently designated by the United States Environmental Protection Agency (USEPA) as attainment/unclassified for all criteria pollutants.

The stationary source is subject to Title 40 of the Code of Federal Regulations (CFR) Part 70, because the potential to emit (PTE) of nitrogen oxides exceeds 100 tons per year. The PTE of carbon monoxide was determined to exceed 100 tons per year before the catalytic oxidizer was installed pursuant to 40 CFR Part 63, Subpart ZZZZ. In PTE calculations supplied by DTE Energy Company with the 2019 ROP renewal application, the potential to emit of CO is now below 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. DTE reported that formaldehyde is the single greatest HAP emitted.

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, and at the time of installation the potential to emit of each criteria pollutant was less than 250 tons per year.

Although EUWHITESUPERIOR was installed after August 15, 1967, this equipment was exempt from New Source Review (NSR) permitting requirements at the time it was installed. Rule 36(c) (promulgated on August 15, 1967) exempted all internal combustion engines from the NSR permit program. The change to that exemption and the Rule 278 exclusion (requiring a permit to install for any equipment that emits over significant levels) was not promulgated until November 18, 1993. As a result, this equipment is considered "grandfathered" and is not subject to NSR permitting requirements. However, future modifications of this equipment may be subject to NSR. EUEMERGEN was installed in 2015 but is also exempt from NSR permitting requirements by complying with the Rule 285(2)(g) exemption for internal combustion engines that have less than 10,000,000 BTU/hour maximum heat input. Its potential to emit is also below significant levels. Future modifications of this equipment may be subject to NSR.

EUWHITESUPERIOR and EUEMERGEN at the stationary source are subject to the National Emissions Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines (RICE) at Area Sources of HAPs promulgated in 40 CFR Part 63, Subparts A and ZZZZ (RICE Area Source MACT). EUEMERGEN complies with the RICE MACT by complying with the Standards of Performance for New Stationary Sources for Stationary Spark Ignition Internal Combustion Engines promulgated in 40 CFR Part 60, Subparts A and JJJJ. The AQD is not delegated the regulatory authority for this area source MACT.

The required initial performance tests for both EUEMERGEN and EUWHITESUPERIOR were conducted on May 16, 2016. The initial test reports were both received on July 26, 2016, and both emission units were found to be in compliance with their applicable emission limitations at that time.

The source has not been issued any violation notices since the last ROP renewal.

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."

The emission limitation for CO at the stationary source with the underlying applicable requirements of 40 CFR Part 63, Subpart ZZZZ from EUWHITESUPERIOR is exempt from the federal Compliance Assurance Monitoring (CAM) regulation pursuant to 40 CFR 64.2(b)(1)(i) because 40 CFR Part 63, Subpart ZZZZ meets the CAM exemption for MACT proposed after November 15, 1990.

The emission limitations for NO_x, CO, and VOC at the stationary source with the underlying applicable requirements of 40 CFR Part 60, Subpart JJJJ from EUEMERGEN are exempt from the federal CAM regulation pursuant to 40 CFR 64.2(b)(1)(i) because 40 CFR Part 60, Subpart JJJJ meets the CAM exemption for NSPS proposed after November 15, 1990.

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.

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

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
EUWATERHEATER	Sweet natural gas fired water heater, 37,000 BTU/Hr	R 336.1212(4)(b)	R 336.1282(b)(i)
EUBOILER	AJAX model WG1250 sweet natural gas fired boiler, 1.25 million BTU/Hr	R 336.1212(4)(b)	R 336.1282(b)(i)
EUHYDROCARBONTANK	1,000-gallon sweet crude oil hydrocarbon storage tank	R 336.1212(4)(c)	R 336.1284(e)

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 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 Chris Hare, Bay City 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
SEPTEMBER 25, 2019 - STAFF REPORT
ADDENDUM

ROP Number
MI-ROP-N5935-
2019

Purpose

A Staff Report dated August 19, 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:	Karla Shawhan-Bonnee, Manager Transmission/ Storage & Operations 231-258-3750
AQD Contact:	Meg Sheehan, Environmental Quality Analyst 989-439-5001

Summary of Pertinent Comments

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

Changes to the August 19, 2019 Draft ROP

No changes were made to the draft ROP.