State of Ohio Environmental Protection Agency

Street Address:
Lazarus Gov. Center
50 West Town Street, Suite 700
Columbus, OH 43215

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

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

CERTIFIED MAIL

RE: DRAFT PERMIT TO INSTALL
JACKSON COUNTY
Application No: 06-08209
Fac ID: 0640020059

	TOXIC REVIEW
	PSD
	SYNTHETIC MINOR
	CEMS
AAAA	MACT
WWW, A, M	NSPS
	NESHAPS
	NETTING
	MAJOR NON-ATTAINMENT
Y	MODELING SUBMITTED
	GASOLINE DISPENSING FACILITY

DATE: 6/26/2007

Beech Hollow Sanitary Landfill
Bruce Downard
10795 Hughes Rd.
Cincinnati, OH 45251-4598

You are hereby notified that the Ohio Environmental Protection Agency has made a draft action recommending that the Director issue a Permit to Install for the air contaminant source(s) [emissions unit(s)] shown on the enclosed draft permit. This draft action is not an authorization to begin construction or modification of your emissions unit(s). The purpose of this draft is to solicit public comments on the proposed installation. A public notice concerning the draft permit will appear in the Ohio EPA Weekly Review and the newspaper in the county where the facility will be located. Public comments will be accepted by the field office within 30 days of the date of publication in the newspaper. Any comments you have on the draft permit should be directed to the appropriate field office within the comment period. A copy of your comments should also be mailed to Robert Hodanbosi, Division of Air Pollution Control, Ohio EPA, P.O. Box 1049, Columbus, OH, 43216-1049.

A Permit to Install may be issued in proposed of final form based on the draft action, any written public comments received within 30 days of the public notice, or record of a public meeting if one is held. You will be notified in writing of a scheduled public meeting. Upon issuance of a final Permit to Install a fee of **$1450** will be due. Please do not submit any payment now.

The Ohio EPA is urging companies to investigate pollution prevention and energy conservation. Not only will this reduce pollution and energy consumption, but it can also save you money. If you would like to learn ways you can save money while protecting the environment, please contact our Office of Pollution Prevention at (614) 644-3469. If you have any questions about this draft permit, please contact the field office where you submitted your application, or Mike Ahern, Field Operations & Permit Section at (614) 644-3631.

Sincerely,

Michael W. Ahern

Michael W. Ahern, Manager
Permit Issuance and Data Management Section
Division of Air Pollution Control

CC: **USEPA** **SEDO** **KY** **WV**

JACKSON COUNTY

PUBLIC NOTICE
ISSUANCE OF DRAFT PERMIT TO INSTALL **06-08209** FOR AN AIR CONTAMINANT SOURCE
FOR **Beech Hollow Sanitary Landfill**

On 6/26/2007 the Director of the Ohio Environmental Protection Agency issued a draft action of a Permit To Install an air contaminant source for **Beech Hollow Sanitary Landfill**, located at **28 AW Long Rd, Wellston**, Ohio.

Installation of the air contaminant source identified below may proceed upon final issuance of Permit To Install 06-08209:

Chapter 31 modification for PTI 06 07070 issued July 29 2003 to increase the authorized maximum daily waste receipt rate from 2500 tons per day to 4000 tons per day.

Comments concerning this draft action, or a request for a public meeting, must be sent in writing to the address identified below no later than thirty (30) days from the date this notice is published. All inquiries concerning this draft action may be directed to the contact identified below.

Bruce Weinberg, Ohio EPA, Southeast District Office, 2195 Front Street, Logan, OH 43138 [(740)385-8501]

DRAFT PERMIT TO INSTALL 06-08209

Application Number:	06-08209
Facility ID:	0640020059
Permit Fee:	**To be entered upon final issuance**
Name of Facility:	Beech Hollow Sanitary Landfill
Person to Contact:	Bruce Downard
Address:	10795 Hughes Rd. Cincinnati, OH 45251-4598

Location of proposed air contaminant source(s) [emissions unit(s)]:
28 AW Long Rd
Wellston, Ohio

Description of proposed emissions unit(s):
Chapter 31 modification for PTI 06 07070 issued July 29 2003 to increase the authorized maximum daily waste receipt rate from 2500 tons per day to 4000 tons per day.

The above named entity is hereby granted a Permit to Install for the above described emissions unit(s) 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 above described 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

Part I - GENERAL TERMS AND CONDITIONS

A. State and Federally Enforceable Permit-To-Install General Terms and Conditions

1. Monitoring and Related Recordkeeping and Reporting Requirements

a. Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall maintain records that include the following, where applicable, for any required monitoring under this permit:

i. The date, place (as defined in the permit), and time of sampling or measurements.

ii. The date(s) analyses were performed.

iii. The company or entity that performed the analyses.

iv. The analytical techniques or methods used.

v. The results of such analyses.

vi. The operating conditions existing at the time of sampling or measurement.

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:

i. Reports of any required monitoring and/or recordkeeping of federally enforceable information shall be submitted to the appropriate Ohio EPA District Office or local air agency.

ii. 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 appropriate Ohio EPA District Office or local air agency. 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 B.9 below if no deviations occurred during the quarter.

iii. 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 appropriate Ohio EPA District Office or local air agency 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.

iv. If this permit is for an emissions unit located at a Title V facility, then 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.

2. Scheduled Maintenance/Malfunction Reporting

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction, i.e., upset, of any emissions units or any associated air pollution control system(s) shall be reported to the appropriate Ohio EPA District Office or local air agency in accordance with paragraph (B) of OAC rule 3745-15-06. (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).

3. Risk Management Plans

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

4. Title IV Provisions

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

5. Severability Clause

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

6. General Requirements

a. The permittee must comply with all terms and conditions of this permit. Any noncompliance with the federally enforceable terms and conditions of this permit constitutes a violation of the Act, and is grounds for enforcement action or for permit revocation, revocation and 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.

7. Fees

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

8. Federal and State Enforceability

Only those terms and conditions designated in this permit as federally enforceable, that 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. All other terms and conditions of this permit shall not be federally enforceable and shall be enforceable under State law only.

9. Compliance Requirements

a. Any document (including reports) required to be submitted and required by a federally applicable requirement in this permit shall include a certification by a responsible official that, based on information and belief formed after reasonable inquiry, the statements in the document are true, accurate, and complete.

b. Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Director of the Ohio EPA or an authorized representative of the Director to:

i. At reasonable times, enter upon the permittee's premises where a source is located or the emissions-related activity is conducted, or where records must be kept under the conditions of this permit.

ii. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit, subject to the protection from disclosure to the public of confidential information consistent with ORC section 3704.08.

iii. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.

iv. As authorized by the Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit and applicable requirements.

c. The permittee shall submit progress reports to the appropriate Ohio EPA District Office or local air agency concerning any schedule of compliance for meeting an applicable requirement. Progress reports shall be submitted semiannually, or more frequently if specified in the applicable requirement or by the Director of the Ohio EPA. Progress reports shall contain the following:

i. Dates for achieving the activities, milestones, or compliance required in any schedule of compliance, and dates when such activities, milestones, or compliance were achieved.

ii. An explanation of why any dates in any schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.

10. Permit-To-Operate Application

a. If 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).

b. If the permittee is required to apply for permit(s) pursuant to OAC Chapter 3745-35, the source(s) identified in this permit is (are) permitted to operate for a period of up to one year from the date the source(s) commenced operation. Permission to operate is granted only if the facility complies with all requirements contained in this permit and all applicable air pollution laws, regulations, and policies. Pursuant to OAC Chapter 3745-35, the permittee shall submit a complete operating permit application within ninety (90) days after commencing operation of the source(s) covered by this permit.

11. Best Available Technology

As specified in OAC Rule 3745-31-05, all new sources must employ Best Available Technology (BAT). Compliance with the terms and conditions of this permit will fulfill this requirement.

12. 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.

13. Permit-To-Install

A permit-to-install must be obtained pursuant to OAC Chapter 3745-31 prior to “installation” of “any air contaminant source” as defined in OAC rule 3745-31-01, or “modification”, as defined in OAC rule 3745-31-01, of any emissions unit included in this permit.

B. State Only Enforceable Permit-To-Install General Terms and Conditions

1. Compliance Requirements

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.

2. 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 appropriate Ohio EPA District Office or local air agency.

b. Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (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 appropriate Ohio EPA District Office or local air agency. 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.)

3. Permit Transfers

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

4. Authorization To Install or Modify

If applicable, authorization to install or modify any new or existing 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 modification or has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation or modification. 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.

5. Construction of New Sources(s)

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.

6. 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.

7. 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).

8. Construction Compliance Certification

If applicable, the applicant shall provide Ohio EPA with a written certification (see enclosed form if applicable) that the facility has been constructed in accordance with the permit-to-install application and the terms and conditions of the permit-to-install. The certification shall be provided to Ohio EPA upon completion of construction but prior to startup of the source.

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

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.

C. Permit-To-Install Summary of Allowable Emissions

The following information summarizes the total allowable emissions, by pollutant, based on the individual allowable emissions of each air contaminant source identified in this permit.

SUMMARY (for informational purposes only)
TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS

Pollutant	Tons Per Year
fugitive PE	198.74
VOC	57.15
HAPs	39.23
Methane	50,347
NMOC	144
NO_x	62.34
CO	232.41
HCl	24.62

Part II - FACILITY SPECIFIC TERMS AND CONDITIONS

A. State and Federally Enforceable Permit To Install Facility Specific Terms and Conditions

1. 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. This subpart requires all landfills 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.

2. Pursuant to § 63.1940, an affected 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.

3. Based upon the above definition, Beech Hollow Landfill is an existing affected area source. Pursuant to § 63.1945(f), "If your landfill is an existing affected source and is an area source meeting the criteria in §63.1935(a)(3), 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 40 CFR 60.752(b)(2) of subpart WWW, the Federal plan, or EPA approved and effective State or tribal plan that applies to your landfill or by January 16, 2004, whichever occurs later." As such, compliance with this subpart was required by January 13, 2004.

4. 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).

5. 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.

6. 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.

7. 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.

8. 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.

9. 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.

10. 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.

11. Pursuant to § 63.1985(a), this subpart can be implemented and enforced by the U.S. EPA or Ohio EPA.

12. 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.

13. 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.**	

Table 1 of Subpart AAAA of Part 63: Applicability of NESHAP General Provisions to Subpart AAAA		
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.**	
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.**	

Table 1 of Subpart AAAA of Part 63: Applicability of NESHAP General Provisions to Subpart AAAA		
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.**	

14. **NSPS Subpart WWW [40 CFR Part 60]**

Section 60.750 Applicability, designation of affected facility, and delegation of authority.

(a) The provisions of this subpart apply to each municipal solid waste landfill that commenced construction, reconstruction or modification on or after May 30, 1991. Physical or operational changes made to an existing MSW landfill solely to comply with Subpart Cc of this part are not considered construction, reconstruction, or modification for the purposes of this section.

(b) The following authorities shall be retained by the Administrator and not transferred to the State: Section 60.754(a)(5).

(c) Activities required by or conducted pursuant to a CERCLA, RCRA, or State remedial action are not considered construction, reconstruction, or modification for purposes of this subpart.

15. **Section 60.751 Definitions.**

As used in this subpart, all terms not defined herein shall have the meaning given them in the Act or in subpart A of this part.

Active collection system means a gas collection system that uses gas mover equipment.

Active landfill means a landfill in which solid waste is being placed or a landfill that is planned to accept waste in the future.

Closed landfill means a landfill in which solid waste is no longer being placed, and in which no additional solid wastes will be placed without first filing a notification of modification as prescribed under Section 60.7(a)(4). Once a notification of modification has been filed, and additional solid waste is placed in the landfill, the landfill is no longer closed.

Closure means that point in time when a landfill becomes a closed landfill.

Commercial solid waste means all types of solid waste generated by stores, offices, restaurants, warehouses, and other nonmanufacturing activities, excluding residential and industrial wastes.

Controlled landfill means any landfill at which collection and control systems are required under this subpart as a result of the nonmethane organic compounds emission rate. The landfill is considered controlled at the time a collection and control system design plan is submitted in compliance with Section 60.752(b)(2)(i).

Design capacity means the maximum amount of solid waste a landfill can accept, as indicated in terms of volume or mass in the most recent permit issued by the State, local, or Tribal agency responsible for regulating the landfill, plus any in-place waste not accounted for in the most recent permit. If the owner or operator chooses to convert the design capacity from volume to mass or from mass to volume to demonstrate its design capacity is less than 2.5 million megagrams or 2.5 million cubic meters, the calculation must include a site specific density, which must be recalculated annually.

Disposal facility means all contiguous land and structures, other appurtenances, and improvements on the land used for the disposal of solid waste.

Emission rate cutoff means the threshold annual emission rate to which a landfill compares its estimated emission rate to determine if control under the regulation is required.

Enclosed combustor means an enclosed firebox which maintains a relatively constant limited peak temperature generally using a limited supply of combustion air. An enclosed flare is considered an enclosed combustor.

Flare means an open combustor without enclosure or shroud.

Gas mover equipment means the equipment (i.e., fan, blower, compressor) used to transport landfill gas through the header system.

Household waste means any solid waste (including garbage, trash, and sanitary waste in septic tanks) derived from households (including, but not limited to, single and multiple residences, hotels and motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds, and day-use recreation areas).

Industrial solid waste means solid waste generated by manufacturing or industrial processes that is not a hazardous waste regulated under Subtitle C of the Resource Conservation and Recovery Act, parts 264 and 265 of this title. Such waste may include, but is not limited to, waste resulting from the following manufacturing processes: electric power generation; fertilizer/agricultural chemicals; food and related products/by-products; inorganic chemicals; iron and steel manufacturing; leather and leather products; nonferrous metals manufacturing/foundries; organic chemicals; plastics and resins manufacturing; pulp and paper industry; rubber and miscellaneous plastic products; stone, glass, clay, and concrete products; textile manufacturing; transportation equipment; and water treatment. This term does not include mining waste or oil and gas waste.

Interior well means any well or similar collection component located inside the perimeter of the landfill waste. A perimeter well located outside the landfilled waste is not an interior well.

Landfill means an area of land or an excavation in which wastes are placed for permanent disposal, and that is not a land application unit, surface impoundment, injection well, or waste pile as those terms are defined under Section 257.2 of this title.

Lateral expansion means a horizontal expansion of the waste boundaries of an existing MSW landfill. A lateral expansion is not a modification unless it results in an increase in the design capacity of the landfill.

Modification means an increase in the permitted volume design capacity of the landfill by either horizontal or vertical expansion based on its permitted design capacity as of May 30, 1991. Modification does not occur until the owner or operator commences construction on the horizontal or vertical expansion.

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. An MSW landfill may also receive other types of RCRA Subtitle D wastes (Section 257.2 of this title) such as commercial solid waste, nonhazardous sludge, conditionally exempt small quantity generator waste, and industrial solid waste. Portions of an MSW landfill may be separated by access roads. An MSW landfill may be publicly or privately owned. An MSW landfill may be a new MSW landfill, an existing MSW landfill, or a lateral expansion.

Municipal solid waste landfill emissions* or *MSW landfill emissions means gas generated by the decomposition of organic waste deposited in an MSW landfill or derived from the evolution of organic compounds in the waste.

NMOC means nonmethane organic compounds, as measured according to the provisions of Section 60.754.

Nondegradable waste means any waste that does not decompose through chemical breakdown or microbiological activity. Examples are, but are not limited to, concrete, municipal waste combustor ash, and metals.

Passive collection system means a gas collection system that solely uses positive pressure within the landfill to move the gas rather than using gas mover equipment.

Sludge means any solid, semisolid, or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility, exclusive of the treated effluent from a wastewater treatment plant.

Solid waste means any garbage, sludge from a wastewater treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations, and from community activities, but does not include solid or dissolved material in domestic sewage, or solid or dissolved materials in irrigation return flows or industrial discharges that are point sources subject

to permits under 33 U.S.C. 1342, or source, special nuclear, or by-product material as defined by the Atomic Energy Act of 1954, as amended (42 U.S.C 2011 et seq.).

Sufficient density means any number, spacing, and combination of collection system components, including vertical wells, horizontal collectors, and surface collectors, necessary to maintain emission and migration control as determined by measures of performance set forth in this part.

Sufficient extraction *rate* means a rate sufficient to maintain a negative pressure at all wellheads in the collection system without causing air infiltration, including any wellheads connected to the system as a result of expansion or excess surface emissions, for the life of the blower.

16. **Section 60.752 Standards for air emissions from municipal solid waste landfills.** (a) Each owner or operator of an MSW landfill having a design capacity less than 2.5 million megagrams by mass or 2.5 million cubic meters by volume shall submit an initial design capacity report to the Administrator as provided in Section 60.757(a). The landfill may calculate design capacity in either megagrams or cubic meters for comparison with the exemption values. Any density conversions shall be documented and submitted with the report. Submittal of the initial design capacity report shall fulfill the requirements of this subpart except as provided for in paragraphs (a)(1) and (a)(2) of this section.

(1) The owner or operator shall submit to the Administrator an amended design capacity report, as provided for in Section 60.757(a)(3).

(2) When an increase in the maximum design capacity of a landfill exempted from the provisions of Section 60.752(b) through Section 60.759 of this subpart on the basis of the design capacity exemption in paragraph (a) of this section results in a revised maximum design capacity equal to or greater than 2.5 million megagrams and 2.5 million cubic meters, the owner or operator shall comply with the provision of paragraph (b) of this section.

(b) Each owner or operator of an MSW landfill having a design capacity equal to or greater than 2.5 million megagrams and 2.5 million cubic meters, shall either comply with paragraph (b)(2) of this section or calculate an NMOC emission rate for the landfill using the procedures specified in Section 60.754. The NMOC emission rate shall be recalculated annually, except as provided in Section 60.757(b)(1)(ii) of this subpart. The owner or operator of an MSW landfill subject to this subpart with a design capacity greater than or equal to 2.5 million megagrams and 2.5 million cubic meters is subject to part 70 or 71 permitting requirements.

(1) If the calculated NMOC emission rate is less than 50 megagrams per year, the owner or operator shall:

(i) Submit an annual emission report to the Administrator, except as provided for in Section 60.757(b)(1)(ii); and

(ii) Recalculate the NMOC emission rate annually using the procedures specified in Section 60.754(a)(1) until such time as the calculated NMOC emission rate is equal to or greater than 50 megagrams per year, or the landfill is closed.

(A) If the NMOC emission rate, upon recalculation required in paragraph (b)(1)(ii) of this section, is equal to or greater than 50 megagrams per year, the owner or operator shall install a collection and control system in compliance with paragraph (b)(2) of this section.

(B) If the landfill is permanently closed, a closure notification shall be submitted to the Administrator as provided for in Section 60.757(d).

(2) If the calculated NMOC emission rate is equal to or greater than 50 megagrams per year, the owner or operator shall:

(i) Submit a collection and control system design plan prepared by a professional engineer to the Administrator within 1 year:

(A) The collection and control system as described in the plan shall meet the design requirements of paragraph (b)(2)(ii) of this section.

(B) The collection and control system design plan shall include any alternatives to the operational standards, test methods, procedures, compliance measures, monitoring, recordkeeping or reporting provisions of Section 60.753 through 60.758 proposed by the owner or operator.

(C) The collection and control system design plan shall either conform with specifications for active collection systems in Section 60.759 or include a demonstration to the Administrator's satisfaction of the sufficiency of the alternative provisions to Section 60.759.

(D) The Administrator shall review the information submitted under paragraphs (b)(2)(i) (A),(B) and (C) of this section and either approve it, disapprove it, or request that additional information be submitted. Because of the many site-specific factors involved with landfill gas system design, alternative systems may be necessary. A wide variety of system designs are possible, such as vertical wells, combination horizontal and vertical collection systems, or horizontal trenches only, leachate collection components, and passive systems.

(ii) Install a collection and control system that captures the gas generated within the landfill as required by paragraphs (b)(2)(ii)(A) or (B) and (b)(2)(iii) of this section within 30 months after the first annual report in which the emission rate equals or exceeds 50 megagrams per year, unless Tier 2 or Tier 3 sampling demonstrates that the emission rate is less than 50 megagrams per year, as specified in Section 60.757(c)(1) or (2).

(A) An active collection system shall:

(*1*) 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;

(*2*) 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:

(*i*) 5 years or more if active; or
(*ii*) 2 years or more if closed or at final grade.

(*3*) Collect gas at a sufficient extraction rate;

(*4*) Be designed to minimize off-site migration of subsurface gas.

(B) A passive collection system shall:

(*1*) Comply with the provisions specified in paragraphs (b)(2)(ii)(A)(*1*), (*2*), and (2)(ii)(A)(*4*) of this section.

(*2*) Be installed with liners on the bottom and all sides in all areas in which gas is to be collected. The liners shall be installed as required under Section 258.40.

(iii) Route all the collected gas to a control system that complies with the requirements in either paragraph (b)(2)(iii) (A), (B) or (C) of this section.

(A) An open flare designed and operated in accordance with Section 60.18;

(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 by volume 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 Section 60.754(d).

(*1*) If a boiler or process heater is used as the control device, the landfill gas stream shall be introduced into the flame zone.

(*2*) 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 Section 60.756;

(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.

(iv) Operate the collection and control device installed to comply with this subpart in accordance with the provisions of Sections 60.753, 60.755 and 60.756.

(v) The collection and control system may be capped or removed provided that all the conditions of paragraphs (b)(2)(v) (A), (B), and (C) of this section are met:

(A) The landfill shall be a closed landfill as defined in Section 60.751 of this subpart. A closure report shall be submitted to the Administrator as provided in Section 60.757(d);

(B) The collection and control system shall have been in operation a minimum of 15 years; and

(C) Following the procedures specified in Section 60.754(b) of this subpart, the calculated NMOC gas produced by the landfill shall be less than 50 megagrams per year on three successive test dates. The test dates shall be no less than 90 days apart, and no more than 180 days apart.

(c) For purposes of obtaining an operating permit under title V of the Act, the owner or operator of a MSW landfill subject to this subpart with a design capacity less than 2.5 million megagrams or 2.5 million cubic meters is not subject to the requirement to obtain an operating permit for the landfill under part 70 or 71 of this chapter, unless the landfill is otherwise subject to either part 70 or 71. For purposes of submitting a timely application for an operating permit under part 70 or 71, the owner or operator of a MSW landfill subject to this subpart with a design capacity greater than or equal to 2.5 million megagrams and 2.5 million cubic meters, and not otherwise subject to either part 70 or 71, becomes subject to the requirements of Sections 70.5(a)(1)(i) or 71.5(a)(1)(i) of this chapter, regardless of when the design capacity report is actually submitted, no later than:

(1) June 10, 1996 for MSW landfills that commenced construction, modification, or reconstruction on or after May 30, 1991 but before March 12, 1996;

(2) Ninety days after the date of commenced construction, modification, or reconstruction for MSW landfills that commence construction, modification, or reconstruction on or after March 12, 1996.

(d) When a MSW landfill subject to this subpart is closed, the owner or operator is no longer subject to the requirement to maintain an operating permit under part 70 or 71 of

this chapter for the landfill if the landfill is not otherwise subject to the requirements of either part 70 or 71 and if either of the following conditions are met:

(1) The landfill was never subject to the requirement for a control system under paragraph (b)(2) of this section; or

(2) The owner or operator meets the conditions for control system removal specified in paragraph (b)(2)(v) of this section.

17. **Section 60.753 Operational standards for collection and control systems.**
Each owner or operator of an MSW landfill with a gas collection and control system used to comply with the provisions of Section 60.752(b)(2)(ii) of this subpart shall:

(a) 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:

(1) 5 years or more if active; or

(2) 2 years or more if closed or at final grade;

(b) Operate the collection system with negative pressure at each wellhead except under the following conditions:

(1) 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 Section 60.757(f)(1);

(2) Use of a geomembrane or synthetic cover. The owner or operator shall develop acceptable pressure limits in the design plan;

(3) A decommissioned well. A well may experience a static positive pressure after shut down to accommodate for declining flows. All design changes shall be approved by the Administrator;

(c) Operate each interior wellhead in the collection system with a landfill gas temperature less than 55 ^{o} 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.

(1) The nitrogen level shall be determined using Method 3C, unless an alternative test method is established as allowed by Section 60.752(b)(2)(i) of this subpart.

(2) Unless an alternative test method is established as allowed by Section 60.752(b)(2)(i) of this subpart, the oxygen shall be determined by an oxygen meter using Method 3A or 3C 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;

(v) The allowable sample bias, zero drift, and calibration drift are plus or minus 10 percent.

(d) 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.

(e) Operate the system such that all collected gases are vented to a control system designed and operated in compliance with Section 60.752(b)(2)(iii). 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; and

(f) Operate the control or treatment system at all times when the collected gas is routed to the system.

(g) If monitoring demonstrates that the operational requirements in paragraphs (b), (c), or (d) of this section are not met, corrective action shall be taken as specified in Section 60.755(a)(3) through (5) or Section 60.755(c) of this subpart. If corrective actions are taken as specified in Section 60.755, the monitored exceedance is not a violation of the operational requirements in this section.

18. **Section 60.754 Test methods and procedures.**
(a)

(1) The landfill owner or operator shall calculate the NMOC emission rate using either the equation provided in paragraph (a)(1)(i) of this section or the equation provided in paragraph (a)(1)(ii) of this section. Both equations may be used if the actual year-to-year solid waste acceptance rate is known, as specified in paragraph (a)(1)(i), for part of the life of the landfill and the actual year-to-year solid waste acceptance rate is unknown, as specified in paragraph (a)(1)(ii), for part of the life of the landfill. The values to be used in both equations are 0.05 per year for k, 170 cubic meters per megagram for LO, and 4,000 parts per million by volume as hexane for the CNMOC. For landfills located in geographical areas with a thirty year annual average precipitation of less than 25 inches, as measured at the nearest representative official meteorologic site, the k value to be used is 0.02 per year.

(i) The following equation shall be used if the actual year-to-year solid waste acceptance rate is known.

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where;
M_{NMOC}=Total NMOC emission rate from the landfill, megagrams 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 ith section, megagrams
t_i=age of the ith section, years
C_{NMOC}=concentration of NMOC, parts per million by volume as hexane
3.6 ×× 10^{--9}=conversion factor

The mass of nondegradable solid waste may be subtracted from the total mass of solid waste in a particular section of the landfill when calculating the value for M_i if documentation of the nature and amount of such wastes is maintained

(ii) The following equation shall be used if the actual year-to-year solid waste acceptance rate is unknown.

$$\mathbf{M_{NMOC} = 2L_o\ R\ (e^{--kc} - e^{--kt})\ C_{NMOC}\ (3.6 \times 10^{-9})}$$

where;
M_{NMOC}=mass emission rate of NMOC, megagrams 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 landfill, years

C_{NMOC}=concentration of NMOC, parts per million by volume as hexane
c=time since closure, years; for active landfill c=O and e^{-kc}=1
3.6×10^{-9}=conversion factor
The mass of nondegradable solid waste may be subtracted from the total mass of solid waste in a particular section of the landfill when calculating the value of R, if documentation of the nature and amount of such wastes is maintained.

(2) *Tier 1.* The owner or operator shall compare the calculated NMOC mass emission rate to the standard of 50 megagrams per year.

(i) If the NMOC emission rate calculated in paragraph (a)(1) of this section is less than 50 megagrams per year, then the landfill owner shall submit an emission rate report as provided in Section 60.757(b)(1), and shall recalculate the NMOC mass emission rate annually as required under Section 60.752(b)(1).

(ii) If the calculated NMOC emission rate is equal to or greater than 50 megagrams per year, then the landfill owner shall either comply with Section 60.752(b)(2), or determine a site-specific NMOC concentration and recalculate the NMOC emission rate using the procedures provided in paragraph (a)(3) of this section.

(3) *Tier 2.* The landfill owner or operator shall determine the NMOC concentration using the following sampling procedure. The landfill owner or operator shall install at least two sample probes per hectare of landfill surface that has retained waste for at least 2 years. If the landfill is larger than 25 hectares in area, only 50 samples are required. The sample probes should be located to avoid known areas of nondegradable solid waste. The owner or operator shall collect and analyze one sample of landfill gas from each probe to determine the NMOC concentration using Method 25 or 25C of Appendix A of this part. Method 18 of Appendix A of this part may be used to analyze the samples collected by the Method 25 or 25C sampling procedure. Taking composite samples from different probes into a single cylinder is allowed; however, equal sample volumes must be taken from each probe. For each composite, the sampling rate, collection times, beginning and ending cylinder vacuums, or alternative volume measurements must be recorded to verify that composite volumes are equal. Composite sample volumes should not be less than one liter unless evidence can be provided to substantiate the accuracy of smaller volumes. Terminate compositing before the cylinder approaches ambient pressure where measurement accuracy diminishes. If using Method 18, the owner or operator must identify all compounds in the sample and, as a minimum, test for those compounds published in the most recent Compilation of Air Pollutant Emission Factors (AP-42), minus carbon monoxide, hydrogen sulfide, and mercury. As a minimum, the instrument must be calibrated for each of the compounds on the list. Convert the concentration of each Method 18 compound to C_{NMOC} as hexane by multiplying by the ratio of its carbon atoms divided by six. If more than the required number of samples are taken, all samples must be used in the analysis. The landfill owner or operator

must divide the NMOC concentration from Method 25 or 25C of Appendix A of this part by six to convert from C_{NMOC} as carbon to C_{NMOC} as hexane. If the landfill has an active or passive gas removal system in place, Method 25 or 25C samples may be collected from these systems instead of surface probes provided the removal system can be shown to provide sampling as representative as the two sampling probe per hectare requirement. For active collection systems, samples may be collected from the common header pipe before the gas moving or condensate removal equipment. For these systems, a minimum of three samples must be collected from the header pipe.

(i) The landfill owner or operator shall recalculate the NMOC mass emission rate using the equations provided in paragraph (a)(1)(i) or (a)(1)(ii) of this section and using the average NMOC concentration from the collected samples instead of the default value in the equation provided in paragraph (a)(1) of this section.

(ii) If the resulting mass emission rate calculated using the site-specific NMOC concentration is equal to or greater than 50 megagrams per year, then the landfill owner or operator shall either comply with Section 60.752(b)(2), or determine the site-specific methane generation rate constant and recalculate the NMOC emission rate using the site-specific methane generation rate using the procedure specified in paragraph (a)(4) of this section.

(iii) If the resulting NMOC mass emission rate is less than 50 megagrams per year, the owner or operator shall submit a periodic estimate of the emission rate report as provided in Section 60.757(b)(1) and retest the site-specific NMOC concentration every 5 years using the methods specified in this section.

(4) *Tier 3.* The site-specific methane generation rate constant shall be determined using the procedures provided in Method 2E of appendix A of this part. The landfill owner or operator shall estimate the NMOC mass emission rate using equations in paragraph (a)(1)(i) or (a)(1)(ii) of this section and using a site-specific methane generation rate constant k, and the site-specific NMOC concentration as determined in paragraph (a)(3) of this section instead of the default values provided in paragraph (a)(1) of this section. The landfill owner or operator shall compare the resulting NMOC mass emission rate to the standard of 50 megagrams per year.

(i) If the NMOC mass emission rate as calculated using the site-specific methane generation rate and concentration of NMOC is equal to or greater than 50 megagrams per year, the owner or operator shall comply with Section 60.752(b)(2).

(ii) If the NMOC mass emission rate is less than 50 megagrams per year, then the owner or operator shall submit a periodic emission rate report as provided in Section 60.757(b)(1) and shall recalculate the NMOC mass emission rate annually, as provided in Section 60.757(b)(1) using the equations in paragraph

(a)(1) of this section and using the site-specific methane generation rate constant and NMOC concentration obtained in paragraph (a)(3) of this section. The calculation of the methane generation rate constant is performed only once, and the value obtained from this test shall be used in all subsequent annual NMOC emission rate calculations.

(5) The owner or operator may use other methods to determine the NMOC concentration or a site-specific k as an alternative to the methods required in paragraphs (a)(3) and (a)(4) of this section if the method has been approved by the Administrator.

(b) After the installation of a collection and control system in compliance with Section 60.755, the owner or operator shall calculate the NMOC emission rate for purposes of determining when the system can be removed as provided in Section 60.752(b)(2)(v), using the following equation:

$$\mathbf{M_{NMOC} = 1.89 \times 10^{-3}\ Q_{LFG}\ C_{NMOC}}$$

where,
M_{NMOC} = mass emission rate of NMOC, megagrams per year
Q_{LFG} = flow rate of landfill gas, cubic meters per minute
C_{NMOC} = NMOC concentration, parts per million by volume as hexane

(1) The flow rate of landfill gas, Q_{LFG}, shall be determined by measuring the total landfill gas flow rate at the common header pipe that leads to the control device using a gas flow measuring device calibrated according to the provisions of section 4 of Method 2E of appendix A of this part.

(2) The average NMOC concentration, C_{NMOC}, shall be determined by collecting and analyzing landfill gas sampled from the common header pipe before the gas moving or condensate removal equipment using the procedures in Method 25C or Method 18 of appendix A of this part. 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 sample location on the common header pipe shall be before any condensate removal or other gas refining units. The landfill owner or operator shall divide the NMOC concentration from Method 25C of appendix A of this part by six to convert from C_{NMOC} as carbon to C_{NMOC} as hexane.

(3) The owner or operator may use another method to determine landfill gas flow rate and NMOC concentration if the method has been approved by the Administrator.

(c) When calculating emissions for PSD purposes, the owner or operator of each MSW landfill subject to the provisions of this subpart shall estimate the NMOC emission rate

for comparison to the PSD major source and significance levels in Sections 51.166 or 52.21 of this chapter using AP-42 or other approved measurement procedures.

(d) For the performance test required in Section 60.752(b)(2)(iii)(B), Method 25, 25C, or Method 18 of Appendix A of this part must be used to determine compliance with the 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 Section 60.752(b)(2)(i)(B). Method 3 or 3A shall be used to determine oxygen for correcting the NMOC concentration as hexane to 3 percent. In cases where the outlet concentration is less than 50 ppm NMOC as carbon (8 ppm NMOC as hexane), Method 25A should be used in place of Method 25. 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:

Control Efficiency = (NMOCin – NMOCout)/(NMOCin)

where,
NMOCin = mass of NMOC entering control device
NMOCout = mass of NMOC exiting control device

19. **Section 60.755 Compliance provisions.**
(a) Except as provided in Section 60.752(b)(2)(i)(B), the specified methods in paragraphs (a)(1) through (a)(6) of this section shall be used to determine whether the gas collection system is in compliance with Section 60.752(b)(2)(ii).

(1) For the purposes of calculating the maximum expected gas generation flow rate from the landfill to determine compliance with Section 60.752(b)(2)(ii)(A)(*1*), one of the following equations shall be used. The k and L_o 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 Administrator. If k has been determined as specified in Section 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.

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

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

where,
Q_m = maximum expected gas generation flow rate, cubic meters per year
L_o = methane generation potential, cubic meters per megagram solid waste
R = average annual acceptance rate, 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
c = time since closure, years (for an active landfill c = O and $e^{-kc} = 1$)

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

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where,
Q_M=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 ith section, megagrams
t_i=age of the ith section, years

(iii) If a collection and control system has been installed, actual flow data may be used to project the maximum expected gas generation flow rate instead of, or in conjunction with, the equations in paragraphs (a)(1) (i) and (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 (a)(1) (i) or (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.

(2) For the purposes of determining sufficient density of gas collectors for compliance with Section 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 Administrator, capable of controlling and extracting gas from all portions of the landfill sufficient to meet all operational and performance standards.

(3) For the purpose of demonstrating whether the gas collection system flow rate is sufficient to determine compliance with Section 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 Section 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 Administrator for approval.

(4) Owners or operators are not required to expand the system as required in paragraph (a)(3) of this section during the first 180 days after gas collection system startup.

(5) 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 Section 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 Administrator for approval.

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

(b) For purposes of compliance with Section 60.753(a), each owner or operator of a controlled landfill shall place each well or design component as specified in the approved design plan as provided in Section 60.752(b)(2)(i). 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:

(1) 5 years or more if active; or

(2) 2 years or more if closed or at final grade.

(c) The following procedures shall be used for compliance with the surface methane operational standard as provided in Section 60.753(d).

(1) 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 (d) of this section.

(2) 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.

(3) 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.

(4) 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 (c)(4) (i) through (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 Section 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 (c)(4)(v) of this section shall be taken, and no further monitoring of that location is required until the action specified in paragraph (c)(4)(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 (c)(4) (ii) or (iii) of this section shall be re-monitored 1 month from the initial exceedance. If the 1-month remonitoring shows a concentration less than 500 parts per million above background, no further monitoring of that location is required until the next quarterly monitoring period. If the 1-month remonitoring shows an exceedance, the actions specified in paragraph (c)(4) (iii) or (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 Administrator for approval.

(5) The owner or operator shall implement a program to monitor for cover integrity and implement cover repairs as necessary on a monthly basis.

(d) Each owner or operator seeking to comply with the provisions in paragraph (c) of this section shall comply with the following instrumentation specifications and procedures for surface emission monitoring devices:

(1) 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.

(2) The calibration gas shall be methane, diluted to a nominal concentration of 500 parts per million in air.

(3) 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.

(4) 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.

(e) The provisions of this subpart 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.

20. **Section 60.756 Monitoring of operations.**
Except as provided in Section 60.752(b)(2)(i)(B),

(a) Each owner or operator seeking to comply with Section 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:

(1) Measure the gauge pressure in the gas collection header on a monthly basis as provided in Section 60.755(a)(3); and

(2) Monitor nitrogen or oxygen concentration in the landfill gas on a monthly basis as provided in Section 60.755(a)(5); and

(3) Monitor temperature of the landfill gas on a monthly basis as provided in Section 60.755(a)(5).

(b) Each owner or operator seeking to comply with Section 60.752(b)(2)(iii) using an enclosed combustor shall calibrate, maintain, and operate according to the manufacturer's specifications, the following equipment.

(1) A temperature monitoring device equipped with a continuous recorder and having a minimum accuracy of plus or minus 1 percent of the temperature being measured expressed in degrees Celsius or plus or minus 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.

(2) A device that records flow to or bypass of the control device. The owner or operator shall either:

(i) Install, calibrate, and maintain a gas flow rate measuring device that shall record the flow to the control device at least every 15 minutes; or

(ii) Secure the bypass line valve in the closed position with a car-seal or a lock-and-key type configuration. A visual inspection of the seal or closure mechanism shall be performed at least once every month to ensure that the valve is

maintained in the closed position and that the gas flow is not diverted through the bypass line.

(c) Each owner or operator seeking to comply with Section 60.752(b)(2)(iii) using an open flare shall install, calibrate, maintain, and operate according to the manufacturer's specifications the following equipment:

(1) 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.
(2) A device that records flow to or bypass of the flare. The owner or operator shall either:

(i) Install, calibrate, and maintain a gas flow rate measuring device that shall record the flow to the control device at least every 15 minutes; or

(ii) Secure the bypass line valve in the closed position with a car-seal or a lock-and-key type configuration. A visual inspection of the seal or closure mechanism shall be performed at least once every month to ensure that the valve is maintained in the closed position and that the gas flow is not diverted through the bypass line.

(d) Each owner or operator seeking to demonstrate compliance with Section 60.752(b)(2)(iii) using a device other than an open flare or an enclosed combustor shall provide information satisfactory to the Administrator as provided in Section 60.752(b)(2)(i)(B) describing the operation of the control device, the operating parameters that would indicate proper performance, and appropriate monitoring procedures. The Administrator shall review the information and either approve it, or request that additional information be submitted. The Administrator may specify additional appropriate monitoring procedures.

(e) Each owner or operator seeking to install a collection system that does not meet the specifications in Section 60.759 or seeking to monitor alternative parameters to those required by Section 60.753 through Section 60.756 shall provide information satisfactory to the Administrator as provided in Section 60.752(b)(2)(i) (B) and (C) describing the design and operation of the collection system, the operating parameters that would indicate proper performance, and appropriate monitoring procedures. The Administrator may specify additional appropriate monitoring procedures.

(f) Each owner or operator seeking to demonstrate compliance with Section 60.755(c), shall monitor surface concentrations of methane according to the instrument specifications and procedures provided in Section 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.

21. **Section 60.757 Reporting requirements**.
Except as provided in Section 60.752(b)(2)(i)(B),

(a) Each owner or operator subject to the requirements of this subpart shall submit an initial design capacity report to the Administrator.

(1) The initial design capacity report shall fulfill the requirements of the notification of the date construction is commenced as required by Section 60.7(a)(1) and shall be submitted no later than:

(i) June 10, 1996, for landfills that commenced construction, modification, or reconstruction on or after May 30, 1991 but before March 12, 1996 or

(ii) 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.

(2) 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 the relevant parameters as part of the report. The State, Tribal, local agency or Administrator may request other reasonable information as may be necessary to verify the maximum design capacity of the landfill.

(3) An amended design capacity report shall be submitted to the Administrator providing notification of an increase in the design capacity of the landfill, within 90 days of an increase in the maximum design capacity of the landfill to or above 2.5 million megagrams and 2.5 million cubic meters. This increase in design capacity may result from an increase in the permitted volume of the landfill or an increase in the density as documented in the annual recalculation required in Section 60.758(f).

(b) Each owner or operator subject to the requirements of this subpart shall submit an NMOC emission rate report to the Administrator initially and annually thereafter, except as provided for in paragraphs (b)(1)(ii) or (b)(3) of this section. The Administrator may

request such additional information as may be necessary to verify the reported NMOC emission rate.

(1) The NMOC emission rate report shall contain an annual or 5-year estimate of the NMOC emission rate calculated using the formula and procedures provided in Section 60.754(a) or (b), as applicable.

(i) The initial NMOC emission rate report may be combined with the initial design capacity report required in paragraph (a) of this section and shall be submitted no later than indicated in paragraphs (b)(1)(i)(A) and (B) of this section. Subsequent NMOC emission rate reports shall be submitted annually thereafter, except as provided for in paragraphs (b)(1)(ii) and (b)(3) of this section.

(A) June 10, 1996, for landfills that commenced construction, modification, or reconstruction on or after May 30, 1991, but before March 12, 1996, or

(B) 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.

(ii) If the estimated NMOC emission rate as reported in the annual report to the Administrator is less than 50 megagrams per year in each of the next 5 consecutive years, the owner or operator may elect to submit an estimate of the NMOC emission rate for the next 5-year period in lieu of the annual report. This estimate shall include the current amount of solid waste-in-place and the estimated waste acceptance rate for each year of the 5 years for which an NMOC emission rate is estimated. All data and calculations upon which this estimate is based shall be provided to the Administrator. This estimate shall be revised at least once every 5 years. If the actual waste acceptance rate exceeds the estimated waste acceptance rate in any year reported in the 5-year estimate, a revised 5-year estimate shall be submitted to the Administrator. The revised estimate shall cover the 5-year period beginning with the year in which the actual waste acceptance rate exceeded the estimated waste acceptance rate.

(2) The NMOC emission rate report shall include all the data, calculations, sample reports and measurements used to estimate the annual or 5-year emissions.

(3) Each owner or operator subject to the requirements of this subpart is exempted from the requirements of paragraphs (b)(1) and (2) of this section, after the installation of a collection and control system in compliance with Section 60.752(b)(2), during such time as the collection and control system is in operation and in compliance with Sections 60.753 and 60.755.

(c) Each owner or operator subject to the provisions of Section 60.752(b)(2)(i) shall submit a collection and control system design plan to the Administrator within 1 year of

the first report required under paragraph (b) of this section in which the emission rate equals or exceeds 50 megagrams per year, except as follows:

(1) If the owner or operator elects to recalculate the NMOC emission rate after Tier 2 NMOC sampling and analysis as provided in Section 60.754(a)(3) and the resulting rate is less than 50 megagrams per year, annual periodic reporting shall be resumed, using the Tier 2 determined site-specific NMOC concentration, until the calculated emission rate is equal to or greater than 50 megagrams per year or the landfill is closed. The revised NMOC emission rate report, with the recalculated emission rate based on NMOC sampling and analysis, shall be submitted within 180 days of the first calculated exceedance of 50 megagrams per year.

(2) If the owner or operator elects to recalculate the NMOC emission rate after determining a site-specific methane generation rate constant (k), as provided in Tier 3 in Section 60.754(a)(4), and the resulting NMOC emission rate is less than 50 Mg/yr, annual periodic reporting shall be resumed. The resulting site-specific methane generation rate constant (k) shall be used in the emission rate calculation until such time as the emissions rate calculation results in an exceedance. The revised NMOC emission rate report based on the provisions of Section 60.754(a)(4) and the resulting site-specific methane generation rate constant (k) shall be submitted to the Administrator within 1 year of the first calculated emission rate exceeding 50 megagrams per year.

(d) Each owner or operator of a controlled landfill shall submit a closure report to the Administrator within 30 days of waste acceptance cessation. The Administrator 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 Administrator, no additional wastes may be placed into the landfill without filing a notification of modification as described under Section 60.7(a)(4).

(e) Each owner or operator of a controlled landfill shall submit an equipment removal report to the Administrator 30 days prior to removal or cessation of operation of the control equipment.

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

(i) A copy of the closure report submitted in accordance with paragraph (d) of this section;

(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.

(2) The Administrator may request such additional information as may be necessary to verify that all of the conditions for removal in Section 60.752(b)(2)(v) have been met.

(f) Each owner or operator of a landfill seeking to comply with Section 60.752(b)(2) using an active collection system designed in accordance with Section 60.752(b)(2)(ii) shall submit to the Administrator annual reports of the recorded information in (f)(1) through (f)(6) of this paragraph. The initial annual report shall be submitted within 180 days of installation and start-up of the collection and control system, and shall include the initial performance test report required under Section 60.8. For enclosed combustion devices and flares, reportable exceedances are defined under Section 60.758(c).

(1) Value and length of time for exceedance of applicable parameters monitored under Section 60.756(a), (b), (c), and (d).

(2) 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 Section 60.756.

(3) 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.

(4) All periods when the collection system was not operating in excess of 5 days.

(5) The location of each exceedance of the 500 parts per million methane concentration as provided in Section 60.753(d) and the concentration recorded at each location for which an exceedance was recorded in the previous month.

(6) 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 Section 60.755.

(g) Each owner or operator seeking to comply with Section 60.752(b)(2)(iii) shall include the following information with the initial performance test report required under Section 60.8:

(1) 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;

(2) 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;

(3) The documentation of the presence of asbestos or nondegradable material for each area from which collection wells have been excluded based on the presence of asbestos or nondegradable material;

(4) The sum of the gas generation flow rates 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; and

(5) 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

(6) The provisions for the control of off-site migration.

22. **Section 60.758 Recordkeeping requirements.**
(a) Except as provided in Section 60.752(b)(2)(i)(B), each owner or operator of an MSW landfill subject to the provisions of Section 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 Section 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.

(b) Except as provided in Section 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 paragraphs (b)(1) through (b)(4) of this section 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.

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

(i) The maximum expected gas generation flow rate as calculated in Section 60.755(a)(1). The owner or operator may use another method to determine the maximum gas generation flow rate, if the method has been approved by the Administrator.

(ii) The density of wells, horizontal collectors, surface collectors, or other gas extraction devices determined using the procedures specified in Section 60.759(a)(1).

(2) Where an owner or operator subject to the provisions of this subpart seeks to demonstrate compliance with Section 60.752(b)(2)(iii) through use of an enclosed combustion device other than a boiler or process heater with a design heat input capacity equal to or greater than 44 megawatts:

(i) The average combustion temperature measured at least every 15 minutes and averaged over the same time period of the performance test.

(ii) The percent reduction of NMOC determined as specified in Section 60.752(b)(2)(iii)(B) achieved by the control device.

(3) Where an owner or operator subject to the provisions of this subpart seeks to demonstrate compliance with Section 60.752(b)(2)(iii)(B)(*1*) through use of a boiler or process heater of any size: a description of the location at which the collected gas vent stream is introduced into the boiler or process heater over the same time period of the performance testing.

(4) Where an owner or operator subject to the provisions of this subpart seeks to demonstrate compliance with Section 60.752(b)(2)(iii)(A) through use of an open flare, the flare type (i.e., steam-assisted, air-assisted, or nonassisted), 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 Section 60.18; continuous records of the flare pilot flame or flare flame monitoring and records of all periods of operations during which the pilot flame of the flare flame is absent.

(c) Except as provided in Section 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 Section 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.

(1) The following constitute exceedances that shall be recorded and reported under Section 60.757(f):

(i) 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 degrees C below the average combustion temperature during the most recent performance test at which compliance with Section 60.752(b)(2)(iii) was determined.

(ii) 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.

(2) 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 Section 60.756.

(3) 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 Section 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.)

(4) 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 Section 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.

(d) Except as provided in Section 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.

(1) 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 Section 60.755(b).

(2) 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 asbestos-containing or nondegradable waste excluded from collection as provided in Section 60.759(a)(3)(i) as well as any nonproductive areas excluded from collection as provided in Section 60.759(a)(3)(ii).

(e) Except as provided in Section 60.752(b)(2)(i)(B), each owner or operator subject to the provisions of this subpart shall keep for at least 5 years up-to-date, readily accessible records of all collection and control system exceedances of the operational standards in Section 60.753, the reading in the subsequent month whether or not the second reading is an exceedance, and the location of each exceedance.

(f) Landfill owners or operators who convert design capacity from volume to mass or mass to volume to demonstrate that landfill design capacity is less than 2.5 million megagrams or 2.5 million cubic meters, as provided in the definition of "design capacity", shall keep readily accessible, on-site records of the annual recalculation of

site-specific density, design capacity, and the supporting documentation. Off-site records may be maintained if they are retrievable within 4 hours. Either paper copy or electronic formats are acceptable.

23. **Section 60.759 Specifications for active collection systems.**
(a) Each owner or operator seeking to comply with Section 60.752(b)(2)(i) 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 Administrator as provided in Section 60.752(b)(2)(i)(C) and (D):

(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 expandibility, 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.

(2) The sufficient density of gas collection devices determined in paragraph (a)(1) of this section 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.

(3) The placement of gas collection devices determined in paragraph (a)(1) of this section shall control all gas producing areas, except as provided by paragraphs (a)(3)(i) and (a)(3)(ii) of this section.

(i) Any segregated area of asbestos or nondegradable material may be excluded from collection if documented as provided under Section 60.758(d). The documentation shall provide the nature, date of deposition, location and amount of asbestos or nondegradable material deposited in the area, and shall be provided to the Administrator upon request.

(ii) Any nonproductive 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 percent 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 Administrator 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:

$$\mathbf{Q_i = 2\ k\ L_o\ M_i\ (e^{-kt}\ i)\ (C_{NMOC})\ (3.6 \times 10^{-9})}$$

where,
Q_i = NMOC emission rate from the ith section, megagrams per year
k = methane generation rate constant, $year^{--1}$
L_o = methane generation potential, cubic meters per megagram solid waste
M_i = mass of the degradable solid waste in the ith section, megagram
t_i = age of the solid waste in the ith section, years
C_{NMOC} = concentration of nonmethane organic compounds, parts per million by volume
3.6×10^{-9} = conversion factor

(iii) The values for k 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 (this distance from the well center to a point in the landfill where the pressure gradient applied by the blower or compressor approaches zero). If field testing has not been performed, the default values for k, L_O and C_{NMOC} provided in Section 60.754(a)(1) or the alternative values from Section 60.754(a)(5) shall be used. The mass of nondegradable solid waste contained within the given section may be subtracted from the total mass of the section when estimating emissions provided the nature, location, age, and amount of the nondegradable material is documented as provided in paragraph (a)(3)(i) of this section.

(b) Each owner or operator seeking to comply with Section 60.752(b)(2)(i)(A) shall construct the gas collection devices using the following equipment or procedures:

(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.

(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.

(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.

(c) Each owner or operator seeking to comply with Section 60.752(b)(2)(i)(A) shall convey the landfill gas to a control system in compliance with Section 60.752(b)(2)(iii) through the collection header pipe(s). The gas mover equipment shall be sized to handle the maximum gas generation flow rate expected over the intended use period of the gas moving equipment using the following procedures:

(1) For existing collection systems, the flow data shall be used to project the maximum flow rate. If no flow data exists, the procedures in paragraph (c)(2) of this section shall be used.

(2) For new collection systems, the maximum flow rate shall be in accordance with Section 60.755(a)(1).

B. State Only Enforceable Permit To Install Facility Specific Terms and Conditions

None

Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment - F001 - Roadways and Parking Areas, paved and unpaved with a total maximum of 639,200 vehicle miles traveled per year - Chapter 31 Modification (Terms in this permit supersede those identified in PTI # 06-07070 issued July 29, 2003)

Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
OAC rule 3745-31-05(A)(3) (This is a chapter 31 modification to PTI 06-07070 which was issued July 29, 2003. The terms and conditions in this modification supersede the terms and conditions in PTI 06-07070 for this emissions unit.)	Fugitive particulate emissions (PE) from all paved and unpaved roadways and parking areas shall not exceed 73.84 TPY. See Section A.I.2.a below. Best available control measures that are sufficient to minimize or eliminate visible emissions of fugitive dust (See Sections A.I.2.d through A.I.2.k below)
OAC rule 3745-17-07(B)(1) OAC rule 3745-17-08(B)	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.
paved roadways and parking areas OAC rule 3745-31-05(A)(3)	No visible particulate emissions except for one (1) minute during any 60-minute period for all paved roadways and parking areas. See Section A.I.2.b below.
unpaved roadways and parking areas OAC rule 3745-31-05(A)(3)	No visible particulate emissions except for three (3) minutes during any 60-minute period for all unpaved roadways and parking areas. See Section A.I.2.c below.

2. Additional Terms and Conditions

2.a This emissions unit consists of the facility roadways and parking areas and the operation of vehicles on the facility roadways and parking areas. These vehicles include trucks associated with waste hauling, trucks associated with the transporting of daily and intermediate cover materials, trucks associated with the transporting of sand and gravel, and, trucks associated with earthmoving. The emissions associated with this emissions unit do not include the emissions from the combustion of fuels in the engines of the trucks.

2.b The paved roadways and parking areas that are covered by this permit and subject to the above-mentioned requirements are listed below:

paved roadways:

main access road - Entrance / Exit roadway from US 32 to scale house, and
All other paved roadways.

paved parking areas:

All paved parking lots.

2.c The unpaved roadways and parking areas that are covered by this permit and subject to the above-mentioned requirements are listed below:

unpaved roadways:

Cell development haul road(s),
Scale house to and from working face, and
All other unpaved roadways.

unpaved parking areas:

scale house,
maintenance building / equipment lot(s),
main office, and
all other unpaved parking areas.

2.d The permittee shall employ best available control measures on all paved roadways for the purpose of ensuring compliance with the above-mentioned applicable requirements. In accordance with the permittee's permit application, the permittee has committed to treat the paved roadways by flushing with water and sweeping at sufficient treatment frequencies to ensure compliance, enforce

a 10 mph posted speed limit and utilize a wheel wash. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.

2.e The permittee shall employ best available control measures on all unpaved roadways and parking areas for the purpose of ensuring compliance with the above-mentioned applicable requirements. In accordance with the permittee's permit application, the permittee has committed to treat the unpaved roadways and parking areas with water and/or any other suitable dust suppression chemicals at sufficient treatment frequencies to ensure compliance and utilize a wheel wash. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.

2.f 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 a paved or unpaved 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. Implementation of any control measure may be suspended if unsafe or hazardous driving conditions would be created by its use.

2.g Any unpaved roadway or parking area, which during the term of this permit is paved or takes the characteristics of a paved surface due to the application of certain types of dust suppressants, may be controlled with the control measure(s) specified above for paved surfaces. Any unpaved roadway or parking area that takes the characteristics of a paved roadway or parking area due to the application of certain types of dust suppressants shall remain subject to the visible emission limitation for unpaved roadways and parking areas. Any unpaved roadway or parking area that is paved shall be subject to the visible emission limitation for paved roadways and parking areas.

2.h 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.

2.i Open-bodied vehicles transporting materials likely to become airborne as fugitive dust shall have such materials covered at all times after the vehicle reaches the scale house until the point of disposal if the control measure is necessary for the materials being transported.

2.j 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.

2.k The air contaminants emitted by this emissions unit shall not cause a public nuisance, in violation of Ohio Administrative Code (OAC) rule 3745-15-07.

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

1. Except as otherwise provided in this section, the permittee shall perform inspections of the roadways and parking areas, in accordance with the following frequencies:

paved roadways/ parking areas	minimum inspection frequency
Paved roadways and parking areas as defined in section A.1.2.b.	daily

unpaved roadways/ parking areas	minimum inspection frequency
Unpaved roadways and parking areas as defined in section A.1.2.c.	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/operating 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 during the next inspection pursuant to the minimum inspection frequency.

3. The permittee shall maintain records of information concerning inspections and control measures.

   a. The permittee shall maintain daily records of the following information:

      i. 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;

      ii. the date of each inspection where it was determined by the permittee that it was necessary to implement the control measures; and

      iii. the dates the control measures were implemented.

      This information shall be kept separately for the paved roadways and parking areas and for the unpaved roadways and parking areas.

b. The permittee shall maintain quarterly records of 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. This record shall be updated on a calendar quarter basis within 30 days after the end of each calendar quarter.

IV. 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 that 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.

2. The deviation reports shall be submitted in accordance with the requirements specified in Part I - General Terms and Conditions.

3. The permittee shall submit annual reports that include the annual PE emission rate. These reports shall be submitted by April 15 of each year. These reporting requirements may be satisfied by including and identifying the annual operating hours and specific emission data for this emissions unit in the annual Fee Emission Report.

V. Testing Requirements

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

   a. Emission Limitations:

      No visible emissions except for one (1) minute during any 60-minute period, for paved roadways and parking areas

      No visible emissions except for three (3) minutes during any 60-minute period, for unpaved roadways and parking areas

      Applicable Compliance Method:

      If required, compliance 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.

No visible emission observations are specifically required to demonstrate compliance with the visible emission limitations but, if appropriate, may be required pursuant to OAC rule 3745-15-04(A).

b. Emission Limitation:

Fugitive PE from all paved and unpaved roadways and parking areas shall not exceed 73.84 tons per year (TPY)

Applicable Compliance Method:

In summary, the maximum controlled emission rate for paved/unpaved roadways and parking areas was calculated using a worst case calculation based upon the estimated maximum vehicle miles traveled (639,200 miles) by various vehicles on all landfill roads being used to support the 4,000 tons per day (TPD) waste acceptance rate (Allowable Maximum Daily Waste Receipt, AMDWR), using the estimated control efficiencies of; watering 50%, sweeping 70%, flushing 80%. Calculations used the equation and default parameters contained in AP-42, Section 13.2.1, dated November, 2006.

VI. Miscellaneous Requirements

None

B. State Only Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment - F001 - Roadways and Parking Areas - Chapter 31 Modification (Terms in this permit supersede those identified in PTI # 06-07070 issued July 29, 2003)

Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
None	None

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment -P901 - 4000 TPD, 24,595,902 Megagrams capacity MSW Landfill with Asbestos disposal. Emissions are from Landfill operations associated with the load-in-load-out of MSW, wind erosion from the surface of the landfill, and flare emissions. Chapter 31 Modification (Terms in this permit supersede those identified in PTI # 06-07070 issued July 29, 2003)

Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
OAC rule 3745-31-05(A)(3)	Non-methane organic compounds (NMOC) emissions shall not exceed 144 tons per year; Methane (CH_4) emissions shall not exceed 50,347 tons per year; Volatile Organic Compounds (VOC) emissions shall not exceed 57.15 tons per year. Nitrogen Oxide (NO_x) emissions shall not exceed 62.34 tons per year. Carbon Monoxide (CO) emissions shall not exceed 232.41 tons per year. Sulfur Dioxide (SO_2) emissions shall not exceed 15.74 tons per year. Hydrogen Chloride (HCl) emissions shall not exceed 24.62 tons per year. Total Hazardous Air Pollutants (HAP) emissions shall not exceed 39.23 tons per year. Fugitive particulate emissions (PE) shall not exceed 124.9 tons per year.

	No visible PE except for 3 minutes during any 60-minute period form non-asbestos wastes containing materials. There shall be no visible emissions from asbestos-containing materials during on-site transportation, transfer, unloading, deposition, compacting operations, or from any inactive asbestos waste disposal sites. Best available control measures shall be used that are sufficient to minimize or eliminate visible emissions of fugitive dust. See Sections A.I.2.b through A.I.2.d below; and The requirements established pursuant to this rule include compliance with the requirements of 40 CFR Part 60, Subpart WWW; 40 CFR Part 63, Subpart AAAA, 40 CFR Part 61, Subpart M, 40 CFR Part 63, Subpart A and OAC Chapter 3745-19.
40 CFR Part 60, Subpart WWW	See Part II - Facility Specific Terms and Conditions A.14 - A.23. Should 40 CFR Part 60, Subpart WWW be revised, the permittee shall comply with the applicable requirements of the most recent promulgation.
40 CFR Part 63, Subpart A	See Table 1 of Subpart AAAA in Part II.- Facility Specific Terms and Conditions A.13 of this permit for a listing of the applicable requirements of Subpart A, which are thereby incorporated by reference. Should 40 CFR Part 63, Subpart A be revised, the permittee shall comply with the applicable requirements of the most recent promulgation.
40 CFR Part 63, Subpart AAAA	See Part II -Facility Specific Terms and Conditions A.1 through A.13. Should 40 CFR Part 63, Subpart AAAA be revised, the permittee shall comply with the applicable requirements of the most recent promulgation.
40 CFR Part 61, Subpart M	See Sections A.I.2.c through A.I.2.j below.
OAC rule 3745-17-07(B)(1) OAC rule 3745-17-08(B)	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.
OAC rule 3745-19	There shall be no open burning in violation of OAC Rule 3745-19 at this facility.

OAC rule 3745-20	See Sections A.I.2.e through A.I.2.j below.

2. Additional Terms and Conditions

2.a The landfill fugitive dust operations/sources that are covered by this permit and are subject to the requirements of OAC rule 3745-31-05 are listed below:

i. waste dumping/unloading
ii. waste compaction
iii. soil/overburden excavation, liner clay excavation and material handling
iv. subbase aggregate material handling, including construction storage piles
v. daily cover excavation and material handling
vi. roadway(s) construction
vii. wind erosion from landfill surfaces

2.b The permittee shall employ best available control measures on all MSW landfill operations for the purpose of ensuring compliance with the above-mentioned applicable requirements. The permittee shall use chemical stabilization/dust suppressants, and/or watering, and/or the use of non-dust producing approved cover materials at sufficient treatment frequencies to ensure compliance. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.

2.c The above-identified control measure(s) shall be implemented if the permittee determines, as a result of the inspection conducted pursuant to the monitoring section of this permit, that the control measures are necessary to ensure compliance with the above-mentioned applicable requirements. Any required implementation of the control measure(s) shall continue during the operation of the fugitive dust operation/sources until further observation confirms that use of the control measure(s) is unnecessary.

2.d The permittee shall ensure that MSW materials are deposited, spread and compacted in such a manner as to minimize or prevent visible emissions of fugitive dust.

i. When dumping MSW materials, the permittee shall implement the following procedures:

1. any loads which appear to contain dusty MSW materials shall be watered prior to dumping of the load;

2. no dusty MSW materials shall be dumped during periods of high wind speed, unless they have been treated to prevent them from becoming airborne;

3. during the dumping of any load of MSW materials, in which dusty materials become airborne, the MSW materials shall be watered as necessary to minimize or eliminate visible emissions of fugitive dust.

ii. When handling and stockpiling MSW materials and/or cover materials, the permittee shall implement the following procedures:

1. any dusty MSW materials to be stored prior to disposal, shall be watered, as necessary, or have a temporary soil cover;

2. all exposed MSW materials shall be covered with cover materials by the end of each week's operation;

3. to minimize handling of the MSW materials, spreading and compacting shall occur in one operation;

4. the permittee shall minimize the handling and the stockpiling of cover materials, except for top soil;

5. unvegetated cover materials and soil in the waste disposal area must be periodically wetted with water and shall be handled in such a manner as to minimize or eliminate visible emissions of fugitive dust;

6. the frequency and amounts of water applications will depend on weather conditions, cover material conditions, and soil conditions;

7. watering shall be conducted in such a manner as to avoid the pooling of liquids and runoff; and

8. a record of water applications required by these terms and conditions shall be maintained at the facility site for a period of not less than three years and shall be made available to the director, or any authorized representative of the director, for review during normal business hours.

2.e There shall be no visible emissions from asbestos-containing materials during on-site transportation, transfer, unloading, deposition, compacting operations, or from any inactive asbestos waste disposal sites.

2.f Deposition and burial operations shall be conducted in a careful manner that prevents asbestos-containing materials from being broken up or dispersed before the materials are buried.

2.g The permittee shall inspect each load of asbestos-containing material delivered to the facility. The inspection shall consist of a visual examination to ensure that each shipment of asbestos-containing materials is received in intact, leak-tight containers labeled with appropriate hazard warning labels, the name of the waste generator, and the location of waste generation. The inspection also shall determine whether the waste shipment records accompany the consignment and accurately describe the waste material and quantity.

If on the basis of the inspection, the waste material is found to be improperly received, the load shall be disposed of in accordance with the procedures in the "Asbestos Spill Contingency Plan," and the discrepancy shall be noted on the waste shipment record.

2.h The permittee shall develop, implement, and maintain an "Asbestos Disposal Operating Procedure and Spill Contingency Plan" as required in this permit. Emissions control equipment shall be available for wetting and containing asbestos in the event of a release or non-conforming load disposal. All equipment required to implement the "Asbestos Disposal Operating Procedure and Spill Contingency Plan" shall be maintained in accordance with good engineering practices to ensure that the equipment is in a ready-to-use condition and in an appropriate location for use.

2.i Pursuant to the authority in ORC section 3704.03(L), any representative of the director may, upon presentation of proper identification, enter at any reasonable time upon any portion of the property where this landfill is located, including any improvements thereon, to make inspections; take samples; conduct tests; examine records or reports pertaining to any emissions of air contaminants; and inspect monitoring equipment, emissions control equipment, and/or methods of operation and gas sampling. No operator or agent of this landfill shall act in any manner to refuse, hinder, or thwart this legal right of entry.

2.j If this landfill is permanently closed, the permittee shall comply with all of the applicable provisions of OAC rule 3745-20.

II. Operational Restrictions

1. The perimeter of the disposal site must be fenced in a manner adequate to deter access by the general public. The permittee shall establish restricted access within 100 feet of the unloading, deposition, and burial areas of the asbestos-containing waste materials, adequate to deter the unauthorized entry of the general public and any unauthorized personnel.

   Warning signs shall be displayed at all entrances and at intervals of 100 meters or 330 feet or less along the property line of the site or along the perimeter of the sections of the site where asbestos-containing material is deposited. The sign(s) shall be posted in

such a manner and location that a person can easily read the legend and the signs shall not be less than 20 x 14 inches (51 cm x 36 cm) in size. Display the following legend in the lower panel with letter sizes and styles of a visibility at least equal to those specified in this paragraph.

Legend:

ASBESTOS WASTE DISPOSAL SITE	2.5 cm (1 inch) Sans Serif, Gothic or Block
DO NOT CREATE DUST	1.9 cm (3/4 inch) Sans Serif, Gothic or Block 14 Point Gothic
BREATHING ASBESTOS IS HAZARDOUS TO YOUR HEALTH	*14 Point Gothic*

Spacing between any two lines must be at least equal to the height of the upper two lines.

2. The permittee shall cover and compact asbestos wastes in accordance with the following:

   a. As soon as practical after the placement of friable asbestos, but no later than the end of each working day, the asbestos-containing waste materials deposited at the site during the operating day shall be covered with at least 12 inches of non-asbestos-containing materials. Once the asbestos-containing materials are covered, the area may be compacted.

   b. Care shall be taken to ensure that disposed asbestos shall not be re-excavated in subsequent operations. Any accidentally exposed material shall be immediately recovered in accordance with the provisions of this permit.

   c. Asbestos-containing waste materials shall be separated from the landfill final grade by no less than 24 inches of compacted non-asbestos-containing materials and a permanent cover of vegetation, or in accordance with current requirements for closure, whichever is more stringent.

3. The permittee shall implement and maintain an "Asbestos Disposal Operating Procedure and Spill Contingency Plan" consisting of: authorized personnel training, inspection and disposal operating procedures, non-conforming load response procedures, inventory and maintenance procedures for safety and emissions control equipment, record keeping procedures, and emergency notification procedures. Authorized personnel shall be knowledgeable in the procedures, and the Plan shall be available for inspection at this facility at all times.

III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall maintain records of the total volume of material received each day. These records shall be maintained for a period of not less than three years, and the records shall be available for review by the director or his representative during normal business hours.

2. The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible emissions of fugitive dust from non-asbestos-containing materials (non-ACM) resulting from any landfill operations (such as wastes unloading, covering, excavation, and wind erosion). The presence or absence of any visible emissions of fugitive dust shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

   a. the color of the emissions;
   b. whether the emissions are representative of normal operations;
   c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
   d. the total duration of any visible emission incident; and
   e. any corrective actions taken to eliminate the visible emissions.

3. The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible emissions of fugitive dust from asbestos-containing materials (ACM) during on-site transportation, transfer, unloading, deposition, or compacting operations. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

   a. the color of the emissions;
   b. the total duration of any visible emission incident; and
   c. any corrective actions taken to eliminate the visible emissions.

4. The permittee shall maintain a record of the inspection required in the Additional Terms and Conditions for each load of asbestos-containing material delivered to the facility. These records shall be maintained for a period of 2 years.

5. The permittee shall keep readily accessible documentation of the nature, date of deposition, permanent record of the location, depth, area, and quantity in cubic yards of all asbestos-containing wastes within the disposal site.

6. The permittee shall require that all asbestos waste shipments received be accompanied by a waste shipment record. The waste shipment records shall include the following information:

a. the name of the work site or facility where the asbestos-containing waste was generated and the mailing address and telephone number of the facility owner;

b. the name, mailing address and telephone number of the owner or operator (waste generator) responsible for handling, packing, marking, and labeling the asbestos-containing waste material;

c. the name, mailing address, telephone number and site location of the active waste disposal site designated by the generator to receive the asbestos-containing waste material for disposal;

d. the name and address of the local, state or U.S. EPA regional agency responsible for administering the National Emission Standards for Hazardous Air Pollutants (NESHAP) program for asbestos;

e. a description of the asbestos-containing waste materials included in the waste shipment;

f. the number and type of containers included in the waste shipment;

g. the approximate volume of asbestos-containing waste material included in the waste shipment, in cubic yards;

h. special handling instructions or additional information relative to the waste shipment the waste generator may specify;

i. a certification that the contents of this consignment are fully and accurately described by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations;

j. the name, address and phone number of the transporter;

k. a signature by the transporter, to acknowledge receipt of the asbestos-containing waste shipment, described by the waste generator for the conditions recorded on the waste shipment record;

l. a discrepancy indication space to be completed by the transporter or waste shipment owner or operator if any improperly contained asbestos waste is observed or if there is any discrepancy in the quantity of asbestos shipped and the quantity of asbestos waste received at the asbestos waste disposal site;

m. the name and telephone number of the disposal site operator;

n. a signature by the waste disposal site operator to acknowledge receipt of the asbestos-containing waste shipment described by the waste generator in the conditions above, except as noted in the discrepancy indication space; and

o. the date of receipt of the asbestos-containing waste.

Significant amounts of improperly contained waste shall be reported in writing to the Ohio EPA Southeast District Office by the following working day. The report shall include a copy of the waste shipment. The waste shipment record forms shall be retained at the facility for at least two years, and shall be made available for inspection upon request.

7. The permittee shall maintain a daily operations log which records/documents any watering activity employed to minimize or eliminate visible emissions of fugitive dust for each waste dumping/placement area; the record shall include the time, the location, and the amount of water employed, in gallons.

IV. Reporting Requirements

1. The permittee shall submit quarterly written reports that (a) identify all days during which any visible emissions of fugitive dust from non-asbestos-containing materials were observed from operations involving this emissions unit (such as wastes unloading, covering, excavation and wind erosion) and (b) describe any corrective actions taken to eliminate the visible emissions. These reports shall be submitted to the director (the Ohio EPA Southeast District Office) by January 31, April 30, July 31 and October 31 and shall cover the previous calendar quarters.

2. The permittee shall submit quarterly written reports that (a) identify all days during which any visible emissions of fugitive dust were observed from asbestos-containing materials during on-site transportation, transfer, unloading, deposition, and/or compacting operations and (b) describe any corrective actions taken to eliminate the visible emissions. These reports shall be submitted to the director (the Ohio EPA Southeast District Office) by January 31, April 30, July 31 and October 31 and shall cover the previous calendar quarters.

3. The permittee shall submit quarterly reports summarizing the asbestos disposal activities; these reports shall contain the following information:

   a the name, address and location of the facility, the calendar period covered by the report, and any changes in the methods of storage or the disposal operations; and

   b. a list of all asbestos-containing waste consignments received including: the date received, the name of the waste generator, the name and location of the facility

where the load originated, the quantity of asbestos, and any discrepancy or non-conformity discovered.

These quarterly reports shall be submitted no later than January 31, April 30, July 31 and October 31 and shall cover the previous calendar quarters.

4. As soon as possible and no longer than 30 days after receipt of the asbestos-containing waste material, the permittee shall send a copy of the signed waste shipment record to the waste generator.

5. Upon discovery of a discrepancy between the quantity of asbestos-containing waste material designated on a waste shipment record and the quantity actually received, the permittee shall attempt to reconcile the discrepancy with the waste generator. If the discrepancy is not resolved within 15 days after receiving the waste, immediately report in writing to the State, local, district, or U.S. EPA regional office responsible for administering the asbestos NESHAP program for the waste generator (identified in the waste shipment record), and the director (the Ohio EPA Southeast District Office) if the waste was received from out of State. Describe the discrepancy and attempts to reconcile it, and submit a copy of the waste shipment record along with the report.

6. The permittee shall submit, upon closure of the facility, a copy of the records of the asbestos waste disposal locations and quantities.

7. The permittee shall notify the director, in writing, at least 45 days prior to excavating or otherwise disturbing any asbestos-containing waste material that has been deposited at a waste disposal site and is covered. If the excavation will begin on a date other than the one contained in the original notice, notice of the new start date must be provided at least 10 working days before excavation begins and in no event shall excavation begin earlier than the date specified in the original notification. The following information shall be included in the notice:

   a. scheduled starting and completion dates;

   b. reason for disturbing the waste;

   c. procedures to be used to control emissions during the excavation, storage, transport, and ultimate disposal of the excavated asbestos-containing waste material (if deemed necessary, the Director may require changes in the proposed emission control procedures); and

   d. location of any temporary storage site and the final disposal site.

8. The permittee shall notify the director of any load of asbestos-containing material which is rejected, or any non-conforming load disposed of in accordance with the "Asbestos Spill Contingency Plan." Notification shall be provided as soon as possible by a phone

contact, followed in writing by the next working day. The written notification shall provide a copy of the waste shipment record, if available, or when waste is not shipped with a waste shipment record, provide available information concerning vehicle identification, source of the load, a description of the load, nature of discrepancy, and the location of disposal. If possible, non-conforming loads of suspect friable material shall be detained, or the location of disposal protected from damage, until the Ohio EPA Southeast District Office is informed and provided the opportunity to inspect.

9. Pursuant to the New Source Performance Standards (NSPS), the source owner/operator is hereby advised of the requirements to report the following at the appropriate times:

   a. construction date (no later than 30 days after such date);
   b. actual start-up date (within 15 days after such date); and
   c. date of performance testing (if required, at least 30 days prior to testing).

   Reports are to be sent to:

   Lazarus Government Center
   Ohio Environmental Protection Agency
   DAPC - Permit Management Unit
   50 West Town Street, Suite 700
   P.O. Box 1049
   Columbus, OH 43216-1049

   and

   Ohio EPA, Southeast District Office
   Division of Air Pollution Control
   2195 Front Street
   Logan, Ohio 43138

V. Testing Requirements

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

   a. <u>Emissions Limitation:</u>

      Non-methane organic compounds (NMOC) emissions shall not exceed 144 tons per year.

Applicable Compliance Method:

Non-methane organic compounds emissions were predicted by USEPA's LANDGEM model. Emissions predicted by USEPA's Landfill estimation model were based on the proposed landfill capacity (24,600,000 Mg) divided equally by the maximum annual disposal rate of 1322760 Mg per year (4,000 tpd).

b. Emission Limitation:

Methane (CH_4) emissions shall not exceed 50,347 tons per year.

Applicable Compliance Method:

CH_4 emissions were predicted by USEPA's LANDGEM model. Emissions predicted by USEPA's Landfill estimation model were based on the proposed landfill capacity (24,600,000 Mg) divided equally by the maximum annual disposal rate of 1322760 Mg per year (4,000 tpd).

c. Emission Limitation:

Volatile Organic Compounds (VOC) emissions shall not exceed 57.15 tons per year.

Applicable Compliance Method:
Volatile Organic Compounds (VOC) emissions were predicted by USEPA's LANDGEM model and AP-42 equations. Emissions predicted by USEPA's Landfill estimation model were based on the year with the greatest VOC emissions were calculated since VOC is not required to be controlled.

d. Emission Limitation:

Nitrogen Oxide (NO_x) emissions shall not exceed 62.34 tons per year.

Applicable Compliance Method:

The total volume of CH4 and NMOC predicted by USEPA's LANDGEM model was calculated to be combusted by a flare based on 1,012 Btu/CF. The flare manufacturers emission factor of 0.06 pound NOx per MMBtu was used to calculate quantity of NOx emissions.

e. Emission Limitation:

Carbon Monoxide (CO) emissions shall not exceed 232.41 tons per year.

Applicable Compliance Method:

The total volume of CH4 and NMOC predicted by USEPA's LANDGEM model was calculated to be combusted by a flare based on 1,012 Btu/CF. The total CO is comprised of the CO generated from the flare combustion and CO generated in the landfill estimated by LANDGEM program. The flare manufacturers CO emission factor of 0.2 pound CO per MMBtu was used.

f. Emission Limitation:

Sulfur Dioxide (SO_2) emissions shall not exceed 15.74 tons per year.

Applicable Compliance Method:

SO_2 Emissions were calculated based on predictions from USEPA's LANDGEM model and AP-42 equations. The highest modeled year was used since SO_2 is not required to be controlled.

g. Emission Limitation:

Hydrogen Chloride (HCl) emissions shall not exceed 24.62 tons per year.

Applicable Compliance Method:

HCl emissions were predicted by USEPA's LANDGEM model. Emissions predicted by USEPA's Landfill estimation model were based on the proposed landfill capacity (24,600,000 Mg) divided equally by the maximum annual disposal rate of 1322760 Mg per year (4,000 tpd).

h. Emission Limitation:

Total Hazardous Air Pollutants (HAP) emissions shall not exceed 39.23 tons per year.

Applicable Compliance Method:

HAP emissions were predicted by USEPA's LANDGEM model. Emissions predicted by USEPA's Landfill estimation model were based on the proposed landfill capacity (24,600,000 Mg) divided equally by the maximum annual disposal rate of 1322760 Mg per year (4,000 tpd).

i. Emission Limitation:

Fugitive particulate emissions (PE) shall not exceed 124.91 tons per year.

Applicable Compliance Method:

The permittee shall demonstrate compliance by use of the following equation, derived using standard AP-42 and U.S. EPA emission factors, and including emissions from wind erosion, daily cover material handling and placement, handling of waste (dumping waste), spreading, grading, and compaction of waste:

$$P901(tpy) = (2.11x10^{-4})(365 - p)(f)(acres) + (3.99x10^{-5})(AMDWR)(U/5)^{1.3} + 23.34$$

Where:
p - is the no. of days with more than 0.01 inches of precipitation (140)
f - is the percent of time wind speed is greater than 12 mph (10)
acres - is the maximum total exposed acreage at any time (assume working face never exceeds 3 acres)
AMDWR - is the anticipated maximum daily waste receipt (4,000 tons/day from application)
U - is the mean wind speed (8.7 for Columbus)

j. Emission Limitation:

No visible PE except for 3 minutes during any 60-minute period;

Applicable Compliance Method:

If required, compliance 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)(c) of OAC rule 3745-17-03.

k. Emission Limitation:

There shall be no visible emissions from asbestos-containing materials during on-site transportation, transfer, unloading, deposition or compacting operations.

Applicable Compliance Method:

If required, compliance 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)(c) of OAC rule 3745-17-03.

VI. Miscellaneous Requirements

None

B. State Only Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment -P901 - 4000 TPD MSW Landfill with Asbestos disposal. Landfill operations associated with the load-in-load-out of MSW and wind erosion from the surface of the landfill. Chapter 31 Modification (Terms in this permit supersede those identified in PTI # 06-07070 issued July 29, 2003)

Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
None	None

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None