Michigan Department of Environmental Quality
Air Quality Division

State Registration Number		ROP Number
B7196	**RENEWABLE OPERATING PERMIT STAFF REPORT**	MI-ROP-B7196-2017

ANR Storage Company Excelsior Compressor Station

SRN: B7196

Located at:

4963 State Road Northeast, Kalkaska, Kalkaska County, Michigan 49646

Permit Number: MI-ROP-B7196-2017

Staff Report Date: January 9, 2017

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) requires that the Michigan Department of Environmental Quality (MDEQ), 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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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 of 1990 and Michigan's Administrative Rules for Air Pollution Control pursuant to 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 Excelsior Compressor Station 4963 State Road NE Kalkaska, Michigan 49649
Source Registration Number (SRN):	B7196
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:	201600096
Responsible Official:	Richard P. Connor, Director US Pipeline Operations-Great Lakes Region 231-527-2122
AQD Contact:	Kurt Childs, Environmental Quality Analyst 231-876-4411
Date Application Received:	May 13, 2016
Date Application Was Administratively Complete:	May 13, 2016
Is Application Shield In Effect?	Yes
Date Public Comment Begins:	January 9, 2017
Deadline for Public Comment:	February 8, 2017

Source Description

The Excelsior Compressor Station is a natural gas compression and storage facility located in a forested and unpopulated area Northeast of the village of Kalkaska. Natural gas enters and leaves the station via pipelines and gas is stored in natural porous rock formation resevoirs. Processes at the station include natural gas compression and glycol dehydration and injection (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, primarily during the heating season. During colder months the gas is withdrawn and transported by pipeline for distribution to customers. Before being sent off site, the natural gas is treated to remove moisture wich consists 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 490 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 equipped with condenser and thermal oxidizer, 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 VOC and 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 **2015**.

TOTAL STATIONARY SOURCE EMISSIONS

Pollutant	Tons per Year
Carbon Monoxide (CO)	41
Lead (Pb)	NA
Nitrogen Oxides (NO_x)	190
Particulate Matter (PM)	<1
Sulfur Dioxide (SO_2)	NA
Volatile Organic Compounds (VOCs)	9

The following table lists Hazardous Air Pollutant emissions as reported in the ROP application by ANR:

Individual Hazardous Air Pollutants (HAPs) **	Tons per Year
Acetaldehyde	**2.12**
Acrolien	**1.31**
Benzene	**0.125**
Formaldehyde	**13.4**
Methanol	**0.653**
n-Hexane	**0.294**
Toluene	**0.107**
Total Hazardous Air Pollutants (HAPs)	**18.27**

**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 located in Kalkaska County, which is currently designated by the U.S. 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 carbon monoxide and nitrogen oxides exceeds 100 tons per year and the potential to emit of Formaldehyde, a HAP regulated by the federal Clean Air Act, Section 112, is equal to or more than 10 tons per year.

The glycol dehydrator (EUEXDEHY) at the 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 emergency generator (EUEXGEN-B) at the source is a four stroke rich burn emergency generator 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. Two large compressor engines (EUEXCOMP-A and EUEXCOMP-B) are existing spark ignition 4 stroke lean burn (4SLB) stationary RICE with a site rating of more than 500 brake HP which are not subject to ZZZZ per 63.6590(b)(3)(ii).

Another natural gas fired generator unit EUEXGEN-A was dismantled in June 2012 and references to this emission unit have been removed from the Renewable Operating Permit.

The gas fired boiler used to provide building heat (EUEXBOILER) and the gas withdrawal heaters (EUEXHTR-A and EUEXHTR-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 Subpart DDDDD because they are radiant space heaters.

EUEXCOMP-A and EUEXCOMP-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.

Two minor modification applications were submitted following the issuance of MI-ROP-B7196-2012 and were combined into one minor modification of the ROP. As a result, changes authorized in PTI No. 6-12 were incorporated into the ROP to; change the natural gas sampling frequency in EUEXDEHY from annually to once every five years; and change the fuel requirement in FGEXCOMP from “sweet natural gas” to “natural gas containing less than or equal to 20 grains of total sulfur per 100 cubic feet of natural gas”. Additionally, changes were made to FGEXGEN to clarify that the generators are now operated strictly as emergency engines. As such, the requirements of 40 CFR 63, Subpart ZZZZ applicable to emergency engines were incorporated. Subsequent to this modification EUEXGEN-A was dismantled as described above.

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 under 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. EUEXDEHY is the only emission unit with a control device (thermal oxidizer and condenser). The permittee has certified that the emission unit does not have pre-control emissions over the major source thresholds. Additionally the emission unit is subject to the requirements of 40 CFR Part 63, Subpart HHH which prohibits operating the emission unit without one or other of the control devices.

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-B7196-2012 are identified in Appendix 6 of the ROP.

PTI Number			
6-12	3-01	77-97	67-80

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 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.

Exempt Emission Unit ID	Description of Exempt Emission Unit	Rule 212(4) Exemption	Rule 201 Exemption
EUTANKCB-A	12,600 gallon condensate/brine tank	R 336.1284(e)	R 336.1212(4)(c)
EUTANKCB-B	12,600 gallon condensate/brine tank	R 336.1284(e)	R 336.1212(4)(c)
EUEXTANK-EG	5,515 gallon Ethylene glycol storage tank	R 336.1284(i)	R 336.1212(4)(c)
EUEXTANK-DG-A	2,300 gallon Diethylene Glycol storage tank	R 336.1284(i)	R 336.1212(4)(c)
EUEXTANK-GD-B	2,900 gallon Diethylene Glycol storage tank	R 336.1284(i)	R 336.1212(4)(c)
EUEXHEATER-1	Three heaters, 0.012 MMBtu/hr each	R 336.1282(b)(i)	R 336.1212(4)(b)
EUEXHEATERS-2	Two Bruest heaters, 0.012 MMBtu/hr each	R 336.1284(b)(i)	R 336.1212(4)(b)
EUEXWTRHTR-1	Water heater, 0.05 MMBtu/hr	R 336.1284(b)(i)	R 336.1212(4)(b)
EUEXWTRHTR-2	Water heater, 0.05 MMBtu/hr	R 336.1284(b)(i)	R 336.1212(4)(b)
EUEXMETHANOL	16,800 gallon Methanol storage tank	R 336.1284(n)	R 336.1212(4)(c)

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 MDEQ, 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.

Michigan Department of Environmental Quality
Air Quality Division

State Registration Number	RENEWABLE OPERATING PERMIT	ROP Number
B7196	**FEBRUARY 13, 2017 - STAFF REPORT ADDENDUM**	MI-ROP-B7196-2017

Purpose

A Staff Report dated January 9, 2017, was developed in order to set forth the applicable requirements and factual basis for the draft Renewable Operating Permit (ROP) terms and conditions as required by R 336.1214(1). 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 R 336.1214(3). In addition, this addendum describes any changes to the draft ROP resulting from these pertinent comments.

General Information

Responsible Official:	Richard P. Connor, Director US Pipeline Operations-Great Lakes Region 231-527-2122
AQD Contact:	Kurt Childs, Senior Environmental Quality Analyst 231-876-4411

Summary of Pertinent Comments

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

Changes to the January 9, 2017 Draft ROP

No changes were made to the draft ROP.