



State of Ohio Environmental Protection Agency

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50 W. Town St., Suite 700
Columbus, Ohio 43215

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P.O. Box 1049
Columbus, OH 43216-1049

8/10/2009

Certified Mail

Ron Mills
Franklin County Sanitary Landfill
6220 Young Road
Grove City, OH 43123

RE: FINAL AIR POLLUTION PERMIT-TO-INSTALL
Facility ID: 0125001972
Permit Number: P0104010
Permit Type: OAC Chapter 3745-31 Modification
County: Franklin

No	TOXIC REVIEW
No	PSD
Yes	SYNTHETIC MINOR
No	CEMS
No	MACT
No	NSPS
No	NESHAPS
No	NETTING
No	MAJOR NON-ATTAINMENT
No	MODELING SUBMITTED

Dear Permit Holder:

Enclosed please find a final 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.

The issuance of this PTI is a final action of the Director and may be appealed to the Environmental Review Appeals Commission ("ERAC") under Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and describe the action complained of and the grounds for the appeal. The appeal must be filed with the ERAC within thirty (30) days after notice of the Director's action. A filing fee of \$70.00 must be submitted to the ERAC with the appeal, although the ERAC, has discretion to reduce the amount of the filing fee if you can demonstrate (by affidavit) that payment of the full amount of the fee would cause extreme hardship. If you file an appeal of this action, you must notify Ohio EPA of the filing of the appeal (by providing a copy to the Director) within three (3) days of filing your appeal with the ERAC. Ohio EPA requests that a copy of the appeal also be provided to the Ohio Attorney General's Office, Environmental Enforcement Section. An appeal may be filed with the ERAC at the following address:

Environmental Review Appeals Commission
309 South Fourth Street, Room 222
Columbus, OH 43215

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. If you have any questions regarding this permit, please contact the Ohio EPA DAPC, Central District Office. This permit has been posted to the Division of Air Pollution Control (DAPC) Web page <http://www.epa.state.oh.us/dapc>.

Sincerely,

Michael W. Ahern, Manager
Permit Issuance and Data Management Section, DAPC

Cc: U.S. EPA Region 5 Via E-Mail Notification
Ohio EPA DAPC, Central District Office

Ted Strickland, Governor
Lee Fisher, Lieutenant Governor
Chris Korleski, Director



**State of Ohio Environmental Protection Agency
Division of Air Pollution Control**

FINAL

**Air Pollution Permit-to-Install
for
Franklin County Sanitary Landfill**

Facility ID: 0125001972
Permit Number: P0104010
Permit Type: OAC Chapter 3745-31 Modification
Issued: 8/10/2009
Effective: 8/10/2009



Air Pollution Permit-to-Install
for
Franklin County Sanitary Landfill

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State of Ohio Environmental Protection Agency
Division of Air Pollution Control

Final Permit-to-Install
Permit Number: P0104010
Facility ID: 0125001972
Effective Date: 8/10/2009

Authorization

Facility ID: 0125001972
Facility Description: Municipal landfill
Application Number(s): A0035953
Permit Number: P0104010
Permit Description: Landfill expansion
Permit Type: OAC Chapter 3745-31 Modification
Permit Fee: \$1,650.00
Issue Date: 8/10/2009
Effective Date: 8/10/2009

This document constitutes issuance to:

Franklin County Sanitary Landfill
3851 London Groveport Road
Grove City, OH 43123

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

Ohio EPA District Office or local air agency responsible for processing and administering your permit:

Ohio EPA DAPC, Central District Office
50 West Town Street, 6th Floor
P.O. Box 1049
Columbus, OH 43216-1049
(614)728-3778

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

Chris Korleski
Director



State of Ohio Environmental Protection Agency
 Division of Air Pollution Control

Final Permit-to-Install
Permit Number: P0104010
Facility ID: 0125001972
Effective Date: 8/10/2009

Authorization (continued)

Permit Number: P0104010
 Permit Description: Landfill expansion

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

Emissions Unit ID:	F002
Company Equipment ID:	Roadways and Parking Areas
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P002
Company Equipment ID:	P002
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P901
Company Equipment ID:	P901
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable



State of Ohio Environmental Protection Agency
Division of Air Pollution Control

Final Permit-to-Install
Permit Number: P0104010
Facility ID: 0125001972
Effective Date: 8/10/2009

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 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) 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 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 Ohio EPA DAPC, Central District Office.



(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 Ohio EPA DAPC, Central District Office. 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 (i.e., postmarked) to the Ohio EPA DAPC, Central District Office 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 Ohio EPA DAPC, Central District Office 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) The emissions unit(s) identified in this Permit shall remain in full compliance with all applicable State laws and regulations and the terms and conditions of this permit.

b) 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.

c) 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.
- d) The permittee shall submit progress reports to the Ohio EPA DAPC, Central District Office 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 Ohio EPA DAPC, Central District Office.
- 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 Ohio EPA DAPC, Central District Office. 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 (i.e.,



postmarked) 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).

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 party 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 through completion of the annual PER covering the last period of operation 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 PER covering the last period the emissions unit operated.



No emissions unit certified by the authorized official as being permanently shut down may resume operation without first applying for and obtaining a permit pursuant to OAC Chapter 3745-31.

- e) The permittee shall comply with any residual requirements related to this permit, such as the requirement to submit a PER, 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 the proposed new or modified source(s) would be prohibited by the terms and conditions of an existing Title V permit, a Title V permit modification must be obtained before the operation of such new or modified source(s) pursuant to OAC rule 3745-77-04(D) and OAC rule 3745-77-08(C)(3)(d).

13. Construction Compliance Certification

The applicant shall identify the following dates in the online 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 (i.e., postmarked), 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.



State of Ohio Environmental Protection Agency
Division of Air Pollution Control

Final Permit-to-Install
Permit Number: P0104010
Facility ID: 0125001972
Effective Date: 8/10/2009

17. Permit Transfers

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The Ohio EPA DAPC, Central District Office must be notified in writing of any transfer of this permit.

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.



State of Ohio Environmental Protection Agency
Division of Air Pollution Control

Final Permit-to-Install
Permit Number: P0104010
Facility ID: 0125001972
Effective Date: 8/10/2009

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:

None

2. National Emission Standards for Hazardous Air Pollutants (NESHAP) for existing and new municipal solid waste (MSW) landfills are established within 40 CFR Part 63, Subpart AAAA, § 63.1930. This subpart requires all landfill described in § 63.1935 to meet the requirements of 40 CFR Part 60, Subpart Cc or WWW and requires timely control of bioreactors. This subpart also requires such landfills to meet the Startup, Shutdown, and Malfunction (SSM) requirements of the general provisions of this part and provides that compliance with the operating conditions shall be demonstrated by parameter monitoring results that are within the specified ranges. It also includes additional reporting requirements.
3. Pursuant to § 63.1940, an effected source is defined as follows:
 - a. An affected source of this subpart is a MSW landfill, as defined in § 63.1990, that meets the criteria in § 63.1935(a) or (b). The affected source includes the entire disposal facility in a contiguous geographic space where household waste is placed in or on land, including any portion of the MSW landfill operated as a bioreactor.
 - b. A new affected source of this subpart is an affected source that commenced construction or reconstruction after November 7, 2000. An affected source is reconstructed if it meets the definition of reconstruction in 40 CFR 63.2 of Subpart A.
 - c. An affected source of this subpart is existing if it is not new.
4. Based upon the above definition, Franklin County Sanitary Landfill is an existing affected source. Pursuant to § 63.1945(d), "If your landfill is an existing affected source and is a major source or is collocated with a major source, you must comply with the requirements in § 63.1955(b) and § 63.1960 through § 63.1980 by the date your landfill is required to install a collection and control system by § 60.752(b)(2), the Federal plan, or EPA approved and effective State or tribal plan that applies to your landfill or by January 13, 2004, whichever occurs later." As such, compliance with this subpart was required by January 13, 2004.
5. Pursuant to § 63.1950, the permittee is no longer required to comply with the requirements of this subpart when it is no longer required to apply controls as specified in 40 CFR § 60.752(b)(2)(v).
6. Pursuant to § 63.1955, the permittee is required to comply with the requirements of 40 CFR Part 60, Subpart WWW. If you are required by 40 CFR § 60.752(b)(2) to install a collection and control system, you must comply with the requirements in § 63.1960 through § 63.1985 and with the general provisions of this part specified in table 1 of this subpart. For approval of collection and control systems, which include any alternatives to the operational standards, test methods, procedures, compliance measures, monitoring, record keeping or reporting provisions, you must follow the procedures in 40 CFR § 60.752(b)(2). If alternatives have already been approved under 40 CFR Part 60 Subpart WWW, these alternatives can be used to comply with this subpart, except that all affected sources must comply with the SSM requirements in 40 CFR Part 63, Subpart A as specified in Table 1 of this subpart, and all affected sources must submit compliance reports every 6 months as specified in § 63.1980(a) and (b). These reports include information on all deviations that occurred during the 6-month reporting period. Deviations for continuous emission monitors or numerical continuous parameter monitors must be determined using a 3 hour monitoring block average.



7. Pursuant to § 63.1960, compliance is determined in the same way it is determined for 40 CFR Part 60, Subpart WWW, including performance testing, monitoring of the collection system, continuous parameter monitoring, and other credible evidence. In addition, continuous parameter monitoring data, collected under 40 CFR § 60.756(b)(1), (c)(1), and (d) of Subpart WWW, are used to demonstrate compliance with the operating conditions for control systems. If a deviation occurs, you have failed to meet the control device operating conditions described in this subpart and have deviated from the requirements of this subpart. Finally, you must develop and implement a written SSM plan according to the provisions in 40 CFR § 63.6(e)(3). A copy of the SSM plan must be maintained on site. Failure to write, implement, or maintain a copy of the SSM plan is a deviation from the requirements of this subpart.
8. Pursuant to § 63.1965, a deviation is defined in § 63.1990. For the purposes of the landfill monitoring and SSM plan requirements, deviations include the items in paragraphs (a) through (c) of this section.
 - a. A deviation occurs when the control device operating parameter boundaries described in 40 CFR 60.758(c)(1) of Subpart WWW are exceeded.
 - b. A deviation occurs when 1 hour or more of the hours during the 3-hour block averaging period does not constitute a valid hour of data. A valid hour of data must have measured values for at least three 15-minute monitoring periods within the hour.
 - c. A deviation occurs when a SSM plan is not developed, implemented, or maintained on site.
9. Pursuant to § 63.1975, averages are calculated in the same way as they are calculated in 40 CFR Part 60, Subpart WWW, except that the data collected during the events listed in paragraphs (a), (b), (c), and (d) of this section are not to be included in any average computed under this subpart:
 - a. Monitoring system breakdowns, repairs, calibration checks, and zero (low-level) and high-level adjustments.
 - b. Startups.
 - c. Shutdowns.
 - d. Malfunctions.
10. Pursuant to § 63.1980(a), the permittee shall keep records and reports as specified in 40 CFR Part 60, Subpart WWW, with one exception: You must submit the annual report described in 40 CFR 60.757(f) every 6 months.
11. Pursuant to § 63.1980(b), the permittee must also keep records and reports as specified in the general provisions of 40 CFR Part 60 and this part as shown in Table 1 of this subpart. Applicable records in the general provisions include items such as SSM plans and the SSM plan reports.
12. Pursuant to § 63.1985(a), this subpart can be implemented and enforced by the U.S. EPA or Ohio EPA.
13. Pursuant to § 63.1990, terms used in this subpart are defined in the Clean Air Act, 40 CFR Part 60, Subparts A, Cc, and WWW; 40 CFR Part 62, Subpart GGG, and Subpart A of this part, and this section that follows:



- a. Deviation means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:
 - i. fails to meet any requirement or obligation established by this subpart, including, but not limited to, any emissions limitation (including any operating limit) or work practice standard;
 - ii. fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit; or
 - iii. fails to meet any emission limitation, (including any operating limit), or work practice standard in this subpart during SSM, regardless of whether or not such failure is permitted by this subpart.
- b. Emissions limitation means any emission limit, opacity limit, operating limit, or visible emissions limit.
- c. EPA approved State plan means a State plan that EPA has approved based on the requirements in 40 CFR Part 60, Subpart B to implement and enforce 40 CFR Part 60, Subpart Cc. An approved State plan becomes effective on the date specified in the notice published in the Federal Register announcing EPA's approval.
- d. Federal plan means the EPA plan to implement 40 CFR Part 60, Subpart Cc for existing MSW landfills located in States and Indian country where State plans or tribal plans are not currently in effect. On the effective date of an EPA approved State or tribal plan, the Federal plan no longer applies. The Federal plan is found at 40 CFR Part 62, Subpart GGG.
- e. Municipal solid waste landfill or MSW landfill means an entire disposal facility in a contiguous geographical space where household waste is placed in or on land. A municipal solid waste landfill may also receive other types of RCRA Subtitle D wastes (see Section 257.2 of this chapter) such as commercial solid waste, nonhazardous sludge, conditionally exempt small quantity generator waste, and industrial solid waste. Portions of a municipal solid waste landfill may be separated by access roads. A municipal solid waste landfill may be publicly or privately owned. A municipal solid waste landfill may be a new municipal solid waste landfill, an existing municipal solid waste landfill, or a lateral expansion.
- f. Work practice standard means any design, equipment, work practice, or operational standard, or combination thereof, that is promulgated pursuant to section 112(h) of the Clean Air Act.

14. As stated in § 63.1955 and § 63.1980, you must meet each requirement in the following table that applies to you.



Table 1 of Subpart AAAA of Part 63: Applicability of NESHAP General Provisions to Subpart AAAA		
Part 63 Citation	Description	Explanation
63.1(a)	Applicability: general applicability of NESHAP in this part.	Affected sources are already subject to the provisions of paragraphs (a)(10)-(12) through the same provisions under 40 CFR, Part 60 Subpart A.
63.1(b)	Applicability determination for stationary sources.	
63.1(e)	Title V permitting.	
63.2	Definitions.	
63.4	Prohibited activities and circumvention	Affected sources are already subject to the provisions of paragraph (b) through the same provisions under 40 CFR Part 60, Subpart A.
63.5(b)	Requirements for existing, newly constructed, and reconstructed sources.	
63.6(e)	Operation and maintenance requirements, startup, shutdown and malfunction plan provisions.	



Table 1 of Subpart AAAA of Part 63: Applicability of NESHAP General Provisions to Subpart AAAA		
63.6(f)	Compliance with nonopacity emission standards.....	Affected sources are already subject to the provisions of paragraphs (f)(1) and (2)(i) through the same provisions Under 40 CFR Part 60, Subpart A.
63.10(b)(2)(i)-(b)(2)(v)	General record keeping requirements.	
63.10(d)(5)	If actions taken during a startup, shutdown and malfunction plan are consistent with the procedures in the startup, shutdown and malfunction plan, this information shall be included in a semi-annual startup, shutdown and malfunction plan report. Any time an action taken during a startup, shutdown and malfunction plan is not consistent with the startup, shutdown and malfunction plan, the source shall report actions taken within 2 working days after commencing such actions, followed by a letter 7 days after the event.	
63.12(a)	These provisions do not preclude the State from adopting and enforcing any standard, limitation, etc., requiring permits, or requiring emissions reductions in excess of those specified.	
63.15	Availability of information and confidentiality.	



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Division of Air Pollution Control

Final Permit-to-Install
Permit Number: P0104010
Facility ID: 0125001972
Effective Date: 8/10/2009

C. Emissions Unit Terms and Conditions



1. F002, Roadways and Parking Areas

Operations, Property and/or Equipment Description:

Roadways and Parking areas

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 operations(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. 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)	<p>Particulate emissions (PE) shall not exceed 253.1 tons per year</p> <p>Emissions of fugitive particulate matter of 10 microns or less (PM10) shall not exceed 65.9 tons per year.</p> <p>There shall be no visible PE from paved roadways and parking areas except for one minute during any 60-minute period.</p> <p>There shall be no visible PE from unpaved roadways and parking areas except for three minutes during any 60-minute period.</p> <p>The permittee shall implement best available control measures that are sufficient to minimize or eliminate visible emissions of fugitive dust. See Sections A.2.a through A.2.f below.</p>
b.	OAC rule 3745-17-07 (B)	See Section A.2.g below.
c.	OAC rule 3745-17-08 (B)	See Section A.2.h below.

(2) Additional Terms and Conditions

a. The permittee shall employ best available control measures on all paved and unpaved roadways and parking areas for the purpose of ensuring compliance with the above-mentioned applicable requirements. In accordance with the permittee's application, the permittee has committed to treat the paved and unpaved roadways and parking areas by



application of chemical stabilization/dust suppressants and/or watering at sufficient treatment frequencies to ensure compliance. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.

- b. The needed frequencies of implementation of the control measures shall be determined by the permittee's inspections pursuant to the monitoring section of this permit. Implementation of the control measures shall not be necessary for paved and/or unpaved roadways and parking areas that are covered with snow and/or ice or if precipitation has occurred that is sufficient for that day to ensure compliance with the above-mentioned applicable requirements. Implementation of any control measure may be suspended if unsafe or hazardous driving conditions would be created by its use.
- c. The permittee shall promptly remove, in such a manner as to minimize or prevent resuspension, earth and/or other material from paved streets onto which such material has been deposited by trucking or earth moving equipment or erosion by water or other means.
- d. Open-bodied vehicles transporting materials likely to become airborne shall have such materials covered at all times if the control measure is necessary for the materials being transported.
- e. Implementation of the above-mentioned control measures in accordance with the terms and conditions of this permit is appropriate and sufficient to satisfy the best available technology requirements of OAC rule 3745-31-05.
- f. The permittee shall set the speed limit on all paved roads within the facility to 15 mph to ensure compliance with the above regulations.
- g. This emissions unit is exempt from the visible particulate emission limitations specified in OAC rule 3745-17-07(B) pursuant to OAC rule 3745-17-07(B)(11)(e).
- h. This facility is not located within an "Appendix A" area as identified in OAC rule 3745-17-08. Therefore, pursuant to OAC rule 3745-17-08(A), this emissions unit is exempt from the requirements of OAC rule 3745-17-08(B).

c) Operational Restrictions

- (1) None.

d) Monitoring and/or Recordkeeping Requirements

- (1) Except as otherwise provided in this section, the permittee shall perform inspections of each of the roadway segments and parking areas in accordance with the following frequencies:



<u>roadways and parking areas</u>	<u>minimum inspection frequency</u>
all paved roads and parking areas	daily
all unpaved roads and parking areas	daily

- (2) The purpose of the inspections is to determine the need for implementing the above-mentioned control measures. The inspections shall be performed during representative, normal traffic conditions. No inspection shall be necessary for a roadway or parking area that is covered with snow and/or ice or if precipitation has occurred that is sufficient for that day to ensure compliance with the above-mentioned applicable requirements. Any required inspection that is not performed due to any of the above-identified events shall be performed as soon as such event(s) as (have) ended, except if the next required inspection is within one week.
- (3) The permittee may, upon receipt of written approval from the Ohio EPA, CDO (CDO), modify the above-mentioned inspection frequencies if operating experience indicates that less frequent inspections would be sufficient to ensure compliance with the above-mentioned applicable requirements.
- (4) The permittee shall maintain records of the following information:
 - a. the date and reason any required inspection was not performed, including those inspections that were not performed due to snow and/or ice cover or precipitation;
 - b. the date of each inspection where it was determined by the permittee that it was necessary to implement the control measures;
 - c. the dates the control measures were implemented; and
 - d. on a calendar quarter basis, the total number of days the control measures were implemented and the total number of days where snow and/or ice cover or precipitation were sufficient to not require the control measures.
- (5) The information required in d)(4)d. shall be updated on a calendar quarter basis within 30 days after the end of each calendar quarter.

e) Reporting Requirements

- (1) The permittee shall submit deviation reports that identify any of the following occurrences:
 - a. each day during which an inspection was not performed by the required frequency, excluding an inspection which was not performed due to an exemption for snow and/or ice cover or precipitation; and
 - b. each instance when a control measure, that was to be implemented as a result of an inspection, was not implemented.



These deviation reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

f) Testing Requirements

(1) Compliance with the emission limitations in b)(1) shall be determined in accordance with the following methods:

- a. Emissions Limitation: Particulate emissions (PE) shall not exceed 253.1 tons per year.

Applicable Compliance Method: Compliance with fugitive PE and PM10 limitations shall be determined by using the emission factor equations in Section 13.2.1 and 13.2.2, in Compilation of Air Pollutant Emission Factors, AP-42, Fifth Edition, Volume 1 (revised 11/06) for paved and unpaved roadways and the information provided by the permittee in the Air permit to Install application submitted on November 6, 2008.

- b. Emissions Limitation: Emissions of fugitive particulate matter of 10 microns or less (PM10) shall not exceed 65.9 tons per year.

Applicable Compliance Method: Compliance with fugitive PE and PM10 limitations shall be determined by using the emission factor equations in Section 13.2.1 and 13.2.2, in Compilation of Air Pollutant Emission Factors, AP-42, Fifth Edition, Volume 1 (revised 11/06) for paved and unpaved roadways and the information provided by the permittee in the Air permit to Install application submitted on November 6, 2008.

- c. Emissions Limitation: There shall be no visible PE from paved roadways and parking areas except for one minute during any 60-minute period.

Applicable Compliance Method: Compliance with the visible emission limitation listed above shall be determined in accordance with Test Method 22 as set forth in "Appendix on Test Methods" in 40 CFR, Part 60 ("Standards of Performance for New Stationary Sources"), as such Appendix existed on July 1, 2002, and the modifications listed in paragraphs (B)(4)(a) through (B)(4)(d) of OAC rule 3745-17-03.

- d. Emissions Limitation: There shall be no visible PE from unpaved roadways and parking areas except for three minutes during any 60-minute period.

Applicable Compliance Method: Compliance with the visible emission limitation listed above shall be determined in accordance with Test Method 22 as set forth in "Appendix on Test Methods" in 40 CFR, Part 60 ("Standards of Performance for New Stationary Sources"), as such Appendix existed on July 1, 2002, and the modifications listed in paragraphs (B)(4)(a) through (B)(4)(d) of OAC rule 3745-17-03.

g) Miscellaneous Requirements

(1) None.



2. P002, P002

Operations, Property and/or Equipment Description:

Posi Shell Silo engine

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 operations(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. 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)(a)(ii)	Nitrogen oxide (NOx) emissions shall not exceed 4.77 tons per year. Carbon monoxide (CO) emissions shall not exceed 1.07 tons per year. Particulate emissions (PE) shall not exceed 0.35 ton per year.
b.	OAC rule 3745-17-07(A)	Visible emissions exiting any stack serving this emission unit shall not exceed 20 percent opacity as a six minute average, except as provided by rule
c.	OAC rule 3745-17-11(B)(5)	Particulate emissions shall not exceed 0.310 pound/MMBtu actual heat input.
d.	OAC rule 3745-18-06(B)	See II.A.2.b below.
e.	OAC rule 3745-21-08(B)	See II.A.2.a below.

(2) Additional Terms and Conditions

a. The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC paragraph 3745-21-08(B) by committing to comply with the best available technology requirements established pursuant to OAC paragraph 3745-31-05(A)(3) in this permit-to-install.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. On June 24, 2003, that rule revision was submitted to the USEPA as a revision to Ohio's State Implementation Plan(SIP); however,



that rule revision has not yet been approved by the U.S. EPA. Therefore, until the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

- b. OAC rule 3745-18-06(B) exempts stationary internal combustion engines which have rated heat input capacities equal to, or less than, 10 MMBTU/hr from the sulfur dioxide emission limit in OAC rule 3745-18-06(G). This emissions unit has a rated heat input of less than 10 MMBTU/hr.
- c. The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the PM, NO_x, CO, OC and SO₂ emissions from this air contaminant source since the uncontrolled potentials to emit for PM, NO_x, CO, OC and SO₂ are less than 10 tons per year. For the purpose of establishing the above listed ton per year emissions limits as federally enforceable, the permittee has agreed to voluntarily limit hourly emissions to the following levels: 1.09 pounds of NO_x/hr and 0.23 pound of CO/hr.

c) Operational Restrictions

- (1) The permittee shall burn only no. 2 fuel oil or diesel fuel in this emissions unit.

d) Monitoring and/or Recordkeeping Requirements

- (1) For each day during which the permittee burns a fuel other than no. 2 fuel oil or diesel, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

e) Reporting Requirements

- (1) The permittee shall submit quarterly deviation (excursion) reports that identify each day when a fuel other than no. 2 fuel oil or diesel was burned in the emissions unit. These deviation reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

The permittee shall submit quarterly deviation (excursion) reports that identify each day during which records were not maintained on the amount of no. 2 fuel oil or diesel combusted in the emissions unit. These deviation reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

f) Test Requirements

- (1) Compliance with the emission limitations in b)(1) shall be determined in accordance with the following methods:
 - a. Emissions Limitation: NO_x emissions shall not exceed 1.09 pounds per hour.



Applicable Compliance Method: Compliance shall be determined by multiplying the maximum engine horsepower (35 hp) by 0.031 (lb/hp-hr emission factor for NO_x ; This emission factor is specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 3.3 Table 3.3-1 (10/2006)). If required, the permittee shall demonstrate compliance with this emission limitation in accordance with 40 CFR Part 60, Appendix A, Methods 1-4 and 7E.

- b. Emissions Limitation: CO emissions shall not exceed 0.23 pound per hour.

Applicable Compliance Method: Compliance shall be determined by multiplying the maximum engine horsepower (35 hp) by 0.00668 (lb/hp-hr emission factor for CO ; This emission factor is specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 3.3 Table 3.3-1 (10/2006)). If required, the permittee shall demonstrate compliance with this emission limitation in accordance with 40 CFR Part 60, Appendix A, Methods 1-4 and 10.

- c. Emissions Limitation: Particulate emissions shall not exceed 0.310 pound/MMBtu actual heat input.

Applicable Compliance Method: Compliance shall be determined by multiplying the maximum engine horsepower(35 hp) by 0.0022 (lb/hp-hr emission factor for PM; This emission factor is specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emissions Factors, Section 3.3 table 3.3-1(10/2006). If required, the permittee shall demonstrate compliance with this emission limitation in accordance with 40 CFR Part 60, Appendix A, Methods 1-4 and 5.

- d. Emission Limitations: NO_x emissions shall not exceed 4.77 tons/year, CO emissions shall not exceed 1.07 tons/year, and PM emissions shall not exceed 0.35 ton/year.

Applicable Compliance Method: Compliance with the annual allowable emissions limitations shall be assumed as long as compliance with the allowable hourly emissions limit is maintained (each annual limitation was calculated by multiplying the hourly allowable emissions limit by 8760, and then dividing by 2000).

- e. Emission Limitation: Visible emissions exiting any stack serving this emission unit shall not exceed 20 percent opacity as a six minute average, except as provided by rule.

Applicable Compliance Method: If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).Miscellaneous Requirements



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g) Miscellaneous Requirements

- (1) Modeling to demonstrate compliance with, the Toxic Air Contaminant Statute, ORC 3704.03(F)(4)(b), was not necessary because the emissions unit's maximum annual emissions for each toxic air contaminant, as defined in OAC rule 3745-114-01, will be less than 1.0 ton per year. OAC Chapter 3745-31 requires permittees to apply for and obtain a new or modified permit to install prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would cause the emissions of any toxic air contaminant to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new permit to install.



3. P901, P901

Operations, Property and/or Equipment Description:

Landfill

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) b)(1)h, d)(17), d)(18), d)(19), d) 20, and e)(5)

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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)	<p>Fugitive non-methane organic compounds (NMOC) emissions shall not exceed 157.40 tons per year.</p> <p>Fugitive methane (CH₄) emissions shall not exceed 11,124 tons per year.</p> <p>Fugitive HAP emissions shall not exceed 15.00 tons per year.</p> <p>Fugitive particulate emissions (PE) shall not exceed 1.0 ton per year.</p> <p>Fugitive volatile organic compound (VOC) emissions shall not 61.4 tons per year.</p> <p>Visible fugitive PE shall not exceed 20% opacity as a 3-minute average.</p> <p>Best available control measures that are sufficient to minimize or eliminate visible emissions of fugitive dust [See b)(2)x through b)(2)bb].</p> <p>See b)(2)a.</p> <p>Emissions from the 4500 ft³/min Enclosed Combustor shall be limited as follows:</p> <p>Nitrogen oxides (NO_x) emissions shall not</p>



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>exceed 8.9 pounds per hour; See b)(1)b for the rolling 12 month NO_x limit.</p> <p>Carbon monoxide (CO) emissions shall not exceed 29.7 pounds per hour; See b)(1)b for the rolling 12 month CO limit.</p> <p>Sulfur dioxide (SO₂) emissions shall not exceed 2.26 pounds per hour;</p> <p>SO₂ emissions shall not exceed 9.90 tons of SO₂ per year.</p> <p>NMOC emissions shall not exceed 1.2 pounds per hour;</p> <p>NMOC emissions shall not exceed 5.1 tons of NMOC per year.</p> <p>VOC emissions shall not exceed 0.5 pounds per hour;</p> <p>VOC emissions shall not exceed 2.0 tons of VOC per year.</p> <p>Hydrogen chloride (HCl) emissions shall not exceed 1.09 pounds per hour.</p> <p>HCl emissions shall not exceed 4.77 tons of HCl per year.</p> <p>Emissions of particulate matter less than 10 microns in diameter (PM₁₀) shall not exceed 2.32 pounds per hour.</p> <p>Emissions of PM₁₀ shall not exceed 10.17 tons per year.</p> <p>Note : All particulate emissions from the enclosed combustor are PM₁₀.</p> <p>Visible particulate emissions, from the stack serving the 4500 ft³/min Enclosed Combustor, shall not exceed 10% opacity as a 6-minute average.</p> <p>Emissions from all other control devices controlling emissions from this emissions unit shall be limited as</p>



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>follows:</p> <p>NO_x emissions shall not exceed 12.5 pounds per hour; See b)(1)b for the rolling 12 month NO_x limit.</p> <p>CO emissions shall not exceed 61.1 pounds per hour; See b)(1)b for the rolling 12 month CO limit.</p> <p>SO₂ emissions shall not exceed 3.52 pounds per hour;</p> <p>SO₂ emissions shall not exceed 15.44 tons of SO₂ per year.</p> <p>NMOC emissions shall not exceed 1.8 pounds per hour;</p> <p>NMOC emissions shall not exceed 7.9 tons of NMOC per year.</p> <p>VOC emissions shall not exceed 0.7 pounds per hour;</p> <p>VOC emissions shall not exceed 3.1 tons of VOC per year.</p> <p>HCl emissions shall not exceed 1.70 pounds per hour.</p> <p>HCl emissions shall not exceed 7.45 tons of HCl per year.</p> <p>Emissions of particulate matter less than 10 microns in diameter (PM₁₀) shall not exceed 3.62 pounds per hour.</p> <p>Emissions of particulate matter less than 10 microns in diameter (PM₁₀) shall not exceed 15.87 tons per year.</p> <p>No visible emissions from any open flare, except for periods not to exceed a total of 5 minutes, during any 2 consecutive hours.</p> <p>Visible emissions from the stack serving</p>



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		any control device other than an open flare, shall not exceed 10% opacity as a 6-minute average.
b.	OAC rule 3745-31-05(D)	NO _x emissions from all emissions units located at this facility shall not exceed shall not exceed 99.0 tons per rolling 12-month period. CO emissions from all emissions units located at this facility shall not exceed shall not exceed 249.0 tons per rolling 12-month period.
c.	40 CFR Part 60, Subpart WWW 40 CFR 60.750	See b)(2)b through b)(2)l.
d.	40 CFR Part 63, Subpart AAAA	See Section B – Facility-Wide Terms and Conditions
e.	40 CFR Part 63, Subpart A 40 CFR 63.6(e)(3)	See Table 1 of 40 CFR Part 63, Subpart AAAA See Section B – Facility-Wide Terms and Conditions
f.	OAC rule 3745-17-08(B)	Exempt, pursuant to OAC 3745-17-08(A)(1).
g.	OAC rule 3745-17-07(B)(1)	Exempt, pursuant to OAC 3745-17-07(B)(11)(e).
h.	ORC 3704.03 F(4)(c) and OAC rule 3745-114	See d)(17) thru d)(20), and e)(5)

(2) Additional Terms and Conditions

- a. This PTI is a Chapter 31 modification to PTI 01-6814 issued October 28, 1998. This PTI supersedes PTI 01-6814. The main modifications include:
 - i. increase the design capacity of the landfill to approximately 61,900,000 cubic yards;
 - ii. establish a particulate emissions (PE) annual allowable emissions limitation;
 - iii. establish emissions limits associated with fugitive landfill gas emissions;
 - iv. allow the facility to install the required control device(s) as the landfill gas generation increases; and
 - v. limit the total volume of landfill gas fed to all control devices to 6,055 million scf per year and to incorporate the control device emissions into the landfill emissions unit.



- b. The requirements of 40 CFR, Part 63, Subpart AAAA also include compliance with the requirements of 40 CFR, Part 60, Subpart WWW.

- c. [40 CFR 60.752(b)(2)(ii)(A)]

The calculated NMOC emission rate for this facility is greater than 50 megagrams per year (Mg/yr), therefore the permittee shall operate a collection and control system that captures the gas generated within the landfill as required below. The active collection system shall satisfy the following requirements:

- 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.
- iv. The system shall be designed to minimize off-site migration of subsurface gas.

- d. [40 CFR 60.752(b)(2)(i)(C)]

If the permittee seeks to demonstrate compliance with A.1.2.c. through the use of a collection system not conforming to the specifications provided in A.1.2.g. through A.1.2.i., the permittee shall provide information satisfactory to the Ohio EPA CDO to demonstrate that off-site migration is being controlled.

- e. [40 CFR 60.752(b)(2)(i)(A, B and D)]

The design plan required in this section has been submitted to the Ohio EPA CDO. The design plan submitted on February 10, 2004 conforms with specifications for active collection systems in 60.759.

An amended GCCS design plan must be provided pursuant to a change in the permitted capacity of the landfill or any substantive modification to the final facility waste grades which would impact the GCCS design prior to each new area becoming subject to control requirements.

Many site-specific factors must be taken into consideration in landfill gas system design and alternative systems may be necessary. Therefore, the permittee must notify the Ohio EPA CDO when an alternative design is determined to be necessary to meet the requirements of this section.



f. [40 CFR 60.755(b)]

The permittee shall 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 5 years or more if active; or 2 years or more if closed or at final grade.

g. [40 CFR 60.759(a)]

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:

h. [40 CFR 60.759(a)(1)]

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.

i. [40 CFR 60.759(a)(2)]

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 or passive systems at the landfill perimeter or exterior.

j. [40 CFR 60.759(a)(3)]

The placement of gas collection devices shall control all gas producing areas, except as provided by i and ii below:

k. [40 CFR 60.759(a)(1)(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.



I. [40 CFR 60.759(a)(1)(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 Ohio EPA CDO 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:

$$Q_i = 2 \times k \times L_o \times M_i \times (e^{-k t_i} \times C_{nmoc}) \times (3.6 \times 10^{-9})$$

where:

Q_i = NMOC emission rate from the i th section, in megagrams per year

k = methane generation rate constant, in year⁻¹

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

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

t_i = age of the solid waste in the i th section, in years

C_{nmoc} = concentration of nonmethane organic compounds, in parts per million by volume 3.6×10^{-9} = conversion factor

m. [40 CFR 60.759(a)(1)(iii)]

The values for k , L_o , 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_o and C_{nmoc} are provided below:

$k^* = 0.05$ per year

$L_o = 170$ cubic meters per megagram

$C_{nmoc} = 4,000$ 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.

n. [40 CFR 60.759(b)]

When the permittee constructs new gas collection devices, the permittee shall use the following equipment or procedures:

o. [40 CFR 60.759(b)(1)]

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.

p. [40 CFR 60.759(b)(2)]

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.

q. [40 CFR 60.759(b)(3)]

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.

r. [40 CFR 60.752(b)(2)(v)]

The collection and control system may be capped or removed provided that all of the following conditions are met:

- i. The landfill shall be a closed landfill as defined in 40 CFR 60.751. A closure report shall be submitted to the Ohio EPA CDO as provided in 40 CFR 60.757(d);
- ii. The collection and control system shall have been in operation a minimum of 15 years.
- ii. Following the procedures specified in 40 CFR 60.754(b), the calculated NMOC gas produced by the landfill shall be less than 50 megagrams per year (55.1 TPY) on 3 successive test dates. The test dates shall be no less than 90 days apart, and no more than 180 days apart.



- s. [40 CFR 60.752(b)(2)(v)(A)]

If this emissions unit is permanently closed, a closure notification, as provided for in 40 CFR Part 60.757(d), shall be submitted to the Ohio EPA Central District Office.

- t. [40 CFR 60.752(b)(2)(iii)]

The collected gas shall be routed to a control system that complies with one of the following options:

- i. [40 CFR 60.752(b)(2)(iii)(A), 40 CFR 60.18(c)]
an open flare designed and operated as follows:
- (a). the flare shall be designed for and operated with no visible emissions, except for periods not to exceed a total of 5 minutes, during any 2 consecutive hours;
 - (b). the flare shall be operated with a flame present at all times, as determined by the methods specified in 40 CFR 60.18(f); and
 - (c). The permittee shall comply with either the requirements in sections C.b)(2)t.i.(c).(i) and C.b)(2)t.i.(c).(ii) or the requirements in section C.b)(2)t.i.(c).(iii):
 - (i) Flares shall be used only with the net heating value of the gas being combusted being 11.2MJ/scm (300 Btu/scf) or greater if the flare is steam-assisted or air-assisted, or with the net heating value of the gas being combusted being 7.45 MJ/scm (200 Btu/scf) or greater if the flare is non-assisted. The net heating value of the gas being combusted shall be determined as follows or by utilizing methods approved by the Ohio EPA CDO in accordance with 40 CFR Part 60, Subpart WWW:

$H_t = k \times (\text{the summation of } C_i H_i \text{ for } i=1 \text{ through } i=n)$
where:

H_t = net heating value of the sample, MJ/scm; where the net enthalpy per mole of off gas is based on combustion at 25 degrees C and 760 mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20 degrees C;

k = constant, 1.740×10^{-7} (1/ppm)(g mole/scm) (MJ/kcal) where the standard temperature for (g mole/scm) is 20 degrees C;

C_i = concentration of sample component i in ppm on a wet basis, as measured for organics by Reference Method 18 and measured for hydrogen and carbon monoxide by ASTM D1946-77; and

Hi = net heat of combustion of sample component i, kcal/g mole at 25 degrees C and 760 mm Hg. A), the net heating value of the combusted landfill gas as determined in §60.18(f)(3) is calculated from the concentration of methane in the landfill gas as measured by Method 3C. A minimum of three 30-minute Method 3C samples are determined. The measurement of other organic components, hydrogen, and carbon monoxide is not applicable. Method 3C may be used to determine the landfill gas molecular weight for calculating the flare gas exit velocity under §60.18(f)(4). [40 CFR 60.754(e)]

- (ii) A steam-assisted and non-assisted flare shall be designed for and operated with an exit velocity of less than 18.3 m/sec. (60 ft/sec), except:
- [a] steam-assisted and non-assisted flare shall be designed for and operated with an exit velocity of equal to or greater than 18.3 m/sec. (60 ft/sec), but less than 122 m/sec (400 ft/sec) are allowed if the net heating value of the gas being combusted is greater than 37.3 MJ/scm (1,000 Btu/scf); and
- [b] steam-assisted and non-assisted flare shall be designed for and operated with an exit velocity of less than the velocity, Vmax, and less than 122 m/sec (400 ft/sec) are allowed, as determined by $\text{Log}_{10}(V_{\text{max}}) = (H_t + 28.8)/31.7$ where:
Vmax = maximum permitted velocity, M/sec;
28.8 = constant;
31.7 = constant; and
Ht = the net heating value as determined in section A.1.2.t.i.(c).(i). above.
- (iii) Flares shall be used that have a diameter of 3 inches or greater, are nonassisted, have a hydrogen content of 8.0 percent (by volume) or greater, and are designed for and operated with an exit velocity less than 37.2 m/sec (122 ft/sec) and less than the velocity, Vmax, as determined by the following equation:

$$V_{\text{max}} = (X_{\text{h}2} - K1) * K2$$

where:

Vmax = maximum permitted velocity, m/sec;

K1 = constant, 6.0 volume-percent hydrogen;

K2 = constant, 3.9 (m/sec)/volume-percent hydrogen; and

Xh2 = the volume-percent of hydrogen, on a wet basis, as calculated by using the American Society for Testing and Materials (ASTM) Method D1946-77, or utilizing methods



approved by the USEPA in accordance with 40 CFR Part 60, Subpart WWW.

- (iv) Air-assisted flare shall be designed for and operated with an exit velocity of less than the velocity, V_{max} , as determined by the following equation:

$$V_{max} = 8.706 + 0.7084 (Ht)$$

where:

V_{max} = maximum permitted velocity, m/sec;

8.706 = constant;

0.7084 = constant; and

Ht = the net heating value as determined in section A.1.2.t.i.(c).(i). above.

- u. [40 CFR 60.752(b)(2)(iii)(B)]

A control system designed and operated to reduce NMOC by 98 weight-percent, or, when an enclosed combustion device is used for control, to either reduce NMOC 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 reduction efficiency or parts per million shall be established by an initial performance test to be completed no later than 180 days after the initial startup of the approved control system using the test methods specified in 60.754(d) (See section f) below).

- i. If a boiler or process heater is used as the control device, the landfill gas stream shall be introduced into the flame zone.
- ii. The control device shall be operated within the parameter ranges established during the initial or most recent performance test. The operating parameters to be monitored are specified in 40 CFR 60.756;

- v [40 CFR 60.752(b)(2)(iii)(C)]

Route the collected gas to a treatment system that processes the collected gas for subsequent sale or use. All emissions from any atmospheric vent from the gas treatment system shall be subject to the requirements of paragraph (b)(2)(iii) (A) or (B) of this section.

The emission limitations for the control device(s) has (have) been established based upon the landfill's potential to emit as predicted by USEPA's Landfill gas estimation program (LANDGEM), AP-42 emission factors, and standard industry assumptions. These maximum emissions are expected to occur after the year 2028 if the facility were to accept its authorized maximum daily waste each day. Based upon the above and the permit application, the facility has committed to install greater control



device capacity within 180 days of satisfying BOTH conditions i. and ii. below:

- i. sustained average total flow rate (scfm) which is greater than 95% of the total control device(s) capacity available, and;
 - ii. the collection system must be expanded in accordance with operational restriction C.1.c)(3) [40 CFR 60.753(a)] within 180 days, and the newly collected LFG volume is anticipated to be greater than the total control device capacity available.
- w. There are no applicable emission limitations/control measures from OAC rules 3745-17-08(B) and 3745-17-07(B) because the facility is not located in an Appendix A area as specified in OAC rule 3745-17-08.
- x. [OAC 3745-31-05(A)(3)]

The permittee shall ensure that solid wastes are deposited, spread, and compacted in such a manner as to minimize or prevent visible emissions of dust. All truckloads of solid waste shall be unloaded in a manner which will minimize the drop height of the solid wastes. Any dusty construction materials, soils or wastes likely to become airborne shall be watered as necessary prior to or during dumping operations in order to minimize or eliminate visible emissions of fugitive dust. Watering shall be conducted in such a manner as to avoid the pooling of liquids and runoff. No dusty material shall be dumped during periods of high wind speed, unless the material has been treated to prevent fugitive dust emissions from becoming airborne.

- y. The material handling activities that are covered by this permit and subject to the above-mentioned annual fugitive mass PE limitation and the visible fugitive PE limitation for operations are listed below:

waste handling (depositing, spreading, and compacting)
landfill daily and intermediate cover handling
wind erosion from landfill surfaces/storage piles
general earthmoving and soil handling during landfill construction
landfill aggregate handling during landfill construction.

- z. [OAC 3745-31-05(A)(3)]

The permittee shall employ best available control measures on all activities listed in 2.y. for the purpose of ensuring compliance with the above-mentioned applicable requirements (particulate emission limitations). In accordance with the permittee's permit application, the permittee has committed to covering the active storage piles or spraying them with water or a surfactant solution as necessary to control fugitive dust. Also in accordance with the permittee's permit application, the permittee has committed to covering the inactive storage piles with vegetation or another type of cover or spraying them with water or a surfactant solution as necessary to control fugitive dust. Nothing in this



paragraph shall prohibit the permittee from employing other control measures to ensure compliance.

aa. [OAC 3745-31-05(A)(3)]

The needed frequencies of implementation of the control measures shall be determined by the permittee's inspections pursuant to the monitoring section of this permit. Implementation of the control measures shall not be necessary if there is snow and/or ice cover or if precipitation has occurred that is sufficient for that day to ensure compliance with the above-mentioned applicable requirements (particulate emission limitations). Implementation of any control measure may be suspended if unsafe or hazardous driving conditions would be created by its use.

bb. [OAC 3745-31-05(A)(3)]

Implementation of the above-mentioned control measures in accordance with the terms and conditions of this permit is appropriate and sufficient to satisfy the best available technology requirements of OAC rule 3745-31-05.

- i. The air contaminants emitted by this emissions unit shall not cause a public nuisance, in violation of OAC rule 3745-15-07.
- ii. The permittee shall employ control measures, including the application of best available technology (BAT), for the purpose of ensuring compliance with OAC rule 3745-15-07.

c) Operational Restrictions

(1) [OAC 3745-31-05(A)(3)]

The permittee shall be limited to accepting for disposal no more than 1,712,402 tons of waste material per rolling 12-month period. This emissions unit has been in operation for more than 12 months and, as such, the permittee has existing records to generate the rolling, 12-month summation of the total waste disposal rate, upon issuance of this permit.

(2) [40 CFR 60.753(a)]

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:

- a. 5 years or more if active; or
- b. 2 years or more if closed or at final grade.

(3) [40 CFR 60.753(b)]

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 owner or operator shall record instances when positive pressure occurs in efforts to avoid a fire. These records shall be submitted with the annual reports as provided in 40 CFR 60.757(f)(1);
- b. Use of a geomembrane or synthetic cover. The permittee shall develop acceptable pressure limits in the design plan; and
- c. A decommissioned well. A well may experience a static positive pressure after the shutdown to accommodate for declining flows. All design changes shall be approved by the Ohio EPA CDO.

(4) [40 CFR 60.753(c)]

The permittee shall operate each interior wellhead in the collection system with a landfill gas temperature less than 55 degrees C and with either a nitrogen level less than 20 percent or an oxygen level less than 5 percent. The owner or operator 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 anaerobic decomposition by killing methanogens.

- a. The nitrogen level shall be determined using Method 3C, unless an alternative test method is established as allowed by 60.752(b)(2)(i).
- b. Unless an alternative test method is established as allowed by 60.752(b)(2)(i), the oxygen shall be determined by an oxygen meter using Method 3A 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; The allowable sample bias, zero drift, and calibration drift are ± 10 percent.



(5) [40 CFR 60.753(d)]

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 owner or operator shall conduct surface testing 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 owner or operator 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.

(6) [40 CFR 60.753(e)]

The permittee shall operate the system such that all collected gases are vented to a control system designed and operated in compliance with 40 CFR 60.752(b)(2)(iii) unless the collected gas is routed to a treatment system that processes the collected gas for subsequent sale. 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.

(7) [40 CFR 60.753(f)]

The permittee shall operate the control or treatment system at all times when the collected gas is routed to the system.

(8) [40 CFR 60.753(g)]

If monitoring demonstrates that the operational requirements in sections C.1.c(3), C.1.c(4), or C.1.c(5) of this section are not met, corrective action shall be taken as specified in 40 CFR 60.755(a)(3) through (5) or 40 CFR 60.755(c) of this subpart (See section V.1.c through e. and V.2 of this permit). If corrective actions are taken as specified in 40 CFR 60.755, the monitored exceedance is not a violation of the operational requirements in this section.



(9) [OAC 3745-31-05(A)(3)]

The facility's combined control devices shall be limited to inputting less than or equal to 6,055 million scf of landfill gas per year. The permittee shall demonstrate compliance upon PTI issuance by using past records of monthly landfill gas input rates.

(10) [40 CFR 60.755(e)]

The provisions of Subpart WWW apply at all times, except during periods of start-up, shutdown, or malfunction, provided that the duration of start-up, shutdown, or malfunction shall not exceed 5 days for collection systems and shall not exceed 1 hour for treatment or control devices.

(11) The facility cannot accept for disposal any regulated asbestos-containing material as defined in the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Asbestos, 40 CFR Part 61, Subpart M, Section 141 and OAC rule 3745-20, or any

subsequent revisions to either rule. Regulated asbestos-containing material is defined to include:

- a. friable asbestos material;
- b. Category I nonfriable asbestos-containing material that has become friable;
- c. Category I nonfriable asbestos-containing material that will be or has been subjected to sanding, grinding, cutting, or abrading; or
- d. Category II nonfriable asbestos-containing material that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations regulated by this subpart.

If any regulated asbestos-containing waste material arrives at the landfill it cannot be accepted for disposal;

(12) There shall be no open burning in violation of OAC Rule 3745-19 at this facility.

d) Monitoring and/or Recordkeeping Requirements

(1) [40 CFR 60.758(a)]

- a. Except as provided in 40 CFR 60.752(b)(2)(i)(B), each owner or operator of an MSW landfill subject to the provisions of 40 CFR 60.752(b) shall keep for at least 5



years up-to-date, readily accessible, on-site records of the design capacity report which triggered 40 CFR 60.752(b), 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 paper copy or electronic formats are acceptable.

- (2) [40 CFR 60.756(a)]
- a. Except as provided in 40 CFR 60.752(b)(2)(i)(B), each owner or operator seeking to comply with 40 CFR 60.752(b)(2)(ii)(A) for an active gas collection system shall install a sampling port and a thermometer, other temperature measuring device, or an access port for temperature measurements at each wellhead and:
 - b. Measure the gauge pressure in the gas collection header (at each wellhead) on a monthly basis as provided in 40 CFR 60.755(a)(3);
 - c. Monitor nitrogen or oxygen concentration in the landfill gas on a monthly basis as provided in 40 CFR 60.755(a)(5); and
 - d. Monitor temperature of the landfill gas on a monthly basis as provided in 40 CFR 60.755(a)(5).
- (3) [40 CFR 60.756(b)]
- a. Each owner or operator seeking to comply with 60.752(b)(2)(iii) using an enclosed combustor shall install, calibrate, maintain, and operate according to the manufacturer's specifications the following equipment:
 - b. A temperature monitoring device equipped with a continuous recorder and having a minimum accuracy of ± 1 percent of the temperature being measured expressed in degrees Celsius or ± 0.5 degrees Celsius, whichever is greater. A temperature monitoring device is not required for boilers or process heaters with design heat input capacity equal to or greater than 44 megawatts.
 - c. A device that records flow to or bypass of the flare. The owner or operator shall either:
- (4) [40 CFR 60.756(b)(2)] 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
- a. 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.

(1)

(5) [40 CFR 60.756(c)]

- a. Each owner or operator seeking to comply with 60.752(b)(2)(iii) using an open flare shall install, calibrate, maintain, and operate according to the manufacturer's specifications the following equipment:
- b. A heat sensing device, such as an ultraviolet beam sensor or thermocouple, at the pilot light or the flame itself to indicate the continuous presence of a flame.
- c. A device that records flow to or bypass of the flare. The owner or operator shall either:

(6) [40 CFR 60.756(c)(2)] 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

- a. 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.

(7) [40 CFR 60.756(f)]

- a. Except as provided in 40 CFR 60.752(b)(2)(i)(B), each owner or operator seeking to demonstrate compliance with 40 CFR 60.755(c), shall monitor surface concentrations of methane according to the instrument specifications and procedures provided in 40 CFR 60.755(d). Any closed landfill that has no monitored exceedances of the operational standard in three consecutive quarterly monitoring periods may skip to annual monitoring. Any methane reading of 500 ppm or more above background detected during the annual monitoring returns the frequency for that landfill to quarterly monitoring.

(8) [40 CFR 60.758(b)(1) and (b)(4)]

- a. Except as provided in 40 CFR 60.752(b)(2)(i)(B), each owner or operator of a controlled landfill shall keep up-to-date, readily accessible records, for the life of the control equipment, of the data listed in 7.a. below as



measured during the initial performance test or compliance determination. 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.

Where an owner or operator subject to the provisions of this subpart seeks to demonstrate compliance with 40 CFR 60.752(b)(2)(ii):

The maximum expected gas generation flow rate as calculated in 40 CFR 60.755(a)(1) (See section f). The owner or operator may use another method to determine the maximum gas generation flow rate, if the method has been approved by the Ohio EPA CDO.

- 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).

Where an owner or operator subject to the provisions of this subpart seeks to demonstrate compliance with 60.752(b)(2)(iii)(A) through use of an open flare, the flare type (i.e., steam-assisted, air-assisted, or non assisted), all visible emission readings, heat content determination, flow rate or bypass flow rate measurements, and exit velocity determinations made during the performance test as specified in 60.18 and 40 CFR 60.754(e); continuous records of the flare pilot flame or flare flame monitoring and records of all periods of operations during which the pilot flame or the flare flame is absent.

(9) [40 CFR 60.758(c)(1) through (c)(4)]

- a. Except as provided in 40 CFR 60.752(b)(2)(i)(B), each owner or operator 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 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.
- b. The following constitute exceedances that shall be recorded and reported under §§ 60.757(f):
- c. For enclosed combustors except for boilers and process heaters with design heat input capacity of 44 megawatts (150 million British thermal unit per hour) or greater, all 3-



hour periods of operation during which the average combustion temperature was more than 28 °C below the average combustion temperature during the most recent performance test at which compliance with §§ 60.752(b)(2)(iii) was determined.

- i. For boilers or process heaters, whenever there is a change in the location at which the vent stream is introduced into the flame zone as required under paragraph (b)(3) of this section.
- d. Each owner or operator subject to the provisions of this subpart shall keep up-to-date, readily accessible continuous records of the indication of flow to the control device or the indication of bypass flow or records of monthly inspections of car-seals or lock-and-key configurations used to seal bypass lines, specified under 40 CFR 60.756.
- e. Each owner or operator subject to the provisions of this subpart who uses a boiler or process heater with a design heat input capacity of 44 megawatts or greater to comply with §§ 60.752(b)(2)(iii) shall keep an up-to-date, readily accessible record of all periods of operation of the boiler or process heater. (Examples of such records could include records of steam use, fuel use, or monitoring data collected pursuant to other State, local, Tribal, or Federal regulatory requirements.)
- f. Each owner or operator seeking to comply with the provisions of this subpart by use of an open flare shall keep up-to-date, readily accessible continuous records of the flame or flare pilot flame monitoring specified under 60.756(c), and up-to-date, readily accessible records of all periods of operation in which the flame or flare pilot flame is absent.

(10) [40 CFR 60.758(d)]

Except as provided in 40 CFR 60.752(b)(2)(i)(B), each owner or operator subject to the provisions of this subpart 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.

- a. Each owner or operator subject to the provisions of this subpart 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).



- b. Each owner or operator subject to the provisions of this subpart shall keep readily accessible documentation of the nature, date of deposition, amount, and location of nondegradable waste 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).

(11) [40 CFR 60.758(e)]

Except as provided in 40 CFR 60.752(b)(2)(i)(B), each owner or operator subject to the provisions of this subpart shall keep for at not the second reading is an exceedance, and the location of each exceedance.

(12) [OAC 3745-31-05(A)(3)]

The permittee shall conduct semi-annual sampling of the LFG at a point prior to entering the control device(s). These samples should be analyzed for natural gas properties in accordance with ASTM D 1946 (or equivalent) to determine methane content, and heat content in accordance with ASTM 3588 (or equivalent) and method 3C/25C to determine NMOC. The semi-annual sampling will be recorded and averaged annually for use in determining actual emissions.

(13) [OAC 3745-31-05(A)(3) and [40 CFR 60.756(c)]]

This permittee shall maintain monthly records of the following:

- a. amount of landfill gas, in scf, collected from the landfill,
- b. amount of landfill gas, in scf, input to each of the individual control devices,
- c. the number of hours that the individual control devices were operated;
- d. the amount of landfill gas, in scf, input to the treatment system that processes the gas for subsequent sale or use;
- e. the amount, in scf, of process return gas provided from the a gas treatment system, if any; and
- f. the rolling, 12-month summation of the combined emissions from all control devices.

(14) [OAC 3745-31-05(A)(3)]

- a. The permittee shall perform daily inspections to observe the following material handling activities when the activity(ies) is (are) being conducted:



waste handling (depositing, spreading and compacting)
landfill daily and intermediate cover handling
wind erosion from landfill surfaces
general earthmoving and soil handling during landfill

construction landfill aggregate handling during landfill
construction

b. The inspections shall be documented and recorded as required in condition A.III.15, below.

(15) [OAC 3745-31-05(A)(3)]

No inspection shall be necessary when the material handling activity(ies) is (are) not being conducted, when there is snow and/or ice cover, and/or if precipitation has occurred that is sufficient for that day to ensure compliance with the above-mentioned visible fugitive PE limitation. Any required inspection that is not performed due to any of the above identified events shall be performed during the next inspection pursuant to the minimum inspection frequency.

(16) [OAC 3745-31-05(A)(3)]

The purpose of the material handling activity(ies) inspections is to determine the need for implementing the control measures specified in this permit to minimize and eliminate visible emissions of fugitive dust from the activities. The inspections shall be performed during representative, normal landfill operating conditions.

(17) [OAC 3745-31-05(A)(3)]

The permittee shall maintain a daily operations log which lists all of the above landfill activities (Note that if the records required in this Term and Condition exactly duplicate any records required under the facility's Division of Solid and Infectious Waste Management (DSIWM) permit the DSIWM record will suffice to meet this Term and Condition). The daily operations log shall clearly indicate/contain the following:

- a. the date and whether an inspection was performed and, if not performed, the reason why the inspection was not performed, including those inspections that were not performed due to snow and/or ice cover or precipitation;
- b. the activities which were in operation;
- c. each activity where it was determined by the person conducting the inspection that it was necessary to



- implement the control measures to meet the above-mentioned visible fugitive PE limitation;
- d. whether control measures were employed to minimize or eliminate visible emissions of fugitive dust;
 - e. with regards to the waste handling activities, the amount, in tons, of waste material accepted for disposal.
- (18) The permittee shall maintain an annual cumulative (calendar year) record to be updated quarterly:
- a. of days inspections were not performed by the required frequency, and;
 - b. of days in which control measures were determined to be necessary by an inspector, but were not implemented.
- (19) The PTI application for this emissions unit was evaluated based on the actual materials and the design parameters of the emissions unit's(s') exhaust system, as specified by the permittee. The Toxic Air Contaminant Statute, ORC 3704.03(F), was applied to this/these emissions unit(s) for each toxic air contaminant listed in OAC rule 3745-114-01, using data from the permit application; and modeling was performed for each toxic air contaminant(s) emitted at over one ton per year using an air dispersion model such as SCREEN3, AERMOD, or ISCST3, or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the approved air dispersion model, was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC), calculated as described in the Ohio EPA guidance document entitled review of New Sources of Air Toxic Emissions, Option A, as follows:
- a. the exposure limit, expressed as a time-weighted average concentration for a conventional 8-hour workday and a 40-hour workweek, for each toxic compound(s) emitted from the emissions unit(s), (as determined from the raw materials processed and/or coatings or other materials applied) has been documented from one of the following sources and in the following order of preference (TLV was and shall be used, if the chemical is listed):
 - i. threshold limit value (TLV) from the American Conference of Governmental Industrial Hygienists= (ACGIH) Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices; or



- ii. STEL (short term exposure limit) or the ceiling value from the American Conference of Governmental Industrial Hygienists= (ACGIH) Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices; the STEL or ceiling value is multiplied by 0.737 to convert the 15-minute exposure limit to an equivalent 8-hour TLV.
- b. The TLV is divided by ten to adjust the standard from the working population to the general public (TLV/10).
- c. This standard is/was then adjusted to account for the duration of the exposure or the operating hours of the emissions unit(s), i.e., 24 hours per day and 7 days per week, from that of 8 hours per day and 5 days per week. The resulting calculation was (and shall be) used to determine the Maximum Acceptable Ground-Level Concentration (MAGLC):

$$TLV/10 \times 8/24 \times 5/7 = 4 TLV/8760 = MAGLC$$
- d. The following summarizes the results of dispersion modeling for the significant toxic contaminants (emitted at 1 or more tons/year) or worst case toxic contaminant(s):

For worst-case control device scenario

SCREEN3 Modeling	Ethane	Hydrogen Chloride
Pollutant Emission Rate (lb/hr)	0.973	2.79
Pollutant Emission Rate (gram/sec)	0.12	0.35
Distance From Exhaust Stack to Property Line (m)	155	155
Distance From Exhaust Stack to Maximum Concentration (m)	1174	1174
Max 1-hr Concentration @ 1 gram/sec Emission Rate (ug/m ³)	0.7698	0.7698
Max 1-hr Concentration @ Above Emission Rate (ug/m ³)	0.094	0.271
TLV (ppmv)	1000	2
MAGLIC (TLV/42) (ug/m ³)	29,282	71.1
Result	0.094 < 29282 - OK	0.271 < 71.1 - OK

The permittee, has demonstrated that emissions of Hydrogen chloride and ethane from the landfill operations are calculated to



be less than eighty percent of the maximum acceptable ground level concentration (MAGLC); any new raw material or processing agent shall not be applied without evaluating each component toxic air contaminant in accordance with the Toxic Air Contaminant Statute, ORC 3704.03(F).

- (20) Prior to making any physical changes to or changes in the method of operation of the emissions unit(s), that could impact the parameters or values that were used in the predicted 1-hour maximum ground-level concentration, the permittee shall remodel the change(s) to demonstrate that the MAGLC has not been exceeded. Changes that can affect the parameters/values used in determining the 1-hour maximum ground-level concentration include, but are not limited to, the following:
- a. changes in the composition of the materials used or the use of new materials, that would result in the emission of a new toxic air contaminant with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled;
 - b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any toxic air contaminant listed in OAC rule 3745-114-01, that was modeled from the initial (or last) application; and
 - c. physical changes to the emissions unit(s) or its/their exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.)

If the permittee determines that the Toxic Air Contaminant Statute will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01 solely due to a non-restrictive change to a parameter or process operation, where compliance with the Toxic Air Contaminant Statute, ORC 3704.03(F), has been documented. If the change(s) meet(s) the definition of a "modification", the permittee shall apply for and obtain a final PTI, PTIO, or FEPTIO (as applicable) prior to the change. The Director may consider any significant departure from the operations of the emissions unit, described in the permit application, as a modification that results in greater emissions than the emissions rate modeled to determine the ground level concentration; and he/she may require the permittee to submit a permit application for the increased emissions.

- (21) The permittee shall collect, record, and retain the following information for each toxic evaluation conducted to determine compliance with the Toxic Air Contaminant Statute, ORC 3704.03(F):



- a. description of the parameters/values used in each compliance demonstration and the parameters or values changed for any re-evaluation of the toxic(s) modeled (the composition of materials, new toxic contaminants emitted, change in stack/exhaust parameters, etc.);
 - b. the Maximum Acceptable Ground-Level Concentration (MAGLC) for each significant toxic contaminant or worst-case contaminant, calculated in accordance with the Toxic Air Contaminant Statute, ORC 3704.03(F);
 - c. a copy of the computer model run(s), that established the predicted 1-hour maximum ground-level concentration that demonstrated the emissions unit(s) to be in compliance with the Toxic Air Contaminant Statute, ORC 3704.03(F), initially and for each change that requires re-evaluation of the toxic air contaminant emissions; and
 - d. the documentation of the initial evaluation of compliance with the Toxic Air Contaminant Statute, ORC 3704.03(F), and documentation of any determination that was conducted to re-evaluate compliance due to a change made to the emissions unit(s) or the materials applied.
- (22) The permittee shall maintain a record of any change made to a parameter or value used in the dispersion model, used to demonstrate compliance with the Toxic Air Contaminant Statute, ORC 3704.03(F), through the predicted 1-hour maximum ground-level concentration. The record shall include the date and reason(s) for the change and if the change would increase the ground-level concentration
- (23) The permittee shall maintain monthly records of the following information:
- a. the total waste disposal rate for each month; and
 - b. the rolling, 12-month summation of the total waste disposal rates.
- e) Reporting Requirements
- (1) [OAC 3745-31-05(A)(3)]
- The permittee shall submit a report within 30 days after an exceedance of the rolling 12- month waste disposal limitation.

Reporting Requirements for Landfill Gas Operations



a. [40 CFR 60.757(a)]

The permittee shall submit any and all reports in accordance with the Standards of Performance for Municipal Solid Waste Landfills, 40 CFR 60.757, except as indicated in this and the following term and condition.

The reports shall be submitted to:

The Ohio EPA CDO, 50 West Town St., Columbus, Ohio
43216-1049

b. [40 CFR 60.757(a)]

Each owner or operator subject to the requirements of this subpart shall submit an initial design capacity report to the Ohio EPA CDO ninety days after the date of commenced construction, modification, or reconstruction for landfills that commence construction, modification, or reconstruction on or after March 12, 1996. The initial design capacity report shall contain the following information:

- i. A map or plot of the landfill, providing the size and location of the landfill, and identifying all areas where solid waste may be landfilled according to the permit issued by the State, local, or tribal agency responsible for regulating the landfill.
- ii. The maximum design capacity of the landfill. Where the maximum design capacity is specified in the permit issued by the State, local, or tribal agency responsible for regulating the landfill, a copy of the permit specifying the maximum design capacity may be submitted as part of the report. If the maximum design capacity of the landfill is not specified in the permit, the maximum design capacity shall be calculated using good engineering practices. The calculations shall be provided, along with such parameters as part of the report. The State, Tribal, local agency or Ohio EPA CDO may request other reasonable information as may be necessary to verify the maximum design capacity of the landfill.

c. [40 CFR 60.757(c)] and OAC 3745 -31-05(A)(3)]

This facility has fulfilled the requirement to submit the initial collection and control system design plan. Therefore, the permittee is not subject to submitting the collection and control system design plan in 40 CFR 60.752(b)(2)(i) and



in 40 CFR 60.757(c) except that this facility shall submit an amended design plan prior to a new area(after the date of this permit action) becoming subject to the control requirements of 40 CFR 60.752(b)(2)(i).

d. [40 CFR 60.757(d)]

Each owner or operator of a controlled landfill shall submit a closure report to the Ohio EPA CDO within 30 days of waste acceptance cessation. The Ohio EPA CDO may request additional information as may be necessary to verify that permanent closure has taken place in accordance with the requirements of 40 CFR 258.60. If a closure report has been submitted to the Ohio EPA CDO, no additional wastes may be placed into the landfill without filing a notification of modification as described under 40 CFR 60.7(a)(4).

e. [40 CFR 60.757(e)]

Each owner or operator of a controlled landfill shall submit an equipment removal report to the Ohio EPA CDO 30 days prior to removal or cessation of operation of the control equipment.

The equipment removal report shall contain all of the following items:

- i. a copy of the closure report submitted in accordance with 40 CFR 60.757(d);
- ii. a copy of the initial performance test report demonstrating that the 15 year minimum control period has expired; and
- iii. dated copies of three successive NMOC emission rate reports demonstrating that the landfill is no longer producing 50 megagrams or greater of NMOC per year.

The Ohio EPA CDO may request such 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.

f. [40 CFR 60.757(f)]

By January 31st and July 31st of each year, each owner or operator of a landfill seeking to comply with 40 CFR 60.752(b)(2) using an active collection system designed in accordance with 40 CFR 60.752(b)(2)(ii) shall submit to the



Ohio EPA CDO semi-annual reports, in accordance with Section B.6, of the recorded information in sections i. through vi. below. For enclosed combustion devices and flares, reportable exceedances are defined under 40 CFR 60.758(c).

- i. value and length of time for exceedance of applicable parameters monitored under 40 CFR 60.756(a), (b), (c) and (d);
 - ii. description and duration of all periods when the gas stream is diverted from the control device through a bypass line or the indication of bypass flow as specified under 40 CFR 60.756;
 - iii. 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;
 - iv. all periods when the collection system was not operating in excess of 5 days;
 - v. the location of each exceedance of the 500 parts per million methane concentration as provided in 40 CFR 60.753(d) and the concentration recorded at each location for which an exceedance was recorded in the previous month; and
 - vi. the date of installation and the location of each well or collection system expansion added pursuant to paragraphs (a)(3), (b), and (c)(4) of 40 CFR 60.755.
- g. [40 CFR 60.757(g)]

The permittee shall submit the following information with the initial performance test report required pursuant to 40 CFR 60.8, if not already completed:

- i. a diagram of the collection system showing collection system positioning, including all wells, horizontal collectors, surface collectors, or other gas extraction devices, including the locations of any areas excluded from collection and the proposed sites for the future collection system expansion;
- ii. the data upon which the sufficient density of wells, horizontal collectors, surface collectors, or other gas extraction devices and the gas mover equipment sizing are based;



- iii. the documentation of the presence of nondegradable material for each area from which collection wells have been excluded based on the presence of nondegradable material;
- iv. the sum of the gas generation flow rate for all areas from which collection wells have been excluded based on nonproductivity and the calculations of gas generation flow rate for each excluded area;
- v. the provisions for increasing gas mover equipment capacity with increased gas generation flow rate, if the present gas mover equipment is inadequate to move the maximum flow rate expected over the life of the landfill; and
- vi. the provisions for the control of off-site migration.

h. [OAC 3745-31-05(A)(3)]

By April 15th of each year, the permittee shall submit an annual report covering the previous calendar year detailing the amount of landfill gas, in scf, collected from the landfill, amount of landfill gas, in scf, input to each individual control device, the number of hours that each individual control device operated and the amount of landfill gas, in scf, input to the treatment system that processes the gas for subsequent sale or use. These reporting requirements may be satisfied by including and identifying this information in the annual Fee Emissions Report.

i. [OAC 3745-31-05(A)(3)]

By January 31 of each year, the permittee shall submit an annual report that identifies any of the following occurrences relating to inspections of landfill activities during the previous year:

- i. each day during which an inspection was not performed by the required frequency; and
- ii. each instance when a control measure, that was to be performed as a result of an inspection, was not implemented.

The permittee shall submit annual reports to the Ohio EPA CDO, documenting any changes made to a parameter or value used in the dispersion model, that was used to demonstrate compliance with the Toxic Air Contaminant Statute, ORC 3704.03(F), through the predicted 1-hour maximum ground-level concentration. If no changes to the emissions unit(s) or the exhaust stack have been made, then the report shall include a statement to this effect. This report shall be postmarked or delivered no later than January 31 following the end of each calendar year.



The permittee shall submit quarterly deviation (excursion) reports that identify:

- i. all deviations (excursions) of the rolling 12-month summation of total NOx and CO emissions;
- ii. any corrective actions that were taken to remedy the deviations (excursions) or prevent future deviations (excursions); and
- iii. the magnitude and duration of each deviation (excursion).

If no deviations (excursions) occurred during a calendar quarter, the permittee shall submit a report that states that no deviations (excursions) occurred during the quarter.

The quarterly reports shall be submitted each year by the thirty-first of January (covering October to December), the thirtieth of April (covering January to March), the thirty-first of July (covering April to June), and the thirty-first of October (covering July to September), unless an alternative schedule has been established and approved by the Ohio EPA, CDO.

f) Testing Requirements

- (1) Compliance with the emission limitations in b)(1) of these terms and conditions shall be determined in accordance with the following methods:

[40 CFR 60.755(a)]

Except as provided in 40 CFR 60.752(b)(2)(i)(B), the specified methods in paragraphs 1.a. through 1.f. of this section shall be used to determine whether the gas collection system is in compliance with 40 CFR 60.752(b)(2)(ii).

a. For the purposes of calculating the maximum expected gas generation flow rate from the landfill to determine compliance with 40 CFR 60.752(b)(2)(ii)(A)(1), one of the following equations shall be used. The k and Lo kinetic factors should be those published in the most recent Compilation of Air Pollutant Emission Factors (AP-42) or other site specific values demonstrated to be appropriate and approved by the Ohio EPA CDO. If k has been determined as specified in 40 CFR 60.754(a)(4), the value of k determined from the test shall be used. A value of no more than 15 years shall be used for the intended use period of the gas mover equipment. The active life of the landfill is the age of the landfill plus the estimated number of years until closure.

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

$$Q_m = 2L_o R (e^{-k_c} - e^{-k_t})$$

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, year⁻¹;

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; and

c = time since closure, years (for an active landfill $c = 0$ and $e^{-kc} = 1$).

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

QM = the summation of $2 \times k \times L_o \times M_i \times (e^{-kt} \times i)$ for $i=1$ through $i=n$

where:

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

k =methane generation rate constant, year⁻¹;

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

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

t_i =age of the i th section, years.

- c. 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 in paragraphs V.1.a.i. and V.1.a.ii. of this section. If the landfill is still accepting waste, the actual measured flow data will not equal the maximum expected gas generation rate, so calculations using the equations in paragraphs V.1.a.i. or V.1.a.ii. 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.

[40 CFR 60.755(a)(2)]



- d. For the purposes of determining sufficient density of gas collectors for compliance with 40 CFR 60.752(b)(2)(ii)(A)(2), the owner or operator shall design a system of vertical wells, horizontal collectors, or other collection devices, satisfactory to the Ohio EPA CDO, capable of controlling and extracting gas from all portions of the landfill sufficient to meet all operational and performance standards.

[40 CFR 60.755(a)(3)]

- e. For the purpose of demonstrating whether the gas collection system flow rate is sufficient to determine compliance with 40 CFR 60.752(b)(2)(ii)(A)(3), the owner or operator 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 Ohio EPA CDO for approval.

[40 CFR 60.755(a)(4)]

- f. Owners or operators are not required to expand the system as required in paragraph f)(1)c of this section during the first 180 days after gas collection system startup.

[40 CFR 60.755(a)(5)]

- g. For the purpose of identifying whether excess air infiltration into the landfill is occurring, the owner or operator 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 Ohio EPA CDO for approval.



[40 CFR 60.755(a)(6)]

- h. An owner or operator seeking to demonstrate compliance with 40 CFR 60.752(b)(2)(ii)(A)(4) through the use of a collection system not conforming to the specifications provided in 40 CFR 60.759 shall provide information satisfactory to the Ohio EPA CDO as specified in 40 CFR 60.752(b)(2)(i)(C) demonstrating that off-site migration is being controlled.

[40 CFR 60.755(c)]

- i. The following procedures shall be used for compliance with the surface methane operational standard as provided in 40 CFR 60.753(d).
- j. After installation of the collection system, the owner or operator shall monitor surface concentrations of methane along the entire perimeter of the collection area and along a pattern that traverses the landfill at 30 meter intervals (or a site-specific established spacing) for each collection area on a quarterly basis using an organic vapor analyzer, flame ionization detector, or other portable monitor meeting the specifications provided in paragraph 3 of this section.
- k. 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.
- l. Surface emission monitoring shall be performed in accordance with section 4.3.1 of Method 21 of appendix A of this part, except that the probe inlet shall be placed within 5 to 10 centimeters of the ground. Monitoring shall be performed during typical meteorological conditions.
- m. 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 in paragraphs d.i through d.v of this section shall be taken. As long as the specified actions are taken, the exceedance is not a violation of the operational requirements of 40 CFR 60.753(d).
 - 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, the action specified in paragraph d.v of this section shall be taken, and no further monitoring of that location is required until the action specified in paragraph d.v. 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 re-monitoring specified in paragraph d.ii. or d.iii of this section shall be re-monitored 1 month from the initial exceedance. If the 1-month re-monitoring 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 re-monitoring shows an exceedance, the actions specified in paragraph d.iii or d.v shall be taken.
- v. For any location where monitored methane concentration equals or exceeds 500 parts per million 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. 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 CDO for approval.
- n. The owner or operator shall implement a program to monitor for cover integrity and implement cover repairs as necessary on a monthly basis.

[40 CFR 60.755(d)]

- i. Each owner or operator seeking to comply with the provisions in f)1.g shall comply with the following instrumentation specifications and procedures for surface emission monitoring devices:
- ii. The portable analyzer shall meet the instrument specifications provided in section 3 of Method 21 of appendix A of this part, except that "methane" shall replace all references to VOC.
- iii. The calibration gas shall be methane, diluted to a nominal concentration of 500 parts per million in air.



- vi. To meet the performance evaluation requirements in section 3.1.3 of Method 21 of appendix A of this part, the instrument evaluation procedures of section 4.4 of Method 21 of appendix A of this part shall be used.
 - v. The calibration procedures provided in section 4.2 of Method 21 of appendix A of this part shall be followed immediately before commencing a surface monitoring survey.
- (2) Emissions Limitation: Fugitive non-methane organic compounds (NMOC) emissions shall not exceed 157.40 tons per year; Fugitive methane (CH₄) emissions shall not exceed 11,124 tons per year; Fugitive HAP emissions shall not exceed 15.0 tons per year; Fugitive volatile organic compound (VOC) emissions shall not exceed 61.4 tons per year.

Applicable Compliance Method: Fugitive landfill emissions resulting from the biological breakdown of organic wastes shall not exceed the values shown in Section A.I.1 which are based on calculations performed with the use of USEPA's Landfill estimation program (LANDGEM) as found in AP-42. These calculations represent the highest emission rates which could occur based on landfill gas emission rates predicted by a maximum annual rate of waste material accepted for disposal of 1,712,402 tons, USEPA's Landfill estimation program (LANDGEM), AP-42 and other emission factors, a capture efficiency of 85% (10% greater than AP-42 default value) for the gas collection and control system, an assumption that 0% of the wastes disposed are inert and are not broken down to create landfill gas, and other assumptions contained in the application.

- (3) Emission Limitation: Particulate emissions (PE) from the MSW landfill operations shall not exceed 1 ton per year.

Applicable Compliance Method: Compliance shall be demonstrated by employing the emission factors derived from the equations in AP-42, Compilation of Air Pollution Emission Factors, Chapter 13.2.4 (November 2006), for all material handling and storage piles and the information provided by the permittee in the Air permit to Install application submitted on November 6, 2008. Note: Maximum potential uncontrolled emission rates for material handling and storage piles were calculated by using worst case calculations contained in the application based upon material handling being performed to support 6,000 tons per day (TPD) waste acceptance rate (Allowable Maximum Daily Waste Receipt).

- (4) Emission Limitation: Visible fugitive particulate emissions from landfill operations shall not exceed 20 percent opacity as a three-minute average.

Applicable Compliance Method: Compliance with the visible emission limitation identified above shall be determined in accordance with Test Method 9 as set forth in "Appendix on Test Methods" in 40 CFR, Part 60 ("Standards of Performance for New Stationary Sources"), as such Appendix existed on July 1,



2002, and the modifications listed in paragraphs (B)(3)(a) and (B)(3)(b) of OAC rule 3745-17-03.

- (5) Emission Limitations: **Emissions from the 4500 ft³/min Enclosed Combustor shall be limited as follows:** NO_x emissions shall not exceed 8.9 pounds per hour; CO emissions shall not exceed 29.7 pounds per hour; SO₂ emissions shall not exceed 2.26 pounds per hour; NMOC emissions shall not exceed 1.2 pounds per hour; VOC emissions shall not exceed 0.5 pounds per hour; HCl emissions shall not exceed 1.09 pounds per hour; and emissions of PM₁₀ shall not exceed 2.32 pounds per hour;

- a. Applicable Compliance Method for PM-10: Compliance with the above hourly emission limitation shall be determined using the following calculation:

$$\frac{\text{Flow Rate dry ft}^3}{\text{minute hour}} \times \frac{0.XX \text{ ft}^3 \text{ CH}_4}{\text{ft}^3 \text{ LFG}} \times \frac{17 \text{ lbs PM}^*}{1,000,000 \text{ ft}^3 \text{ methane}} \times \frac{60 \text{ minutes}}{\text{hour}} \leq 2.32 \text{ lbs}$$

*AP-42, Section 2.4, Municipal Solid Waste Landfills [11/98] (all PM is assumed to be PM₁₀)

Actual flow rate and methane content is determined from monitoring and recordkeeping in section d).

For demonstration purposes, initial compliance was determined using the following values: Flow Rate = 4,140 dscfm and an assumption of .55 ft³ of methane per cubic foot of landfill gas.

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with 40 CFR Part 60, Appendix A, Methods 1-4 and 5

- b. Applicable Compliance Method for CO: Compliance with the above hourly emission limitation shall be determined using the record keeping required in section d above and the following calculation:

$$\frac{\text{Flow Rate ft}^3}{\text{minute hour}} \times \frac{0.XX \text{ ft}^3 \text{ CH}_4}{\text{ft}^3 \text{ LFG}} \times \frac{1000 \text{ BTU}}{1,000,000 \text{ BTU}} \times \text{EF lbs CO}^* \times \frac{60 \text{ minutes}}{\text{hour}} \leq 29.7 \text{ lbs}$$

*This value has been established based upon a manufacturer's performance guarantee.

Actual flow rate and methane content is determined from monitoring and recordkeeping in section d) and the emission factor shall be based upon manufacturer's guarantee or most recent testing results, if applicable.



For demonstration purposes, initial compliance was determined using the following values: Flow Rate = 4500 scfm and CO Emission Factor = 0.20 lbs CO/MMBtu and an assumption of .55 ft³ of methane per cubic foot of landfill gas.

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with 40 CFR Part 60, Appendix A, Methods 1-4 and 10.

- c. Applicable Compliance Method for NO_x: Compliance with the above hourly emission limitation shall be determined using the record keeping required in section d above and the following calculation:

Flow Rate ft ³ lbs/minute ft ³ LFG hour	0.XX ft ³ CH ₄ ft ³ methane	1000 BTU 1,000,000 BTU	EF lbs NO _x * hour	60 minutes hour	<= 8.9
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*This value has been established based upon a manufacturer's performance guarantee.

Actual flow rate and methane content is determined from monitoring and recordkeeping in section d) and the emission factor shall be based upon manufacturer's guarantee or most recent testing results, if applicable.

For demonstration purposes, initial compliance was determined using the following values: Flow Rate = 4500 scfm and NO_x Emission Factor = 0.06 lbs NO_x/MMBtu and an assumption of .55 ft³ of methane per cubic foot of landfill gas.

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with 40 CFR Part 60, Appendix A, Methods 1-4 and 7E.

- d. Applicable Compliance Method for SO₂: Compliance with the above hourly emission limitation shall be determined using the following calculation:

Flow Rate ft ³ minute hour	49.6 ppmv* 1,000,000 MMscf/scf	64.066 ¹ (0.7302 ² x 520 ³)	60 minutes hour	<= 2.26 lbs
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*Sulfur concentration in the exhaust gas from AP-42 = 49.6 ppmv based upon 99.7% landfill gas control efficiency (represents worst-case emissions for SO₂)



- ¹ molecular wt of SO₂
- ² universal gas constant
- ³ temperature

Actual flow rate is determined from monitoring and recordkeeping in section d).

For demonstration purposes, initial compliance was determined using the following values: Flow Rate = 4,500 scfm.

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with 40 CFR Part 60, Appendix A, Methods 1-4 and 6C.

- e. Applicable Compliance Method for NMOC: Compliance with the above hourly emission limitation shall be determined using the following calculation:

Flow Rate ft ³ minute hour	946 ppmv* 1,000,000 MMscf/scf	86.18 ¹ (0.7302 ³ x 520 ⁴)	60 minutes x (1-0.98) ² hour	<= 1.2 lbs
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- * NMOC concentration in inlet gas based on historic site data = 946 ppmv.
- ¹ molecular wt of NMOC as hexane
- ² control efficiency of the control device(s)
- ³ universal gas constant
- ⁴ temperature

Actual flow rate and NMOC content is determined from monitoring and recordkeeping in section d).

For demonstration purposes, initial compliance was determined using the following values: Flow Rate = 4,500 scfm.

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with the methods and procedures specified in Methods 1-4 and 18 of 40 CFR Part 60, Appendix A.

- f. Applicable Compliance Method for VOC: Compliance with the above hourly emission limitation shall be determined using the following calculation:

Flow Rate ft ³ minute hour	946 ppmv* 1,000,000 MMscf/scf	86.18 ¹ (0.7302 ³ x 520 ⁴)	60 minutes x (1-0.98) ² hour	0.39 ⁵	<= 0.5 lbs
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* NMOC concentration in inlet gas from historic site data = 946 ppmv.

- ¹ molecular wt of NMOC as hexane
- ² control efficiency of the control device(s)
- ³ universal gas constant
- ⁴ temperature
- ⁵ percentage of VOC in landfill gas

Actual flow rate and NMOC content is determined from monitoring and recordkeeping in section d).

For demonstration purposes, initial compliance was determined using the following values: Flow Rate = 4,500 scfm.

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with the methods and procedures specified in Methods 1-4 and 18 of 40 CFR Part 60, Appendix A.

- g. Applicable Compliance Method for HCL: Compliance with the above hourly emission limitation shall be determined using the following calculation:

Flow Rate ft ³	42 ppmv*	36.5 ¹	60 minutes	<= 1.09 lbs
minute	1,000,000 MMscf/scf	(0.7302 ² x 520 ³)	hour	
hour				

*HCl concentration in the exhaust gas from AP-42 = 42.0 ppmv based upon 99.7% landfill gas control efficiency (represents worst-case emissions for HCl)

- ¹ molecular wt of HCl
- ² universal gas constant
- ³ temperature

Actual flow rate is determined from monitoring and recordkeeping in section d).

For demonstration purposes, initial compliance was determined using the following values: Flow Rate = 4,500 scfm.

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with the methods and procedures specified in Methods 1-4 and 265 or 26A of 40 CFR Part 60, Appendix A.



h. Emission Limitations: Emissions from the 4500 ft³/min

Enclosed Combustor shall be limited as follows: NMOC emissions shall not exceed 5.1 tons of NMOC per year; VOC emissions shall not exceed 2.0 tons of VOC per year; SO₂ emissions shall not exceed 9.90 tons of SO₂ per year; HCl emissions shall not exceed 4.77 tons of HCl per year; Emissions of particulate matter less than PM₁₀ shall not exceed 10.17 tons per year.

Applicable Compliance Method: Compliance with the annual allowable emissions limitations shall be assumed as long as compliance with the allowable hourly emissions limit is maintained (each annual limitation was calculated by multiplying the hourly allowable emissions limit by 8760, and then dividing by 2000).

i. Emission Limitations: Visible particulate emissions, from the stack serving the 4500 ft³/min Enclosed Combustor, shall not exceed 10% opacity as a 6-minute average.

Applicable Compliance Method: If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

Emission Limitations: Emissions from all other control devices controlling emissions from this emissions unit shall be limited as follows: NO_x emissions shall not exceed 12.5 pounds per hour; CO emissions shall not exceed 61.1 pounds per hour; SO₂ emissions shall not exceed 3.52 pounds per hour; NMOC emissions shall not exceed 1.8 pounds per hour; VOC emissions shall not exceed 0.7 pounds per hour; HCl emissions shall not exceed 1.70 pounds per hour. Emissions of particulate matter less than PM₁₀ shall not exceed 3.62 pounds per hour.

Applicable Compliance Method for PM₁₀: Compliance with the above hourly emission limitation shall be determined using the following calculation:

Flow Rate dry ft ³ minute hour	0.XX ft ³ CH ₄ ft ³ LFG	17 lbs PM* 1,000,000 ft ³ methane	60 minutes <= 3.62 lbs hour
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*AP-42, Section 2.4, Municipal Solid Waste Landfills 11/98]
 (all PM is assumed to be PM₁₀)



Actual flow rate and methane content is determined from monitoring and recordkeeping in section d) and the emission factor shall be based upon manufacturer's guarantee or most recent testing results, if applicable.

For demonstration purposes, initial compliance was determined using the following values: Flow Rate = 6,457 dscfm and an assumption of .55 ft³ of methane per cubic foot of landfill gas.

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with 40 CFR Part 60, Appendix A, Methods 1-4 and 5

Applicable Compliance Method for CO: Compliance with the above hourly emission limitation shall be determined using the record keeping required in section d above and the following calculation:

Flow Rate ft minute hour	0.XX ft ³ CH ₄ ft ³ LFG ft ³ methane	1000 BTU EF lbs CO* 1,000,000 BTU	60 minutes hour	<= 61.1 lbs
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*This value has been established based upon a manufacturer's performance guarantees for each individual control device.

Actual flow rate and methane content is determined from monitoring and recordkeeping in section d) and the emission factor shall be based upon manufacturer's guarantee or most recent testing results, if applicable.

For demonstration purposes, initial compliance was determined using the following values: Flow Rate = 5,000 scfm (maximum open flare typical capacity) , CO Emission Factor = 0.37 lbs CO/MMBtu (open flare), and an assumption of .55 ft³ of methane per cubic foot of landfill gas.

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with 40 CFR Part 60, Appendix A, Methods 1-4 and 10.

- j. Applicable Compliance Method for NOx: Compliance with the above hourly emission limitation shall be determined using the record keeping required in section d above and the following calculation:



$$\frac{\text{Flow Rate ft}^3}{\text{minute}} \times \frac{0.XX \text{ ft}^3 \text{ CH}_4}{\text{ft}^3 \text{ LFG}} \times \frac{1000 \text{ BTU}}{\text{ft}^3 \text{ methane}} \times \text{EF lbs NO}_x^* \times \frac{60 \text{ minutes}}{\text{hour}} \leq 12.5 \frac{\text{lbs}}{\text{hour}}$$

*This value has been established based upon a manufacturer's performance guarantees for each individual control device.

Actual flow rate and methane content is determined from monitoring and recordkeeping in section d) and the emission factor shall be based upon manufacturer's guarantee or most recent testing results, if applicable.

For demonstration purposes, initial compliance was determined using the following values: Flow Rate = 7,019 scfm and NO_x Emission Factor = 0.054 lbs NO_x/MMBtu and an assumption of .55 ft³ of methane per cubic foot of landfill gas.

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with 40 CFR Part 60, Appendix A, Methods 1-4 and 7E.

- k. Applicable Compliance Method for SO₂: Compliance with the above hourly emission limitation shall be determined using the following calculation:

$$\frac{\text{Flow Rate ft}^3}{\text{minute}} \times \frac{49.6 \text{ ppmv}^*}{1,000,000 \text{ MMscf/scf}} \times \frac{64.066^1}{(0.7302^2 \times 520^3)} \times \frac{60 \text{ minutes}}{\text{hour}} \leq 3.52 \frac{\text{lbs}}{\text{hour}}$$

*Sulfur concentration in the exhaust gas from AP-42 = 49.6 ppmv based upon 99.7% landfill gas control efficiency (represents worst-case emissions for SO₂)

- ¹ molecular wt of SO₂
- ² universal gas constant
- ³ temperature

Actual flow rate is determined from monitoring and recordkeeping in section d).

For demonstration purposes, initial compliance was determined using the following values: Flow Rate = 7,019 scfm.



If required, the permittee shall demonstrate compliance with this emission limitation in accordance with 40 CFR Part 60, Appendix A, Methods 1-4 and 6C.

- I. Applicable Compliance Method for NMOC: Compliance with the above hourly emission limitation shall be determined using the following calculation:

Flow Rate ft ³	946 ppmv*	86.18 ¹	60 minutes x 1-.98) ²	<= 1.8
lbs minute hour	1,000,000 MMscf/scf hour	(0.7302 ³ x 520 ⁴)		

- * NMOC concentration in inlet gas based on historic site data = 946 ppmv.
- ¹ molecular wt of NMOC as hexane
- ² control efficiency of the control device(s)
- ³ universal gas constant
- ⁴ temperature

Actual flow rate and NMOC content is determined from monitoring and recordkeeping in section d).

For demonstration purposes, initial compliance was determined using the following values: Flow Rate = 7,019 scfm.

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with the methods and procedures specified in Methods 1-4 and 18 of 40 CFR Part 60, Appendix A.

- m. Applicable Compliance Method for VOC: Compliance with the above hourly emission limitation shall be determined using the following calculation:

Flow Rate ft ³	946 ppmv*	86.18 ¹	60 minutes	(1-0.98) ²	0.39 ⁵
<= 0.7 lbs minute hour	1,000,000 MMscf/scf	(0.7302 ³ x 520 ⁴)	hour		

- * NMOC concentration in inlet gas from historic site data 946 ppmv.
- ¹ molecular wt of NMOC as hexane
- ² control efficiency of the control device(s)
- ³ universal gas constant
- ⁴ temperature
- ⁵ percentage of VOC in landfill gas

Actual flow rate and NMOC content is determined from



monitoring and recordkeeping in section d).

For demonstration purposes, initial compliance was determined using the following values: Flow Rate = 7,019 scfm.

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with the methods and procedures specified in Methods 1-4 and 18 of 40 CFR Part 60, Appendix A.

- n. Applicable Compliance Method for HCL: Compliance with the above hourly emission limitation shall be determined using the following calculation:

$\frac{\text{Flow Rate ft}^3}{\text{hour}}$	$\frac{42 \text{ ppmv}^*}{1,000,000 \text{ MMscf/scf}}$	$\frac{36.5^1}{(0.7302^2 \times 520^3)}$	$\frac{60 \text{ minutes}}{\text{hour}}$	≤ 1.70
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*HCl concentration in the exhaust gas from AP-42 = 42.0 ppmv based upon 99.7% landfill gas control efficiency (represents worst-case emissions for HCl)
¹ molecular wt of HCl
² universal gas constant
³ temperature

Actual flow rate is determined from monitoring and recordkeeping in section d).

For demonstration purposes, initial compliance was determined using the following values: Flow Rate = 4,500 scfm.

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with the methods and procedures specified in Methods 1-4 and 265 or 26A of 40 CFR Part 60, Appendix A.

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with the methods and procedures specified in Methods 1-4 and 265 or 26A of 40 CFR Part 60, Appendix A.

- o. Emission Limitation: No visible particulate emissions from any open flare, except for periods not to exceed a total of 5 minutes, during any 2 consecutive hours.

Applicable Compliance Method: Compliance shall be demonstrated through visible emission observations



performed in accordance with 40 CFR Part 60, Appendix A, Method 22, and procedures specified in 40 CFR Part 60.18.

- p. Emission Limitations: Emissions from all other control devices controlling emissions from this emissions unit shall be limited as follows: NMOC emissions shall not exceed 7.9 tons of NMOC per year; VOC emissions shall not exceed 3.1 tons of VOC per year; SO₂ emissions shall not exceed 15.44 tons of SO₂ per year; HCl emissions shall not exceed 7.45 tons of HCl per year; Emissions of particulate matter less than PM₁₀ shall not exceed 15.87 tons per year.

Applicable Compliance Method: Compliance with the annual allowable emissions limitations above shall be assumed as long as compliance with the allowable hourly emissions limit is maintained (each annual limitation was calculated by multiplying the hourly allowable emissions limit by 8760, and then dividing by 2000).

- (6) Emission Limitations: NO_x emissions from all emissions units located at this facility shall not exceed shall not exceed 99.0 tons per rolling 12-month period. CO emissions from all emissions units located at this facility shall not exceed shall not exceed 249.0 tons per rolling 12-month period.

Applicable Compliance Method: Compliance with the rolling 12-month allowable emissions limitations shall be based upon the records required by section d) above.

- (7) No testing is specifically required as part of this permit to install, the initial performance testing has been conducted to demonstrate that the current control device can operate in conformance with the requirements specified in 40 CFR Part 60.18. and 40 CFR 60.754(d).
- (8) However, if subsequently required or if the permittee installs an additional open flare(s) and/or another control device(s) to control the additional predicted landfill gas volume, the permittee shall conduct or have conducted, additional performance test(s) to demonstrate that the flare(s) and/or enclosed combustor(s) can operate in conformance with the requirements specified below:
 - a. The testing for any new control equipment installation shall be conducted within 180 days of start up.
 - b. The total emissions from all control equipment shall comply with the limits contained in b)(1).
 - c. For an open flare, a performance test shall be conducted to demonstrate compliance with the requirements specified in 40 CFR 60.18. The net heating value of the gas being combusted in the flare and the actual exit velocity of the



flare shall be determined in accordance with the procedures and methods specified in 40 CFR 60.754(e). The visible emission evaluations shall be conducted in accordance with the procedures specified in section b)(2)(I)(i).

- d. For the performance test required in 60.752(b)(2)(iii)(B), Method 25C or Method 18 of 40 CFR 60 Appendix A shall be used to determine compliance with 98 weight-percent efficiency or the 20 ppmv outlet concentration level, unless another method to demonstrate compliance has been approved by the Administrator as provided by 60.752(b)(2)(i)(B). If using Method 18 of appendix A of this part, 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 following equation shall be used to calculate efficiency:

$$\text{Control Efficiency} = (\text{NMOC}_{\text{in}} - \text{NMOC}_{\text{out}}) / (\text{NMOC}_{\text{in}})$$

where,

NMOC_{in} = mass of NMOC entering control device
 NMOC_{out} = mass of NMOC exiting control device

- (9) After the installation of a collection and control system in compliance with 40 CFR Part 60.755, the permittee shall calculate the NMOC emission rate for the purposes of determining when the system can be removed as provided in 40 CFR Part 60.752(b)(2)(v) in accordance with the equation and procedures specified in 40 CFR Part 60.754(b), (b)(1), and (b)(2). The permittee may use another method to determine landfill gas flow rate and NMOC concentration if the method has been approved by the Ohio EPA as provided in 40 CFR Part 60.752(b)(2)(i)(B)

- (10) Emission Limitations: Visible emissions from the stack serving any control device other than an open flare shall not exceed 10% opacity as a six minute average.

Applicable Compliance Method: If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

- g) Miscellaneous Requirements
 - (1) None