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

State Registration Number		ROP Number
B3721	**RENEWABLE OPERATING PERMIT STAFF REPORT**	MI-ROP-B3721-20XX

ANR Pipeline Company – Reed City Compressor Station

State Registration Number (SRN): B3721

Located at

7677 230th Avenue, Reed City, Osceola County, Michigan 49677

Permit Number: MI-ROP-B3721-20XX

Staff Report Date: November 11, 2024

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

State Registration Number	RENEWABLE OPERATING PERMIT	ROP Number
B3721	NOVEMBER 11, 2024 - STAFF REPORT	MI-ROP-B3721-202X

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 Pipeline Company Reed City Compressor Station 7677 230th Avenue, Reed City, Michigan 49307
Source Registration Number (SRN):	B3721
North American Industry Classification System (NAICS) Code:	486210 – Pipeline Transportation of Natural Gas
Number of Stationary Source Sections:	1
Is Application for a Renewal or Initial Issuance?	Renewal
Application Number:	201800088
Responsible Official:	Keith R. Mossman, Director - Great Lakes Region 248-205-4510
AQD Contact:	Caryn Owens, Senior Environmental Engineer 231-878-6688
Date Application Received:	July 6, 2018
Date Application Was Administratively Complete:	July 6, 2018
Is Application Shield in Effect?	Yes
Date Public Comment Begins:	November 11, 2024
Deadline for Public Comment:	December 11, 2024

Source Description

ANR Pipeline Company owns/operates facilities throughout Michigan for natural gas transmission and storage (TC Energy is the parent Company of ANR Pipeline Company). The Reed City Compressor Station is located in a remote rural area approximately 3.5 miles northwest of the city of Reed City in Lincoln Township, Osceola County, Michigan. The Reed City Compressor Station is a natural gas transmission and compression station which operates two natural gas storage fields, the Loreed and the Reed City Stray Storage Fields. The Loreed field was constructed in 1963 and the Reed City Stray field was constructed in 1979. The Reed City Compressor Station operates under varying conditions. The pipeline transports natural gas to and from the storage reservoirs and typically operates between 400 and 2,000 pounds per square inch gauge pressure (psig). During injection, natural gas free flows into the reservoir until the field pressure approaches pipeline pressure. At this point one or more internal combustion engines will be used to compress the natural gas into the reservoir. Compression injection usually continues until the field reaches its maximum rated pressure. Two of the engines are equipped with catalysts for the control of NOx emissions. The station utilizes nine natural gas-fired engines in total for transmission and processing. Depending on storage and delivery contract, gas availability, and demand by end-users, the engines may operate simultaneously, independently, or not at all.

Gas withdrawn from the Reed City Stray Storage Field is conditioned through the Reed City Stray glycol dehydration system to remove liquids that are transported out of the reservoir with the gas. During spring and summer field pressures reach 780 psig. After conditioning the natural gas is fed into a separator to further remove liquids that remain in the stream before it is compressed and transported into the pipeline downstream. The emissions from the glycol dehydrator are controlled by a condenser and/or thermal oxidizer.

Because natural gas processed at Loreed contains more hydrocarbon liquids and brine, the withdrawal process is more complicated than the process used at the Reed City Stray Storage Field. At each well site a small gas-liquid separator is used to separate the hydrocarbons from the gas at the well head. Gas is routed to a compressor station, while liquids are routed to one of the three crude oil tank battery areas. Prior to entering the pipeline from the Loreed Storage Field the natural gas is conditioned through the Loreed glycol dehydration system to remove liquids that are transported out of the reservoir with the gas before it is compressed or transported into the pipeline downstream. The emissions from the glycol dehydrator are controlled by a condenser and/or thermal oxidizer.

Additionally, the Reed City Compressor Station two natural gas-fired withdrawal heaters that are used during free flow gas withdrawal stage to pre-heat the gas stream prior to pressure regulation. There are two natural gas-fired boilers that provide process heat (e.g., engine blocks, fuel skids) as well as comfort heating at the facility, and an emergency generator used for power generation in the event of a power outage.

The following table lists stationary source emission information as reported to Michigan's air emissions reporting system for the year **2023**.

TOTAL STATIONARY SOURCE EMISSIONS

Pollutant	Tons per Year
Carbon Monoxide (CO)	61.77
Nitrogen Oxides (NO_x)	210.16
PM10*	2.41
Sulfur Dioxide (SO_2)	0.05
Volatile Organic Compounds (VOCs)	7.99
Ammonia	0.10

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

The following table lists Hazardous Air Pollutant emissions as reported for the year 2023:

Individual Hazardous Air Pollutants (HAPs) **	Tons per Year
Acetaldehyde	0.46
Acrolein	0.42
Formaldehyde	3.21
Benzene	0.12
Methanol	0.17
Total Hazardous Air Pollutants (HAPs)	**4.64**

**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 Osceola 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 (NOx) exceeds 100 tons per year, and the potential to emit of any single HAP (formaldehyde) 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.

No emission units at the stationary source were 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 and 40 CFR 52.21 because the process equipment was constructed/installed prior to June 19, 1978, the promulgation date of the PSD regulations.

Compressor Engines identified as EURCENGINE1, EURCENGINE2, EURCENGINE3, EURCENGINE4, EURCENGINE5, EURCENGINE6, EURCENGINE11, and EURCENGINE12 were installed prior to August 15, 1967. As a result, this equipment is considered "grandfathered" and are not subject to New Source Review (NSR) permitting requirements.

Emergency engine/generator set EU-RCGENERATOR3 at the stationary source is subject to the Standards of Performance for Stationary Spark Ignition Internal Combustion Engines promulgated in 40 CFR Part 60, Subparts A and JJJJ.

As indicated in the application, potential renovation/asbestos removal and remediation projects at the stationary source would be subject to the National Emission Standard for Hazardous Air Pollutants for Asbestos promulgated in 40 CFR Part 61, Subparts A and M. These “Asbestos NESHAP” requirements have been addressed as Source-Wide Conditions in the draft ROP.

The glycol dehydration systems identified as EULOREEDDEHY and EURCSTRAYDEHY at the stationary source are 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.

Compressor engines EURCENGINE11, EURCENGINE12, and emergency engine/generator set EU-RCGENERATOR3 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.

Gas withdrawal heaters EULOREEDHTR1 and EULOREEDHTR2; the reboilers on the glycol dehydration systems EULOREEDDEHY and EURCSTRAYDEHY; boilers EURCBOILER3 and EURCBOILER4 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.

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(s) or standard(s) for HAPs at the stationary source with the underlying applicable requirement(s) of 40 CFR PART 63, Subpart HHH, from EULOREEDDEHY and EURCSTRAYDEHY are exempt from the federal Compliance Assurance Monitoring (CAM) regulation pursuant to 40 CFR 64.2(b)(1)(i) because HAPs, specifically benzene, meet the CAM exemption for MACT proposed after November 15, 1990. For the remaining emission units, there are no 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-B3721-2014 are identified in Appendix 6 of the ROP.

PTI Number			
109-12	420-97A	-	

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 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
EURC025	0.125 MMBTU/hr, natural gas fired maintenance hot water heater less than 120 gallons. Meets definition of hot water heater under Boiler MACT, and therefore not subject.	R 336.1212(4)(c)	R 336.1282(2)(b)(i)
EURC026	1,200 gallon condensate storage tank	R 336.1212(4)(d)	R 336.1284(2)(e)
EURC059	2,000 gallon condensate storage tank	R 336.1212(4)(d)	R 336.1284(2)(e)
EURC031	2,400 gallon condensate storage tank: T-136	R 336.1212(4)(d)	R 336.1284(2)(e)
EURC032	Two 8,460 gallon hydrocarbon (condensate) storage tank: T-134, T-135	R 336.1212(4)(d)	R 336.1284(2)(e)
EURC033	1,200 gallon hydrocarbon (condensate) storage tank: T-175	R 336.1212(4)(d)	R 336.1284(2)(e)
EURC044	Four 8,820 gallon hydrocarbon (condensate) storage tanks at the Reed City Stray across the road from Reed City Compressor Station: T-159, T-160, T-161, T-162	R 336.1212(4)(d)	R 336.1284(2)(e)
EURC030	7,500 gallon methanol storage tank: T-168	R 336.1212(4)(d)	R 336.1284(2)(n)
EURC035	8,460 gallon glycol storage tank: T-110	R 336.1212(4)(d)	R 336.1284(2)(i)
EURC036	500 gallon diesel storage tank: T-106	R 336.1212(4)(d)	R 336.1284(2)(g)(i)
EURC037	500 gallon gasoline fuel storage tank: T-107	R 336.1212(4)(d)	R 336.1284(2)(g)(i)
EURC038	15,000 gallon waste water storage tank: T-170	R 336.1212(4)(d)	R 336.1284(2)(h)
EURC039	4,500 gallon Ambitrol triethylene glycol storage tank: T-102	R 336.1212(4)(d)	R 336.1284(2)(c)
EURC040	365 gallon Ambitrol triethylene glycol storage tank: T-104	R 336.1212(4)(d)	R 336.1284(2)(c)
EURC041	13,000 gallon Ambitrol triethylene glycol storage tank: T-101	R 336.1212(4)(d)	R 336.1284(2)(c)
EURC042	7,500 gallon glycol storage tank: T-113	R 336.1212(4)(d)	R 336.1284(2)(i)
EURC045	12,800 gallon glycol storage tank at the Reed City Stray across the road from Reed City Compressor Station: T-163	R 336.1212(4)(d)	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 Shane Nixon, Cadillac 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.

Purpose

A Staff Report dated September 21, 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:	Keith R. Mossman, Director - Great Lakes Region 248-205-4510
AQD Contact:	Caryn Owens, Senior Environmental Engineer 231-878-6688

Summary of Pertinent Comments

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

Changes to the November 11, 2024 Draft ROP

No changes were made to the draft ROP.