

State Registration Number
N5910

**RENEWABLE OPERATING PERMIT
STAFF REPORT**

ROP Number
MI-ROP-N5910-2022

**Venice Park RDF and
North American Natural Resources, Inc. – Venice Park 9526 Generating Station**

State Registration Number N5910

Located at

9536 Lennon Road, Lennon, Shiawassee County, Michigan 48449

Permit Number: MI-ROP-N5910-2022

Staff Report Date: May 23, 2022

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

MAY 23, 2022 - STAFF REPORT

ROP Number

MI-ROP-N5910-2022

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:	Venice Park RFD 9536 Lennon Road Lennon, Michigan 48449
Source Registration Number (SRN):	N5910
North American Industry Classification System (NAICS) Code:	562212
Number of Stationary Source Sections:	2
Is Application for a Renewal or Initial Issuance?	Renewal
Application Number:	202000067
Responsible Official – Section 1:	John Gall, District Manager 810-621-9080
Responsible Official – Section 2:	Brian Evans, Chief Operating Officer 734-627-9000
AQD Contact:	Julie Brunner, P.E., Environmental Quality Specialist 517-275-0415
Date Application Received:	April 13, 2020
Date Application Was Administratively Complete:	April 13, 2020
Is Application Shield in Effect?	Yes
Date Public Comment Begins:	May 23, 2022
Deadline for Public Comment:	June 22, 2022

Source Description

Operations owned and operated by Waste Management (WM) and North American Natural Resources, Inc. (NANR) comprise a single stationary source known as Venice Park RDF. WM owns Venice Park RDF which is an active landfill located in eastern Shiawassee County at 9536 East Lennon Road, Lennon, approximately three miles north of I-69. This is a rural site surrounded primarily by farmland with some residential housing located along the roads.

Venice Park RDF is classified as a Type II sanitary landfill, which is a Municipal Solid Waste (MSW) landfill. A "Municipal Solid Waste landfill" or a "Type II landfill" according to Act 451, Part 115, Solid Waste Management is a landfill which receives household waste, incinerator ash or sewage sludge and which is not a land application unit, surface impoundment, injection well, or waste pile. A municipal solid waste landfill also may receive other types of solid waste, such as commercial waste, nonhazardous sludge, conditionally exempt small quantity generator waste, and industrial waste. Such a landfill may be publicly or privately owned.

Natural biological processes occurring in landfills transform the waste constituents producing leachate and landfill gas. Initially, decomposition is aerobic until the oxygen supply is exhausted. Anaerobic decomposition of buried refuse creates most of the landfill gas. Landfill gas consists mainly of methane (CH₄), carbon dioxide (CO₂), and nonmethane organic compounds (NMOC). NMOC is the primary regulated air pollutant associated with landfill gas generation, which was promulgated as a regulated air pollutant under the Standards of Performance for New Stationary Sources (NSPS) for Municipal Solid Waste (MSW) Landfills.

An active landfill gas collection system has been installed to collect the landfill gas. This system utilizes gas mover equipment to rout the collected gas to the gas-to-electric plant and/or flare. Landfill gas produced from the landfill is used to fuel six (6) reciprocating internal combustion engines (RICE). Each engine turns a crankshaft that spins a generator's rotor in an electromagnetic field, generating an electric current that can be used for electricity. WM owns two engines, EUWMENGINE1 and 2 (CAT 3516), which were permitted under Permit to Install (PTI) No. 166-11. NANR had eight engines (EUNANRENGINE3 through 10), two of which (7R and 8R) were replaced with newer engines under PTI No. 123-11A but have removed EUNANRENGINE3 and 6 (both CAT 3516) and will replace EUNANRENGINE7R (CAT 3520C) with the smaller EUNANRENGINE7 (CAT 3516) due to low landfill gas production. When the landfill gas is not routed to the engines, such as during engine maintenance, it is burned in an open flare (EUOPENFLARE) owned by WM. The open flare is used as a back-up control device to combust the landfill gas and was originally permitted under PTI No. 166-11.

Solidification of non-hazardous liquid prior to disposal in the active landfill cell was permitted under PTI 72-96A and B. The types of non-hazardous liquid waste accepted are paint sludge and industrial wastewater. The process has been modified to incorporate a pug mill for the mixing operation and a change in some of the mixing materials. The liquids are discharged into the tank buried into the grade. The liquid is pumped into the pug mill. At the same time that the liquids are being loaded, a blend of auto shredder fluff, pozzolanic agent (steel slag), and polymer would be fed into a hopper which will blend with the liquid waste. The pozzolanic agent and polymer will make up about 10% of the solidifying agent mix. The waste then comes out the back of the pug mill and is loaded in a dump truck to be taken to the working face. The new solidification process is not subject to permitting and considered part of landfill operations and processes.

The following table lists stationary source emission information as reported to the Michigan Air Emissions Reporting System (MAERS) for the year **2020**.

TOTAL STATIONARY SOURCE EMISSIONS

Pollutant	Tons per Year
Carbon Monoxide (CO)	186
Nitrogen Oxides (NO _x)	42
PM10*	20
Sulfur Dioxide (SO ₂)	5.5
Volatile Organic Compounds (VOCs)	13
VOCs as NMOC (from landfill processes)	13

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

The following table lists the potential to emit of Hazardous Air Pollutant emissions as estimated by the year 2029 and based on permitted potential:

Individual Hazardous Air Pollutants (HAPs) **	Tons per Year
Formaldehyde (engines)	36
Hydrogen Chloride (engines)	2.8
NMOC (HAP Surrogate per 40 CFR Part 63 Subpart AAAA) – uncontrolled***	20
NMOC (HAP Surrogate per 40 CFR Part 63 Subpart AAAA) – fugitive***	4.9

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

*** Landgem output and fugitive emissions based on equation from the EGLE Supplemental Instructions for Municipal Solid Waste Landfills. Results based on a new NMOC sample taken in 2021.

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 Shiawassee 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 carbon monoxide and nitrogen oxides exceeds 100 tons per year. Also, 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. And the source is subject to an NSPS that requires an operating permit for the landfill under 40 CFR Part 70.

EUNANREENGINE7R, EUNANREENGINE8R, EUNANREENGINE9, and EUNANREENGINE10 at the stationary source were subject to review under the Prevention of Significant Deterioration regulations of Michigan's Air Pollution Control Rules Part 18, Prevention of Significant Deterioration of Air Quality because at the time of New Source Review (NSR) permitting, the potential to emit of carbon monoxide was greater than 250 tons per year. Other emission units at the facility have been subject to minor NSR.

The stationary source was subject to the Standards of Performance for Municipal Solid Waste Landfills promulgated in 40 CFR Part 60, Subparts A and WWW. On June 21, 2021, the facility became subject to

the Federal Plan Requirements for Municipal Solid Waste Landfills That Commenced Construction on or Before July 17, 2014, and Have Not Been Modified or Reconstructed Since July 17, 2014, as specified in 40 CFR Part 62, Subpart OOO. Venice Park RFD is considered a legacy landfill under the Federal Plan. Michigan is not currently the authorized representative and is implementing and enforcing this regulation through the ROP.

Landfill gas-fired engine generators identified as EUNANENGINE7, EUNANENGINE7R, EUNANENGINE8R, EUNANENGINE9, and EUNANENGINE10 at the stationary source are subject to the Standards of Performance for Spark Ignition Internal Combustion Engines (SI ICE). The provisions of this subpart apply to SI ICE that commence construction (ordered) after June 12, 2006. EUNANENGINE7 is considered an existing SI ICE only subject to the emission limits for carbon monoxide, nitrogen oxides, and volatile organic compounds.

The stationary source is subject to the National Emission Standard for Hazardous Air Pollutants for Asbestos promulgated in 40 CFR Part 61, Subparts A and M because asbestos is accepted by the landfill operator.

The stationary source is subject to the National Emission Standard for Hazardous Air Pollutants for Municipal Solid Waste Landfills promulgated in 40 CFR Part 63, Subparts A and AAAA. This subpart did require such landfills to meet the startup, shutdown, and malfunction (SSM) requirements of 40 CFR Part 63, Subpart A, General Provisions, but now the standard applies at all times. After September 28, 2021, the permittee must comply with all applicable provisions per 40 CFR 63.1930(b). The permittee has opted to comply with the provisions for the operational standards in 40 CFR 63.1958 (as well as the provisions in 40 CFR 63.1960 and 40 CFR 63.1961) for a Municipal Solid Waste Landfill with a gas collection and control system used to comply with the provisions of 40 CFR 62.16714(b) and (c). The regulatory language in 40 CFR Part 62, Subpart OOO and 40 CFR Part 63, Subpart AAAA are similar but not identical. Where applicable, similar citations are grouped together.

Landfill gas-fired engine generators identified as EUWMENGINE1, EUWMENGINE2, EUNANENGINE7, EUNANENGINE7R, EUNANENGINE8R, EUNANENGINE9, and EUNANENGINE10 at the stationary source are subject to the National Emission Standard for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE) promulgated in 40 CFR Part 63, Subparts A and ZZZZ. EUWMENGINE1, EUWMENGINE2, EUNANENGINE7, EUNANENGINE7R, EUNANENGINE8R, EUNANENGINE9, and EUNANENGINE10 are new stationary RICE because construction commenced on or after December 19, 2002. A diesel fuel-fired engine used to power the solidification process is not subject as long as it doesn't stay in one location for longer than 12-months (as in not a stationary engine).

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.

The emission limitation(s) or standard(s) for NMOC at the stationary source with the underlying applicable requirement(s) of 40 CFR Part 62, Subpart OOO and 40 CFR Part 63, Subpart AAAA are exempt from the federal Compliance Assurance Monitoring (CAM) regulation pursuant to 40 CFR 64.2(b)(1)(i) because the emission limitations and standards meets the CAM exemption for regulations 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-N5910-2015 are identified in Appendix 6 of the ROP.

PTI Number			
72-96A	72-96B	297-06*	123-11
123-11A	166-11		

* This permitted equipment has been dismantled and removed.

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
EU-001-GAS	300-gallon gasoline tank	Rule 212(4)(d)	Rule 284(2)(g)(i)
EU-001-PROPANE500	500-gallon propane tank	Rule 212(4)(d)	Rule 284(2)(b)
EU-001-PROPANE1000	1,000-gallon propane tank	Rule 212(4)(d)	Rule 284(2)(b)
EU-001-HSDIESEL1	1,000-gallon high sulfur diesel tank	Rule 212(4)(d)	Rule 284(2)(g)(i)
EU-001-HSDIESEL2	1,000-gallon high sulfur diesel tank	Rule 212(4)(d)	Rule 284(2)(g)(i)
EU-001-LDIESEL	500-gallon low sulfur diesel tank	Rule 212(4)(d)	Rule 284(2)(g)(i)
EU-SPACEHEATERS	2 - 100,000 BTU space heaters	Rule 212(4)(c)	Rule 282(2)(b)(i)
EU-Generator	A diesel fuel-fired portable engine generator used to power the solidification process.	Rule 212(4)(e)	Rule 285(2)(g)

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 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
N5910

RENEWABLE OPERATING PERMIT
JULY 5, 2022 - STAFF REPORT ADDENDUM

ROP Number
MI-ROP-N5910-2022

Purpose

A Staff Report dated May 23, 2022, 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 – Section 1:	John Gall, District Manager 810-621-9080
Responsible Official – Section 2:	Brian Evans, Chief Operating Officer 734-627-9000
AQD Contact:	Julie Brunner, P.E., Environmental Quality Specialist 517-275-0415

Summary of Pertinent Comments

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

Changes to the May 23, 2022 Draft ROP

No changes were made to the draft ROP.