

State Registration Number  
N5987

**RENEWABLE OPERATING PERMIT  
STAFF REPORT**

ROP Number  
MI-ROP-N5987-2023

**Brent Run Landfill, Inc.; Energy Developments Michigan, LLC  
Brent Run Landfill**

State Registration Number (SRN): N5987

Located at

8335 West Vienna Road, Montrose, Genesee County, Michigan 48457

Permit Number: MI-ROP-N5987-2023

Staff Report Date: October 31, 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**

**October 31, 2022- STAFF REPORT**

ROP Number

MI-ROP-N5987-2023

**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:	Brent Run Landfill 8335 West Vienna Road Montrose, Michigan 48457
Source Registration Number (SRN):	N5987
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:	202000070
Responsible Official – Section 1:	Tim Church, District Manager, Brent Run Landfill 810-639-1700
Responsible Official – Section 2:	Rocky Tondo, Head of Project Delivery & Technical Services, Energy Developments Michigan 330-728-5266
AQD Contact:	Michelle Luplow, Environmental Quality Analyst 517-294-9294
Date Application Received:	April 13, 2020
Date Application Was Administratively Complete:	April 13, 2020
Is Application Shield in Effect?	Yes
Date Public Comment Begins:	October 31, 2022
Deadline for Public Comment:	November 30, 2022

## Source Description

The Brent Run Landfill, Inc (BRL) is a Type II municipal solid waste landfill with an associated gas-to-energy plant that is owned and operated by Energy Developments Michigan, LLC (EDM). BRL is located approximately 3 miles west of I-75, on M-57 in Genesee County, in a predominantly rural area, with some exceptions: A mobile home community is located less than 200 feet to the north of the BRL property line; the city of Montrose is located 1.6 miles to the west; and several rural residences are located approximately 1.5 miles to the south and 200 ft east of the site.

The primary activity of this source is accepting municipal solid waste, consisting mostly of residential and commercial waste materials, and sporadic receipt of municipal solid sludge. Contaminated soils, and construction and demolition wastes are also accepted, as well as asbestos-containing materials (ACM).

An active landfill gas collection and control system (GCCS) is in operation to collect and control the gas generated by the landfill mass. The GCCS consists of a considerable number of extraction points, including vertical wells and horizontal collectors within the waste mass. These extraction points convey the collected landfill gas through a series of lateral and header pipes to EDM's gas-to-energy plant to be treated (EUTREATMENTSYS) prior to combustion in a maximum of 5 landfill gas engines (FGICEENGINES) for electricity production. These engines serve as the primary control device for the collected landfill gas.

BRL owns and operates 2 flares that are used in the event the gas-to-energy plant is off-line or operating at a reduced capacity: one (1) open, non-enclosed flare (EUOPENFLARE), and one (1) enclosed combustion flare (EUENCLOSEDFLARE). EUOPENFLARE is the primary backup flare, with EUENCLOSEDFLARE being utilized when additional capacity is necessary.

In August 2016, PTI No. 78-16 was approved for EUENGINE6 (CAT 3520C engine), to replace EUENGINE2 (G3516 engine). A Minor Modification was issued on April 28, 2017 under MI-ROP-N5987-2015a, to add EUENGINE6 into the ROP and remove EUENGINE2. This action resulted in removing flexible group FGICEENGINES2 and keeping EUENGINE1 as an emission unit, maintaining all requirements that were included in FGICEENGINES2.

PTI No. 176-18 was issued in April 2019 for the replacement of EUENGINE1 (G3516 engine) with EUENGINE7 (G3520C engine). FGICEENGINES, FGRICENSPS, and FGRICEMACT were therefore rewritten in PTI No. 176-18 to include EUENGINE7. Except for EUENGINE5 (3512 "cat-in-the-box"), all engines currently present onsite are G3520C models.

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**

<b>Pollutant</b>	<b>Tons per Year</b>
Carbon Monoxide (CO)	224.9
Lead (Pb)	0.0
Nitrogen Oxides (NO <sub>x</sub> )	40.1
Particulate Matter (PM)*	13.6
Sulfur Dioxide (SO <sub>2</sub> )	42.1
Volatile Organic Compounds (VOCs)	41.7
Non-Methane Organic Compounds (NMOCs)	34.3

\* 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 calculated for the year 2021 by Brent Run Landfill and EDM:

<b>Individual Hazardous Air Pollutants (HAPs) **</b>	<b>Tons per Year</b>
Formaldehyde	32.0
<b>Total Hazardous Air Pollutants (HAPs)</b>	<b>32.0</b>

\*\*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 Genesee 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 for the following reasons: the potential to emit for carbon monoxide (CO), nitrogen oxides (NOx), sulfur dioxide (SO<sub>2</sub>), and volatile organic compounds (VOC) exceeds 100 tons per year; the potential to emit of any single HAP regulated by the federal Clean Air Act, Section 112, 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 EULANDFILL is subject to Subpart OOO Federal Plan Requirements for Municipal Solid Waste Landfills that commenced construction on or before July 17, 2014, which requires a Part 70 Renewable Operating Permit (ROP) for existing landfills with a design capacity equal to or exceeding 2.5 million Mg and 2.5 million cubic meters.

Emission units at the stationary source have not been subject to the Prevention of Significant Deterioration regulations of Part 18, Prevention of Significant Deterioration of Air Quality of Act 451 or 40 CFR 52.21, because at the time of New Source Review (NSR) permitting either the potential to emit of any pollutants was less than 250 tons per year prior to the project or the potential emissions increase of each criteria pollutant was less than significant. Emission units at the stationary source have been subject to minor NSR.

Regarding PTI No. 176-18, Rule 205 authorizes issuance of a permit to install without public notice and comment where emissions are limited by permit to less than 100% of an emission threshold which would otherwise render the permitted activity a major modification under the AQD Part 18 rules. The applicant requested a fuel restriction along with CO, NOx, sulfur dioxide (SO<sub>2</sub>), volatile organic compounds (VOC), and PM<sub>10</sub>/PM<sub>2.5</sub> emission limits. These limits will be enforceable by stack testing. SO<sub>2</sub> will be monitored by the amount of fuel used monthly and the sulfur concentration in the fuel.

Although EUOPENFLARE and EUENCLOSEDFLARE were installed after August 15, 1967, this equipment was exempt from New Source Review (NSR) permitting requirements at the time it was installed. However, future modifications of this equipment may be subject to NSR.

EUENGINE3, EUENGINE4, EUENGINE6, and EUENGINE7 at the stationary source are subject to the Standards of Performance for New Stationary Spark Ignition Internal Combustion Engines promulgated in 40 CFR Part 60, Subparts A and JJJJ.

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.

EUENGINE3, EUENGINE4, and EUENGINE5, EUENGINE6, and EUENGINE7 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, EUACTIVECOLL, EUOPENFLARE, EUENCLOSEDFLARE, EUASBESTOS and EUTREATMENTSYS at the stationary source are subject to the National Emissions Standards for Hazardous Air Pollutants (NESHAP): 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 63.1930(a) at any time before September 27, 2021. On and after September 28, 2021, the requirements for 40 CFR 63.1930(b) apply and are included as applicable in this ROP Renewal, as well as the applicable requirements found under the Federal Plan 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 promulgated in 40 CFR Part 62, Subpart OOO. Brent Run Landfill opted-in to the NESHAP Subpart AAAA in lieu of some of the requirements contained in 40 CFR Part 62, Subpart OOO on October 21, 2021. EDM opted-in to the NESHAP Subpart AAAA in lieu of specific operating requirements contained in 40 CFR Part 62, Subpart OOO on February 16, 2022.

During the December 2019 stack test, the SO<sub>2</sub> emission limits for EUENGINE3, EUENGINE4, and EUENGINE6 were exceeded. A violation notice was issued on February 20, 2020. Due to COVID-19 emergency restrictions, SO<sub>2</sub> retesting on the 3 engines was not conducted until July 2020. Test report results indicated compliance with the SO<sub>2</sub> emission limits for all engines. No ROP Compliance Schedule was necessary for this violation as stack testing was completed prior to issuance of this ROP.

The AQD's Rules 287 and 290 were revised on December 20, 2016. FGRULE287(2)(c) and FGRULE290 are flexible group tables created for emission units subject to these rules. Emission units installed before December 20, 2016, can comply with the requirements of Rule 287 and Rule 290 in effect at the time of installation or modification as identified in the tables. However, emission units installed or modified on or after December 20, 2016, must comply with the requirements of the current rules as outlined in the tables.

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-N5987-2015 are identified in Appendix 6 of the ROP.

PTI Number			
105-12	105-12A		

**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
Proptank01	Two (2) 1,000-gallon propane tank	Rule 212(4)(c)	Rule 284(2)(b)
Proptank02	One (1) 250-gallon propane tank	Rule 212(4)(c)	Rule 284(2)(b)
Gasfurnace	Two (2) natural gas-fired furnaces located in the office and scalehouse. All furnaces rate at less than 100,000 BTU/hr	Rule 212(4)(b)	Rule 282(2)(b)(i)
Propfurnace	One (1) propane-fired furnace located in the maintenance building	Rule 212(4)(b)	Rule 282(2)(b)(i)
Propwaterheat	One (1) propane-fired hot water heater located in the maintenance building. Heater is rated at less than 100,000 BTU/hr	Rule 212(4)(b)	Rule 282(2)(b)(i)
Wasteoilheat	One (1) waste oil-fired heater located in the maintenance building	Rule 212(4)(b)	Rule 282(2)(b)(iv)
Propheat	Six (6) propane-fired heaters located in the maintenance buildings	Rule 212(4)(b)	Rule 282(2)(b)(i)
Dieselheat	Fourteen (14) diesel-fired heaters	Rule 212(4)(b)	Rule 282(2)(b)(ii)
Dieselgen	One (1) diesel-fired backup generator, 123.4 kW	Rule 212(4)(b)	Rule 285(2)(g)
Gasgen	Two (2) gasoline-fired generators	Rule 212(4)(b)	Rule 285(2)(g)
Diesellight	Three (3) diesel-fired light plants	Rule 212(4)(b)	Rule 285(2)(g)
Dieselcomp	One (1) diesel-fired air compressor	Rule 212(4)(b)	Rule 285(2)(g)

<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>
Dieselwash	Two (2) diesel-fired pressure washers	Rule 212(4)(d)	Rule 285(2)(g)
Gaswash	One (1) gasoline-fired pressure washer	Rule 212(4)(d)	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  
N5987

**RENEWABLE OPERATING PERMIT**  
**December 12, 2022 - STAFF REPORT ADDENDUM**

ROP Number  
MI-ROP-N5987-2023

**Purpose**

A Staff Report dated October 31, 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:	Tim Church, District Manager, Brent Run Landfill 810-639-1700
Responsible Official – Section 2:	Rocky Tondo, Head of Project Delivery & Technical Services, Energy Developments Michigan 330-728-5266
AQD Contact:	Michelle Luplow, Environmental Quality Analyst 517-294-9294

**Summary of Pertinent Comments**

Energy Developments Michigan (EDM) had comments pertaining to typographical errors in the engine model names in both the ROP and Staff Report.

EDM also made the comment that the brake horsepower (bhp) in EUENGINE5's description within the Emission Unit Summary Table of Section 2 needed to be corrected to 861 hp.

**Changes to the October 31, 2022 Draft ROP**

Recently, the United State Environmental Protection Agency (USEPA) had commented on a landfill ROP that affected the landfill templates that were used in this ROP and therefore, the following changes have been made:

Section 1:

EUASBESTOS, SC III.1(d) has been removed from the ROP.

“and, if different, the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program for the disposal site. Describe the discrepancy and attempts to reconcile it, and submit a copy of the waste shipment record along with the report.” was added to EUASBESTOS, SC VI.1(c) to completely incorporate 40 CFR 61.154(e)(3).

FGOPENFLARE-AAAA, VI.2(b), was changed to “Secure the bypass line valve in the closed position with a car-seal or a lock-and-key type configuration. A visual inspection of the seal or closure mechanism must be performed at least once every month to ensure that the valve is maintained in the closed position and

that the gas flow is not diverted through the bypass line.” to address the monthly visual inspection per 40 CFR 63.1961(c)(2)(ii).

In Appendix 7, typographical errors were corrected.

Section 2:

FGTREATMENTSYS-AAAA, SC IV.2 “A visual inspection of the seal or closure mechanism must be performed at least once every month to ensure that the valve is maintained in the closed position and that the gas flow is not diverted through the bypass line.” was added to complete the condition from 40 CFR 63.1964(g).

Based on EDM’s comments, the following changes were made:

Correct typographical errors of the engine model names within the Emission Unit Summary Table and Appendix 6-2 of Section 2 of the ROP.

Revise the brake horsepower (bhp) for EUENGINE5 in the Emission Unit Summary Table of Section 2 of the ROP. The bhp was revised from 1,148 bhp to the correct bhp of 861.

This addendum also serves to correct 2 typographical errors contained within the “Source Description” of the Staff Report:

It is noted that the reference to EUENGINE6’s model number as a “CAT 3520C” engine is incorrect. The correct model number is “CAT G3520C.”

It is also noted that the reference to EUENGINE5’s model number as a 3512 “cat-in-the-box” is incorrect. The correct model number is “G3512 ‘cat-in-the-box’”.