

State Registration Number
N3022

**RENEWABLE OPERATING PERMIT
STAFF REPORT**

ROP Number
MI-ROP-N3022-2020b

ANR – Eaton Rapids Gas Storage System

State Registration Number (SRN): N3022

Located at

3349 South Waverly Road, Eaton Rapids, Ingham County, Michigan 48827

Permit Number: MI-ROP-N3022-2020b

Staff Report Date: August 24, 2020

Amended Dates: January 25, 2021
July 20, 2021

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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State Registration Number
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RENEWABLE OPERATING PERMIT

AUGUST 24, 2020 - STAFF REPORT

ROP Number
MI-ROP-N3022-2020

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:	ANR - Eaton Rapids Gas Storage System 3349 South Waverly Road Eaton Rapids, Michigan 48827
Source Registration Number (SRN):	N3022
North American Industry Classification System (NAICS) Code:	486210
Number of Stationary Source Sections:	1
Is Application for a Renewal or Initial Issuance?	Renewal
Application Number:	201900091
Responsible Official:	W. Craig Rundle, Director US Pipeline Operations, Great Lakes Region 231-527-2100
AQD Contact:	Samantha Davis, Environmental Quality Analyst 517-282-1373
Date Application Received:	May 15, 2019
Date Application Was Administratively Complete:	May 22, 2019
Is Application Shield in Effect?	Yes
Date Public Comment Begins:	August 24, 2020
Deadline for Public Comment:	September 23, 2020

Source Description

ANR - Eaton Rapids Gas Storage System (ERGSS) is a natural gas transmission and storage facility located in Section 7 of Onondaga Township, Ingham County, on the Ingham/Eaton county line, adjacent to the Grand River, and approximately one quarter mile northeast of the National VFW Home. The facility is owned and operated by ANR Storage Company with a primary business of transmission and storage of natural gas. Natural gas is re-injected into an underground gas reservoir for storage and is withdrawn as needed for pipeline transport and sale. The reservoir, a depleted natural field, is approximately three (3) miles in length and 3,700 feet below the earth's surface. The processes are seasonal with extraction occurring November through March. The natural gas is coming from western Canada, stored in the reservoir, and transported throughout the Midwest for use. A network of pipeline is used to transport the natural gas from point to point.

Three identical natural gas-fired, spark ignition (SI) reciprocating internal combustion engines (RICE) are used to compress natural gas into the storage reservoir during injection, and push gas into the pipeline during withdrawal. A glycol dehydration system removes water and impurities from natural gas withdrawn from the reservoir. Additional processes include a natural gas-fired withdrawal natural gas bath process heater, natural gas-fired boiler for fuel temperature regulation, a natural gas-fired boiler for water heating, an emergency generator, and eight (8) liquid storage tanks.

The facility was built in 1989. ERGSS is an existing major Prevention of Significant Deterioration (PSD) source for emissions of nitrogen oxides (NO_x) and carbon monoxide (CO).

FGERCMPRS (EUERCOMP-A, EUERCOMP-B, EUERCOMP-C) - Three Compressor Engines

Three identical 16-cylinder, natural gas-fired, 4-stroke lean-burn, SI RICE are used to drive the compressors to compress natural gas. The engines operate in single stage or double stage compression in order to pressurize the gas to move it. EUERCOMP-A and EUERCOMP-B were installed in 1989, and EUERCOMP-C was installed later in 1994. The compressor engines were modified in 1999 on Permit to Install (PTI) No. 81-94A to increase the emission limits for NO_x, CO, and volatile organic compounds (VOC). The allowed emission rates were increased to better reflect the fluctuation of emissions at varying torque and speed. The engines do not have "add-on" controls.

FGERGLYDEH - Glycol Dehydrator System

The glycol dehydrator (EUERGLYDEH) with reboiler (EUREBOILER) strips liquids out of the natural gas. The liquids go to a condensate tank. VOC and HAP emissions such as benzene, toluene, ethyl benzene, and mixed xylenes (BTEX) are potentially emitted from the glycol dehydration system. In 1997, PTI 76-97 was issued for the system. The permit required the installation and use of a thermal oxidizer, a condenser, or an equivalent control device for control of VOC.

The thermal oxidizer is the primary control device. The thermal oxidizer is equipped with a continuous temperature monitor. The set point is 1475 degrees F which is monitored when operating. The condenser is the backup control device and glycol use is reduced as necessary to assure that the condenser exhaust temperature is in compliance with the permit restriction. The condenser has a heat exchanger to help maintain the temperature of the condenser exhaust gas below the permit restriction of 120 degrees F.

EUERBATHEATER - Process Heater

EUERBATHEATER is an indirect natural gas-fired 10.0 MMBtu/hr process heater identified as the "Withdrawal Gas Bath Heater" used to heat cold natural gas. It has a heated glycol jacket and two (2) arrester vertical vents. The process heats the cold gas in the winter time to keep pipes and valves from freezing. The process heater is exempt per Rule 282(2)(b)(i).

EUERBOILER - Boiler

EUERBOILER is a natural gas-fired 2.092 MMBtu/hr boiler used for fuel temperature regulation. The boiler is exempt per Rule 282(2)(b)(i).

EUERGEN - Emergency Generator

A 500 kW/hr Waukesha generator supplies electricity for the facility during power outages. The engine on the generator is a natural gas-fired, 4-stroke rich-burn, SI RICE. The engine is exempt per Rule 285(2)(g).

The following table lists stationary source emission information as reported to the Michigan Air Emissions Reporting System (MAERS) for the year **2019**.

TOTAL STATIONARY SOURCE EMISSIONS

Pollutant	Tons per Year
Carbon Monoxide (CO)	25.1
Nitrogen Oxides (NO _x)	39.7
PM10*	0.43
Sulfur Dioxide (SO ₂)	0.06
Volatile Organic Compounds (VOCs)	6.4
Benzene**	0.01

* Particulate matter (PM) that has an aerodynamic diameter less than or equal to a nominal 10 micrometers.

**HAP as listed pursuant to Section 112(b) of the federal Clean Air Act.

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 Ingham 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 of CO and NO_x exceeds 100 tons per year. And, the potential to emit of any single HAP regulated by Section 112 of the federal Clean Air Act, is equal to or more than 10 tons per year and/or the potential to emit of all HAPs combined is equal to or more than 25 tons per year.

Emission units at the stationary source have not been subject to the Prevention of Significant Deterioration regulations of Part 18, Prevention of Significant Deterioration of Air Quality of Act 451 or 40 CFR 52.21, because at the time of New Source Review (NSR) permitting the potential to emit of CO and NO_x was less than 250 tons per year. Emission units at ERGSS have been subject to minor NSR.

EUERBATHEATER at the stationary source is subject to the Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units promulgated in 40 CFR Part 60, Subparts A and Dc.

FGERGLYDEH at the stationary source is subject to the National Emission Standard for Hazardous Air Pollutants for Natural Gas Transmission and Storage Facilities promulgated in 40 CFR Part 63, Subparts

A and HHH. The glycol dehydrator unit is the affected source. According to 40 CFR 63.1270(b)(2) and 40 CFR 63.1271, FGERGLYDEH is an existing small glycol dehydrator.

EUERCOMP-A, EUERCOMP-B, EUERCOMP-C, and EUERENG at the stationary source are subject to the National Emission Standard for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines promulgated in 40 CFR Part 63, Subparts A and ZZZZ. EUERCOMP-A, EUERCOMP-B, and EUERCOMP-C are existing RICE that have no emission or operating limitations under 40 CFR 63, Subpart ZZZZ. As long as the engines are not reconstructed or replaced with a newer model engine the Standards of Performance for Stationary Spark Ignition Internal Combustion Engines (SI ICE) promulgated in 40 CFR 63, Subpart JJJJ do not apply. EUERENG is an existing RICE subject to the operating requirements in 40 CFR 63.6640(f)(1)-(3).

EUERBATHEATER, EUERBOILER, and EUREBOILER at the stationary source are subject to the National Emission Standard for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters promulgated in 40 CFR Part 63, Subparts A and DDDDD. EUERBATHEATER is an existing (constructed in 2003), process heater designed to burn Gas 1 fuels. EUERBOILER is an existing (constructed in 1989) boiler designed to burn Gas 1 fuels. EUREBOILER is an existing (constructed in 1989), boiler designed to burn Gas 1 fuels.

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. FGERGLYDEH has VOC control with 95% destruction efficiency and an emission limit of 9.5 tpy. Updated VOC emissions from the system were provided using GRI-GLYCalc Version 4.0 – Aggregate Calculation Report. Total uncontrolled VOC emissions for the combined regenerator vent/flash gas are projected at 76 tpy. Since uncontrolled VOC emissions from FGERGLYDEH are less than 100 tpy, CAM does not apply.

The emission limitation(s) or standard(s) for BTEX at the stationary source with the underlying applicable requirement(s) of 40 CFR Part 63, Subpart HHH from FGERGLYDEH are exempt from the federal Compliance Assurance Monitoring (CAM) regulation pursuant to 40 CFR 64.2(b)(1)(i). This standard was 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. 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-N3022-2014 are identified in Appendix 6 of the ROP.

PTI Number		
76-97	81-94A	

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
EUEROFFICEWH	75,000 Btu/hr Office Water Heater	R 336.1212(4)(c)	R 336.1282 (2)(b)(i)
EUEROFFICEFURN	165,000 Btu/hr Office Furnace	R 336.1212(4)(c)	R 336.1282 (2)(b)(i)
EUERSHOPFURNA	125,000 Btu/hr Shop Furnace	R 336.1212(4)(c)	R 336.1282 (2)(b)(i)
EUERWHFURNACE	200,000 Btu/hr Warehouse Furnace	R 336.1212(4)(c)	R 336.1282 (2)(b)(i)
EUERTANK-ME	250 gallon Methanol Tank, T-1	R 336.1212(4)(d)	R 336.1284(2)(n)
EUERTANK-TEG1	2,961 gallon Tri-ethylene Glycol Storage Tank, V-1003	R 336.1212(4)(d)	R 336.1284(2)(i)
EUERTANK-EG	2,961 gallon Ethylene Glycol Storage Tank, V-1004	R 336.1212(4)(d)	R 336.1284(2)(i)
EUERTANK-TEG2	1,369 gallon Recycle Tri-ethylene Glycol Storage Tank, V-1019	R 336.1212(4)(d)	R 336.1284(2)(i)
EUERTANKCB-A	16,800 gallon Condensate/Brine Tank, T-1002A	R 336.1212(4)(d)	R 336.1284(2)(e)
EUERTANKCB-B	16,800 gallon Condensate/Brine Tank, T-1002B	R 336.1212(4)(d)	R 336.1284(2)(e)

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 Brad Myott, Lansing 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

ROP Number
N3022

OCTOBER 12, 2020 - STAFF REPORT ADDENDUM

Purpose

A Staff Report dated August 24, 2020, 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:	W. Craig Rundle, Director US Pipeline Operations, Great Lakes Region 231-527-2100
AQD Contact:	Samantha Davis, Environmental Quality Analyst 517-282-1373

Summary of Pertinent Comments

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

Changes to the August 24, 2020 Draft ROP

No changes were made to the draft ROP.

State Registration Number
N3022

RENEWABLE OPERATING PERMIT

ROP Number
MI-ROP-N3022-2020a

JANUARY 25, 2021 - STAFF REPORT FOR RULE 216(1)(a)(i)-(iv) ADMINISTRATIVE AMENDMENT

Purpose

On December 2, 2020, the Department of Environment, Great Lakes, and Energy (EGLE), Air Quality Division (AQD), approved and issued Renewable Operating Permit (ROP) No. MI-ROP-N3022-2020 to ANR - Eaton Rapids Gas Storage System pursuant to Rule 214 of the administrative rules promulgated under Act 451. Once issued, a company is required to submit an application for changes to the ROP as described in Rule 216. The purpose of this Staff Report is to describe the changes that were made to the ROP pursuant to Rule 216(1)(a)(i-iv).

General Information

Responsible Official:	W. Craig Rundle, Director US Pipeline Operations, Great Lakes Region 231-527-2100
AQD Contact:	Caryn E. Owens, Environmental Engineer 231-878-6688
Application Number:	202000176
Date Application for Administrative Amendment was Submitted:	December 15, 2020

Regulatory Analysis

The AQD has determined that the change requested by the stationary source meets the qualifications for an Administrative Amendment pursuant to Rule 216(1)(a)(i).

Description of Changes to the ROP

Administrative Amendment Application No. 202000176 was to correct a typographical error in the date of Administratively Complete ROP Renewal Application on the cover page of the ROP. The date indicated that the Administratively Complete ROP Renewal Application is due between June 2, 2023 and December 2, 2024. The dates were corrected to June 2, 2024 and June 2, 2025.

Compliance Status

The AQD finds that the stationary source is expected to be in compliance with all applicable requirements associated with the emission unit(s) involved with the change as of the date of approval of the Administrative Amendment to the ROP.

Action Taken by EGLE

The AQD approved an Administrative Amendment to ROP No. MI-ROP-N3022-2020, as requested by the stationary source. The delegated decision maker for the AQD is the District Supervisor.

State Registration Number
N3022

RENEWABLE OPERATING PERMIT
July 20, 2021 - STAFF REPORT FOR RULE 216(2)
MINOR MODIFICATION

ROP Number
MI-ROP-N3022-2020b

Purpose

On December 2, 2021, the Department of Environment, Great Lakes, and Energy (EGLE), Air Quality Division (AQD), approved and issued Renewable Operating Permit (ROP) No. MI-ROP-N3022-2020 to ANR - Eaton Rapids Gas Storage System pursuant to Rule 214 of the administrative rules promulgated under Act 451. Once issued, a company is required to submit an application for changes to the ROP as described in Rule 216. The purpose of this Staff Report is to describe the changes that were made to the ROP pursuant to Rule 216(2).

General Information

Responsible Official:	Keith R. Mossman, Director US Gas Operation Great Lakes Region
AQD Contact:	Caryn Owens, Senior Environmental Engineer 231-878-6688
Application Number:	202100097
Date Application for Minor Modification was Submitted:	June 21, 2021

Regulatory Analysis

The AQD has determined that the change requested by the stationary source meets the qualifications for a Minor Modification pursuant to Rule 216(2).

Description of Changes to the ROP

Minor Modification No. 202100097 was to add the wording "from at least one of the identical units" back to SC V.1 and SC V.2 in FGERCMPRS. This wording was accidentally removed during the last ROP Renewal and was requested to be added back into the ROP.

Compliance Status

The AQD finds that the stationary source is expected to be in compliance with all applicable requirements associated with the emission unit(s) involved with the change as of the date of approval of the Minor Modification to the ROP.

Action Taken by EGLE

The AQD proposes to approve a Minor Modification to ROP No. MI-ROP-N3022-2020, as requested by the stationary source. A final decision on the Minor Modification to the ROP will not be made until any affected states and the United States Environmental Protection Agency (USEPA) has been allowed 45 days to review the proposed changes to the ROP. The delegated decision maker for the AQD is the District Supervisor. The final determination for approval of the Minor Modification will be based on the contents of the permit application, a judgment that the stationary source will be able to comply with applicable emission limits and other requirements, and resolution of any objections by any affected states or the USEPA.