



6/16/2014

Certified Mail

Mr. Allen Bradburn  
 BFI of Ohio / Willowcreek Landfill  
 5092 Aber Road  
 Williamsburg, OH 45150

RE: FINALAIR POLLUTION PERMIT-TO-INSTALL  
 Facility ID: 1667010007  
 Permit Number: P0117059  
 Permit Type: Administrative Modification  
 County: Portage

No	TOXIC REVIEW
No	PSD
No	SYNTHETIC MINOR TO AVOID MAJOR NSR
No	CEMS
Yes	MACT/GACT
Yes	NSPS
No	NESHAPS
No	NETTING
No	MAJOR NON-ATTAINMENT
No	MODELING SUBMITTED
No	MAJOR GHG
No	SYNTHETIC MINOR TO AVOID MAJOR GHG

Dear Permit Holder:

Enclosed please find a final Ohio Environmental Protection Agency (EPA) Air Pollution Permit-to-Install (PTI) which will allow you to install or modify the described emissions unit(s) in a manner indicated in the permit. Because this permit contains several conditions and restrictions, we urge you to read it carefully. Because this permit contains conditions and restrictions, please read it very carefully. In this letter you will find the information on the following topics:

- **How to appeal this permit**
- **How to save money, reduce pollution and reduce energy consumption**
- **How to give us feedback on your permitting experience**
- **How to get an electronic copy of your permit**

**How to appeal this permit**

The issuance of this PTI is a final action of the Director 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. The appeal must be filed with the Commission within thirty (30) days after notice of the Director's action. The appeal must be accompanied by a filing fee of \$70.00, made payable to "Ohio Treasurer Josh Mandel," which the Commission, in its discretion, may reduce if by affidavit you demonstrate that payment of the full amount of the fee would cause extreme hardship. Notice of the filing of the appeal shall be filed with the Director within three (3) days of filing with the Commission. Ohio EPA requests that a copy of the appeal be served upon the Ohio Attorney General's Office, Environmental Enforcement Section. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission  
 77 South High Street, 17th Floor  
 Columbus, OH 43215

## **How to save money, reduce pollution and reduce energy consumption**

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 Compliance Assistance and Pollution Prevention at (614) 644-3469. Additionally, all or a portion of the capital expenditures related to installing air pollution control equipment under this permit may be eligible for financing and State tax exemptions through the Ohio Air Quality Development Authority (OAQDA) under Ohio Revised Code Section 3706. For more information, see the OAQDA website: [www.ohioairquality.org/clean\\_air](http://www.ohioairquality.org/clean_air)

## **How to give us feedback on your permitting experience**

Please complete a survey at [www.epa.ohio.gov/survey.aspx](http://www.epa.ohio.gov/survey.aspx) and give us feedback on your permitting experience. We value your opinion.

## **How to get an electronic copy of your permit**

This permit can be accessed electronically via the eBusiness Center: Air Services in Microsoft Word format or in Adobe PDF on the Division of Air Pollution Control (DAPC) Web page, [www.epa.ohio.gov/dapc](http://www.epa.ohio.gov/dapc) by clicking the "Search for Permits" link under the Permitting topic on the Programs tab.

If you have any questions, please contact Akron Regional Air Quality Management District at (330)3752480 or the Office of Compliance Assistance and Pollution Prevention at (614) 644-3469.

Sincerely,

*Michael W. Ahern*

Michael W. Ahern, Manager

Permit Issuance and Data Management Section, DAPC

Cc: U.S. EPA  
ARAQMD; Pennsylvania; West Virginia; Canada



**FINAL**

**Division of Air Pollution Control  
Permit-to-Install  
for  
BFI of Ohio / Willowcreek Landfill**

Facility ID: 1667010007  
Permit Number: P0117059  
Permit Type: Administrative Modification  
Issued: 6/16/2014  
Effective: 6/16/2014





**Division of Air Pollution Control**  
**Permit-to-Install**  
for  
BFI of Ohio / Willowcreek Landfill

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**Final Permit-to-Install**  
BFI of Ohio / Willowcreek Landfill  
**Permit Number:** P0117059  
**Facility ID:** 1667010007  
**Effective Date:** 6/16/2014

## Authorization

Facility ID: 1667010007  
Facility Description: Closed Solid Waste Landfill  
Application Number(s): M0002832  
Permit Number: P0117059  
Permit Description: Agency-initiated Administrative Modification of PTI 16-1103 to add terms from PTI 16-1155 after EU ID's P001 (landfill gas collection and enclosed flare control system) and F002 (landfill cells fugitive particulate emissions) were renumbered to P901 on 10/25/11.  
Permit Type: Administrative Modification  
Permit Fee: \$0.00  
Issue Date: 6/16/2014  
Effective Date: 6/16/2014

This document constitutes issuance to:

BFI of Ohio / Willowcreek Landfill  
1043 State Route 225  
Atwater, OH 44201

of a Permit-to-Install for the emissions unit(s) identified on the following page.

Ohio Environmental Protection Agency (EPA) District Office or local air agency responsible for processing and administering your permit:

Akron Regional Air Quality Management District  
146 South High Street, Room 904  
Akron, OH 44308  
(330)375-2480

The above named entity is hereby granted a Permit-to-Install for the emissions unit(s) listed in this section pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this permit does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the emissions unit(s) of environmental pollutants will operate in compliance with applicable State and Federal laws and regulations, and does not constitute expressed or implied assurance that if constructed or modified in accordance with those plans and specifications, the above described emissions unit(s) of pollutants will be granted the necessary permits to operate (air) or NPDES permits as applicable.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

  
Craig W. Butler  
Director



**Final Permit-to-Install**  
BFI of Ohio / Willowcreek Landfill  
**Permit Number:** P0117059  
**Facility ID:** 1667010007  
**Effective Date:**6/16/2014

## Authorization (continued)

Permit Number: P0117059

Permit Description: Agency-initiated Administrative Modification of PTI 16-1103 to add terms from PTI 16-1155 after EU ID's P001 (landfill gas collection and enclosed flare control system) and F002 (landfill cells fugitive particulate emissions) were renumbered to P901 on 10/25/11.

Permits for the following Emissions Unit(s) or groups of Emissions Units are in this document as indicated below:

<b>Emissions Unit ID:</b>	<b>P901</b>
Company Equipment ID:	Existing MSW Landfill
Superseded Permit Number:	16-1103
General Permit Category and Type:	Not Applicable



**Final Permit-to-Install**  
BFI of Ohio / Willowcreek Landfill  
**Permit Number:** P0117059  
**Facility ID:** 1667010007  
**Effective Date:** 6/16/2014

## **A. Standard Terms and Conditions**



## **1. Federally Enforceable Standard Terms and Conditions**

- a) All Standard Terms and Conditions are federally enforceable, with the exception of those listed below which are enforceable under State law only:
  - (1) Standard Term and Condition A.2.a), Severability Clause
  - (2) Standard Term and Condition A.3.c) through A. 3.e) General Requirements
  - (3) Standard Term and Condition A.6.c) and A. 6.d), Compliance Requirements
  - (4) Standard Term and Condition A.9., Reporting Requirements
  - (5) Standard Term and Condition A.10., Applicability
  - (6) Standard Term and Condition A.11.b) through A.11.e), Construction of New Source(s) and Authorization to Install
  - (7) Standard Term and Condition A.14., Public Disclosure
  - (8) Standard Term and Condition A.15., Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations
  - (9) Standard Term and Condition A.16., Fees
  - (10) Standard Term and Condition A.17., Permit Transfers

## **2. Severability Clause**

- a) 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.
- b) All terms and conditions designated in parts B and C of this permit are federally enforceable as a practical matter, if they 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 and the State and by citizens (to the extent allowed by section 304 of the Act) under the Act. Terms and conditions in parts B and C of this permit shall not be federally enforceable and shall be enforceable under State law only, only if specifically identified in this permit as such.

## **3. General Requirements**

- a) 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 re-issuance, or modification.
- 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, revoked, or revoked and reissued, for cause. 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 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.

#### **4. 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:
  - (1) The date, place (as defined in the permit), and time of sampling or measurements.
  - (2) The date(s) analyses were performed.
  - (3) The company or entity that performed the analyses.
  - (4) The analytical techniques or methods used.
  - (5) The results of such analyses.
  - (6) The operating conditions existing at the time of sampling or measurement.
- 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, 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.
- c) Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall submit required reports in the following manner:
  - (1) Reports of any required monitoring and/or recordkeeping of federally enforceable information shall be submitted to the Akron Regional Air Quality Management District.
  - (2) Quarterly written reports of (i) any deviations from federally enforceable emission limitations, operational restrictions,



and control device operating parameter limitations, excluding deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06, that have been detected by the testing, monitoring and recordkeeping requirements specified in this permit, (ii) the probable cause of such deviations, and (iii) any corrective actions or preventive measures taken, shall be made to the Akron Regional Air Quality Management District. The written reports shall be submitted (i.e., postmarked) quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. See A.15. below if no deviations occurred during the quarter.

- (3) Written reports, which identify any deviations from the federally enforceable monitoring, recordkeeping, and reporting requirements contained in this permit shall be submitted to the Akron Regional Air Quality Management District every six months, by January 31 and July 31 of each year for the previous six calendar months. 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.
  - (4) This permit is for an emissions unit located at a Title V facility. 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 are true, accurate, and complete.
- d) The permittee shall report actual emissions pursuant to OAC Chapter 3745-78 for the purpose of collecting Air Pollution Control Fees.

## **5. 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, i.e., upset, of any emissions units or any associated air pollution control system(s) shall be reported to the Akron Regional Air Quality Management District in accordance with paragraph (B) of OAC rule 3745-15-06. (The definition of an upset condition shall be the same as that used in OAC rule 3745-15-06(B)(1) for a malfunction.) The verbal and written reports shall be submitted pursuant to 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 emission unit(s) that is (are) served by such control system(s).

## **6. Compliance Requirements**

- a) All applications, notifications or reports required by terms and conditions in this permit to be submitted or "reported in writing" are to be submitted to Ohio EPA through the Ohio EPA's eBusiness Center: Air Services web service ("Air Services"). Ohio EPA will accept hard copy submittals on an as-needed basis if the permittee cannot submit the required documents through the Ohio EPA eBusiness Center. In the event of an alternative hard copy submission in lieu of the eBusiness Center, the post-marked date or the date the document is delivered in person will be recognized as the date submitted. Electronic submission of applications, notifications or reports required to be submitted to Ohio EPA fulfills the requirement to submit the required information to the Director, the appropriate Ohio EPA District Office or contracted local air agency, and/or any other individual or organization specifically identified as an additional recipient identified in this permit unless otherwise specified. Consistent with OAC rule



3745-15-03, the electronic signature date shall constitute the date that the required application, notification or report is considered to be "submitted". Any document requiring signature may be represented by entry of the personal identification number (PIN) by responsible official as part of the electronic submission process or by the scanned attestation document signed by the Authorized Representative that is attached to the electronically submitted written report.

Any document (including reports) required to be submitted and required by a federally applicable requirement in this 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:
  - (1) 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.
  - (2) 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 ORC section 3704.08.
  - (3) Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.
  - (4) 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 Akron Regional Air Quality Management District 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:
  - (1) Dates for achieving the activities, milestones, or compliance required in any schedule of compliance, and dates when such activities, milestones, or compliance were achieved.
  - (2) 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.

## **7. Best Available Technology**

As specified in OAC Rule 3745-31-05, new sources that must employ Best Available Technology (BAT) shall comply with the Applicable Emission Limitations/Control Measures identified as BAT for each subject emissions unit.

## **8. 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.

## **9. Reporting Requirements**

The permittee shall submit required reports in the following manner:

- a) Reports of any required monitoring and/or recordkeeping of state-only enforceable information shall be submitted to the Akron Regional Air Quality Management District.
- b) Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursions) from state-only required emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and recordkeeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the Akron Regional Air Quality Management District. 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, 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.)

## **10. Applicability**

This Permit-to-Install is applicable only to the emissions unit(s) identified in the Permit-to-Install. Separate application must be made to the Director for the installation or modification of any other emissions unit(s) not exempt from the requirement to obtain a Permit-to-Install.

## **11. Construction of New Sources(s) and Authorization to Install**

- a) This permit does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. This permit does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the application and terms and conditions of this permit. The action of beginning and/or completing construction prior to obtaining the Director's approval constitutes a violation of OAC rule 3745-31-02. Furthermore, issuance of this permit does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Issuance of this permit is not to be construed as a waiver of any rights that the Ohio Environmental Protection Agency (or other persons) may have against the applicant for starting construction prior to the effective date of the permit. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed facilities cannot meet the requirements of this permit or cannot meet applicable standards.
- b) If applicable, authorization to install any new emissions unit included in this permit shall terminate within eighteen months of the effective date of the permit if the owner or operator has not undertaken a continuing program of installation or has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation. This deadline may be extended by up to 12 months if application is made to the Director within a reasonable time before the termination date and the permittee shows good cause for any such extension.



- c) The permittee may notify Ohio EPA of any emissions unit that is permanently shut down (i.e., the emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31) by submitting a certification from the authorized official that identifies the date on which the emissions unit was permanently shut down. Authorization to operate the affected emissions unit shall cease upon the date certified by the authorized official that the emissions unit was permanently shut down. At a minimum, notification of permanent shut down shall be made or confirmed by marking the affected emissions unit(s) as "permanently shut down" in "Air Services" along with the date the emissions unit(s) was permanently removed and/or disabled. Submitting the facility profile update electronically will constitute notifying the Director of the permanent shutdown of the affected emissions unit(s).
- d) The provisions of this permit shall cease to be enforceable for each affected emissions unit after the date on which an emissions unit is permanently shut down (i.e., emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31). All records relating to any permanently shutdown emissions unit, generated while the emissions unit was in operation, must be maintained in accordance with law. All reports required by this permit must be submitted for any period an affected emissions unit operated prior to permanent shut down. At a minimum, the permit requirements must be evaluated as part of the reporting requirements identified in this permit covering the last period the emissions unit operated.

Unless otherwise exempted, no emissions unit certified by the responsible official as being permanently shut down may resume operation without first applying for and obtaining a permit pursuant to OAC Chapter 3745-31 and OAC Chapter 3745-77 if the restarted operation is subject to one or more applicable requirements.

- e) The permittee shall comply with any residual requirements related to this permit, such as the requirement to submit a deviation report, air fee emission report, or other any reporting required by this permit for the period the operating provisions of this permit were enforceable, or as required by regulation or law. All reports shall be submitted in a form and manner prescribed by the Director. All records relating to this permit must be maintained in accordance with law.

## **12. Permit-To-Operate Application**

The permittee is required to apply for a Title V permit pursuant to OAC Chapter 3745-77. The permittee shall submit a complete Title V permit application or a complete Title V permit modification application within twelve (12) months after commencing operation of the emissions units covered by this permit. However, if operation of the proposed new or modified source(s) as authorized by this permit would be prohibited by the terms and conditions of an existing Title V permit, a Title V permit modification of such new or modified source(s) pursuant to OAC rule 3745-77-04(D) and OAC rule 3745-77-08(C)(3)(d) must be obtained before operating the source in a manner that would violate the existing Title V permit requirements.

## **13. Construction Compliance Certification**

The applicant shall identify the following dates in the "Air Services" facility profile for each new emissions unit identified in this permit.



- a) Completion of initial installation date shall be entered upon completion of construction and prior to start-up.
- b) Commence operation after installation or latest modification date shall be entered within 90 days after commencing operation of the applicable emissions unit.

**14. Public Disclosure**

The facility is hereby notified that this permit, and all agency records concerning the operation of this permitted source, are subject to public disclosure in accordance with OAC rule 3745-49-03.

**15. Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations**

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 by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters.

**16. 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. The permittee shall pay all applicable permit-to-install fees within 30 days after the issuance of any permit-to-install. The permittee shall pay all applicable permit-to-operate fees within thirty days of the issuance of the invoice.

**17. Permit Transfers**

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The new owner must update and submit the ownership information via the "Owner/Contact Change" functionality in "Air Services" once the transfer is legally completed. The change must be submitted through "Air Services" within thirty days of the ownership transfer date.

**18. 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.

**19. 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.



**Final Permit-to-Install**  
BFI of Ohio / Willowcreek Landfill  
**Permit Number:** P0117059  
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**Effective Date:** 6/16/2014

## **B. Facility-Wide Terms and Conditions**



1. All the following facility-wide terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only:
  - a) None.
2. The following emissions unit contained in this permit is subject to the requirements of 40 CFR Part 60 – Standards of Performance for New Stationary Sources, Subpart Cc – Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills, and Subpart WWW – Standards of Performance for Municipal Solid Waste Landfills: P901. The complete New Source Performance Standards (NSPS) requirements, including the General Provisions may be accessed via the internet from the Electronic Code of Federal Regulations (e-CFR) website <http://ecfr.gov> or by contacting the appropriate Ohio EPA District Office or Local Air Agency.
3. The following emissions unit contained in this permit is subject to the requirements of 40 CFR Part 63, Subpart AAAA – National Emission Standards for Hazardous Air Pollutants (NESHAP) for Municipal Solid Waste Landfills: P901. The complete Maximum Achievable Control Technology (MACT) requirements, including the General Provisions may be accessed via the internet from the Electronic Code of Federal Regulations (e-CFR) website <http://ecfr.gov> or by contacting the appropriate Ohio EPA District Office or Local Air Agency.



**Final Permit-to-Install**  
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## **C. Emissions Unit Terms and Conditions**



**1. P901, Existing MSW Landfill**

**Operations, Property and/or Equipment Description:**

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

- a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.
  - (1) None.
- b) Applicable Emissions Limitations and/or Control Requirements
  - (1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3) (PTI 16-01103, as issued 11/01/95)  (PTI 16-01155, as issued 9/21/94)	<b>Fugitive Landfill Emissions:</b> Particulate emissions (PE) shall not exceed 0.059 ton per acre of cell per year, and 2.0 tons per year.  <b>Controlled Emissions From Enclosed Flare:</b> Non-methane organic compound (NMOC) emissions shall not exceed 2.18 pounds per hour. Nitrogen oxides (NO <sub>x</sub> ) emissions shall not exceed 5.92 pounds per hour. Sulfur dioxide (SO <sub>2</sub> ) emissions shall not exceed 3.24 pounds per hour. Carbon monoxide (CO) emissions shall not exceed 21.7 pounds per hour. Hydrochloric acid (HCl) emissions shall not exceed 2.26 pounds per hour. Benzene emissions shall not exceed 0.01 pound per hour. Vinyl chloride emissions shall not exceed 0.03 pound per hour.
b.	OAC rule 3745-31-05(D)	HCl emissions shall not exceed 9.9 tons per year, as a rolling, 12-month



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		summation. CO emissions shall not exceed 95.0 tons per year, as a rolling, 12-month summation. See b)(2)a. below.
c.	OAC rule 3745-17-07(A)(1)	Visible PE from any stack shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.
d.	OAC rule 3745-17-10(B)(1)	PE shall not exceed 0.020 pound per million Btu of actual heat input.
e.	OAC rules 3745-76-(01) thru (15) 40 CFR Part 60, Subpart Cc (40 CFR 60.30c – 60.36c)	The emission limitation based on this rule is equivalent to the limit established pursuant to 40 CFR Part 60, Subpart WWW.
f.	40 CFR Part 60, Subpart WWW (40 CFR 60.750 – 60.759)	Reduce NMOCs 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% oxygen.  Methane concentration from the collection system shall be less than 500 parts per million above background at the surface of the landfill.  See sections b)(2)b. through b)(2)k. below.
g.	40 CFR Part 60, Subpart A (40 CFR 60.1 – 60.19)	General Provisions.
h.	40 CFR Part 63, Subpart AAAA (40 CFR 63.1930 – 63.1990)	The requirements of this rule include compliance with the requirements of 40 CFR Part 60, Subparts Cc and WWW, and 40 CFR 63.6(e)(3).
i.	40 CFR Part 63, Subpart A (40 CFR 63.1 – 63.16)	Table 1 to Subpart AAAA of 40 CFR Part 63 – Applicability of General Provisions to Subpart AAAA.

(2) Additional Terms and Conditions

- a. This emissions unit has been in operation for more than 12 months and, as such, the permittee has existing records to generate the rolling, HCI and CO summations of the emissions, upon issuance of this permit.



- b. The permittee shall operate the active collection and control system to capture the gas generated within the landfill and route all the collected gas to an enclosed combustion device, which shall either reduce the NMOC by 98 percent by weight or reduce the outlet NMOC concentration to less than 20 ppm by volume, on a dry basis as hexane at 3% oxygen. The collection and control system shall be operated to comply with 40 CFR 60, Subpart WWW in accordance with the provisions of 40 CFR sections 60.752, 60.753, 60.755, and 60.756, which are reflected in this permit.
- c. The landfill gas collection system shall satisfy the following requirements, as specified in 40 CFR 60.752(b)(2)(ii)(A):
  - i. the system shall be designed to handle the maximum expected gas flow rate from the entire area of the landfill that warrants control over the intended use period of the gas control or treatment system equipment;
  - ii. the system shall 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. the system shall collect gas at a sufficient extraction rate; and
  - iv. the system shall be designed to minimize off-site migration of subsurface gas.
- d. The permittee shall install and place each well or design component as specified in the approved design plan. Each well shall be installed no later than 60 days after the date on which the initial solid waste has been in place for a period of five years or more, if active; or two years or more, if closed or at final grade.
- e. The collection and control system may be capped or removed provided that all of the following conditions, as specified in 40 CFR 60.752(b)(2)(v), are met:
  - i. The landfill shall no longer be accepting solid waste and shall be permanently closed as defined in 40 CFR 60.751 and in accordance with the requirements of 40 CFR 258.60.
  - ii. The collection and control system shall have been in operation a minimum of 15 years.
  - iii. The NMOC emission rate of the landfill, calculated per 40 CFR 60.754(b), shall be less than 50 megagram/year on three successive test dates. The test dates shall be no less than 90 days and no more than 180 days apart.
  - iv. A closure report shall be submitted to the Director within 30 days of waste acceptance cessation and no additional wastes shall be placed in the landfill.



- f. The permittee shall site active collection wells, horizontal collectors, surface collectors, or other extraction devices at a sufficient density throughout all gas producing areas using the following procedures unless alternative procedures have been approved by the Director:
  - i. The collection devices within the interior and along the perimeter areas shall be certified to achieve comprehensive control of surface gas emissions by a professional engineer. The following issues shall be addressed in the design: depths of refuse, refuse gas generation rates and flow characteristics, cover properties, gas system expandability, leachate and condensate management, accessibility, compatibility with filling operations, integration with closure end use, air intrusion control, corrosion resistance, fill settlement, and resistance to the refuse decomposition heat.
  - ii. The sufficient density of gas collection devices, determined above, shall address landfill gas migration issues and augmentation of the collection system through the use of active systems at the landfill perimeter or exterior.
- g. The permittee shall convey the landfill gas to a control system through the collection header pipe(s). The gas moving equipment shall be sized to handle the maximum gas generation flow rate expected over its intended period of use, using the following procedures:
  - i. For existing collecting systems, the actual flow data shall be used to project the maximum flow rate.
  - ii. For new collection systems, the maximum flow rate shall be calculated in accordance with 40 CFR 60.755(a)(1), using the formula also contained in the Testing Section of this permit.
- h. Landfill gas collection devices shall be placed to control all gas producing areas except those that meet the following requirements:
  - i. Any segregated area of non-degradable material may be excluded from the gas collection requirements if up-to-date plot maps showing each uniquely identified existing and planned collector in the system, their locations on the map, and the type of waste deposited in each area has been documented. The documentation shall provide the nature, date of deposition, location, and amount of non-degradable material deposited in the area, and shall be provided to the Director upon request.
  - ii. Any non-productive area of the landfill may be excluded from control, provided that the total of all excluded areas can be shown to contribute less than 1% of the total amount of NMOC emissions from the landfill. The amount, location, and age of the material shall be documented and provided to the Director upon request. A separate NMOC emissions estimate shall be made for each section proposed for exclusion, and the



sum of all such sections shall be compared to the NMOC emissions estimate for the entire landfill.

Emissions from each section shall be computed using the following equation:

$$Q_i = 2k L_0 M_i (e^{-kt_i}) C_{NMOC} (3.6 \times 10^{-9})$$

where:

$Q_i$  = NMOC emission rate from the  $i^{\text{th}}$  section, in megagram per year

$k$  = methane generation rate constant, in year<sup>-1</sup>

$L_0$  = methane generation potential, in cubic meters per megagram solid waste

$M_i$  = mass of the degradable solid waste in the  $i^{\text{th}}$  section, in megagram

$t_i$  = age of the solid waste in the  $i^{\text{th}}$  section, in years

$C_{NMOC}$  = concentration of non-methane organic compounds, in parts per million by volume

$3.6 \times 10^{-9}$  = conversion factor

- iii. The values for  $k$ ,  $L_0$ , and  $C_{NMOC}$  determined in field testing shall be used, if field testing has been performed in determining the NMOC emission rate or the radii of influence. If field testing has not been performed, the default values for  $k$ ,  $L_0$  and  $C_{NMOC}$  are as follows:

$$k^{**} = 0.05 \text{ per year}$$

$$L_0 = 170 \text{ cubic meters per megagram}$$

$$C_{NMOC} = 4,000 \text{ parts per million by volume as hexane}$$

\*\* For landfills located in geographical areas with a thirty-year annual average precipitation of less than 25 inches, as measured at the nearest representative official meteorologic site, the  $k$  value to be used is 0.02 per year.

- i. When the permittee constructs new gas collection devices, the permittee shall use the following equipment or procedures:
- i. The landfill gas extraction components shall be constructed of polyvinyl chloride (PVC), high density polyethylene (HDPE) pipe, fiberglass, stainless steel, or other nonporous corrosion resistant material of suitable dimensions to: convey projected amounts of gases; withstand installation,



static, and settlement forces; and withstand planned overburden or traffic loads. The collection system shall extend as necessary to comply with emission and migration standards. Collection devices such as wells and horizontal collectors shall be perforated to allow gas entry without head loss sufficient to impair performance across the intended extent of control. Perforations shall be situated with regard to the need to prevent excessive air infiltration.

- ii. Vertical wells shall be placed so as not to endanger underlying liners and shall address the occurrence of water within the landfill. Holes and trenches constructed for piped wells and horizontal collectors shall be of sufficient cross-section so as to allow for their proper construction and completion including, for example, centering of pipes and placement of gravel backfill. Collection devices shall be designed so as not to allow indirect short circuiting of air into the cover or refuse into the collection system or gas into the air. Any gravel used around pipe perforations should be of a dimension so as not to penetrate or block perforations.
- iii. Collection devices may be connected to the collection header pipes below or above the landfill surface. The connector assembly shall include a positive closing throttle valve, any necessary seals and couplings, access couplings and at least one sampling port. The collection devices shall be constructed of PVC, HDPE, fiberglass, stainless steel, or other nonporous material of suitable thickness.
- j. The provisions of this permit, under the authority of 40 CFR, Part 60, Subpart WWW, apply at all times, except during periods of start-up, shutdown, or malfunction, provided that the duration of the start-up, shutdown, or malfunction event does not exceed 5 days for collection systems and does not exceed 1 hour for treatment or control devices, in which case any deviation from the requirements shall be recorded and included in the semiannual report.
- k. The permittee shall develop and implement a written startup, shutdown, and malfunction (SSM) plan according to the provisions in 40 CFR 63.6(e)(3). A copy of the SSM plan must be maintained on site.

c) Operational Restrictions

- (1) The permittee shall operate the collection system such that gas is collected from each area, cell, or group of cells in the MSW landfill in which solid waste has been in place for 5 years or more if active, or for 2 years or more if closed or at final grade, and as required in 40 CFR 60.752, 60.753, and this permit. The collection and control system shall meet the specifications for an active collection system as required in 40 CFR 60.759, included in this permit.
- (2) The permittee shall operate the collection system with negative pressure at each wellhead except under the following conditions:
  - a. a fire or increased well temperature (the permittee shall record all 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); or
  - c. 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 Ohio EPA.
- (3) 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 level, or oxygen level at a particular well, if it can be demonstrated with supporting data, that the elevated parameter could not cause fires or significantly inhibit anaerobic decomposition by killing methanogens. The nitrogen or oxygen concentration shall be determined as required in the Testing Section of this permit.
- (4) The permittee shall operate the collection system so that the methane concentration is less than 500 parts per million above background at the surface of the landfill. To determine if this level is exceeded, the permittee shall conduct surface testing on a quarterly basis around the perimeter of the collection area and 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.

The permittee may establish an alternative traversing pattern that ensures equivalent coverage. A surface monitoring design plan shall be developed that includes a topographical map with the monitoring route and the rationale for any site-specific deviations from the 30-meter intervals. Areas with steep slopes or other dangerous areas may be excluded from the surface testing.

The permittee shall install a new well or other collection device for any location where the monitored methane concentration equals or exceeds 500 ppm above background three times within a quarterly period and within 120 calendar days of the initial exceedance.

- (5) The permittee shall operate the collection system such that all collected gases are vented to a control system designed and operated in compliance with the requirements in this permit. 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 1 hour.
- (6) The permittee shall operate the control and/or treatment system at all times when the collected gas is routed to the system.
- (7) If monitoring demonstrates that the operational requirements for negative pressure, interior wellhead temperature, wellhead oxygen or nitrogen concentration, and/or surface methane levels are not met, corrective action shall be taken as specified in the monitoring and record keeping requirements for the pressure, temperature, oxygen or nitrogen concentration at each well's gas collection header and surface methane measurements. If corrective actions are taken as specified in 40 CFR 60.755, the monitored exceedance is not a violation of the operational requirements.



- (8) The permittee shall operate the control device within the parameter ranges established during the initial or most recent performance test. The parameters established shall be based on the control device installed and may include a heat sensing device, gas flow rate measuring device, and/or gauge pressure device in the gas collection header.
  - (9) The permittee shall keep for at least 5 years, up-to-date, readily accessible, on-site records of the design capacity report which showed the landfill capacity to equal or exceed 2.5 million megagram and/or 2.5 million cubic meters, the current amount of solid waste in-place, and the year-by-year waste acceptance rate. Off-site records may be maintained if they are retrievable within 4 hours. Either hardcopy or electronic formats are acceptable.
  - (10) The total quantity of landfill gas burned in the enclosed flare shall not exceed 3.91 million cubic feet per day.
  - (11) If the heat sensing device detects a no flame condition which cannot immediately be restarted, the system shall automatically shut down the flow of landfill gas.
- d) **Monitoring and/or Recordkeeping Requirements**
- (1) The permittee shall keep up-to-date, readily accessible records for the life of the control equipment of the data listed below, as measured during the initial performance test or compliance determination:
    - a. the maximum expected gas generation flow rate, as calculated in 40 CFR 60.755(a)(1) and as required in this permit; and
    - b. the density of wells, horizontal collectors, surface collectors, or other gas extraction devices determined using the procedures specified in 40 CFR 60.759(a)(1) and this permit.

Records of subsequent tests or monitoring shall be maintained for a minimum of 5 years. Records of the control device vendor specifications shall be maintained until removal.
  - (2) The permittee of a controlled landfill subject to the provisions of this subpart shall keep for 5 years, up-to-date, readily accessible continuous records of the control equipment operating parameters specified to be monitored in 40 CFR 60.756, as well as, up-to-date, readily accessible records for periods of operation during which the parameter boundaries established during the most recent performance test are exceeded.
  - (3) The permittee shall keep 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 providing a unique identification location label for each collector.
  - (4) The permittee shall keep up-to-date, readily accessible records of the installation date and location of all newly installed collectors as specified under 40 CFR 60.755(b) and as required in this permit.



- (5) The permittee shall keep readily accessible documentation of the nature, date of deposition, amount, and location of asbestos-containing and/or non-degradable wastes, excluded from collection as provided in 40 CFR 60.759(a)(3)(i), as well as any nonproductive areas excluded from collection as provided in 40 CFR 60.759(a)(3)(ii).
- (6) The permittee shall keep for at least 5 years up-to-date, readily accessible records of all collection and control system exceedances of the operational standards contained in 40 CFR 60.753 and this permit, the reading in the subsequent month, whether or not the second reading is an exceedance, and the location of each exceedance.
- (7) For the active gas collection system, the permittee shall install a sampling port and a thermometer, or other temperature measuring device, or an access port for temperature measurements at each wellhead and record the following information on a monthly basis:
  - a. the gauge pressure in the gas collection header at each individual well, in pounds per square inch;
  - b. the nitrogen or oxygen concentration in the landfill gas, in percent; and
  - c. the temperature of the landfill gas, in degrees Celsius.

If a well exceeds one of the operating parameters as specified in this permit, except as provided under 40 CFR 60.753(b) and (c)<sup>\*\*\*</sup>, action shall be initiated to correct the exceedances within 5 calendar days. If correction of the exceedance cannot be achieved within 15 calendar days of the first measurement, the gas collection system shall be expanded to correct the exceedance within 120 days of the initial exceedance. Any attempted corrective measure shall not cause exceedances of other operational or performance standards. An alternative time line for correcting the exceedance may be submitted to the District Office or local air agency for approval.

<sup>\*\*\*</sup> 40 CFR 60.753(b) allows a positive pressure under three exceptions: in the case of a fire or increased well temperatures; with the use of a geomembrane or synthetic cover; and on a decommissioned well. 40 CFR 60.753(c) allows a higher operating value with a demonstration, including supporting data, that the elevated parameters of temperature and nitrogen or oxygen concentrations could not support a fire or significantly inhibit anaerobic decomposition by killing methanogens.

- (8) The permittee shall monitor surface concentrations of methane on a quarterly basis according to the instrument specifications and procedures provided below. Any closed landfill that has no monitored exceedances of the operational standard in three consecutive quarterly monitoring periods may revert to annual monitoring; however, during the annual monitoring, any methane reading of 500 ppm or more above background detected, returns the frequency for that landfill back to quarterly monitoring. The permittee shall monitor surface concentrations of methane on a quarterly basis as follows:
  - a. surface concentrations of methane shall be monitored, in ppm, along the entire perimeter of the collection area and along a pattern spaced 30 meters apart (or a site-specific established spacing) and where visual observations indicate



elevated concentrations of landfill gas, such as distressed vegetation and cracks or seeps in the cover 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 8.3.1 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; and
- d. any reading of 500 ppm 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 Section A.II:
  - 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 re-monitored within 10 calendar days of detecting the exceedance.
  - iii. If the re-monitoring 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 re-monitoring 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. No further monitoring of that location is required until the new well(s) or collection device has been installed.
  - iv. Any location that initially showed an exceedance but has a methane concentration less than 500 ppm methane above background at the 10-day re-monitoring specified above shall be re-monitored 1 month from the initial exceedance. If the 1-month re-monitoring shows a concentration less than 500 ppm above background, no further monitoring of that location is required until the next quarterly monitoring period. If the 1-month re-monitoring shows an exceedance, the actions specified above shall be taken.
  - v. For any location where the monitored methane concentration equals or exceeds 500 ppm above background three times within a quarterly period, a new well or other collection device shall be installed within 120 calendar days of the initial exceedance.
  - vi. An alternative remedy to the exceedance, such as upgrading the blower, header pipes or control device, and a corresponding time line for installation may be submitted to the Ohio EPA for approval.



- e. The monitor used shall meet the requirements of 40 CFR 60.755(c).
- (9) The permittee shall implement a program to monitor for the integrity of the cover on a monthly basis and implement cover repairs as necessary.
- (10) For the purpose of demonstrating whether the gas collection system flow rate meets the requirements for a sufficient extraction rate, the permittee shall measure gauge pressure in the gas collection header at each individual well, monthly. If a positive pressure exists, action shall be initiated to correct the exceedance within 5 calendar days, except for the three conditions allowed under 40 CFR 60.753(b). If negative pressure cannot be achieved without excess air infiltration within 15 calendar days of the first measurement, the gas collection system shall be expanded to correct the exceedance within 120 days of the initial measurement of positive pressure. Any attempted corrective measure shall not cause exceedances of other operational or performance standards. An alternative timeline for correcting the exceedance may be submitted to the Director for approval. The permittee is not required to expand the system during the first 180 days after gas collection system startup.
- (11) For the purpose of identifying whether excess air infiltration into the landfill is occurring, the permittee shall monitor each well monthly for temperature and nitrogen or oxygen as provided in 40 CFR 60.753(c). If a well exceeds one of these operating parameters, action shall be initiated to correct the exceedance within 5 calendar days. If correction of the exceedance cannot be achieved within 15 calendar days of the first measurement, the gas collection system shall be expanded to correct the exceedance within 120 days of the initial exceedance. Any attempted corrective measure shall not cause exceedances of other operational or performance standards. An alternative timeline for correcting the exceedance may be submitted to the Director for approval.
- (12) The permittee using an enclosed combustor to demonstrate compliance with the landfill gas control requirements must install, calibrate, maintain and operate, according to the manufacturer's specification, the following equipment:
  - a. A temperature monitoring device equipped with a continuous recorder, having a minimum accuracy of +/- 1 percent of the temperature being measured expressed in degrees Celsius or +/- 0.5 degrees Celsius, whichever is greater;
  - b. A device that records flow to or bypass of the combustor. The permittee shall either:
    - i. install, calibrate, and maintain a gas flow rate measuring device that shall record the flow to the control device at least every 15 minutes; or
    - ii. secure the bypass line valve in the closed position with a car-seal or a lock-and-key type configuration. A visual inspection of the seal or closure mechanism 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.
- (13) The following shall constitute an exceedance for the enclosed combustor and shall be reported under 40 CFR 60.757(f) and as required in this permit: all 3-hour periods of



operation during which the average combustion temperature was more than 28 degrees Celsius below the average combustion temperature during the most recent performance test that demonstrated compliance.

- (14) The permittee shall calculate and maintain monthly records of the HCl and CO emissions and the rolling 12-month summation emissions of HCl and CO.
- (15) The permittee shall maintain daily records of the total volume of landfill gas burned in the enclosed flare.
- (16) 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 enclosed flare and record whether or not any visible emissions are present and the duration of any visible emissions.

e) Reporting Requirements

- (1) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.
- (2) The permittee shall submit semiannual reports to the Director, for the landfill collection and control system, which includes the following recorded information:
  - a. value and length of time for each exceedance of the applicable parameters monitored under 40 CFR 60.756, at each wellhead and as required for the control equipment, which would include:
    - i. a positive pressure was not corrected within 5 calendar days, when not meeting the three exceptions in 40 CFR 60.753(b) (fire hazard, synthetic cover, or a decommissioned well);
    - ii. the temperature and oxygen or nitrogen exceeded the applicable limits and was not corrected within 5 calendar days;
    - iii. for enclosed combustors, excluding boilers and process heaters with design heat input capacity of 150 million Btu/hour or greater, all 3-hour periods of operation during which the average combustion temperature was more than 28 degrees Celsius below the average combustion temperature during the most recent performance test demonstrating compliance; and
    - iv. any loss of flame to the flare, as detected by the heat sensing device;
  - b. description and duration of all periods when the gas stream is diverted from the control device through a bypass line or any indication of periods of bypass of the control device;
  - c. description and duration of all periods when the control device was not operating for a period exceeding 1 hour and length of time the control device was not operating;



- d. all periods when the collection system was not operating in excess of 5 days;
- e. the location of each exceedance of the 500 ppm methane surface concentration, over the background level, and the concentration recorded at each location for which an exceedance was recorded in the previous month; and
- f. the date of installation and the location of each well or collection system expansion added.

This semiannual report required by 40 CFR 60.757(f) shall be submitted every six months, as required per 40 CFR 63.1980(a), including information on all deviations that occurred during the 6-month reporting period. Deviations for continuous emission monitors or numerical continuous parameter monitors shall be determined using a 3-hour monitoring block average. These reports shall be submitted by January 31 and July 31 of each year and shall cover the previous six calendar months.

- (3) The permittee shall submit an equipment removal report to the Division of Air Pollution Control at the appropriate Ohio EPA office of jurisdiction, 30 days prior to removal or cessation of operation of the control equipment. The Ohio EPA may request additional information as may be necessary to verify that all of the conditions for removal in 40 CFR 60.752(b)(2)(v) have been met. The equipment removal report shall contain the following information, as specified in 40 CFR 60.757(e)(1):
  - a. a copy of the closure report;
  - b. a copy of the initial performance test report demonstrating that the 15-year minimum control period has expired; and
  - c. dated copies of three successive NMOC emission rate reports demonstrating that the landfill is no longer producing 50 megagram or greater of NMOC per year.
- (4) The permittee shall submit quarterly deviation (excursion) reports that identify the following:
  - a. all exceedances of the rolling, 12-month summation emission limitations for CO and HCl; and
  - b. any exceedance of the daily allowable quantity of landfill gas burned.

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

- (5) The permittee shall submit semiannual reports which include an identification of any record showing that visible emissions were present from the enclosed flare. The reports shall be submitted by January 31 and July 30 of each year and shall cover the previous 6 calendar months.
- (6) Any breakdown or malfunction of the landfill gas collection and control system resulting in the emission of raw landfill gas emissions to the atmosphere shall be reported to the Akron RAQMD 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.

f) Testing Requirements

(1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitations:

PE shall not exceed 0.059 tons per acre of cell per year, and 2.0 tons per year.

Applicable Compliance Method:

Compliance shall be demonstrated using Ohio EPA's "Reasonably Available Control Measures For Fugitive Dust Sources (RACM)" emission factor of 0.048 ton of particulate per acre of cell worked (Table 2.1.2-5, 1983).

b. Emission Limitations:

NMOC emission shall not exceed 2.18 pounds per hour.

Reduce NMOCs 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% oxygen.

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the NMOC emission rate, as calculated by USEPA's Landfill Emissions Model (LandGEM), by an average capture efficiency of 85%, and a flare destruction efficiency from the results of the latest stack test.

If required, compliance with the hourly limitation shall be demonstrated through the results of stack testing performed in accordance with Methods 1 - 4, and 18 or 25C of 40 CFR Part 60, Appendix A.

c. Emission Limitations:

NO<sub>x</sub> emissions shall not exceed 5.92 pounds per hour.

Applicable Compliance Method:

If required, compliance with the hourly limitation shall be demonstrated through the results of stack testing performed in accordance with Methods 1 - 4, and 7 of 40 CFR Part 60, Appendix A.

d. Emission Limitations:

SO<sub>2</sub> emissions shall not exceed 3.24 pounds per hour.



Applicable Compliance Method:

If required, compliance with the hourly limitation shall be demonstrated through the results of stack testing performed in accordance with Methods 1 - 4, and 6 of 40 CFR Part 60, Appendix A.

e. Emission Limitations:

CO emissions shall not exceed 21.7 pounds per hour.

CO emissions shall not exceed 95.0 tons per year, as a rolling, 12-month summation.

Applicable Compliance Method:

If required, compliance with the hourly limitation shall be demonstrated through the results of stack testing performed in accordance with Methods 1 - 4, and 10 of 40 CFR Part 60, Appendix A.

Compliance with the rolling 12-month limitation shall be determined in accordance with the record keeping requirements specified in section d)(14).

f. Emission Limitations:

HCl emissions shall not exceed 2.26 pounds per hour.

HCl emissions shall not exceed 9.9 tons per year, as a rolling, 12-month summation.

Applicable Compliance Method:

If required, compliance with the hourly limitation shall be demonstrated through the results of stack testing performed in accordance with Methods 1 - 4, and 26 of 40 CFR Part 60, Appendix A.

Compliance with the rolling 12-month limitation shall be determined in accordance with the record keeping requirements specified in section d)(14).

g. Emission Limitations:

Vinyl chloride emissions shall not exceed 0.03 pound per hour.

Applicable Compliance Method:

If required, compliance with the hourly limitation shall be demonstrated through the results of stack testing performed in accordance with Methods 1 - 4, and 106 of 40 CFR Part 60, Appendix A.

h. Emission Limitations:

Benzene emissions shall not exceed 0.01 pound per hour.



Applicable Compliance Method:

If required, compliance with the hourly limitation shall be demonstrated through the results of stack testing performed in accordance with Methods 1 - 4, and 18 of 40 CFR Part 60, Appendix A.

i. Emission Limitations:

Visible PE from any stack shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the visible PE limitation shall be demonstrated through the results of visible emission observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9.

j. Emission Limitations:

PE shall not exceed 0.020 pound per million Btu of actual heat input.

Applicable Compliance Method:

If required, compliance with the PE limitation shall be demonstrated through the results of stack testing performed in accordance with Methods 1 - 5 of 40 CFR Part 60, Appendix A.

k. Emission Limitations:

Methane concentration from the collection system shall be less than 500 parts per million above background at the surface of the landfill.

Applicable Compliance Method:

Compliance shall be demonstrated through the results of surface monitoring performed in accordance with the methodology in section d)(4).

(2) The nitrogen or oxygen concentration shall be monitored at each landfill gas collection well as required in this permit and shall be determined as follows:

a. The nitrogen level shall be determined using Method 3C from 40 CFR Part 60, Appendix A, unless an alternative test method is approved by the Director.

b. The oxygen level shall be determined by an oxygen meter using Method 3A or 3C from 40 CFR Part 60, Appendix A, unless an alternative test method is approved by the Director, except that:

i. the span shall be set so that the regulatory limit is between 20 and 50 percent of the span;

ii. a data recorder is not required;



- iii. only two calibration gases are required, a zero and span, and ambient air may be used as the span;
  - iv. a calibration error check is not required; and
  - v. the allowable sample bias, zero drift, and calibration drift are plus or minus 10 percent.
- (3) After the installation of a collection and control system in compliance with 40 CFR 60.755, the permittee shall calculate the NMOC emission rate for purposes of determining when the system can be removed, as provided in 40 CFR 60.752(b)(2)(v), using the following procedures to calculate the mass emission rate of NMOC and by applying the testing results in the following equation:

$$\text{MNMOC} = 0.00189 (\text{QLFG}) \text{CNMOC}$$

where:

MNMOC = mass emission rate of NMOC, megagram per year

QLFG = flow rate of landfill gas, cubic meters per minute

CNMOC = NMOC concentration, parts per million by volume as hexane

- a. The flow rate of landfill gas, QLFG, shall be determined by measuring the total landfill gas flow rate at the common header pipe that leads to the control 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.
  - b. The average NMOC concentration, CNMOC, shall be determined by collecting and analyzing landfill gas sampled from the common header pipe before the gas moving or condensate removal equipment using the procedures in Method 25C or Method 18 from 40 CFR Part 60, Appendix A. If using Method 18, the minimum list of compounds to be tested shall be those published in the most recent Compilation of Air Pollutant Emission Factors (AP-42). The sample location on the common header pipe shall be before any condensate removal or other gas refining units. The landfill owner or operator shall divide the NMOC concentration from Method 25C by six to convert from CNMOC as carbon to CNMOC as hexane.
  - c. The permittee may use another method to determine landfill gas flow rate and NMOC concentration if the method has been approved by the Administrator of the U.S. Environmental Protection Agency.
- (4) The permittee shall maintain the following instrumentation specifications and procedures in order to demonstrate compliance with surface methane monitoring:
- a. The portable analyzer for surface methane shall meet the instrument specifications provided in section 3 of Method 21 of Appendix A of 40 CFR Part 60, except that "methane" shall replace all references to VOC.



- b. The calibration gas shall be methane, diluted to a nominal concentration of 500 parts per million in air.
  - c. To meet the performance evaluation requirements in section 3.1.3 of Method 21 of Appendix A of 40 CFR Part 60, the instrument evaluation procedures of section 4.4 of Method 21 of Appendix A of 40 CFR Part 60 shall be used.
  - d. The calibration procedures provided in section 4.2 of Method 21 of Appendix A of 40 CFR Part 60 shall be followed immediately before commencing a surface monitoring survey.
- (5) The permittee shall maintain the following information for the life of the control equipment (recovery and treatment system and/or flare) as measured during the initial performance test or compliance demonstration:

- a. the maximum expected gas generation flow rate, in cubic meters/year as calculated based on the following:
  - i. For sites with unknown year-to-year solid waste acceptance rate:

$$Q_m = 2L_o \times R \times \{(e^{-kc}) - (e^{-kt})\}$$

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, megagram 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  $e^{-kc}=1$ )

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

$n$

$$Q_m = \sum_{i=1}^n 2kL_oM_i \times (e^{-kti})$$

$i=1$



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  $i^{\text{th}}$  section, in megagram

$t_i$  = age of the  $i^{\text{th}}$  section, in years

- iii. If a collection and control system has been installed, actual flow data may be used to project the maximum expected gas generation flow rate instead of, or in conjunction with, the equations above. If the landfill is still accepting waste, the actual measured flow data will not equal the maximum expected gas generation rate, so calculations using either of the equations above or other methods shall be used to predict the maximum expected gas generation rate over the intended period of use of the gas control system equipment. (The permittee may use another method to determine the maximum gas generation flow rate, if the method has been approved by the Ohio EPA.)
- b. For the purposes of determining sufficient density of gas collectors for compliance with a collection system designed to handle the maximum expected landfill gas flow rate, the permittee shall design a system of vertical wells, horizontal collectors, or other collection devices, satisfactory to the Director, capable of controlling and extracting gas from all portions of the landfill sufficient to meet all operational and performance standards.
- (6) When calculating emissions for PSD purposes, the permittee shall estimate the NMOC emission rate for comparison to the PSD major source and significance levels in 40 CFR 51.166 or 40 CFR 52.21, using AP-42 or other approved measurement procedures.
- g) Miscellaneous Requirements
  - (1) None.