



State of Ohio Environmental Protection Agency

**RE: FINAL PERMIT TO INSTALL
HOLMES COUNTY**

CERTIFIED MAIL

Street Address:

122 S. Front Street

Lazarus Gov. Center TELE: (614) 644-3020 FAX: (614) 644-2329

Mailing Address:

Lazarus Gov. Center
P.O. Box 1049

Application No: 02-19951

Fac ID: 0238000121

DATE: 9/22/2005

Holmes County Landfill
Frank Lasky
66012 Township Rd. 326
Millersburg, OH 44654

Enclosed please find an Ohio EPA Permit to Install which will allow you to install the described source(s) in a manner indicated in the permit. Because this permit contains several conditions and restrictions, I urge you to read it carefully.

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.

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

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

Sincerely,

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

CC: USEPA

NEDO



**Permit To Install
Terms and Conditions**

**Issue Date: 9/22/2005
Effective Date: 9/22/2005**

FINAL PERMIT TO INSTALL 02-19951

Application Number: 02-19951
Facility ID: 0238000121
Permit Fee: **\$600**
Name of Facility: Holmes County Landfill
Person to Contact: Frank Lasky
Address: 66012 Township Rd. 326
Millersburg, OH 44654

Location of proposed air contaminant source(s) [emissions unit(s)]:
**6601 Township Route 326
Millersburg, Ohio**

Description of proposed emissions unit(s):
Construction and demolition debris landfill; roadways and parking areas and landfill operations.

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

Director

Part I - GENERAL TERMS AND CONDITIONS

A. Permit to Install General Terms and Conditions

1. Compliance Requirements

The emissions unit(s) identified in this Permit to Install 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 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 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 quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

3. Records Retention Requirements

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

4. Inspections and Information Requests

The Director of the Ohio EPA, or an authorized representative of the Director, may, subject to the safety requirements of the permittee and without undue delay, enter upon the premises of this source at any reasonable time for purposes of making inspections, conducting tests, examining records or reports pertaining to any emission of air contaminants, and determining compliance with any applicable State air pollution laws and regulations and the terms and conditions of this permit. The permittee shall furnish to the Director of the Ohio EPA, or an authorized

representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying, reopening or revoking this permit or to determine compliance with this permit. Upon verbal or written request, the permittee shall also furnish to the Director of the Ohio EPA, or an authorized representative of the Director, copies of records required to be kept by this permit.

5. Scheduled Maintenance/Malfunction Reporting

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

6. 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.

7. 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.

8. Termination of Permit to Install

This Permit to Install shall terminate within eighteen months of the effective date of the Permit to Install 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.

9. Construction of New Sources(s)

The proposed emissions unit(s) shall be constructed in strict accordance with the plans and application submitted for this permit to the Director of the Ohio Environmental Protection Agency. There may be no deviation from the approved plans without the express, written approval of the Agency. Any deviations from the approved plans or the above conditions may lead to such sanctions and penalties as provided under Ohio law. Approval of these plans does not constitute an assurance that the proposed facilities will operate in compliance with all Ohio laws and regulations. Additional facilities shall be installed upon orders of the Ohio

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Environmental Protection Agency if the proposed sources cannot meet the requirements of this permit or cannot meet applicable standards.

If the construction of the proposed emissions unit(s) has already begun or has been completed prior to the date the Director of the Environmental Protection Agency approves the permit application and plans, the approval does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the approved plans. 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 the Permit to Install does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Approval of the plans in any case is not to be construed as an approval of the facility as constructed and/or completed. Moreover, issuance of the Permit to Install 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.

10. 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.

11. Applicability

This Permit To Install is applicable only to the emissions unit(s) identified in the Permit To Install. Separate Permit To Install for the installation or modification of any other emissions unit(s) are required for any emissions unit for which a Permit To Install is required.

12. 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.

13. Source Operation and Operating Permit Requirements After Completion of Construction

This facility is permitted to operate each source described by this Permit to Install for a period of up to one year from the date the source commenced operation. This 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 emissions unit(s) covered by this permit.

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14. Construction Compliance Certification

The applicant shall provide Ohio EPA with a written certification (see enclosed form) 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.

15. 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 this Permit to Install.

B. 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

<u>Pollutant</u>	<u>Tons Per Year</u>
PEs	112.2

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. 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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
F002 - Facility Roadway and Parking Areas supporting both the CDD and MSW Landfills	OAC rule 3745-31-05(A)(3)	No visible particulate emissions except for three minutes during any 60-minute period from any unpaved roadway or parking area surface. Particulate emissions shall not exceed 42 tons per year.
	OAC rule 3745-17-08	The visible emission limitation specified by this rule is less stringent than the visible emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
	OAC rule 3745-17-08(A)(1)	The visible emission limitation specified by this rule is less stringent than the visible emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
	OAC rule 3745-17-07(B)	The visible emission limitation specified by this rule is less stringent than the visible emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

2. Additional Terms and Conditions

- 2.a All roadways and parking areas are covered by this permit and subject to the above-mentioned requirements.
- 2.b The permittee shall employ best available control measures on all 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 roadways and parking areas with water via a spray truck at sufficient treatment frequencies to ensure compliance and to limit vehicles to a speed of 10 miles per hour. If watering and speed reduction are not sufficient to control emissions, Ohio EPA may require additional fugitive dust control measures. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.
- 2.c 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 any 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.d Any unpaved roadway or parking area, which during the term of this permit is paved or takes the characteristics of a paved surface resulting from 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.e 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.f There shall be no visible particulate emissions except for one minute during any 60-minute period from any paved roadway area surface where facility vehicles enter or leave the premises as a result of material drag out.
- 2.g Open-bodied vehicles transporting materials likely to become airborne shall have such

Emissions Unit ID: F002

materials covered at all times if the control measure is necessary for the materials being transported.

- 2.h** 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.i** If upon inspection, Ohio EPA finds that the facility is not in compliance with the term A.2.e then Ohio EPA may request that the facility installs a wheel and undercarriage washing station. A wheel and undercarriage washing station shall be installed within 60 days of the request that shall be used by all vehicles leaving the facility. The design shall include adequate onsite travel distance on paved surfaces to allow the vehicles to properly "throw off" any excess water the truck wheels may hold to eliminate the potential of causing water slicks, ice, etc. from forming on any public thoroughfares.

B. Operational Restrictions

1. Used oil as defined by OAC rule 3745-279-01 shall not be used as a dust suppressant.
2. In order to minimize the formation of hydrogen sulfide emissions, the permittee shall not use leachate as a dust suppressant without prior written approval from Ohio EPA.
3. The permittee shall have posted speed limit signs identifying 10 miles per hour as the maximum on-site speed limit on unpaved roadways.

C. Monitoring and/or Record keeping Requirements

1. Except as otherwise provided in this section, the permittee shall perform daily inspections of the roadways and parking areas.
2. The purpose of the inspections is to determine the need for implementing the above-mentioned control measures. The inspections shall be performed during representative, normal traffic conditions. No inspection shall be necessary for a roadway or parking area that is covered with snow and/or ice or if precipitation has occurred that is sufficient for that day to ensure compliance with the above-mentioned applicable requirements. Any required inspection that is not performed due to any of the above-identified events shall be performed as soon as such event(s) has (have) ended, except if the next required inspection is within one week.
3. The permittee may, upon receipt of written approval from the Northeast District Office of Ohio EPA, modify the above-mentioned inspection frequencies if operating experience indicates that less frequent inspections would be sufficient to ensure compliance with the above-mentioned

applicable requirements.

4. The permittee shall maintain records of the following information:
 - a. The date and reason any required inspection was not performed, including those inspections that were not performed due to snow and/or ice cover or precipitation;
 - b. The date of each inspection where it was determined by the permittee that it was necessary to implement the control measures;
 - c. The dates the control measures were implemented; and
 - d. On a calendar quarter basis, the total number of days the control measures were implemented and the total number of days where snow and/or ice cover or precipitation were sufficient to not require the control measures.

The information required in 4.d. shall be kept separately for (i) the paved roadways and parking areas and (ii) the unpaved roadways and parking areas, and shall be updated on a calendar quarter basis within 30 days after the end of each calendar quarter.

D. Reporting Requirements

1. The permittee shall submit deviation reports that identify any of the following occurrences:
 - a. Each day during which an inspection was not performed by the required frequency, excluding an inspection which was not performed due to an exemption for snow and/or ice cover or precipitation; and
 - b. Each instance when a control measure, that was to be implemented as a result of an inspection, was not implemented.
2. The deviation reports shall be submitted in accordance with the reporting requirements of the General Terms and Conditions of this permit.

E. Testing Requirements

1. Compliance with the emission limitation for unpaved roadways and parking areas 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.

2. Emission Limitation: 42 tons of particulate emissions per year.

$$A_p \left(\frac{ton}{yr} \right) = \left[k * \left(\frac{s}{12} \right)^a \left(\frac{W}{3} \right)^b \right] * \left[\frac{365 - P}{365} \right] * \left(\frac{ton}{2000lb} \right) * (MILES) \left(\frac{MATLin}{Avgpayload} \right) * 2$$

licable Compliance Method: Compliance shall be determined by summing the equations from AP-42 Chapters 13.2.1 (12/03) for paved and 13.2.2 (12/03) for unpaved roadways below:

Where: k is the particle size multiplier for unpaved roadways, 4.9 lb/VMT for TSP on industrial access roads

s is the surface material silt content, 6.4 % assumed (from AP-42)

a is a constant, 0.7 for TSP on industrial roads

W is the mean vehicle weight, 17.5 tons from the application

b is a constant, 0.45 for TSP on industrial roads

p is the no. of dates with more than 0.01 inches of precipitation (156.4 for Cleveland)

MILES is the total miles traveled, one-way, from application 0.20 for CDD and 0.71 for MSW and storage pile management

MATLin is the projected based on the AMDWR for MSW (500 TPD), the CDD projected daily maximum acceptance rate for CDD (500 TPD), a 286 workday per year operating schedule, 1,500 tons of aggregate brought in per year.

Avgpayload is the average amount of waste brought in each truck, from application 12.3 tons/truck

2 is to cover both the trip in and the trip out

F. Miscellaneous Requirements

1. These terms and conditions replace any previous issued terms and conditions for this facility's roadways.

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. Applicable Emissions Limitations and/or Control Requirements

- 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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
F003 - Facility Storage Piles Supporting Both the CDD and MSW Landfills - material load in/out and wind erosion	OAC rule 3745-31-05(A)(3)	There shall be no visible emissions of fugitive dust except for a period of time not to exceed one minute during any sixty-minute observation period.
	OAC rule 3745-17-07(B)	Particulate emissions shall not exceed 11 TPY from wind erosion and load-in and load-out operations.
	OAC rule 3745-17-08(B)	The permittee shall employ best available control measures that are sufficient to minimize or eliminate visible emissions of fugitive dust.
		The visible emission limitation specified by this rule is less stringent than the visible emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
		The control requirements specified by this rule are less stringent than the control requirements established pursuant to OAC rule 3745-31-05(A)(3).

2. Additional Terms and Conditions

- 2.a** All of the storage piles at this facility are covered by this permit and are subject to the requirements of OAC rule 3745-31-05.
- 2.b** The permittee shall employ best available control measures for all load-in and load-out operations associated with the storage piles 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 process aggregate material with inherently high moisture content and to minimize drop height distance from front-end loaders to ensure compliance. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.
- 2.c** The above-mentioned control measures shall be employed for each load-in and load-out operation of each storage pile 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 measures shall continue during any such operation until further observation confirms that use of the measure is unnecessary.
- 2.d** The permittee shall employ best available control measures for wind erosion from the surfaces of all storage piles 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 process aggregate material with inherently high moisture content to ensure compliance. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.
- 2.e** The above-mentioned control measures shall be employed for wind erosion from each pile 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. Implementation of additional control measures shall not be necessary for a storage pile 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.
- 2.f** Leachate shall not be used as a dust suppressant.
- 2.g** Implementation of the above-mentioned control measures in accordance with the terms and conditions of this permit is appropriate and sufficient to satisfy the requirements of OAC rule 3745-31-05.

B. Operational Restrictions

None

C. Monitoring and/or Record keeping Requirements

1. Except as otherwise provided in this section, the permittee shall perform inspections of each load-in operation at each storage pile at this facility on a weekly basis.
2. Except as otherwise provided in this section, the permittee shall perform inspections of each load-out operation at each storage pile at this facility on a weekly basis.
3. Except as otherwise provided in this section, the permittee shall perform inspections of the wind erosion from pile surfaces associated with each storage pile at this facility on a weekly basis.
4. No inspection shall be necessary for wind erosion from the surface of a storage pile when the pile is covered with snow and/or ice and for any storage pile activity if precipitation has occurred that is sufficient for that day to ensure compliance with the above-mentioned applicable requirements. Any required inspection that is not performed due to any of the above identified events shall be performed as soon as such event(s) has (have) ended, except if the next required inspection is within one week.
5. The purpose of the inspections is to ensure continued compliance for load-in and load-out of a storage pile and for wind erosion from the surface of a storage pile and determine the need for implementing additional control measures. The inspections shall be performed during representative, normal storage pile operating conditions.
6. The permittee may, upon receipt of written approval from the Northeast District Office of Ohio EPA, modify the above-mentioned inspection frequencies if operating experience indicates that less frequent inspections would be sufficient to ensure compliance with the above-mentioned applicable requirements.
7. The permittee shall maintain records of the following information:
 - a. The date and reason any required inspection was not performed, including those inspections that were not performed due to snow and/or ice cover or precipitation;
 - b. The date of each inspection where it was determined by the permittee that it was necessary to implement the control measure(s);

- c. The dates the control measure(s) were implemented; and
- d. On a calendar quarter basis, the total number of days the control measure(s) were implemented and, for wind erosion from pile surfaces, the total number of days where snow and/or ice cover or precipitation were sufficient to not require the control measures.

The information required in 7.d. shall be kept separately for (i) the load-in operations, (ii) the load-out operations, and (iii) the pile surfaces (wind erosion), and shall be updated on a calendar quarter basis within 30 days after the end of each calendar quarter.

D. Reporting Requirements

1. The permittee shall submit deviation (exceedance) reports that identify any of the following occurrences:
 - a. Each day during which an inspection was not performed by the required frequency, excluding an inspection which was not performed due to an exemption for snow and/or ice cover or precipitation; and
 - b. Each instance when a control measure, that was to be implemented as a result of an inspection, was not implemented.
2. The deviation reports shall be submitted in accordance with the reporting requirements of the General Terms and Conditions of this permit.

E. Testing Requirements

1. Compliance with the emission limitations specified in section A.1. of these terms and conditions shall be determined in accordance with the following methods:
 - a. Emission Limitation: There shall be no visible emissions of fugitive dust except for a period of time not to exceed one minute during any sixty-minute observation period.

Compliance with the visible emission limitations for the wind erosion and load-in and load-out operations from the storage piles identified above shall be determined in accordance with Test Method 22 as set forth in "Appendix on Test Methods" in 40 CFR, Part 60 ("Standards of Performance for New Stationary Sources"), as such Appendix existed on July 1, 2002.

Emissions Unit ID: F003

- b. Emission Limitation:
 Particulate emissions shall not exceed 11 TPY from wind erosion and load-in and load-out operations.

Compliance Method:

The permittee shall demonstrate compliance by adding maximum potential emissions from wind erosion and material load in/out from soil storage piles.

The potential emission rate for wind erosion is calculated as determined by the method from U.S. EPA's Control of Open Fugitive Dust Sources, Equation 4-9 (September 1988), as follows:

$$[1.9 * (s/1.5) * (365 - p)/235 * (f/15)] \text{ lb/acre/day} * 1 \text{ acre} * 365 \text{ days/yr} * \text{ton}/2,000 \text{ lb} * 3 \text{ piles}$$

where:

s = the silt content (%) of the cover material (assume 10%)

p = number of days with at least 0.01 inches of precipitation per year, 156.4 days (Cleveland)

f = percent of time wind is at least 12 mph, 26.51% (Cleveland)

The potential emission rate for waste handling is calculated as determined from AP-42, Chapter 13.2.4.3 (1/95), as follows:

$$E = [(0.74) * (0.0032) * (U/5)^{1.3} / (M/2)^{1.2}] \text{ lb/ton} * 143,000 \text{ tons/yr} * \text{ton}/2,000 \text{ lb} * 2$$

where:

U = mean wind speed, 10.8 for Cleveland

M = moisture content of the soil, assume 10%

143,000 = cover soil material handled annually, estimated as half the annual waste receipt from application

2 = accounts for load-in and load-out

F. Miscellaneous Requirements

None

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. Applicable Emissions Limitations and/or Control Requirements

- 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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
F004 - Construction and demolition Debris (CDD) landfill operations - refuse disposal activities including dumping, spreading, compacting, covering, and gas generation.	OAC rule 3745-31-05(A)(3)	<p>59 tons of fugitive particulate emissions (PE)/year;</p> <p>Visible fugitive particulate emissions shall not exceed 20% opacity, as a 3-minute average;</p> <p>Use of best available control measures to minimize or prevent the emission of fugitive dust;</p> <p>The facility shall operate the landfill to minimize the migration of hydrogen sulfide emissions beyond the facility property line. See A.2.d through A.2.j below.</p>
	OAC rule 3745-17-07(B)(1)	The emission limitation specified by this rule is equivalent to the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
	OAC rule 3745-17-08(B)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule

Holmes County Landfill
PTI Application: 02 10051
Issue

Facility ID: 0238000121

Emissions Unit ID: F004

3745-31-05(A)(3).

2. Additional Terms and Conditions

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Holm

PTI A

Issued: 9/22/2005

Emissions Unit ID: **F004**

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Holm

PTI A

Issued: 9/22/2005

Emissions Unit ID: **F004**

- i. Waste dumping/unloading
- ii. Waste compaction
- iii. Soil excavation and handling
- iv. Covering of waste with soil
- v. Wind erosion from landfill surfaces

2.b The permittee shall employ best available control measures for the above-identified landfill fugitive dust operations/sources for the purpose of ensuring compliance with the above-mentioned applicable requirements. In accordance with the permit application, the permittee maintains that the inherent moisture content of the materials involved in fugitive dust operations/sources is at a level which is more than sufficient to comply with all applicable requirements. If at any time the moisture content is not sufficient to meet the above applicable requirements, the permittee shall employ best available 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** In order to minimize the formation of hydrogen sulfide emissions, the permittee shall maintain a facility leachate collection and disposal system to assure that leachate over the *in situ* and/or added geological material or constructed liner never exceeds a depth of one foot, excluding the leachate sump collection point(s).
- 2.e** In order to minimize the formation of hydrogen sulfide emissions, the permittee shall not recirculate leachate on any portion of this facility without prior written approval from Ohio EPA.
- 2.f** In order to minimize the formation of hydrogen sulfide emissions, the permittee shall not use leachate as a dust suppressant without prior written approval from Ohio EPA.
- 2.g** Within 45 days of Ohio EPA notifying the permittee that measured concentrations of hydrogen sulfide exceeded 30 parts per billion (ppb) as a rolling 1-hour average at or beyond the facility property line, the permittee shall submit to Ohio EPA, Northeast District Office an approvable continuous perimeter monitoring plan.
- 2.h** Within 30 days of approval of the continuous perimeter monitoring plan, the permittee shall implement the plan, installing the perimeter monitors.
- 2.i** Within 60 days of measured ambient concentrations of hydrogen sulfide exceeding 30 ppb as a rolling 1-hour average five (5) times or more, or 10 ppb as a rolling 24-hour average two (2) times or more in any 7-day period beyond the facility property line, the permittee shall submit to Ohio EPA, Northeast District Office an approvable design for a gas control system consistent with requirements of paragraph F. (miscellaneous terms) of these terms. The gas control system shall not be installed without first verifying any permitting requirements with Ohio EPA.
- 2.j** Within 60 days of approval of the gas control system, the permittee shall install, maintain, and operate a gas control system pursuant to these terms to the following levels at or beyond the facility property line:
- i. Hydrogen sulfide emissions shall not exceed 30 parts ppb as a 1-hour rolling

average; and

- ii. Hydrogen sulfide emissions shall not exceed 10 ppb as a 24-hour rolling average.
- 2.k** Implementation of the above-mentioned control measures in accordance with the terms and conditions of this permit is appropriate and sufficient to satisfy the requirements of OAC rule 3745-31-05.
- 2.l** There shall be no open burning in violation of Ohio Administrative Code chapter 3745-19 at this facility.
- 2.m** The following asbestos requirements are to be met:
- i. The facility shall not accept for disposal any National Emission Standards for Hazardous Air Pollutants (NESHAP) regulated asbestos containing material (RACM) as defined in the NESHAP Regulation for Asbestos, 40 CFR Part 61, Subpart M, Section 141 amended November 20, 1990 or any subsequent revisions or as defined in any Environmental Protection Agency Interpretive Rules concerning the NESHAP Regulation for Asbestos. This includes: (a) friable asbestos material, (b) Category I nonfriable asbestos containing material that has become friable, (c) Category I nonfriable asbestos containing material that will be or has been subjected to sanding, grinding, cutting, or abrading, or (d) Category II nonfriable asbestos containing material that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations regulated by this subpart.
 - ii. This facility shall ensure that any asbestos containing materials shall not become friable while at the landfill. If any asbestos material arrives at or becomes friable at the landfill, this facility shall adequately wet or encapsulate it if necessary to prevent visible emissions, and shall cover it with at least six (6) inches of non-asbestos containing material before the end of the operating day.
 - iii. All terms stated in this term are defined in the NESHAP regulation for Asbestos, 40 CFR Part 61, Subpart M, Section 141 amended November 20, 1990 or any subsequent revisions or in any Environmental Protection Agency Interpretive ruling concerning the NESHAP for Asbestos.

B. Operational Restrictions

None

C. Monitoring and/or Record keeping Requirements

1. Except as otherwise provided in this section, the permittee shall perform inspections of the landfill fugitive dust operations/sources in accordance with the following frequencies:

<u>landfill fugitive dust operations/sources</u>	<u>minimum inspection frequency</u>
a. Waste dumping/unloading	once during each day of operation
b. Waste compaction	once during each day of operation
c. Soil excavation and handling	once during each day of operation
d. Covering of waste with soil	once during each day of operation
e. Wind erosion from landfill surfaces	once during each day of operation

2. The purpose of the inspections is to determine the need for implementing the above-mentioned control measures for particulate emissions. The inspections shall be performed during representative, normal operating conditions. No inspection shall be necessary for a landfill fugitive dust operation/source that is covered with snow and/or ice or if precipitation has occurred that is sufficient for that day to ensure compliance with the above-mentioned applicable requirements. Any required inspection that is not performed due to any of the above identified events shall be performed as soon as such event(s) has (have) ended, except if the next inspection is within one week.
3. The permittee may, upon receipt of written approval from the Northeast District Office of Ohio EPA, modify the above-mentioned inspection frequencies if operating experience indicates that less frequent inspections would be sufficient to ensure compliance with the above-mentioned applicable requirements.
4. The permittee shall maintain records of the following information:
- The date and reason any required inspection was not performed;
 - The date of each inspection where it was determined by the permittee that it was necessary to implement the control measure(s);

- c. The dates the control measure(s) was (were) implemented; and
- d. On a calendar quarter basis, the total number of days the control measure(s) was (were) implemented.

The information required by this term shall be kept separately for each landfill fugitive dust operation/source identified above, and shall be updated on a calendar quarter basis within 30 days after the end of each calendar quarter.

5. If the permittee is required to install an ambient hydrogen sulfide emissions monitoring network for this facility, pursuant to A.2.g. and A.2.h of these terms, the permittee shall establish and operate the monitors pursuant to this term.

The network shall be equipped with hydrogen sulfide emissions samplers capable of continuously sampling the ambient air. The number and location of monitoring sites shall be based on accepted modeling practice and shall adequately monitor areas of maximum impact of hydrogen sulfide emissions at or beyond the facility property line. Determination of the hydrogen sulfide emissions sampling locations shall be coordinated with, and subject to the prior approval of Ohio EPA. Within 15 days of Ohio EPA's request, the permittee shall submit a plan describing the proposed monitoring network. This plan shall provide documentation detailing the criteria and reasoning for the number and location of monitoring sites.

Following approval of the hydrogen sulfide emissions sampling network plan, 15 days will be allowed to locate the samplers in accordance with the plan. All samplers shall be sited and located in accordance with the requirements of the 40 CFR Part 58, Appendix E, and any subsequent amendments. Upon request, variation from this standard may be approved by Ohio EPA.

The monitor shall be of an automated and continuous method that measures the concentration of sulfur dioxide in the ambient air. The H₂S monitor will have an H₂S to SO₂ converter integrated within an SO₂ analyzer. H₂S readings will be the result of converting H₂S in the sample to SO₂ with subsequent detection by the analyzer using: $H_2S + 3/2(O_2) \rightarrow SO_2 + H_2O$. Detection of sulfur dioxide shall be based upon the measurement of the fluorescence of sulfur dioxide produced by its absorption of ultraviolet radiation in the 2300 Å - 1900 Å region. The perimeter monitors shall meet reference or equivalent method criteria for SO₂ as specified in 40 CFR Part 53. Proof of meeting these criteria shall consist of the monitor being designated either reference or equivalent for SO₂ by the U.S. Environmental Protection Agency. The monitor's designation number shall be submitted as demonstrating this term.

Upon request, Ohio EPA will provide the permittee with a copy of Ohio EPA's H₂S analyzer specifications as they are written in Ohio EPA's request for quote (RFQ) number

RFQ01_H2S_2005, as approved by U.S. EPA, for use as a reference.

6. If the permittee is required to install an ambient hydrogen sulfide emissions monitoring network for this facility, pursuant to A.2.g. and A.2.h of these terms, the permittee shall establish and operate a meteorological (met) station for this facility pursuant to this term.

The met station shall be capable of continuously monitoring temperature, wind speed and direction, and barometric pressure. The number and location of met stations shall be based on accepted modeling practice and shall adequately monitor weather at the facility, and be representative of the met conditions affecting the transport of emissions from the sources of hydrogen sulfide. Determination of the met station location(s) shall be coordinated with, and subject to the prior approval of Ohio EPA. Within 15 days of receiving notification that the permittee must install a met station pursuant to the terms, the permittee shall submit a plan describing the proposed met station(s) location(s). This plan shall provide documentation detailing the criteria and reasoning for the number and location of the met station(s).

Following approval of the met station location(s), 15 days will be allowed to locate the met station(s) in accordance with the plan. All met station(s) shall be sited and located in accordance with the requirements of EPA-454/R-99-005, Meteorological Monitoring Guidance for Regulatory Modeling Applications, February 2000 and or, EPA-450/4-87-007, Ambient Monitoring Guidelines for Prevention of Significant Deterioration (PSD), May 1987. Upon request, variation from this standard may be approved by Ohio EPA.

- a. The met station shall meet the following criteria:
- i. The met station shall be capable of accurately measuring temperature, wind speed, wind direction, and barometric pressure on a continuous basis;
 - ii. The met station shall record wind direction in one degree (1°) increments;
 - iii. The met station shall be equipped with a data recording device capable of recording each reading; and
 - iv. The met station shall be able to sample and record measurements at least 360 times per hour and generate hourly average data for all parameters as well as standard deviation and turbulence wind data for use in the calculation of atmospheric stability.

Upon written approval from Ohio EPA, the permittee may use representative continuous barometric pressure data which is available from a met station located in close proximity to the facility.

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7. The monitoring devices and recorders required by this permit shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals, or other written procedures that provide adequate assurance that the equipment would reasonably be expected to monitor accurately.
8. An operator's log book shall be maintained for each site location with a format and content as specified in guidance provided by Ohio EPA.
9. The Ohio EPA Air Monitoring Section and Ohio EPA District Office and/or local air agency personnel shall be provided with access to each site location. The site operator and/or supervisor shall accompany the Air Monitoring Section, Ohio EPA District Office and/or local air agency personnel on any site inspection or audit, and respond to inquiries regarding instrument operations and maintenance.

Appropriate corrective actions must be taken by the permittee following the identification of any problem by the independent auditor (when an auditor is hired by the permittee to maintain the permittee's hydrogen sulfide ambient air monitoring network), or Air Monitoring Section, Ohio EPA District Office and/or local air agency personnel.

10. The permittee shall continue to operate the hydrogen sulfide ambient monitoring network as described in the permit condition until written approval from the director to discontinue monitoring is received. In determining such a discontinuation, the Director shall consider the concentrations measured by the monitors, the trends in air quality concentrations, and the value of the air quality data in fulfilling the goals and requirements of this permit.
11. The permittee shall collect and record the following information each day:
 - a. The depth of leachate on the landfill liner;
 - b. Whether leachate needed to be removed to maintain <1 foot of head on the in situ liner;
 - c. Documentation as to where any removed leachate was shipped;
 - d. The depth of leachate after removal; and
 - e. Whether leachate was recirculated.

The permittee may, upon receipt of written approval from the Ohio EPA, Northeast District Office, modify the above-mentioned inspection frequencies if operating experience indicates that less frequent inspections would be sufficient to ensure compliance with the above-mentioned applicable requirements.

D. 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;
 - b. Each instance when a control measure, that was to be performed as a result of an inspection, was not implemented;
 - c. Each day when the height of leachate on the liner was not recorded;
 - d. Each day when leachate was recirculated on any portion of this landfill; and
 - e. The information required in the annual report, pursuant to D.2. of these terms, for each exceedence of the hydrogen sulfide emissions standards established pursuant to A.2.j. of these terms.

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

2. If the permittee is required to install an ambient hydrogen sulfide emissions monitoring network for this facility, the permittee shall establish and operate a meteorological (met) station for this facility pursuant to this term.

All air quality monitoring and met data and a summary report shall be reported to Ohio EPA, Northeast District Office, annually. All such data shall be submitted electronically in a commonly used spreadsheet-compatible format; the summary report shall be submitted in hardcopy. Upon request by Ohio EPA Northeast District Office, more timely data shall be made available. The following information shall be submitted as part of the electronic report:

- a. Continuous hydrogen sulfide emissions readings;
- b. 1- and 24-hour rolling hydrogen sulfide emissions averages;
- c. Continuous temperature, wind speed and direction, and barometric pressure;
- d. 1- and 24-hour rolling averages for temperature, wind speed and direction, and barometric pressure; and

- e. Corresponding times and dates.
3. If the permittee is required to install an ambient hydrogen sulfide emissions monitoring network for this facility, the permittee shall submit deviation reports that identify any of the following occurrences:
- Each occurrence when data from the H2S monitoring network is lost;
 - Each occurrence when data from the met station is lost;
 - Any exceedences of the maximum allowable hydrogen sulfide levels allowed pursuant to this permit;
 - The beginning and ending dates and times of each occurrence;
 - For each exceedance the correlating weather data;
 - Any known causes for the exceedences (*i.e.*, gas control system maintenance or malfunction); and
 - Any corrective measures taken to return to compliance.

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

E. Testing Requirements

1. Compliance with the emissions limitation(s) of these terms and conditions shall be determined in accordance with the following method(s):
- Emission Limitation:

59 tons of fugitive PE/year

Compliance Method:

$$T_{F001}(TPY) = (6.33 \times 10^{-4}) * (365 - p) * (f) * (acres) + (6.81 \times 10^{-5}) * (AMDWR) * \left(\frac{U}{5}\right)^{1.3} + (52.09)$$

e

permittee shall demonstrate compliance by use of the following equation, derived using

standard AP-42 and U.S. EPA emission factors, and accounts for emissions from wind erosion, daily cover material handling and placement, handling of waste (dumping waste), spreading, grading, and compaction of waste:

Where:

p is the no. of dates with more than 0.01 inches of precipitation (156.4 for Cleveland)

f is the percent of time wind speed is greater than 12 mph (26.51 for Cleveland)

acres is the maximum total exposed acreage at any time (assume working face never exceeds 2 acres)

AMDWR is the anticipated maximum daily waste receipt (500 tons/day from application)

U is the mean wind speed (10.8 for Cleveland)

b. Emission Limitation:

Visible fugitive particulate emissions shall not exceed 20% opacity, as a 3-minute average.

Compliance Method:

If required, the permittee shall demonstrate compliance in accordance with 40 CFR Part 60, Appendix A, Method 9.

F. Miscellaneous Requirements

1. If the permittee is required to install a gas control system for the control of hydrogen sulfide emissions pursuant to term A.2.f., the following standards apply:
 - d. The owner or operator shall install, maintain, and operate a gas control system capable of collecting and controlling hydrogen sulfide emissions at or beyond the facility property line to the following:
 - i. Hydrogen sulfide emissions shall not exceed 30 parts per billion (ppb) as a 1-hour rolling average; and
 - ii. Hydrogen sulfide emissions shall not exceed 10 ppb as a 24-hour rolling average.
 - e. If H₂S emissions offsite exceed the hydrogen sulfide emission standards established in

these terms, the owner or operator shall:

- i. Submit a gas control system design plan prepared by a professional engineer to Ohio EPA within 60 days:
 1. The gas control system as described in the plan shall meet the design requirements pursuant to these terms.
 2. The gas control system design plan shall include any alternatives to the operational standards, test methods, procedures, compliance measures, monitoring, recordkeeping or reporting provisions of these terms proposed by the owner or operator.
 3. The gas control system design plan shall either conform with specifications for collection systems provided in these terms or include a demonstration to Ohio EPA's satisfaction of the sufficiency of the alternative provisions to those required by these terms.

Ohio EPA shall review the information submitted pursuant to 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, and leachate collection components.

- ii. Install a gas control system that captures the gas generated within the landfill as required by this paragraph within 60 days after the gas control system plan is approved. A 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 sulfur containing materials have been placed;
 - a. Collect gas at a sufficient extraction rate;
 - b. Be designed to minimize off-site migration of subsurface gas.

- iii. Route all the collected gas to a control system that complies with the requirements in either of the following:
 1. An open flare designed and operated in accordance with 40 CFR 60.18;
 2. A device other than an open flare that has operating parameters and proper performance to meet the hydrogen sulfide emission standards established in these terms these terms.
 - iv. Operate the collection and control device installed to comply with these terms.
 - v. The gas control system may be capped or removed provided that all the following conditions:
 1. The landfill shall be a closed landfill as defined in 40 CFR 60.751. A closure report shall be submitted to Ohio EPA as provided in these terms;
 2. The gas control system shall have been in operation a minimum of 15 years; and
 3. The owner or operator has demonstrated to Ohio EPA that upon shutdown of the gas control system , the facility will not emit hydrogen sulfide emissions in excess of the emission standards established in these terms.
2. If the permittee is required to install a gas control system for the control of hydrogen sulfide emissions pursuant to term A.2.f., the following operational standards for the gas control system applies:
- a. The gas control system shall be operated such that gas is collected from each area, cell, or group of cells in the landfill in which sulfur-containing waste has been placed;
 - b. The gas control system shall be operated with negative pressure at each wellhead except under the following conditions:
 - i. 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 these terms;
 - ii. Use of a geomembrane or synthetic cover. The owner or operator shall develop acceptable pressure limits in the design plan;

- iii. 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 Ohio EPA;
 - c. The gas control system shall be operated such that all collected gases are vented to a control system designed and operated in compliance with these terms. In the event the gas control system is inoperable, the gas mover system shall be shut down and all valves in the gas control system contributing to venting of the gas to the atmosphere shall be closed within 1 hour; and
 - d. The control or treatment system shall be operated at all times when the collected gas is routed to the system.
 - e. If monitoring demonstrates that the operational requirements in this section are not met, corrective action shall be taken. If corrective actions are taken as specified in these terms, the monitored exceedance is not a violation of the operational requirements of these terms.
- 3. If the permittee is required to install a gas control system for the control of hydrogen sulfide emissions pursuant to term A.2.f., the following compliance provisions apply to the gas control system:
 - a. For the purposes of determining sufficient density of gas collectors, the owner or operator shall design a system of vertical wells, horizontal collectors, or other collection devices, satisfactory to Ohio EPA, capable of controlling and extracting gas from all portions of the landfill sufficient to meet all operational and performance standards.
 - b. For the purpose of demonstrating whether the gas collection system flow rate is sufficient to demonstrate compliance with these terms, 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 as allowed pursuant to these terms. 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 30 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 Ohio EPA for approval.
 - c. Owners or operators are not required to expand the system during the first 60 days after

gas collection system startup.

- d. Owners or operators seeking to demonstrate compliance with these terms through the use of a collection system not conforming to the specifications provided in these terms shall provide information satisfactory to Ohio EPA demonstrating that off-site migration is being controlled.
 - e. The owner or operator shall place each well or design component as specified in the approved design plan. Each well shall be installed no later than 60 days after the date on which the initial sulfur containing wastes have been placed.
 - f. The owner or operator shall implement a program to monitor for cover integrity and implement cover repairs as necessary on a monthly basis.
 - g. The provisions of these terms 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.
4. If the permittee is required to install a gas control system for the control of hydrogen sulfide emissions pursuant to term A.2.f., the following monitoring of the gas control system apply:
- a. Except as provided in these terms,
 1. The owner or operator shall install a sampling port and a thermometer, other temperature measuring device, or an access port for temperature measurements at each wellhead and measure the gauge pressure in the gas collection header on a monthly basis.
 2. Owners or operators seeking to comply with these terms using an enclosed combustor shall calibrate, maintain, and operate according to the manufacturer's specifications, the following equipment.
 - i. A temperature monitoring device equipped with a continuous recorder and having a minimum accuracy of ± 1 percent of the temperature being measured expressed in degrees Celsius or ± 0.5 degrees Celsius, whichever is greater.
 - ii. A device that records flow to or bypass of the control device. The owner or operator shall either:

- a. 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
 - b. 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.
3. Owners or operators seeking to comply with these terms using an open flare shall install, calibrate, maintain, and operate according to the manufacturer's specifications the following equipment:
 - i. 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.
 - ii. A device that records flow to or bypass of the flare. The owner or operator shall either:
 - a. 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
 - b. 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.
4. Owners or operators seeking to demonstrate compliance with these terms using a device other than an open flare or an enclosed combustor shall provide information satisfactory to Ohio EPA as provided in these terms describing the operation of the control device, the operating parameters that would indicate proper performance, and appropriate monitoring procedures. Ohio EPA shall review the information and either approve it, or request that additional information be submitted. Ohio EPA may specify additional appropriate monitoring procedures.
5. Owners or operators seeking to install a collection system that does not meet the

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specifications in these terms or seeking to monitor alternative parameters to those required by these terms shall provide information satisfactory to Ohio EPA as provided in these terms describing the design and operation of the collection system, the operating parameters that would indicate proper performance, and appropriate monitoring procedures. Ohio EPA may specify additional appropriate monitoring procedures.

5. If the permittee is required to install a gas control system for the control of hydrogen sulfide emissions pursuant to term A.2.f., the following reporting requirements apply:
 - a. The owner or operator shall submit a closure report to Ohio EPA within 30 days of waste acceptance cessation. Ohio EPA 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 Ohio EPA, no additional wastes may be placed into the landfill without filing a notification of modification as described under 40 CFR 60.7(a)(4).
 - b. The owner or operator shall submit an equipment removal report to Ohio EPA 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:
 - a. A copy of the closure report submitted in accordance with this section;
 - b. A copy of the initial installation report demonstrating that the 15 year minimum control period has expired; and
 - c. A demonstration that if the gas control system is shutdown, the landfill will not produce hydrogen sulfide emissions in excess of the emission standards established in these terms.
 2. Ohio EPA may request such additional information as may be necessary to verify that all of the conditions for removal have been met.
 - c. The owner or operator shall submit to Ohio EPA annual reports of the recorded information in this paragraph. The initial annual report shall be submitted within 180 days of installation and start-up of the gas control system.
 1. Value and length of time for exceedance of applicable parameters monitored;
 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;
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; and
 5. The date of installation and the location of each well or collection system expansion.
- d. The owner or operator shall include the following information with the gas control system plan submittal, and each subsequent gas control system modification:
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 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;
 4. 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
 5. The provisions for the control of off-site migration.
6. If the permittee is required to install a gas control system for the control of hydrogen sulfide emissions pursuant to term A.2.f., the following record keeping requirements apply:
- a. Except as provided, the owner or operator shall keep for at least 5 years up-to-date, readily accessible, on-site records of the design capacity report, the current amount of 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, the owner or operator shall keep up-to-date, readily accessible records for the life of the control equipment of the data listed in this section as measured during initial performance tests or system adjustments. 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) The owner or operator may use any method to determine the maximum gas generation flow rate, provided the method has been approved by Ohio EPA.
 - (2) The density of wells, horizontal collectors, surface collectors, or other gas extraction devices shall be determined using the procedures specified in these terms.
 - (3) Where an owner or operator subject to the provisions of this subpart seeks to demonstrate compliance with these terms 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 40 CFR 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, the owner or operator shall keep for 5 years up-to-date, readily accessible continuous records of the equipment operating parameters specified to be monitored in these terms.
- (1) 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 in these terms.
 - (2) Each owner or operator seeking to comply with the provisions of this subpart by use of an open flare shall keep up-to-date, readily accessible continuous records of the flame or flare pilot flame monitoring specified under §60.756(c), and up-to-date, readily accessible records of all periods of operation in which the flame or flare pilot flame is absent.
- d. Except as provided, the owner or operator shall keep for the life of the collection system an up-to-date, readily accessible plot map showing each existing and planned collector in the

system and providing a unique identification location label for each collector.

- a. Each owner or operator subject to the provisions of this subpart shall keep up-to-date, readily accessible records of the installation date and location of all newly installed collectors.
 - e. Except as provided, the owner or operator shall keep for at least 5 years up-to-date, readily accessible records of all gas control system exceedances of the operational standards in these terms, the reading in the subsequent month whether or not the second reading is an exceedance, and the location of each exceedance.
7. If the permittee is required to install a gas control system for the control of hydrogen sulfide emissions pursuant to term A.2.f., the following specifications for the collection system apply:
- a. The owner or operator shall site 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 Ohio EPA as provided in these terms:
 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 this section shall address landfill gas migration issues and augmentation of the collection system through the use of a system at the landfill perimeter or exterior.
 - b. The owner or operator 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

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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. The owner or operator shall convey the landfill gas to a control system in compliance with these terms 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 these terms shall be used.
 2. For new collection systems, the maximum flow rate shall be calculated pursuant to these terms.
- d. The presence of asbestos shall not be reason to not install a gas collection system. Landfills with wastes containing asbestos shall install a HEPA filter inline to assure the removal of asbestos prior to the control system. Excavation done for the installation of the gas control system in landfills that contain asbestos shall be done in such a manner as to assure no visible emissions are emitted during any stage of material handling.