

State Registration Number  
B7197

**RENEWABLE OPERATING PERMIT  
STAFF REPORT**

ROP Number  
MI-ROP-B7197-2024

**ANR Storage Company Rapid River Compressor Station**

State Registration Number (SRN): B7197

Located at

2170 Rabourn Road NE, Kalkaska, Kalkaska County, Michigan 49646

Permit Number: MI-ROP-B7197-2024

Staff Report Date: December 4, 2023

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**

**DECEMBER 4, 2023 - STAFF REPORT**

ROP Number

MI-ROP-B7197-2024

**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 Storage Company Rapid River Compressor Station 2170 Rabourn Road NE Kalkaska, Michigan 49646
Source Registration Number (SRN):	B7197
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:	202100165
Responsible Official:	Eric Hunter, Area Manager, Great Lakes Region 231-587-2127
AQD Contact- District Staff:	Jodi Lindgren, Environmental Quality Analyst 231-942-2863
AQD Contact- ROP Writer:	Shamim Ahammod, Senior Environmental Engineer 586-212-0508
Date Application Received:	August 30, 2021
Date Application Was Administratively Complete:	August 30, 2021
Is Application Shield in Effect?	Yes
Date Public Comment Begins:	December 4, 2023
Deadline for Public Comment:	January 3, 2024

## Source Description

The Rapid River Compressor Station is a natural gas compression and storage facility. Natural gas enters and leaves the station via pipelines and gas is stored in natural porous rock formation reservoirs. Processes at the station include natural gas compression and glycol injection and dehydration (to prevent freezing of water and hydrocarbons that condense out of the natural gas in the pipeline during withdrawal). The station also contains process heaters, a boiler, and emergency electrical generator.

During the summer, natural gas is compressed and injected into the underground reservoirs for storage until needed. During the winter, the gas is withdrawn and transported by pipeline to customers for distribution. Before being sent off-site, the natural gas is treated to remove moisture consisting of brine and liquid hydrocarbons. The liquid hydrocarbon is sold as a product and the brine is hauled to an injection well for disposal.

The compressors are powered by two 3,750 horsepower four stroke lean burn reciprocating engines. The facility also has one 302 horsepower four stroke rich burn reciprocating engine to generate electricity in emergency situations, two natural gas withdrawal heaters rated at 10 million BTU per hour heat input, a small boiler for comfort heating, a glycol dehydrator with associated glycol storage tanks, storage tanks for brine and/or hydrocarbon liquids extracted from the underground storage reservoir, methanol, lubricating oil, and for waste (used) lubricating oil.

All devices listed above which burn fuel use sweet natural gas as their fuel.

The glycol dehydration unit located at the facility utilizes a condenser and thermal oxidizer to control volatile organic compounds (VOCs) and hazardous air pollutant (HAP) emissions. Other processes at the facility are uncontrolled.

The following table lists stationary source emission information as reported to the Michigan Air Emissions Reporting System (MAERS) for the year **2022**.

### TOTAL STATIONARY SOURCE EMISSIONS

Pollutant	Tons per Year
Carbon Monoxide (CO)	16.23
Lead (Pb)	Not reported
Nitrogen Oxides (NO <sub>x</sub> )	133
PM10*	0.64
Sulfur Dioxide (SO <sub>2</sub> )	0.04
Volatile Organic Compounds (VOCs)	6.24

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

The following table lists potential Hazardous Air Pollutant emissions as calculated by ANR – Rapid Compressor Station:

Individual Hazardous Air Pollutants (HAPs) **	Tons per Year
Acetaldehyde	2.12
Acrolein	1.31
Benzene	0.133
Formaldehyde	13.4
Methanol	0.53
n-Hexane	0.394
Toluene	0.107

<b>Individual Hazardous Air Pollutants (HAPs) **</b>	<b>Tons per Year</b>
<b>Total Hazardous Air Pollutants (HAPs)</b>	<b>18.49</b>

\*\*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 Kankaska 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 nitrogen oxides 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.

EURRCOMP-A and EURRCOMP-B 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 was greater than 250 tons per year.

The glycol dehydrator designated EURRGLYDEH at the stationary source is subject to the National Emission Standard for Hazardous Air Pollutants for Hazardous Air Pollutants for Natural Gas Transmission and Storage Facilities promulgated in 40 CFR Part 63, Subparts A and HHH.

The gas-fired boiler used to provide building heat (EURRBOILER) and the gas withdrawal heaters (EURRHTR-A and EURRHTR-B) at the 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. Other heaters are listed in the application as exempt equipment and are not subject to 40 CFR Part 63, Subpart DDDDD because they are radiant space heaters.

Two large compressor engines designated EURRCOMP-A and EURRCOMP-B, and emergency generator designated EURRGEN-B 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.

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 (CAM) 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. ANR Pipeline Company – Rapid River Compressor Station submitted potential pre-control emission calculations for EURRGLYDEH to determine CAM applicability. These calculations indicate the volatile organic compound pre-control emission are below the major source threshold.

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-B7197-2017 are identified in Appendix 6 of the ROP.

PTI Number			
7-12	78-97	69-80	

**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 Not in the Draft ROP**

The following table lists PTI exempt processes that were not included in the Draft ROP pursuant to Rule 212(4). These processes are not subject to any process-specific emission limits or standards.

Emission Unit ID	Description of Emission Unit	Rule 212(4) Citation	PTI Exemption Rule Citation
EURRTANKCB-A	condensate/brine tank	R 336.1212(4)(d)	R 336.1284(2)(e)
EURRTANKCB-B	gallon condensate/brine tank	R 336.1212(4)(d)	R 336.1284(2)(e)
EURRTANK-EG	gallon Ethylene glycol storage tank	R 336.1212(4)(c)	R 336.1284(2)(i)
EURRTANK-DG-A	Glycol storage tank	R 336.1212(4)(c)	R 336.1284(2)(i)
EURRTANK-DG-B	Glycol storage tank	R 336.1212(4)(c)	R 336.1284(2)(i)
EURRHTR-1	Four natural gas fired heaters	R 336.1212(4)(b)	R 336.1282(2)(b)(i)
EURRHTR-2	One natural gas fired heater	R 336.1212(4)(b)	R 336.1282(2)(b)(i)
EURRWTRHTR-1	One natural gas fired water heater	R 336.1212(4)(b)	R 336.1282(2)(b)(i)
EURRWTRHTR-2	One natural gas fired water heater	R 336.1212(4)(b)	R 336.1282(2)(b)(i)
EURRTANK-LO-A	Lube oil tank	R 336.1212(3)(e)	R 336.1284(2)(c)
EURRTANK-LO-B	Lube oil tank	R 336.1212(3)(e)	R 336.1284(2)(c)
EURRTANK-LO-C	Lube oil tank	R 336.1212(3)(e)	R 336.1284(2)(c)
EURRTANK-WO	Waste Oil Tank	R 336.1212(3)(e)	R 336.1284(2)(c)
EURRTANK-ME-B	Methanol storage tank	R 336.1212(4)(c)	R 336.1284(2)(n)
NA	Six micro lube oil, generator oil, used oil, and mist oil tanks	R 336.1212(3)(e)	R 336.1284(2)(c)
NA	Glycol Overflow Tank	R 336.1212(4)(c)	R 336.1284(2)(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 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 Julie Brunner, ROP Central Unit 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

B7197

## RENEWABLE OPERATING PERMIT

JANUARY 9, 2024 - STAFF REPORT ADDENDUM

ROP Number

MI-ROP-B7197-2024

### Purpose

A Staff Report dated December 4, 2023, 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:	Keith Mossman, Director- US Natural Gas- Great Lakes Region 248-205-4510
AQD Contact:	Shamim Ahammod, Senior Environmental Engineer 586-212-0508

### Summary of Pertinent Comments

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

### Changes to the December 4, 2023 Draft ROP

The USEPA has requested that annual compliance certifications be submitted electronically through the USEPA's Central Data Exchange (CDX) using the Compliance and Emissions Data Reporting Interface (CEDRI), which can be accessed through CDX (<https://cdx.epa.gov/>), unless it contains confidential business information. If confidential business information is included, continue to mail the submission to USEPA as specified in General Condition 19. General Condition 19 in all Renewable Operating Permits is being updated for electronic submissions to the USEPA as follows:

19. A Responsible Official shall certify to the appropriate AQD District Office and to the USEPA that the stationary source is and has been in compliance with all terms and conditions contained in the ROP except for deviations that have been or are being reported to the appropriate AQD District Office pursuant to Rule 213(3)(c). This certification shall include all the information specified in Rule 213(4)(c)(i) through (v) and shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the certification are true, accurate, and complete. The annual compliance certification (pursuant to Rule 213(4)(c)) shall be submitted to the USEPA through the USEPA's Central Data Exchange (CDX) using the Compliance and Emissions Data Reporting Interface (CEDRI), which can be accessed through CDX (<https://cdx.epa.gov/>), unless it contains confidential business information then use the following address: USEPA, Air Compliance Data - Michigan, Air and Radiation Division, 77 West Jackson Boulevard, Chicago, Illinois 60604-3507. **(R 336.1213(4)(c))**