



State of Ohio Environmental Protection Agency

Street Address:

Lazarus Gov. Center
122 S. Front Street
Columbus, OH 43215

TELE: (614) 644-3020 FAX: (614) 644-2329

Mailing Address:

Lazarus Gov. Center
P.O. Box 1049
Columbus, OH 43216-1049

04/22/03

CERTIFIED MAIL

RE: Final Title V Chapter 3745-77 permit

13-18-24-7721
BFI - Glenwillow Landfill
Scott Herman
43502 Oberlin-Elyria Road
Oberlin, OH 44074

Dear Scott Herman:

Enclosed is the Title V permit that allows you to operate the facility in the manner indicated in the permit. Because this permit may contain several conditions and restrictions, we urge you to read it carefully.

The Ohio EPA is encouraging companies to investigate pollution prevention and energy conservation. Not only will this reduce pollution and energy consumption, but it can also save you money. If you would like to learn ways you can save money while protecting the environment, please contact our Office of Pollution Prevention at (614) 644-3469.

You are hereby notified that this action of the Director is final and may be appealed to the Environmental Review Appeals Commission pursuant to Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. It must be filed with the Environmental Review Appeals Commission within thirty (30) days after notice of the Director's action. A copy of the appeal must be served on the Director of the Ohio Environmental Protection Agency within three (3) days of filing with the Commission. It is also requested by the Director that a copy of the appeal be served upon the Environmental Enforcement Section of the Office of the Attorney General. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission
236 East Town Street
Room 300
Columbus, Ohio 43215

If you have any questions, please contact Cleveland Division of Air Pollution Control.

Very truly yours,

Michael W. Ahern, Supervisor
Field Operations and Permit Section
Division of Air Pollution Control

cc: Cleveland Division of Air Pollution Control
File, DAPC PMU



State of Ohio Environmental Protection Agency

FINAL TITLE V PERMIT

Issue Date: 04/22/03	Effective Date: 05/12/03	Expiration Date: 05/12/08
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This document constitutes issuance of a Title V permit for Facility ID: 13-18-24-7721 to:

BFI - Glenwillow Landfill
30300 Pettibone Road
Glenwillow, OH 44139

Emissions Unit ID (Company ID)/Emissions Unit Activity Description

F002 (MSW Landfill) MSW Landfill with gas collection and control	system (enclosed flare).
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You will be contacted approximately eighteen (18) months prior to the expiration date regarding the renewal of this permit. If you are not contacted, please contact the appropriate Ohio EPA District Office or local air agency listed below. This permit and the authorization to operate the air contaminant sources (emissions units) at this facility shall expire at midnight on the expiration date shown above. If a renewal permit is not issued prior to the expiration date, the permittee may continue to operate pursuant to OAC rule 3745-77-08(E) and in accordance with the terms of this permit beyond the expiration date, provided that a complete renewal application is submitted no earlier than eighteen (18) months and no later than one-hundred eighty (180) days prior to the expiration date.

Described below is the current Ohio EPA District Office or local air agency that is responsible for processing and administering your Title V permit:

Cleveland Division of Air Pollution Control
1925 St. Clair
Cleveland, OH 44114
(216) 664-2324

OHIO ENVIRONMENTAL PROTECTION AGENCY

Christopher Jones
Director

PART I - GENERAL TERMS AND CONDITIONS

A. *State and Federally Enforceable Section*

1. **Monitoring and Related Record Keeping and Reporting Requirements**

- a. Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall maintain records that include the following, where applicable, for any required monitoring under this permit:
 - i. The date, place (as defined in the permit), and time of sampling or measurements.
 - ii. The date(s) analyses were performed.
 - iii. The company or entity that performed the analyses.
 - iv. The analytical techniques or methods used.
 - v. The results of such analyses.
 - vi. The operating conditions existing at the time of sampling or measurement.
(Authority for term: OAC rule 3745-77-07(A)(3)(b)(i))

- b. Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.
(Authority for term: OAC rule 3745-77-07(A)(3)(b)(ii))

- c. The permittee shall submit required reports in the following manner:
 - i. Reports of any required monitoring and/or record keeping information shall be submitted to the appropriate Ohio EPA District Office or local air agency.
(Authority for term: OAC rule 3745-77-07(A)(3)(c))

 - ii. **All reporting required in accordance with the OAC rule 3745-77-07(A)(3)(c) with respect to emission limitations, operational restrictions, and control device operating parameter limitations shall be submitted in the following manner:**
 - (a) Written reports of (i) any deviations from federally enforceable emission limitations, operational restrictions, and control device operating parameter limitations ; (ii) the probable cause of such deviations; and (iii) any corrective actions or preventive measures taken, shall be promptly made to the appropriate Ohio EPA District Office or local air agency. Except as may otherwise be provided in the terms and conditions for a specific emissions unit, i.e., in Part III of this Title V permit, the written reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year, and shall cover the previous calendar quarters. In identifying each deviation,

the permittee shall specify the applicable requirement for which the deviation occurred, describe each deviation, and provide the magnitude and duration of each deviation. These written reports shall satisfy the requirements (in part) of OAC rule 3745-77-07(A)(3)(c)(i) and (ii) pertaining to the submission of monitoring reports every six months and the requirements (in part) of OAC rule 3745-77-07(A)(3)(c)(iii) pertaining to the prompt reporting of all deviations. See B.6 below if no deviations occurred during the quarter.

(Authority for term: OAC rules 3745-77-07(A)(3)(c)(i), (ii) and (iii))

- (b) Any malfunction, as defined in OAC rule 3745-15-06(B)(1), shall be promptly reported to the Ohio EPA in accordance with OAC rule 3745-15-06. In addition, to fulfill the deviation reporting requirements for this Title V permit, written reports that identify each malfunction that occurred during each calendar quarter shall be submitted, at a minimum, quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year, and shall cover the previous calendar quarters.

In identifying each deviation caused by a malfunction, the permittee shall specify the applicable requirement for which the deviation occurred, describe each deviation, and provide the magnitude and duration of each deviation. For a specific malfunction, if this information has been provided in a written report that was submitted in accordance with OAC rule 3745-15-06, the permittee may simply reference that written report to identify the deviation. Also, if a deviation caused by a malfunction is identified in a written report submitted pursuant to paragraph (a) above, a separate report is not required for that malfunction pursuant to this paragraph. Nevertheless, all malfunctions, including those reported only verbally in accordance with OAC rule 3745-15-06, must be reported in writing, at a minimum, on a quarterly basis.

Any scheduled maintenance, as defined in OAC rule 3745-15-06(A)(1), that results in a deviation from a federally enforceable emission limitation, operational restriction, and control device operating parameter limitation shall be reported in the same manner as described above for malfunctions. These written reports for malfunctions (and scheduled maintenance projects, if appropriate) shall satisfy the requirements (in part) of OAC rule 3745-77-07(A)(3)(c)(iii) pertaining to the prompt reporting of all deviations.

(Authority for term: OAC rules 3745-77-07(A)(3)(c)(iii))

iii. **For monitoring, record keeping, and reporting requirements:**

Written reports that identify any deviations from the federally enforceable monitoring, record keeping, and reporting requirements contained in this permit shall be submitted to the appropriate Ohio EPA District Office or local air agency every six months, i.e., by January 31 and July 31 of each year, for the previous six calendar months. In

identifying each deviation, the permittee shall specify the applicable requirement for which the deviation occurred, describe each deviation, and provide the magnitude and duration of each deviation. These semi-annual written reports shall satisfy the requirements of OAC rule 3745-77-07(A)(3)(c)(i) and (ii) pertaining to the reporting of any deviations related to the monitoring, record keeping, and reporting requirements. If no deviations occurred during a six-month period, the permittee shall submit a semi-annual report which states that no deviations occurred during that period.

(Authority for term: OAC rules 3745-77-07(A)(3)(c)(i) and (ii))

- iv. Each written report shall be signed by a responsible official certifying that, "based on information and belief formed after reasonable inquiry, the statements and information in the report (including any written malfunction reports required by OAC rule 3745-15-06 that are referenced in the deviation reports) are true, accurate, and complete."

(Authority for term: OAC rule 3745-77-07(A)(3)(c)(iv))

2. Scheduled Maintenance/Malfunction Reporting

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction of any emissions unit(s) or any associated air pollution control system(s) shall be reported to the appropriate Ohio EPA District Office or local air agency in accordance with paragraph (B) of OAC rule 3745-15-06. Except as provided in OAC rule 3745-15-06, any scheduled maintenance or malfunction necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emissions unit(s) that is (are) served by such control system(s).

(Authority for term: OAC rule 3745-77-07(A)(3)(c)(iii))

3. Risk Management Plans

If the permittee is required to develop and register a risk management plan pursuant to section 112(r) of the Clean Air Act, as amended, 42 U.S.C. 7401 et seq. ("Act"), the permittee shall comply with the requirement to register such a plan.

(Authority for term: OAC rule 3745-77-07(A)(4))

4. Title IV Provisions

If the permittee is subject to the requirements of 40 CFR Part 72 concerning acid rain, the permittee shall ensure that any affected emissions unit complies with those requirements. Emissions exceeding any allowances that are lawfully held under Title IV of the Act, or any regulations adopted thereunder, are prohibited.

(Authority for term: OAC rule 3745-77-07(A)(5))

5. Severability Clause

A determination that any term or condition of this permit is invalid shall not invalidate the force or effect of any other term or condition thereof, except to the extent that any other term or condition depends in whole or in part for its operation or implementation upon the term or condition declared invalid.

(Authority for term: OAC rule 3745-77-07(A)(6))

6. General Requirements

- a. The permittee must comply with all terms and conditions of this permit. Any noncompliance with the federally enforceable terms and conditions of this permit constitutes a violation of the Act, and is grounds for enforcement action or for permit revocation, revocation and reissuance, or modification, or for denial of a permit renewal application.
- b. It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the federally enforceable terms and conditions of this permit.
- c. This permit may be modified, reopened, revoked, or revoked and reissued, for cause, in accordance with A.10 below. The filing of a request by the permittee for a permit modification, revocation and reissuance, or revocation, or of a notification of planned changes or anticipated noncompliance does not stay any term and condition of this permit.
- d. This permit does not convey any property rights of any sort, or any exclusive privilege.
- e. The permittee shall furnish to the Director of the Ohio EPA, or an authorized representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying, reopening or revoking this permit or to determine compliance with this permit. Upon request, the permittee shall also furnish to the Director or an authorized representative of the Director, copies of records required to be kept by this permit. For information claimed to be confidential in the submittal to the Director, if the Administrator of the U.S. EPA requests such information, the permittee may furnish such records directly to the Administrator along with a claim of confidentiality.

(Authority for term: OAC rule 3745-77-07(A)(7))

7. Fees

The permittee shall pay fees to the Director of the Ohio EPA in accordance with ORC section 3745.11 and OAC Chapter 3745-78.

(Authority for term: OAC rule 3745-77-07(A)(8))

8. Marketable Permit Programs

No revision of this permit is required under any approved economic incentive, marketable permits, emissions trading, and other similar programs or processes for changes that are provided for in this permit.

(Authority for term: OAC rule 3745-77-07(A)(9))

9. Reasonably Anticipated Operating Scenarios

The permittee is hereby authorized to make changes among operating scenarios authorized in this permit without notice to the Ohio EPA, but, contemporaneous with making a change from one operating scenario to another, the permittee must record in a log at the permitted facility the scenario under which the permittee is operating. The permit shield provided in these general terms and conditions shall apply to all operating scenarios authorized in this permit.

(Authority for term: OAC rule 3745-77-07(A)(10))

10. Reopening for Cause

This Title V permit will be reopened prior to its expiration date under the following conditions:

- a. Additional applicable requirements under the Act become applicable to one or more emissions units covered by this permit, and this permit has a remaining term of three or more years. Such a reopening shall be completed not later than eighteen (18) months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to paragraph (E)(1) of OAC rule 3745-77-08.
- b. This permit is issued to an affected source under the acid rain program and additional requirements (including excess emissions requirements) become applicable. Upon approval by the Administrator, excess emissions offset plans shall be deemed to be incorporated into the permit, and shall not require a reopening of this permit.
- c. The Director of the Ohio EPA or the Administrator of the U.S. EPA determines that the federally applicable requirements in this permit are based on a material mistake, or that inaccurate statements were made in establishing the emissions standards or other terms and conditions of this permit related to such federally applicable requirements.
- d. The Administrator of the U.S. EPA or the Director of the Ohio EPA determines that this permit must be revised or revoked to assure compliance with the applicable requirements.

(Authority for term: OAC rules 3745-77-07(A)(12) and 3745-77-08(D))

11. Federal and State Enforceability

Only those terms and conditions designated in this permit as federally enforceable, that are required under the Act, or any of its applicable requirements, including relevant provisions designed to limit the potential to emit of a source, are enforceable by the Administrator of the U.S. EPA, the State, and citizens under the Act. All other terms and conditions of this permit shall not be federally enforceable and shall be enforceable under State law only.

(Authority for term: OAC rule 3745-77-07(B))

12. Compliance Requirements

- a. Any document (including reports) required to be submitted and required by a federally applicable requirement in this Title V permit shall include a certification by a responsible official that, based on information and belief formed after reasonable inquiry, the statements in the document are true, accurate, and complete.
- b. Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Director of the Ohio EPA or an authorized representative of the Director to:
 - i. At reasonable times, enter upon the permittee's premises where a source is located or the emissions-related activity is conducted, or where records must be kept under the conditions of this permit.
 - ii. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit, subject to the protection from disclosure to the public of confidential information consistent with paragraph (E) of OAC rule 3745-77-03.
 - iii. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.
 - iv. As authorized by the Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit and applicable requirements.
- c. The permittee shall submit progress reports to the appropriate Ohio EPA District Office or local air agency concerning any schedule of compliance for meeting an applicable requirement. Progress reports shall be submitted semiannually, or more frequently if specified in the applicable requirement or by the Director of the Ohio EPA. Progress reports shall contain the following:
 - i. Dates for achieving the activities, milestones, or compliance required in any schedule of compliance, and dates when such activities, milestones, or compliance were achieved.
 - ii. An explanation of why any dates in any schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.
- d. Compliance certifications concerning the terms and conditions contained in this permit that are federally enforceable emission limitations, standards, or work practices, shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) and the Administrator of the U.S. EPA in the following manner and with the following content:
 - i. Compliance certifications shall be submitted annually on a calendar year basis. The annual certification shall be submitted on or before April 30th of each year during the permit term.
 - ii. Compliance certifications shall include the following:

- (a) An identification of each term or condition of this permit that is the basis of the certification.
 - (b) The permittee's current compliance status.
 - (c) Whether compliance was continuous or intermittent.
 - (d) The method(s) used for determining the compliance status of the source currently and over the required reporting period.
 - (e) Such other facts as the Director of the Ohio EPA may require in the permit to determine the compliance status of the source.
- iii. Compliance certifications shall contain such additional requirements as may be specified pursuant to sections 114(a)(3) and 504(b) of the Act.

(Authority for term: OAC rules 3745-77-07(C)(1),(2),(4) and (5) and ORC section 3704.03(L))

13. Permit Shield

- a. Compliance with the terms and conditions of this permit (including terms and conditions established for alternate operating scenarios, emissions trading, and emissions averaging, but excluding terms and conditions for which the permit shield is expressly prohibited under OAC rule 3745-77-07) shall be deemed compliance with the applicable requirements identified and addressed in this permit as of the date of permit issuance.
- b. This permit shield provision shall apply to any requirement identified in this permit pursuant to OAC rule 3745-77-07(F)(2), as a requirement that does not apply to the source or to one or more emissions units within the source.

(Authority for term: OAC rule 3745-77-07(F))

14. Operational Flexibility

The permittee is authorized to make the changes identified in OAC rule 3745-77-07(H)(1)(a) to (H)(1)(c) within the permitted stationary source without obtaining a permit revision, if such change is not a modification under any provision of Title I of the Act [as defined in OAC rule 3745-77-01(JJ)], and does not result in an exceedance of the emissions allowed under this permit (whether expressed therein as a rate of emissions or in terms of total emissions), and the permittee provides the Administrator of the U.S. EPA and the appropriate Ohio EPA District Office or local air agency with written notification within a minimum of seven days in advance of the proposed changes, unless the change is associated with, or in response to, emergency conditions. If less than seven days notice is provided because of a need to respond more quickly to such emergency conditions, the permittee shall provide notice to the Administrator of the U.S. EPA and the appropriate District Office of the Ohio EPA or local air agency as soon as possible after learning of the need to make the change. The notification shall contain the items required under OAC rule 3745-77-07(H)(2)(d).

(Authority for term: OAC rules 3745-77-07(H)(1) and (2))

15. Emergencies

The permittee shall have an affirmative defense of emergency to an action brought for noncompliance with technology-based emission limitations if the conditions of OAC rule 3745-77-07(G)(3) are met.

This emergency defense provision is in addition to any emergency or upset provision contained in any applicable requirement.

(Authority for term: OAC rule 3745-77-07(G))

16. Off-Permit Changes

The owner or operator of a Title V source may make any change in its operations or emissions at the source that is not specifically addressed or prohibited in the Title V permit, without obtaining an amendment or modification of the permit, provided that the following conditions are met:

- a. The change does not result in conditions that violate any applicable requirements or that violate any existing federally enforceable permit term or condition.
- b. The permittee provides contemporaneous written notice of the change to the Director and the Administrator of the U.S. EPA, except that no such notice shall be required for changes that qualify as insignificant emission levels or activities as defined in OAC rule 3745-77-01(U). Such written notice shall describe each such change, the date of such change, any change in emissions or pollutants emitted, and any federally applicable requirement that would apply as a result of the change.
- c. The change shall not qualify for the permit shield under OAC rule 3745-77-07(F).
- d. The permittee shall keep a record describing all changes made at the source that result in emissions of a regulated air pollutant subject to an applicable requirement, but not otherwise regulated under the permit, and the emissions resulting from those changes.
- e. The change is not subject to any applicable requirement under Title IV of the Act or is not a modification under any provision of Title I of the Act.

Paragraph (I) of rule 3745-77-07 of the Administrative Code applies only to modification or amendment of the permittee's Title V permit. The change made may require a permit to install under Chapter 3745-31 of the Administrative Code if the change constitutes a modification as defined in that Chapter. Nothing in paragraph (I) of rule 3745-77-07 of the Administrative Code shall affect any applicable obligation under Chapter 3745-31 of the Administrative Code.

(For purposes of clarification, the permittee can refer to Engineering Guide #63 that is available in the STARSHIP software package.)

(Authority for term: OAC rule 3745-77-07(I))

17. Compliance Method Requirements

Nothing in this permit shall alter or affect the ability of any person to establish compliance with, or a violation of, any applicable requirement through the use of credible evidence to the extent authorized by law. Nothing in this permit shall be construed to waive any defenses otherwise available to the

permittee, including but not limited to, any challenge to the Credible Evidence Rule (see 62 Fed. Reg. 8314, Feb. 24, 1997), in the context of any future proceeding.
(This term is provided for informational purposes only.)

18. Insignificant Activities

Each insignificant activity that has one or more applicable requirements shall comply with those applicable requirements.

(Authority for term: OAC rule 3745-77-07(A)(1))

19. Permit to Install Requirement

Prior to the “installation” or “modification” of any “air contaminant source,” as those terms are defined in OAC rule 3745-31-01, a permit to install must be obtained from the Ohio EPA pursuant to OAC Chapter 3745-31.

(Authority for term: OAC rule 3745-77-07(A)(1))

20. Air Pollution Nuisance

The air contaminants emitted by the emissions units covered by this permit shall not cause a public nuisance, in violation of OAC rule 3745-15-07.

(Authority for term: OAC rule 3745-77-07(A)(1))

B. State Only Enforceable Section

1. Reporting Requirements Related to Monitoring and Record Keeping Requirements

The permittee shall submit required reports in the following manner:

- a. Reports of any required monitoring and/or record keeping information shall be submitted to the appropriate Ohio EPA District Office or local air agency.
- b. Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (i) any deviations (excursions) from emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and record keeping requirements specified in this permit, (ii) the probable cause of such deviations, and (iii) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the appropriate Ohio EPA District Office or local air agency. In identifying each deviation, the permittee shall specify the applicable requirement for which the deviation occurred, describe each deviation, and provide the magnitude and duration of each deviation. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31

of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

2. Records Retention Requirements

Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include, but not be limited to, all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.

3. Inspections and Information Requests

The Director of the Ohio EPA, or an authorized representative of the Director, may, subject to the safety requirements of the permittee and without undue delay, enter upon the premises of this source at any reasonable time for purposes of making inspections, conducting tests, examining records or reports pertaining to any emission of air contaminants, and determining compliance with any applicable State air pollution laws and regulations and the terms and conditions of this permit. The permittee shall furnish to the Director of the Ohio EPA, or an authorized representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying, reopening or revoking this permit or to determine compliance with this permit. Upon verbal or written request, the permittee shall also furnish to the Director of the Ohio EPA, or an authorized representative of the Director, copies of records required to be kept by this permit.

4. Scheduled Maintenance/Malfunction Reporting

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction of any emissions units or any associated air pollution control system(s) shall be reported to the appropriate Ohio EPA District Office or local air agency in accordance with paragraph (B) of OAC rule 3745-15-06. Except as provided in that rule, any scheduled maintenance or malfunction necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emissions unit(s) that is (are) served by such control system(s).

5. Permit Transfers

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The appropriate Ohio EPA District Office or local air agency must be notified in writing of any transfer of this permit.

6. Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations (See Section A of This Permit)

Facility Name: BFI - Glenwillow Landfill
Facility ID: 13-18-24-7721

If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters.

Part II - Specific Facility Terms and Conditions

A. State and Federally Enforcable Section

None

B. State Only Enforceable Section

1. The following insignificant emission units are located at this facility:

F001: roadways/parking areas

Z005: waste oil furnace

Each insignificant emissions unit at this facility must comply with all applicable state and federal regulations, as well as any emission limitations and/or control requirements contained within a permit to install for the emissions unit.

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: MSW Landfill (F002)

Activity Description: MSW Landfill with gas collection and control system (enclosed flare).

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

- 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>
closed MSW landfill equipped with an active gas collection and control system with an enclosed flare (combustor)	OAC rule 3745-31-05(A)(3) PTI#13-2256	8.5 lbs/hr of organic compound emissions
		4.0 lbs/hr of nitrogen oxides emission
		1.5 lbs/hr of sulfur dioxide emissions
		17.5 lbs/hr of carbon monoxide emissions
		1.1 lbs/hr of particulate emissions
		1.5 lbs/hr of HCl emissions
		The visible emission limitation specified by this rule is less stringent than the visible emission limitation established pursuant to 40 CFR 60.18(c)(1).
	OAC Chapter 3745-76	See section A.1.2.a - A.1.2.d below
	40 CFR 60.18(c)(1)	No visible emissions from the flare, except for a period of time not to exceed a total of 5 minutes during any 2 consecutive hours.
	40 CFR Part 60 Subpart Cc	See section A.1.2.c below.
	OAC rule 3745-17-07(A)	The visible emission limitation specified by this rule is less stringent than the visible emission limitation established pursuant to 40 CFR 60.18(c)(1).

2. Additional Terms and Conditions

- 2.a** Design, construction, and siting of the gas extraction wells and gas collection system shall be in accordance with Ohio's Chapter 111(d) plan for existing MSW landfills as approved by the US EPA, the gas collection and control system design plan, and standard industry methods and practices currently in use. The gas collection system shall:
- i. be designed to handle the maximum expected gas flow rate, as calculated from equations specified in OAC rule 3745-76-10(A)(1), from the entire area of the landfill that warrants control over the intended use period of the gas control or treatment system equipment;
 - ii. collect gas from each area, cell, or group of cells in the landfill in which the initial solid waste has been placed for a period of 5 years or more if active, or 2 years or more if closed or at final grade;
 - iii. collect gas at a sufficient extraction rate;
 - iv. be designed to minimize off-site migration of subsurface gas; and
 - v. meet all other specifications for active collection systems specified in OAC rule 3745-76-14.
- 2.b** All landfill gas collected shall be routed to a control system designed and operated within the parameters demonstrated during the performance test to reduce non-methane organic compounds (NMOC) emissions by 98 weight-percent, or when an enclosed combustion device is used for control, to either reduce NMOC emissions by 98 weight-percent or reduce the outlet NMOC concentration to less than 20 parts per million by volume, dry basis as hexane at 3 percent oxygen. The NMOC concentration shall be determined by methods specified in OAC rule 3745-76-09(D).
- 2.c** The equipment that constitutes the gas collection and control system shall be properly maintained and kept in good operating condition at all times.
- 2.d** The collection and control system may be capped or removed provided that all the conditions of OAC rule 3745-76-07(B)(2)(e)(i), (ii) & (iii) are met.

II. Operational Restrictions

1. Whenever the flare is in operation, a temperature of at least 1400 degrees Fahrenheit (or higher temperature if needed to ensure a 98 weight-percent destruction of the NMOCs), measured by the temperature indicator, must be maintained.
2. In the event the collection or control system is inoperable, the gas mover system shall be shut down and all valves in the collection and control system contributing to venting of the gas to the atmosphere shall be closed within one hour.
3. All recording devices shall be synchronized based on the time of day.
4. The skin temperature of the flare shroud within four feet of all the source test ports shall not exceed 250 degrees Fahrenheit. If a heat shield is required to meet the requirement, its design shall be approved by the Ohio EPA prior to its construction. The heat shield, if required to meet the temperature requirement, shall be in place whenever a source test is conducted for the Ohio EPA.

II. Operational Restrictions (continued)

5. The gas collection system shall be operated in such a manner as to provide negative pressure at each wellhead except under the following conditions:
 - a. A fire or increased well temperature. (The permittee shall record instances when positive pressure occurs in efforts to avoid a fire.)
 - b. Use of a geomembrane or synthetic cover. (The permittee shall develop acceptable pressure limits in the design plan.)
 - c. A decommissioned well. (A well may experience a static positive pressure after shutdown to accommodate for declining flows. All design changes shall be approved by the Director of Ohio EPA.)
6. The permittee shall operate each interior wellhead in the collection system with a landfill gas temperature less than 55 degrees Celsius and with either a nitrogen level less than 20% or an oxygen level less than 5%. The permittee may establish a higher operating temperature, nitrogen, or oxygen value at a particular well. A higher operating value demonstration shall show supporting data that the elevated parameter does not cause fires or significantly inhibit the anaerobic decomposition by killing methanogens.
7. The permittee shall operate the collection system so that the methane concentration is less than 500 parts per million above the background at the surface of the landfill. As specified in OAC 3745-76-10(C)(3), compliance with the 500 parts per million limitation shall be determined at a distance between 5 and 10 centimeters above the surface of the landfill.

III. Monitoring and/or Record Keeping Requirements

1. The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the flare when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

The permittee shall collect and record the following information for each day:

- a. all 3-hour blocks of time during which the average combustion temperature within the enclosed flare, when the emissions unit was in operation, was less than 1400 degrees Fahrenheit; and
 - b. a log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.
2. The permittee shall calibrate, maintain, and operate according to the manufacturer's specifications a device that records the flow to the flare, treatment system, and bypass stack. The flow measuring device shall collect and record the flow at least every fifteen minutes; or secure the bypass line valve in the closed position with a car-seal or lock-and-key type configuration. A visual inspection of the seal or closure mechanism shall 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.
 3. For the purpose of demonstrating whether the gas collection system flow rate is sufficient to determine compliance with OAC rule 3745-76-07(B)(2)(b)(i)(c), the permittee shall install a sampling port at each well and measure and record the gauge pressure in the gas collection header on a monthly basis.
 4. The permittee shall, upon each visit to this closed facility, and at a minimum of once per month during normal operating conditions, visually inspect the flare and record whether or not any visible emissions are present and the duration of any visible emissions.

III. Monitoring and/or Record Keeping Requirements (continued)

5. The gas collection and control system shall be equipped with an auto-dial communication mechanism incorporated into it so that should a malfunction develop with the flare and/or blower system, the gas system technician will automatically be paged by phone.
6. For the purpose of identifying whether excess air infiltration into the landfill is occurring, the permittee shall monitor each well on a monthly basis for temperature and nitrogen or oxygen. This monitoring shall be performed in accordance with the methodology specified in OAC rule 3745-76-08(C).
7. On a quarterly basis, the permittee shall monitor surface concentrations of methane at the landfill. This monitoring shall be performed in accordance with the methodology specified in OAC rule 3745-76-10(C)&(D).
8. The permittee shall operate and maintain a temperature monitor and recorder which measures and records the skin temperature of the flare shroud when emissions testing is being conducted for the flare. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitor and recorder shall be calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.
9. The permittee shall maintain the following information for the life of the control equipment as measured during the initial performance test or compliance demonstration:
 - a. The maximum expected gas generation flow rate as calculated by equations specified in 3745-76-10(A)(1) and based on the following:

- i. For sites with unknown year-to-year solid waste acceptance rate:

$$Q_m = 2L_o \times R \times \{(e \text{ to the power } -kc) - (e \text{ to the power } -kt)\}$$

where,

Q_m = maximum expected gas generation flow rate, cubic meters per year

L_o = methane generation potential, cubic meters per megagram solid waste

R = average annual acceptance rate, megagrams per year

k = methane generation rate constant, per year

t = age of the landfill at equipment installation plus the time the owner or operator intends to use the gas mover equipment or active life of the landfill, whichever is less (If the equipment is installed after closure, t is the age of the landfill at installation), years

c = time since closure, years (for an active landfill $c = 0$ and $(e \text{ to the power } -kc) = 1$)

- ii. For sites with known year-to-year solid waste acceptance rate:

$$Q_m = \text{Summation of } 2kL_oM_i \times (e \text{ to the power } -kti \text{ for } i=1 \text{ through } i=n)$$

where,

Q_m = maximum expected gas generation flow rate, cubic meters per year

k = methane generation rate constant, per year

L_o = methane generation potential, cubic meters per megagram solid waste

M_i = mass of solid waste in the i th section, megagrams

III. Monitoring and/or Record Keeping Requirements (continued)

t_i = age of the i th section, years

- b. the density of wells, horizontal collectors, surface collectors, or other gas extraction devices determined using the procedures specified in 40 CFR Part 60.759(a)(1);
 - c. the flare type (i.e., steam-assisted, air-assisted, or non-assisted);
 - d. all visible emission readings;
 - e. heat content determinations of the gas;
 - f. flow rate or bypass flow rate measurements;
 - g. exit velocity determinations made during the performance test as specified in 40 CFR Part 60.18;
 - h. continuous records of the flare pilot flame or flare flame monitoring and records of all periods of operations during which the flare pilot flame or flare flame is absent; and
 - i. the percent reduction of NMOC achieved by the enclosed combustion device.
- 10.** The permittee shall maintain, for the life of the collection system, an up-to-date, readily accessible plot map showing each existing and planned collector in the system and provide a unique identification location label for each collector.
- 11.** The permittee shall keep for at least 5 years up-to-date, readily accessible, on-site records of the maximum design capacity of the landfill, the current amount of solid waste in-place, and the year-to-year waste acceptance rate. Off-site records may be maintained if they are retrievable within 4 hours. Either hardcopy or electronic formats are acceptable. These records, may also be required by the Ohio EPA, Division of Solid and Infectious Waste Management, and shall satisfy this permit condition.
- 12.** The permittee shall conduct surface testing around the perimeter of the collection area along a pattern that traverses the landfill at 30-meter intervals and where visual observations indicate elevated concentrations of landfill gas, such as distressed vegetation and cracks or seeps in the cover.
- 13.** The permittee shall monitor surface concentrations of methane on a quarterly basis as follows:
- a. Monitor surface concentrations of methane along the entire perimeter of the collection area and along a serpentine pattern spaced 30 meters apart (or a site-specific established spacing) for each collection area.
 - b. The background concentration shall be determined by moving the probe inlet upwind and downwind outside the boundary of the landfill at a distance of at least 30 meters from the perimeter wells.
 - c. Surface emission monitoring shall be performed in accordance with section 4.3.1 of Method 21 of Appendix A of 40 CFR, Part 60, except that the probe inlet shall be placed within 5 to 10 centimeters of the ground. Monitoring shall be performed during typical meteorological conditions.
 - d. Any reading of 500 parts per million or more above background at any location shall be recorded as a monitored exceedance and the actions specified below shall be taken. As long as the specified actions are taken, the exceedance is not a violation of the operational requirements listed in A.II.7:
 - i. The location of each monitored exceedance shall be marked and the location recorded.
 - ii. Cover maintenance or adjustments to the vacuum of the adjacent wells to increase the gas collection in the vicinity of each exceedance shall be made and the location shall be remonitored within 10 calendar days of detecting the exceedance.

III. Monitoring and/or Record Keeping Requirements (continued)

- iii. If the remonitoring of the location shows a second exceedance, additional corrective action shall be taken and the location shall be monitored again within 10 days of the second exceedance. If the remonitoring shows a third exceedance for the same location, a new well or other collection device shall be installed within 120 calendar days of the initial exceedance. An alternative remedy to the exceedance, such as upgrading the blower, header pipes or control device, and a corresponding timeline for installation may be submitted to the Ohio EPA for approval. No further monitoring of that location is required until the action specified has been taken.
- iv. Any location that initially showed an exceedance but has a methane concentration less than 500 ppm methane above background at the 10-day remonitoring specified above shall be remonitored 1 month from the initial exceedance. If the 1-month remonitoring shows a concentration less than 500 parts per million above background, no further monitoring of that location is required until the next quarterly monitoring period. If the 1-month remonitoring shows an exceedance, the actions specified above shall be taken.

IV. Reporting Requirements

1. Any breakdown or malfunction of the landfill gas flare resulting in the emission of raw landfill gas from the gas collection and control system for more than one hour shall be reported to the appropriate Ohio EPA District Office or local air agency within one hour after the occurrence, or as soon as reasonably possible, and immediate remedial measures shall be undertaken to correct the problem and prevent further emissions to the atmosphere.
2. In the event of a potential emergency, such as a fire within the landfill, wells affected may be temporarily shut off, which could result in a positive gauge pressure. The appropriate Ohio EPA District Office or local air agency shall be notified within one working day of any shutdowns of any wells.
3. The permittee shall submit quarterly deviation (excursion) reports that include the following information:
 - a. an identification of each month during which the gauge pressure in the gas collection header gave a positive pressure reading, and the actual gauge pressure reading for each such month;
 - b. an identification of each period during which the temperature in the combustion device was less than 1400 degrees Fahrenheit, and a copy of the recorded chart for each such period;
 - c. an identification of each month during which temperature and nitrogen or oxygen limitations specified in A.II.6. were exceeded;
 - d. an identification of each quarter during which the methane concentration measured at the surface of the landfill was greater than 500 parts per million above the background levels (as specified in OAC 3745-76-10(C)(3), compliance with the 500 parts per million limitation shall be determined at a distance between 5 and 10 centimeters above the surface of the landfill);
 - e. all periods when the gas stream is diverted from the control device or recovery system through a bypass line or the indication of bypass flow or any record which indicates that the bypass line valve was not maintained in the closed position; and
 - f. a listing of all periods when the collection system was not operating in excess of five days.

Should a deviation occur, the deviation report shall include details sufficient to determine compliance with the time line provisions established under OAC rule 3745-76-10.

All quarterly deviation reports shall be submitted in accordance with paragraph A.1.c of the General Terms and Conditions of this permit.

4. The permittee shall submit semi-annual reports which include an identification of any record showing that visible emissions were present from the flare. The reports shall be submitted by January 31 and July 31 of each year and shall cover the previous 6 calendar months.

IV. Reporting Requirements (continued)

5. The permittee shall submit an equipment removal report to the appropriate Ohio EPA District Office or local air agency thirty days prior to the removal or cessation of operation of the control equipment. This report shall contain the information specified in OAC rule 3745-76-12(E)(1).

The permittee shall submit an equipment installation report to the appropriate Ohio EPA District Office or local air agency for expansions added pursuant to OAC rule 3745-76-10(A)(3), (B), and (C)(4). This report shall include the date, location, and description of the expansion.

6. In addition to the initial performance test report required in OAC rule 3745-76-07(B)(2)(c)(ii), the permittee shall submit the information required in OAC rule 3745-76-12(G)(1) through (5).
7. The permittee shall submit an NMOC annual emission rate report to the appropriate Ohio EPA District Office or local air agency. The report shall include all the data, calculations, sample reports and measurements used to estimate the annual emissions.

V. Testing Requirements

1. Compliance with the emission limitation(s) in section A.I.1. of these terms and conditions shall be determined in accordance with the following method(s):

- 1.a Emission Limitation -
1.1 lbs/hr of particulate emissions

Applicable Compliance Method -

Compliance shall be based upon the results of the emission testing specified in Section A.V.2.

- 1.b Emission Limitation -
4.0 lbs/hr of nitrogen oxides emissions

Applicable Compliance Method -

Compliance shall be based upon the results of the emission testing specified in Section A.V.2.

- 1.c Emission Limitation -
17.5 lbs/hr of carbon monoxide emissions

Applicable Compliance Method -

Compliance shall be based upon the results of the emission testing specified in Section A.V.2.

- 1.d Emission Limitation -
1.5 lbs/hr of sulfur dioxide emissions

Applicable Compliance Method -

Compliance shall be based upon the results of the emission testing specified in Section A.V.2.

- 1.e Emission Limitation -
1.5 lbs/hr of HCl emissions

Applicable Compliance Method -

Compliance shall be based upon the results of the emission testing specified in Section A.V.2.

- 1.f Emission Limitation -
8.5 lbs/hr of organic compound emissions

Applicable Compliance Method -

Compliance shall be based upon the results of the emission testing specified in Section A.V.2.

V. Testing Requirements (continued)

1.g Emission Limitation -

No visible emissions from the flare, except for a period not to exceed a total of 5 minutes during any 2 consecutive hours.

Applicable Compliance Method -

If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 22.

2. The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

The emission testing shall be conducted within 3 months after issuance of the permit and within 6 months prior to permit expiration.

The emission testing shall be conducted to demonstrate compliance with the particulate, nitrogen oxides, sulfur dioxide, carbon monoxide, organic compound and HCl emission limitations.

The following test methods shall be employed to demonstrate compliance with the emission limitations: Methods 1 through 5 of 40 CFR Part 60, Appendix A for particulates, Method 7E of 40 CFR Part 60, Appendix A for nitrogen oxide, Method 10 of 40 CFR Part 60, Appendix A for carbon monoxide, Method 6 of 40 CFR Part 60, Appendix A for sulfur dioxide, Method 25C of 40 CFR Part 60, Appendix A for organic compounds and Method 26 of 40 CFR Part 60, Appendix A for HCl emissions. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

3. The nitrogen level shall be determined using Method 3C of 40 CFR Part 60, Appendix A, unless an alternative test method is established as allowed by 40 CFR Part 60.752(b)(2)(i).

V. Testing Requirements (continued)

4. The oxygen level shall be determined by an oxygen meter using Method 3A of 40 CFR Part 60, Appendix A, unless an alternative test method is established as allowed by 40 CFR Part 60.752(b)(2)(i), except that:
 - a. the span shall be set so that the regulatory limit is between 20 and 50% of the span;
 - b. a data recorder is not required;
 - c. only two calibration gases are required, a zero and span, and ambient air may be used as the span;
 - d. a calibration error check is not required; and
 - e. the allowable sample bias, zero drift, and calibration drift are plus or minus 10%.
5. The flow rate of landfill gas shall be determined by measuring the total landfill gas flow rate at the common header pipe that leads to the enclosed combustion device using a gas flow measuring device calibrated according to the provisions of section 4 of Method 2E of Appendix A of 40 CFR Part 60.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. 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>
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2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

THIS IS THE LAST PAGE OF THE PERMIT

Part II - Specific Facility Terms and Conditions

A. State and Federally Enforcable Section

None

B. State Only Enforceable Section

1. The following insignificant emission units are located at this facility:

F001: roadways/parking areas

Z005: waste oil furnace

Each insignificant emissions unit at this facility must comply with all applicable state and federal regulations, as well as any emission limitations and/or control requirements contained within a permit to install for the emissions unit.

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: MSW Landfill (F002)

Activity Description: MSW Landfill with gas collection and control system (enclosed flare).

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

- 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>
closed MSW landfill equipped with an active gas collection and control system with an enclosed flare (combustor)	OAC rule 3745-31-05(A)(3) PTI#13-2256	8.5 lbs/hr of organic compound emissions
		4.0 lbs/hr of nitrogen oxides emission
		1.5 lbs/hr of sulfur dioxide emissions
		17.5 lbs/hr of carbon monoxide emissions
		1.1 lbs/hr of particulate emissions
		1.5 lbs/hr of HCl emissions
		The visible emission limitation specified by this rule is less stringent than the visible emission limitation established pursuant to 40 CFR 60.18(c)(1).
	OAC Chapter 3745-76	See section A.1.2.a - A.1.2.d below
	40 CFR 60.18(c)(1)	No visible emissions from the flare, except for a period of time not to exceed a total of 5 minutes during any 2 consecutive hours.
	40 CFR Part 60 Subpart Cc	See section A.1.2.c below.
	OAC rule 3745-17-07(A)	The visible emission limitation specified by this rule is less stringent than the visible emission limitation established pursuant to 40 CFR 60.18(c)(1).

2. Additional Terms and Conditions

- 2.a** Design, construction, and siting of the gas extraction wells and gas collection system shall be in accordance with Ohio's Chapter 111(d) plan for existing MSW landfills as approved by the US EPA, the gas collection and control system design plan, and standard industry methods and practices currently in use. The gas collection system shall:
- i. be designed to handle the maximum expected gas flow rate, as calculated from equations specified in OAC rule 3745-76-10(A)(1), from the entire area of the landfill that warrants control over the intended use period of the gas control or treatment system equipment;
 - ii. collect gas from each area, cell, or group of cells in the landfill in which the initial solid waste has been placed for a period of 5 years or more if active, or 2 years or more if closed or at final grade;
 - iii. collect gas at a sufficient extraction rate;
 - iv. be designed to minimize off-site migration of subsurface gas; and
 - v. meet all other specifications for active collection systems specified in OAC rule 3745-76-14.
- 2.b** All landfill gas collected shall be routed to a control system designed and operated within the parameters demonstrated during the performance test to reduce non-methane organic compounds (NMOC) emissions by 98 weight-percent, or when an enclosed combustion device is used for control, to either reduce NMOC emissions by 98 weight-percent or reduce the outlet NMOC concentration to less than 20 parts per million by volume, dry basis as hexane at 3 percent oxygen. The NMOC concentration shall be determined by methods specified in OAC rule 3745-76-09(D).
- 2.c** The equipment that constitutes the gas collection and control system shall be properly maintained and kept in good operating condition at all times.
- 2.d** The collection and control system may be capped or removed provided that all the conditions of OAC rule 3745-76-07(B)(2)(e)(i), (ii) & (iii) are met.

II. Operational Restrictions

1. Whenever the flare is in operation, a temperature of at least 1400 degrees Fahrenheit (or higher temperature if needed to ensure a 98 weight-percent destruction of the NMOCs), measured by the temperature indicator, must be maintained.
2. In the event the collection or control system is inoperable, the gas mover system shall be shut down and all valves in the collection and control system contributing to venting of the gas to the atmosphere shall be closed within one hour.
3. All recording devices shall be synchronized based on the time of day.
4. The skin temperature of the flare shroud within four feet of all the source test ports shall not exceed 250 degrees Fahrenheit. If a heat shield is required to meet the requirement, its design shall be approved by the Ohio EPA prior to its construction. The heat shield, if required to meet the temperature requirement, shall be in place whenever a source test is conducted for the Ohio EPA.

II. Operational Restrictions (continued)

5. The gas collection system shall be operated in such a manner as to provide negative pressure at each wellhead except under the following conditions:
 - a. A fire or increased well temperature. (The permittee shall record instances when positive pressure occurs in efforts to avoid a fire.)
 - b. Use of a geomembrane or synthetic cover. (The permittee shall develop acceptable pressure limits in the design plan.)
 - c. A decommissioned well. (A well may experience a static positive pressure after shutdown to accommodate for declining flows. All design changes shall be approved by the Director of Ohio EPA.)
6. The permittee shall operate each interior wellhead in the collection system with a landfill gas temperature less than 55 degrees Celsius and with either a nitrogen level less than 20% or an oxygen level less than 5%. The permittee may establish a higher operating temperature, nitrogen, or oxygen value at a particular well. A higher operating value demonstration shall show supporting data that the elevated parameter does not cause fires or significantly inhibit the anaerobic decomposition by killing methanogens.
7. The permittee shall operate the collection system so that the methane concentration is less than 500 parts per million above the background at the surface of the landfill. As specified in OAC 3745-76-10(C)(3), compliance with the 500 parts per million limitation shall be determined at a distance between 5 and 10 centimeters above the surface of the landfill.

III. Monitoring and/or Record Keeping Requirements

1. The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the flare when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

The permittee shall collect and record the following information for each day:

- a. all 3-hour blocks of time during which the average combustion temperature within the enclosed flare, when the emissions unit was in operation, was less than 1400 degrees Fahrenheit; and
 - b. a log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.
2. The permittee shall calibrate, maintain, and operate according to the manufacturer's specifications a device that records the flow to the flare, treatment system, and bypass stack. The flow measuring device shall collect and record the flow at least every fifteen minutes; or secure the bypass line valve in the closed position with a car-seal or lock-and-key type configuration. A visual inspection of the seal or closure mechanism shall 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.
 3. For the purpose of demonstrating whether the gas collection system flow rate is sufficient to determine compliance with OAC rule 3745-76-07(B)(2)(b)(i)(c), the permittee shall install a sampling port at each well and measure and record the gauge pressure in the gas collection header on a monthly basis.
 4. The permittee shall, upon each visit to this closed facility, and at a minimum of once per month during normal operating conditions, visually inspect the flare and record whether or not any visible emissions are present and the duration of any visible emissions.

III. Monitoring and/or Record Keeping Requirements (continued)

5. The gas collection and control system shall be equipped with an auto-dial communication mechanism incorporated into it so that should a malfunction develop with the flare and/or blower system, the gas system technician will automatically be paged by phone.
6. For the purpose of identifying whether excess air infiltration into the landfill is occurring, the permittee shall monitor each well on a monthly basis for temperature and nitrogen or oxygen. This monitoring shall be performed in accordance with the methodology specified in OAC rule 3745-76-08(C).
7. On a quarterly basis, the permittee shall monitor surface concentrations of methane at the landfill. This monitoring shall be performed in accordance with the methodology specified in OAC rule 3745-76-10(C)&(D).
8. The permittee shall operate and maintain a temperature monitor and recorder which measures and records the skin temperature of the flare shroud when emissions testing is being conducted for the flare. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitor and recorder shall be calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.
9. The permittee shall maintain the following information for the life of the control equipment as measured during the initial performance test or compliance demonstration:
 - a. The maximum expected gas generation flow rate as calculated by equations specified in 3745-76-10(A)(1) and based on the following:

- i. For sites with unknown year-to-year solid waste acceptance rate:

$$Q_m = 2L_o \times R \times \{(e \text{ to the power } -kc) - (e \text{ to the power } -kt)\}$$

where,

Q_m = maximum expected gas generation flow rate, cubic meters per year

L_o = methane generation potential, cubic meters per megagram solid waste

R = average annual acceptance rate, megagrams per year

k = methane generation rate constant, per year

t = age of the landfill at equipment installation plus the time the owner or operator intends to use the gas mover equipment or active life of the landfill, whichever is less (If the equipment is installed after closure, t is the age of the landfill at installation), years

c = time since closure, years (for an active landfill $c = 0$ and $(e \text{ to the power } -kc) = 1$)

- ii. For sites with known year-to-year solid waste acceptance rate:

$$Q_m = \text{Summation of } 2kL_oM_i \times (e \text{ to the power } -kti \text{ for } i=1 \text{ through } i=n)$$

where,

Q_m = maximum expected gas generation flow rate, cubic meters per year

k = methane generation rate constant, per year

L_o = methane generation potential, cubic meters per megagram solid waste

M_i = mass of solid waste in the i th section, megagrams

III. Monitoring and/or Record Keeping Requirements (continued)

t_i = age of the i th section, years

- b. the density of wells, horizontal collectors, surface collectors, or other gas extraction devices determined using the procedures specified in 40 CFR Part 60.759(a)(1);
 - c. the flare type (i.e., steam-assisted, air-assisted, or non-assisted);
 - d. all visible emission readings;
 - e. heat content determinations of the gas;
 - f. flow rate or bypass flow rate measurements;
 - g. exit velocity determinations made during the performance test as specified in 40 CFR Part 60.18;
 - h. continuous records of the flare pilot flame or flare flame monitoring and records of all periods of operations during which the flare pilot flame or flare flame is absent; and
 - i. the percent reduction of NMOC achieved by the enclosed combustion device.
- 10.** The permittee shall maintain, for the life of the collection system, an up-to-date, readily accessible plot map showing each existing and planned collector in the system and provide a unique identification location label for each collector.
- 11.** The permittee shall keep for at least 5 years up-to-date, readily accessible, on-site records of the maximum design capacity of the landfill, the current amount of solid waste in-place, and the year-to-year waste acceptance rate. Off-site records may be maintained if they are retrievable within 4 hours. Either hardcopy or electronic formats are acceptable. These records, may also be required by the Ohio EPA, Division of Solid and Infectious Waste Management, and shall satisfy this permit condition.
- 12.** The permittee shall conduct surface testing around the perimeter of the collection area along a pattern that traverses the landfill at 30-meter intervals and where visual observations indicate elevated concentrations of landfill gas, such as distressed vegetation and cracks or seeps in the cover.
- 13.** The permittee shall monitor surface concentrations of methane on a quarterly basis as follows:
- a. Monitor surface concentrations of methane along the entire perimeter of the collection area and along a serpentine pattern spaced 30 meters apart (or a site-specific established spacing) for each collection area.
 - b. The background concentration shall be determined by moving the probe inlet upwind and downwind outside the boundary of the landfill at a distance of at least 30 meters from the perimeter wells.
 - c. Surface emission monitoring shall be performed in accordance with section 4.3.1 of Method 21 of Appendix A of 40 CFR, Part 60, except that the probe inlet shall be placed within 5 to 10 centimeters of the ground. Monitoring shall be performed during typical meteorological conditions.
 - d. Any reading of 500 parts per million or more above background at any location shall be recorded as a monitored exceedance and the actions specified below shall be taken. As long as the specified actions are taken, the exceedance is not a violation of the operational requirements listed in A.II.7:
 - i. The location of each monitored exceedance shall be marked and the location recorded.
 - ii. Cover maintenance or adjustments to the vacuum of the adjacent wells to increase the gas collection in the vicinity of each exceedance shall be made and the location shall be remonitored within 10 calendar days of detecting the exceedance.

III. Monitoring and/or Record Keeping Requirements (continued)

- iii. If the remonitoring of the location shows a second exceedance, additional corrective action shall be taken and the location shall be monitored again within 10 days of the second exceedance. If the remonitoring shows a third exceedance for the same location, a new well or other collection device shall be installed within 120 calendar days of the initial exceedance. An alternative remedy to the exceedance, such as upgrading the blower, header pipes or control device, and a corresponding timeline for installation may be submitted to the Ohio EPA for approval. No further monitoring of that location is required until the action specified has been taken.
- iv. Any location that initially showed an exceedance but has a methane concentration less than 500 ppm methane above background at the 10-day remonitoring specified above shall be remonitored 1 month from the initial exceedance. If the 1-month remonitoring shows a concentration less than 500 parts per million above background, no further monitoring of that location is required until the next quarterly monitoring period. If the 1-month remonitoring shows an exceedance, the actions specified above shall be taken.

IV. Reporting Requirements

1. Any breakdown or malfunction of the landfill gas flare resulting in the emission of raw landfill gas from the gas collection and control system for more than one hour shall be reported to the appropriate Ohio EPA District Office or local air agency within one hour after the occurrence, or as soon as reasonably possible, and immediate remedial measures shall be undertaken to correct the problem and prevent further emissions to the atmosphere.
2. In the event of a potential emergency, such as a fire within the landfill, wells affected may be temporarily shut off, which could result in a positive gauge pressure. The appropriate Ohio EPA District Office or local air agency shall be notified within one working day of any shutdowns of any wells.
3. The permittee shall submit quarterly deviation (excursion) reports that include the following information:
 - a. an identification of each month during which the gauge pressure in the gas collection header gave a positive pressure reading, and the actual gauge pressure reading for each such month;
 - b. an identification of each period during which the temperature in the combustion device was less than 1400 degrees Fahrenheit, and a copy of the recorded chart for each such period;
 - c. an identification of each month during which temperature and nitrogen or oxygen limitations specified in A.II.6. were exceeded;
 - d. an identification of each quarter during which the methane concentration measured at the surface of the landfill was greater than 500 parts per million above the background levels (as specified in OAC 3745-76-10(C)(3), compliance with the 500 parts per million limitation shall be determined at a distance between 5 and 10 centimeters above the surface of the landfill);
 - e. all periods when the gas stream is diverted from the control device or recovery system through a bypass line or the indication of bypass flow or any record which indicates that the bypass line valve was not maintained in the closed position; and
 - f. a listing of all periods when the collection system was not operating in excess of five days.

Should a deviation occur, the deviation report shall include details sufficient to determine compliance with the time line provisions established under OAC rule 3745-76-10.

All quarterly deviation reports shall be submitted in accordance with paragraph A.1.c of the General Terms and Conditions of this permit.

4. The permittee shall submit semi-annual reports which include an identification of any record showing that visible emissions were present from the flare. The reports shall be submitted by January 31 and July 31 of each year and shall cover the previous 6 calendar months.

IV. Reporting Requirements (continued)

5. The permittee shall submit an equipment removal report to the appropriate Ohio EPA District Office or local air agency thirty days prior to the removal or cessation of operation of the control equipment. This report shall contain the information specified in OAC rule 3745-76-12(E)(1).

The permittee shall submit an equipment installation report to the appropriate Ohio EPA District Office or local air agency for expansions added pursuant to OAC rule 3745-76-10(A)(3), (B), and (C)(4). This report shall include the date, location, and description of the expansion.

6. In addition to the initial performance test report required in OAC rule 3745-76-07(B)(2)(c)(ii), the permittee shall submit the information required in OAC rule 3745-76-12(G)(1) through (5).
7. The permittee shall submit an NMOC annual emission rate report to the appropriate Ohio EPA District Office or local air agency. The report shall include all the data, calculations, sample reports and measurements used to estimate the annual emissions.

V. Testing Requirements

1. Compliance with the emission limitation(s) in section A.I.1. of these terms and conditions shall be determined in accordance with the following method(s):

- 1.a Emission Limitation -
1.1 lbs/hr of particulate emissions

Applicable Compliance Method -

Compliance shall be based upon the results of the emission testing specified in Section A.V.2.

- 1.b Emission Limitation -
4.0 lbs/hr of nitrogen oxides emissions

Applicable Compliance Method -

Compliance shall be based upon the results of the emission testing specified in Section A.V.2.

- 1.c Emission Limitation -
17.5 lbs/hr of carbon monoxide emissions

Applicable Compliance Method -

Compliance shall be based upon the results of the emission testing specified in Section A.V.2.

- 1.d Emission Limitation -
1.5 lbs/hr of sulfur dioxide emissions

Applicable Compliance Method -

Compliance shall be based upon the results of the emission testing specified in Section A.V.2.

- 1.e Emission Limitation -
1.5 lbs/hr of HCl emissions

Applicable Compliance Method -

Compliance shall be based upon the results of the emission testing specified in Section A.V.2.

- 1.f Emission Limitation -
8.5 lbs/hr of organic compound emissions

Applicable Compliance Method -

Compliance shall be based upon the results of the emission testing specified in Section A.V.2.

V. Testing Requirements (continued)

1.g Emission Limitation -

No visible emissions from the flare, except for a period not to exceed a total of 5 minutes during any 2 consecutive hours.

Applicable Compliance Method -

If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 22.

2. The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

The emission testing shall be conducted within 3 months after issuance of the permit and within 6 months prior to permit expiration.

The emission testing shall be conducted to demonstrate compliance with the particulate, nitrogen oxides, sulfur dioxide, carbon monoxide, organic compound and HCl emission limitations.

The following test methods shall be employed to demonstrate compliance with the emission limitations: Methods 1 through 5 of 40 CFR Part 60, Appendix A for particulates, Method 7E of 40 CFR Part 60, Appendix A for nitrogen oxide, Method 10 of 40 CFR Part 60, Appendix A for carbon monoxide, Method 6 of 40 CFR Part 60, Appendix A for sulfur dioxide, Method 25C of 40 CFR Part 60, Appendix A for organic compounds and Method 26 of 40 CFR Part 60, Appendix A for HCl emissions. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

3. The nitrogen level shall be determined using Method 3C of 40 CFR Part 60, Appendix A, unless an alternative test method is established as allowed by 40 CFR Part 60.752(b)(2)(i).

V. Testing Requirements (continued)

4. The oxygen level shall be determined by an oxygen meter using Method 3A of 40 CFR Part 60, Appendix A, unless an alternative test method is established as allowed by 40 CFR Part 60.752(b)(2)(i), except that:
 - a. the span shall be set so that the regulatory limit is between 20 and 50% of the span;
 - b. a data recorder is not required;
 - c. only two calibration gases are required, a zero and span, and ambient air may be used as the span;
 - d. a calibration error check is not required; and
 - e. the allowable sample bias, zero drift, and calibration drift are plus or minus 10%.
5. The flow rate of landfill gas shall be determined by measuring the total landfill gas flow rate at the common header pipe that leads to the enclosed combustion device using a gas flow measuring device calibrated according to the provisions of section 4 of Method 2E of Appendix A of 40 CFR Part 60.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. 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>
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2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

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