

State Registration Number
N2940

Michigan Department of Environmental Quality
Air Quality Division
**RENEWABLE OPERATING PERMIT
STAFF REPORT**

ROP Number
MI-ROP-N2940-2015

**DCP Antrim Gas, LLC
South Chester Antrim CO2 Removal Facility**

SRN: N2940

Located at:

6250 Old State Road, Johannesburg, Otsego County, Michigan 49751

Permit Number: MI-ROP-N2940-2015

Staff Report Date: April 20, 2015

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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Air Quality Division

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RENEWABLE OPERATING PERMIT

APRIL 20, 2015 - STAFF REPORT

ROP Number

MI-ROP-N2940-2015

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: | DCP Antrim Gas, LLC South Chester Antrim CO2 Removal Facility 6250 Old State Road Johannesburg, Michigan 49751 |
| Source Registration Number (SRN): | N2940 |
| 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: | 201300209 |
| Responsible Official: | Mr. William Johnson, Vice President Operations 303-605-1752 |
| AQD Contact: | Mr. Shane Nixon, Senior Environmental Engineer 231-876-4413 |
| Date Application Received: | December 20, 2013 |
| Date Application Was Administratively Complete: | December 20, 2013 |
| Is Application Shield In Effect? | Yes |
| Date Public Comment Begins: | April 20, 2015 |
| Deadline for Public Comment: | May 20, 2015 |

Source Description

The South Chester Antrim CO₂ Removal Facility is located on Old State Road in South Chester Township, Otsego County. It is about six miles southwest of Johannesburg, Michigan.

The facility consists of six plants for removing high concentrations of carbon dioxide from Antrim formation natural gas using an absorption treating process which utilizes amine. Higher CO₂ concentrations dilute the natural gas which reduces the heating value of the gas and increases the risk of internal corrosion problems in transmission and storage facilities. The CO₂ concentration of the natural gas is reduced to customer sales requirements and Michigan Public Service Commission stipulations.

In addition to the six carbon dioxide removal plants the facility contains six electrical generator engines and two turbines. The generator engines and turbines combust natural gas as fuel.

There are also six glycol dehydrators at the facility which are used to remove excess water from the natural gas.

The following table lists stationary source emission information as reported to the Michigan Air Emissions Reporting System (MAERS) for the year **2014**.

TOTAL STATIONARY SOURCE EMISSIONS

| Pollutant | Tons per Year |
|---|---------------|
| Carbon Monoxide (CO) | 61.9 |
| Lead (Pb) | 0 |
| Nitrogen Oxides (NO _x) | 246.98 |
| Particulate Matter (PM) | 2.8 |
| Sulfur Dioxide (SO ₂) | 3.9 |
| Volatile Organic Compounds (VOCs) | 31.5 |
| Total Hazardous Air Pollutants (HAPs) ** | 0 |

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

In addition to the pollutants listed above that have been reported in MAERS, the potential to emit of Greenhouse Gases (GHG) in tons per year of CO₂e (carbon dioxide equivalents) is 1,238,385 tons per year. CO₂e is a calculation of the combined global warming potentials of six GHG (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 located in Otsego 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 nitrogen oxides and carbon monoxide exceed 100 tons per year and the potential to emit of GHG is 100,000 tons per year or more calculated as CO₂e and 100 tons per year or more on a mass basis.

The stationary source is considered to be a minor source of HAP emissions because the potential to emit of any single HAP regulated by the federal Clean Air Act, Section 112, is less than 10 tons per year and the potential to emit of all HAPs combined are less than 25 tons per year.

In 2009, the stationary source acquired an adjacent facility owned by MichCon Pipeline Company. The stationary source submitted a minor modification application to incorporate the facility into the previously issued ROP. The now-combined facility is considered a major source in regard to the Prevention of Significant Deterioration regulations of 40 CFR 52.21 because the potential to emit of nitrogen oxides is greater than 250 tons per year. Any future physical changes or change in the method of operation must be compared to the relevant significant thresholds for possible PSD applicability.

At this time, there are no GHG applicable requirements to include in the ROP. The mandatory Greenhouse Gas Reporting Rule under 40 CFR, Part 98 is not an ROP applicable requirement and is not included in the ROP.

EUTUR01 and EUTUR02 at the stationary source are subject to the Standards of Performance for Stationary Gas Turbines promulgated in 40 CFR, Part 60, Subparts A and GG.

EUPLANT1HEATER, EUPLANT2HEATER, EUPLANT3HEATER, EUPLANT4HEATER, EUPLANT5HEATER, and EUPLANT6HEATER at the stationary source are subject to the Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units promulgated in 40 CFR, Part 60, Subparts A and Dc.

EUENGINE1, EUENGINE2, EUGEN06, EUGEN07, EUGEN08, and EUGEN09 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 (RICE Area Source MACT). The ROP contains special conditions provided by DCP Antrim Gas, LLC in their application for applicable requirements from 40 CFR, Part 63, Subparts A and ZZZZ. The AQD is not delegated the regulatory authority for this area source MACT.

EUP1DEHY, EUP2DEHY, EUP3DEHY, EUP4DEHY, EUP5DEHY, and EUP6DEHY at the stationary source are subject to the National Emission Standard for Hazardous Air Pollutants from Oil and Natural Gas Production Facilities promulgated in 40 CFR, Part 63, Subparts A and HH (Glycol Dehydrators Area Source MACT). The ROP contains special conditions provided by DCP Antrim Gas, LLC in their application for applicable requirements from 40 CFR, Part 63, Subparts A and HH. The AQD is not delegated the regulatory authority for this area source MACT.

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 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.

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-N2940-2009 are identified in Appendix 6 of the ROP.

| PTI Number | | | |
|------------|---------|--------|--------|
| 635.-91A | 224-92A | 385-94 | 569-96 |
| 237-02 | 54-03 | | |

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 |
|-------------------------|--|-----------------------|--------------------|
| EUBUILDINGHEAT1 | Office building space heater, 140,000 BTU/hr heat input. | R 336.1282(b)(i) | R 336.1212(4)(b) |
| EUBUILDINGHEAT2 | Office building space heater, 105,000 BTU/hr heat input. | R 336.1282(b)(i) | R 336.1212(4)(b) |
| EUSHOPHEAT1 | Shop space heater, 7,000 BTU/hr | R 336.1282(b)(i) | R 336.1212(4)(b) |
| EUSHOPHEAT2 | Shop space heater, 7,000 BTU/hr | R 336.1282(b)(i) | R 336.1212(4)(b) |
| EUSHOPHEAT3 | Shop space heater, 7,000 BTU/hr | R 336.1282(b)(i) | R 336.1212(4)(b) |
| EUSHOPHEAT4 | Shop space heater, 7,000 BTU/hr | R 336.1282(b)(i) | R 336.1212(4)(b) |

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 Janis Ransom, 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.

State Registration Number

RENEWABLE OPERATING PERMIT

ROP Number

N2940

MAY 21, 2015 - STAFF REPORT ADDENDUM

MI-ROP-N2940-2015

Purpose

A Staff Report dated April 20, 2015, 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

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|-----------------------|--|
| Responsible Official: | Mr. William Johnson, Vice President Operations 303-605-1752 |
| AQD Contact: | Shane Nixon, Senior Environmental Engineer 231-876-4413 |

Summary of Pertinent Comments

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

Changes to the April 20, 2015 Draft ROP

No changes were made to the draft ROP.