

State Registration Number  
N5996

**RENEWABLE OPERATING PERMIT  
STAFF REPORT**

ROP Number  
MI-ROP-N5996-2023

**Granger Grand River Avenue Landfill  
and  
Grand River Generating Station**

State Registration Number (SRN): N5996

Located at

8550 West Grand River Avenue, Grand Ledge, Clinton County, Michigan 48837

Permit Number: MI-ROP-N5996-2023

Staff Report Date: May 8, 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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State Registration Number

N5996

**RENEWABLE OPERATING PERMIT**

**MAY 8, 2023 - STAFF REPORT**

ROP Number

MI-ROP-N5996-2023

**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: Section 1	Granger Grand River Avenue Landfill 16890 Wood Road, Lansing, Michigan 48906
Stationary Source Mailing Address: Section 2	Energy Developments Lansing, LLC 2501 Coolidge Road, Suite 100 East Lansing, Michigan 48823
Source Registration Number (SRN):	N5996
North American Industry Classification System (NAICS) Code:	562212- Municipal Solid Waste Landfill 221100- Electric Power Generation, Transmission and Distribution
Number of Stationary Source Sections:	2
Is Application for a Renewal or Initial Issuance?	Renewal
Application Number:	202200121
Responsible Official - Section 1:	Todd Granger, CFO & Secretary 517-372-2800
Responsible Official - Section 2:	Rocky Tondo, Head of Project Delivery and Technical Services 330-728-5266
AQD Contact - District Inspector:	Michelle Luplow, Environmental Quality Analyst 517-294-9294
AQD Contact - ROP Writer:	Matt Karl, Environmental Quality Analyst 517-282-2126
Date Application Received:	September 28, 2022
Date Application Was Administratively Complete:	September 28, 2022
Is Application Shield in Effect?	Yes
Date Public Comment Begins:	May 8, 2023
Deadline for Public Comment:	June 7, 2023

## **Source Description**

The Granger Grand River Avenue Landfill, owned by Granger Land Development Company, is a municipal solid waste landfill with an associated gas-to-energy plant, Grand River Generating Station, owned by Energy Developments Lansing, LLC (EDL) both located in Grand Ledge, Clinton County, Michigan. The landfill has a design capacity of 8,682,690 megagrams (Mg). The landfill consists of a closed section of 60 acres and an active section of 62.7 acres. The closed landfill began waste acceptance in 1970 and last accepted waste in 1985. The active section began construction on November 6, 1981 and began accepting waste in 1982. As of December 2019, the total amount of waste in place in the active section of the landfill was 6,083,706 Mg. Interstate I-96 borders the north side of the property at less than 250 feet. Much of the surrounding area is rural with several residences, including a manufactured home community, located less than 1 mile west, south, and southeast of the property. A restaurant and gas station are located less than 1/3 mile away.

Granger Grand River Avenue Landfill is classified as a Type II or Municipal Solid Waste (MSW) landfill. In Michigan, the Materials Management Division (MMD) establishes standards for Solid Waste Management. Rule 299.4104(d) defines MSW or Type II landfill as:

“A landfill which receives household waste or municipal waste incinerator ash, and which is not a land application unit, surface impoundment, injection well, or waste pile. A municipal solid waste landfill may also receive other types of solid waste, such as any of the following: construction and demolition waste, sewage sludge, commercial waste, nonhazardous sludge, hazardous waste from conditionally exempt small quantity generators, industrial waste. Such a landfill may be publicly or privately owned.”

The landfill accepts municipal solid waste, consisting mostly of residential and commercial waste materials. The primary standard industrial code (SIC) is 4953 (Municipal Solid Waste Landfill).

Solid waste arrives in a variety of vehicles that can potentially generate fugitive dust particulate matter (PM) emissions from interaction with the landfill's roads. After waste is transported to the landfill, it is emplaced in one of the active working areas known as cells. The deposited waste is covered with soil or other approved alternate daily cover material daily. When a cell reaches its design capacity, it is closed and a liner is installed, covering the waste. Asbestos containing materials (ACM) are also accepted and are deposited in designated areas.

Over time, microbiological processes decompose the waste materials, producing leachate and landfill gas. Initially, decomposition is aerobic until the oxygen supply is exhausted. During aerobic decomposition, nitrogen and carbon dioxide are the predominant gasses produced. As oxygen levels decline, decomposition becomes predominantly anaerobic. Anaerobic decomposition of buried refuse generates the landfill gas, which predominantly consists of methane, carbon dioxide, carbon monoxide, hydrogen sulfide, volatile organic compounds and nonmethane organic compounds (NMOC). The NMOC fraction consists of various organic hazardous air pollutants (HAP), greenhouse gases, and volatile organic compounds (VOC). NMOC is the primary regulated air pollutant associated with landfill gas generation. Granger Grand River Avenue Landfill has been evaluated to generate less than 34 Mg per year of NMOC emissions.

An active landfill gas collection and control system (GCCS) has been installed to collect and route the landfill gas to emissions controls. The collection system includes a series of gas wells, a network of collection piping and headers, and condensate drains. Gas collection and control is not required by any state plan or federal regulation at this time.

The Grand River Generating Station operates three (3) Caterpillar 3516 reciprocating internal combustion engines, each rated at 1,148 horsepower for combusting the landfill gas collected by the GCCS. A 1362 scfm candlestick flare is also used to control any landfill gas that is not combusted in the reciprocating internal combustion engines.

The ROP is divided into two (2) sections: Section 1 for the Granger Grand River Avenue Landfill and Section 2 for the Grand River Generating Station. Section 1 is owned by Granger Land Development Company and Section 2 is owned by Energy Development Lansing LLC.

The following table lists stationary source emission information as reported to the Michigan Air Emissions Reporting System (MAERS) for the year **2021**.

### TOTAL STATIONARY SOURCE EMISSIONS

Pollutant	Tons per Year
Carbon Monoxide (CO)	50.9
Nitrogen Oxides (NO <sub>x</sub> )	32.8
PM10*	2.6
Sulfur Dioxide (SO <sub>2</sub> )	0.7
Volatile Organic Compounds (VOCs)	11.6

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

The following table lists Hazardous Air Pollutant emissions as calculated for the year 2021 by the facility:

Individual Hazardous Air Pollutants (HAPs) **	Tons per Year
Toluene (methylbenzene)	0.94
Hydrogen Chloride	1.45
Formaldehyde	0.33
NMOC (HAP Surrogate per 40 CFR Part 63 Subpart AAAA) - uncontrolled***	4.63
NMOC (HAP Surrogate per 40 CFR Part 63 Subpart AAAA) - fugitive***	1.23
<b>Total Hazardous Air Pollutants (HAPs)</b>	<b>3.83</b>

\*\*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.

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 Clinton 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 (CO) exceeds 100 tons per year. Additionally, the landfill was subject to 40 CFR Part 62, Subpart GGG for Municipal Solid Waste Landfills that commenced construction prior to May 31, 1991, which requires that a Part 70 Renewable Operating Permit (ROP) be submitted for all new and existing landfills with a design capacity equal to or exceeding 2.5 million Mg and 2.5 million cubic meters and that have accepted waste since November 8, 1987. The current design capacity is 8.6 million Mg and the landfill has accepted waste since November 6, 1981. On June 21, 2021 the landfill became subject to 40 CFR Part 62, Subpart OOO 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. Granger

Grand River Avenue Landfill 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.

The stationary source is a major source of HAP emissions because 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 are currently subject to the Prevention of Significant Deterioration regulations of Part 18, Prevention of Significant Deterioration of Air Quality of Act 451, because at the time of New Source Review permitting the potential to emit of any criteria pollutant is less than 250 tons per year.

Although EUICE1, EUICE3 and EUICE5 were installed after August 15, 1967, this equipment was exempt from New Source Review (NSR) permitting requirements at the time it was installed under R 336.1285(2)(g); however, future modifications of this equipment may be subject to NSR.

EUASBESTOS at 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.

EUICE1, EUICE3 and EUICE5 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.

EULANDFILL at the stationary source is subject to the National Emissions Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills as promulgated in 40 CFR Part 63, Subparts A and AAAA. Beginning no later than September 27, 2021, all landfills described in 40 CFR 63.1935 must meet the requirements of this subpart. A landfill may choose to meet the requirements of this subpart rather than the requirements identified in 40 CFR Part 63.1930(a) at any time before September 27, 2021. Currently, the requirements for 40 CFR 63.1930(a) are included as applicable in this ROP Renewal.

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 any emission limitations or standards for municipal solid waste landfills are covered by 40 CFR Part 62, Subpart OOO and 40 CFR Part 63, Subpart AAAA. The engines, EUICE1, EUICE3 and EUICE5 do not have emission 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-N5996-2018 are identified in Appendix 6 of the ROP.

PTI Number			
NA	NA	NA	NA

### **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.

<b>PTI Exempt Emission Unit ID</b>	<b>Description of PTI Exempt Emission Unit</b>	<b>Rule 212(4) Citation</b>	<b>PTI Exemption Rule Citation</b>
EUPROPHEAT	Two (2) propane space heaters served by three (3) 500-gallon propane tanks.	Rule 212(4)(c)	Rule 282(2)(b)(i)
EUCOMPRESSOR	One (1) 5-HP (0.051 MMBTU/hr) portable compressor.	Rule 212(4)(e)	Rule 285(2)(g)
EUUNLEADGAS	One (1) 275-gallon unleaded gasoline tank AST.	Rule 212(4)(c)	Rule 284(2)(g)
EUPROPTANKS	3,500-gallon propane storage tanks.	Rule 212(4)(d)	Rule 284(2)(b)
EUOPENFLARE	A 1362 scfm candlestick flare.	Rule 212(3)(f)	Rule 285(2)(aa)

### **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, Field Operations Manager. 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  
N5996

**RENEWABLE OPERATING PERMIT**  
**JUNE 8, 2023 - STAFF REPORT ADDENDUM**

ROP Number  
MI-ROP-N5996-2023

**Purpose**

A Staff Report dated May 8, 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 - Section 1:	Todd Granger, CFO & Secretary 517-372-2800
Responsible Official - Section 2:	Rocky Tondo, Head of Project Delivery and Technical Services 330-728-5266
AQD Contact - District Inspector:	Michelle Luplow, Environmental Quality Analyst 517-294-9294
AQD Contact - ROP Writer:	Matt Karl, Environmental Quality Analyst 517-282-2126

**Summary of Pertinent Comments**

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

**Changes to the May 8, 2023 Draft ROP**

No changes were made to the draft ROP.