

Facility ID: 0243041202 Issuance type: Final State Permit To Operate

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In addition to the terms and conditions, hyperlinks have been inserted into the document so you may more readily access the section of the document you wish to review.

Finally, the term language under "Part II" and before "A. Applicable Emissions Limitations..." has been added to aid in document conversion, and was not part of the original issued permit.

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION

Facility ID: 0243041202 Emissions Unit ID: F001 Issuance type: Final State Permit To Operate

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Part II - Special Terms and Conditions

This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

1. For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
 - (a) None.
2. For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
 - (a) None.

A. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Landfill Gas Flare with Automatic Pilot and Ignition System at closed MSW landfill	OAC rule 3745-31-05(A)(3) (PTI 02-5378)	Nitrogen oxides (NOx) emissions shall not exceed 4.6 lbs/hr and 20.1 tpy.
		Sulfur dioxide (SO2) emissions shall not exceed 0.1 lb/hr and 0.4 tpy.
		Carbon monoxide (CO) emissions shall not exceed 17.57 lbs/hr and 77.0 tpy.
		Organic compounds (OC) emissions shall not exceed 9.1 lbs/hr and 40.0 tpy.
		Particulate emissions (PE) shall not exceed 38.5 tpy.
		The flare shall be designed for and operated with no visible emissions, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.
	OAC chapter 3745-76	See section A.2.a below.
	OAC rule 3745-17-07(A)	The emission limitation required by this applicable rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
	OAC rule 3745-17-10	PE shall not exceed 8.8 lbs/hr.
		See section A.2.m below.
	40 CFR Part 60, Subpart Cc	See section A.2.a below.

2. Additional Terms and Conditions

- (a) This landfill is closed pursuant to 40 CFR Part 60.752(b)(2)(v) and OAC rule 3745-76-07(D). The permittee has committed to continue to operate the flare pursuant to this state PTO for continuing control of landfill gas and in compliance with DSIWM's 30-year post closure care requirements. This facility shall not cause or allow any open burning at this location. The owner or operator shall not initiate or allow any salvage operation to be conducted at this location without prior approval of the Ohio EPA. This excludes recycling or energy recovery, unless Ohio EPA approval is needed. All landfill gas collected shall be directed to the flare station. The flare is required to operate whenever landfill gas is actively venting. The equipment which is part of the gas collection and control system shall be properly maintained and kept in good operating condition at all times. The equipment which is part of the gas collection and control system shall be operated and maintained by personnel properly trained in its operation. The sparking period and cycle time shall be set to optimize performance depending on actual field conditions. The owner or operator of this facility shall not install any air contaminant source other than those named in this Permit to Operate, including a landfill gas fired boiler, or generator, without first obtaining a Permit to Install from the Ohio EPA.

All recording devices shall be synchronized based on the time of day.

The flare shall be steam assisted, air assisted, or nonassisted.

There are no storage piles or roadways at this facility and this permit does not authorize the permittee to establish and maintain storage piles at this facility. Furthermore, access roads, used for the purpose of post closure care of the gas collection and control system, leachate management, etc. are the only permissible roadways at this facility.

In terms of complying with OAC rule 3745-17-10(B)(3) - derating of fuel burning equipment, the facility has demonstrated that the landfill is incapable of generating more than 1,000 CFM of landfill gas.

B. Operational Restrictions

1. No additional wastes may be placed into the landfill without filing a notification of modification as described in 40 CFR Part 60.7(a)(4).

C. Monitoring and/or Record Keeping Requirements

1. The permittee shall properly operate and maintain a device to continuously monitor the flare pilot flame or main flame when the flare is in operation. The monitoring device and any recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

D. Reporting Requirements

1. No additional wastes may be placed into the landfill without filing a notification of modification as described in 40 CFR Part 60.7(a)(4).
2. The permittee shall notify Northeast District Office of the Ohio EPA no later than 30 days prior to removing or permanently discontinuing the operation of the flare or the active gas collection and control system.

E. Testing Requirements

1. Compliance with the emission limitations in section A.1 of these terms and conditions shall be determined in accordance with the following methods:

Emission Limitation:

NOx emissions shall not exceed 4.6 lbs/hr.

Applicable Compliance Method:

To determine the NOx, the following equation shall be used:

$$\text{NOx} = A \times B \times (60 \text{ min/hr}) \times C \times \text{EF}/1,000,000$$

where:

A = average flow rate of landfill gas in SCFM;

B = percent, by volume, of methane in landfill gas composition;

C = methane heat content, from LMOP (1012 Btu/CF); and

EF = emission factor for NOx of 0.068 lb/10⁶ Btu.

The NOx emission factor was obtained from AP42, 5th Edition, Chapter 13, Section 13.5, Table 13.5-1 (9/91 ed., 1/95 reformatted).

Emission Limitation:

NOx emissions shall not exceed 20.1 tpy.

Applicable Compliance Method:

The tpy emission limitation was developed by multiplying the short-term allowable NOx emission limitation (4.6 lbs/hr) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs per ton. Therefore, if compliance is shown with the short-term allowable emission limitation, compliance shall also be shown with the annual emission limitation.

Emission Limitation:

SO2 emissions shall not exceed 0.1 lb/hr.

Applicable Compliance Method:

Upon request, the permittee shall sample the sulfur content of the landfill gas (as H2S) and calculate the sulfure emissions using the following equation, assuming all sulfur measured is emitted as SO2:

$$\text{SO2} = X \text{ ppm} [\text{H2S}]/1\text{E6} * 64 \text{ mol. wt SO2}/385.4 \text{ SCF/lb-mole} * \text{CFM} [\text{LFG}] * 60 \text{ min/hr}$$

where:

X ppm = the measured H2S concentration in parts per million (ppm);

1E6 = a conversion factor;

64 = the molecular weight of SO2;

385.4 SCF/lb-mole = a conversion factor; and

CFM[LFG] = the flow of landfill gas to the flare in cubic feet per minute.

Emission Limitation:

SO2 emissions shall not exceed 0.4 tpy.

Applicable Compliance Method:

The tpy emission limitation was developed by multiplying the short-term allowable SO2 emission limitation (0.1 lb/hr) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs per ton. Therefore, if compliance is shown with the short-term allowable emission limitation, compliance shall also be

shown with the annual emission limitation.

Emission Limitation:

CO emissions shall not exceed 17.57 lbs/hr.

Applicable Compliance Method:

To determine the CO, the following equation shall be used:

$$\text{CO} = A \times B \times (60 \text{ min/hr}) \times C \times \text{EF}/1,000,000$$

where:

A = average flow rate of landfill gas in SCFM;
 B = percent, by volume, of methane in landfill gas composition;
 C = methane heat content, from LMOP (1012 Btu/CF); and
 EF = emission factor for CO of 0.37 lb/10⁶ Btu.

The CO emission factor was obtained from AP42, 5th Edition, Chapter 13, Section 13.5, Table 13.5-1 (9/91 ed., 1/95 reformatted).

Emission Limitation:

CO emissions shall not exceed 77.0 tpy.

Applicable Compliance Method:

The tpy emission limitation was developed by multiplying the short-term allowable CO emission limitation (17.57 lbs/hr) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs per ton. Therefore, if compliance is shown with the short-term allowable emission limitation, compliance shall also be shown with the annual emission limitation.

Emission Limitation:

OC emissions shall not exceed 9.1 lbs/hr.

Applicable Compliance Method:

To determine the OC, the following equation shall be used:

$$\text{OC} = A \times B \times (60 \text{ min/hr}) \times C \times \text{EF}/1,000,000$$

where:

A = average flow rate of landfill gas in SCFM;
 B = percent, by volume, of methane in landfill gas composition;
 C = methane heat content, from LMOP (1012 Btu/CF); and
 EF = emission factor for OC of 0.14 lb/10⁶ Btu.

The OC emission factor was obtained from AP42, 5th Edition, Chapter 13, Section 13.5, Table 13.5-1 (9/91 ed., 1/95 reformatted).

Emission Limitation:

OC emissions shall not exceed 40.0 tpy.

Applicable Compliance Method:

The tpy emission limitation was developed by multiplying the short-term allowable OC emission limitation (9.1 lbs/hr) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs per ton. Therefore, if compliance is shown with the short-term allowable emission limitation, compliance shall also be shown with the annual emission limitation.

Emission Limitation:

PE shall not exceed 8.8 lbs/hr.

Applicable Compliance Method:

Based on a 1-time interpretation of OAC rule 3745-17-10, Figure 1, curve P-1, using the following equation to determine total heat input:

$$1000\text{cf}/\text{min} \times 60\text{min}/\text{hr} \times 50\%[\text{CH}_4] \times 1012 \text{ Btu}/\text{cf} \times \text{mmBtu}/10^6 \text{ Btu} = 30.4 \text{ mmBtu}/\text{hr}$$

And E - pounds of emission per million Btu actual heat input is read on Figure 1, curve P-1 as 0.29 lb/mmBtu:

$$0.29\text{lb}/\text{mmBtu} \times 30.4 \text{ mmBtu}/\text{hr} = 8.8 \text{ lbs}/\text{hr}$$

Emission Limitation:

PE shall not exceed 38.5 tpy.

Applicable Compliance Method:

The tpy emission limitation was developed by multiplying the short-term allowable particulate emission limitation (8.8 lbs/hr) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs per ton. Therefore, if compliance is shown with the short-term allowable emission limitation, compliance shall also be shown with the annual emission limitation.

F. Miscellaneous Requirements

1. Authority to Enter

Pursuant to the authority in OAC rule 3745-77-07(C)(2) or ORC 3704.03(L), any representative of the Director may, upon presentation of proper identification, enter at any reasonable time upon any portion of the property where this landfill is located, including any improvements thereon, to make inspections, take samples, conduct tests and examine records or reports pertaining to any emissions of air contaminants and any monitoring equipment, emissions control equipment or methods. No operator or agent of this landfill shall act in any manner to refuse, hinder, or thwart this legal right or entry.