



State of Ohio Environmental Protection Agency

Street Address:

Lazarus Gov. Center  
122 S. Front Street  
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Lazarus Gov. Center  
P.O. Box 1049  
Columbus, OH 43216-1049

03/21/03

**CERTIFIED MAIL**

**RE: Preliminary Proposed Title V  
Chapter 3745-77 permit**

13-18-24-7813  
Cuyahoga Regional Sanitary Landfill  
Scott Herman  
6640 Cochran Rd  
Solon, OH 44139

Dear Scott Herman:

Enclosed is the Ohio EPA Preliminary Proposed Title V permit that was issued in draft form on 05/13/99. The comment period for the Draft permit has ended. We are now ready to submit this permit to USEPA for approval.

We are submitting this for your review and comment. If you do not agree with the Preliminary Proposed Title V permit as written, you now have the opportunity to raise your concerns. **Please submit, in writing, any comments you may have within fourteen (14) days from your receipt of this letter to:**

Ohio Environmental Protection Agency  
Jim Orlemann, Manager, Engineering Section  
Division of Air Pollution Control  
P.O.Box 1049  
Columbus, OH 43216-1049

and

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

Also, if you believe that it is necessary to have an informal conference with us, then, as part of your written comments, you should request a conference concerning the written comments.

If comments are not submitted within fourteen (14) days of your receipt of this letter, we will forward the proposed permit to USEPA for approval. All comments received will be carefully considered before proceeding to the proposed permit.

Very truly yours,

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

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



State of Ohio Environmental Protection Agency

**PRELIMINARY PROPOSED TITLE V PERMIT**

Issue Date: 03/21/03	Effective Date: To be entered upon final issuance	Expiration Date: To be entered upon final issuance
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This document constitutes issuance of a Title V permit for Facility ID: 13-18-24-7813 to:  
Cuyahoga Regional Sanitary Landfill  
28625 Ambina Drive  
Solon, OH 44139

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

Z001 (Landfill w/ collection/control sys. inc. fug. LFG )	Closed MSW landfill including three landfill gas control flares
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You will be contacted approximately eighteen (18) months prior to the expiration date regarding the renewal of this permit. If you are not contacted, please contact the appropriate Ohio EPA District Office or local air agency listed below. This permit and the authorization to operate the air contaminant sources (emissions units) at this facility shall expire at midnight on the expiration date shown above. If a renewal permit is not issued prior to the expiration date, the permittee may continue to operate pursuant to OAC rule 3745-77-04(A) and in accordance with the terms of this permit beyond the expiration date, provided that a complete renewal application is submitted no earlier than eighteen (18) months and no later than one-hundred eighty (180) days prior to the expiration date.

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

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

**OHIO ENVIRONMENTAL PROTECTION AGENCY**

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Christopher Jones  
Director

## PART I - GENERAL TERMS AND CONDITIONS

### A. *State and Federally Enforceable Section*

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

- a. Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall maintain records that include the following, where applicable, for any required monitoring under this permit:
  - i. The date, place (as defined in the permit), and time of sampling or measurements.
  - ii. The date(s) analyses were performed.
  - iii. The company or entity that performed the analyses.
  - iv. The analytical techniques or methods used.
  - v. The results of such analyses.
  - vi. The operating conditions existing at the time of sampling or measurement.  
*(Authority for term: OAC rule 3745-77-07(A)(3)(b)(i))*
- b. Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.  
*(Authority for term: OAC rule 3745-77-07(A)(3)(b)(ii))*
- c. The permittee shall submit required reports in the following manner:
  - i. Reports of any required monitoring and/or record keeping information shall be submitted to the appropriate Ohio EPA District Office or local air agency.  
*(Authority for term: OAC rule 3745-77-07(A)(3)(c))*
  - ii. **All reporting required in accordance with the OAC rule 3745-77-07(A)(3)(c) with respect to emission limitations, operational restrictions, and control device operating parameter limitations shall be submitted in the following manner:**
    - (a) Written reports of (i) any deviations from federally enforceable emission limitations, operational restrictions, and control device operating parameter limitations ; (ii) the probable cause of such deviations; and (iii) any corrective actions or preventive measures taken, shall be promptly made to the appropriate Ohio EPA District Office or local air agency. Except as may otherwise be provided in the terms and conditions for a specific emissions unit, i.e., in Part III of this Title V permit, the written reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year, and shall cover the previous calendar quarters. In identifying each deviation, the permittee shall specify the applicable requirement for which the deviation occurred, describe each deviation, and provide the magnitude and duration of each deviation. These written reports shall satisfy the requirements (in part) of OAC rule 3745-77-07(A)(3)(c)(i) and (ii)

pertaining to the submission of monitoring reports every six months and the requirements (in part) of OAC rule 3745-77-07(A)(3)(c)(iii) pertaining to the prompt reporting of all deviations. See B.6 below if no deviations occurred during the quarter.

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

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

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

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

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

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

Written reports that identify any deviations from the federally enforceable monitoring, record keeping, and reporting requirements contained in this permit shall be submitted to the appropriate Ohio EPA District Office or local air agency every six months, i.e., by January 31 and July 31 of each year, for the previous six calendar months. In identifying each deviation, the permittee shall specify the applicable requirement for which the deviation occurred, describe each deviation, and provide the magnitude and duration of each deviation. These semi-annual written reports shall satisfy the requirements of OAC rule 3745-77-07(A)(3)(c)(i) and (ii) pertaining to the reporting of any deviations related to the monitoring, record keeping, and reporting requirements. If no deviations occurred during a six-month

period, the permittee shall submit a semi-annual report which states that no deviations occurred during that period.

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

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

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

## **2. Scheduled Maintenance/Malfunction Reporting**

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

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

## **3. Risk Management Plans**

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

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

## **4. Title IV Provisions**

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

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

## **5. Severability Clause**

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

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

## **6. General Requirements**

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

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

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

**7. Fees**

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

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

**8. Marketable Permit Programs**

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

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

**9. Reasonably Anticipated Operating Scenarios**

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

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

**10. Reopening for Cause**

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

- a. Additional applicable requirements under the Act become applicable to one or more emissions units covered by this permit, and this permit has a remaining term of three or more years. Such a reopening shall be completed not later than eighteen (18) months after

- promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to paragraph (E)(1) of OAC rule 3745-77-08.
- b. This permit is issued to an affected source under the acid rain program and additional requirements (including excess emissions requirements) become applicable. Upon approval by the Administrator, excess emissions offset plans shall be deemed to be incorporated into the permit, and shall not require a reopening of this permit.
  - c. The Director of the Ohio EPA or the Administrator of the U.S. EPA determines that the federally applicable requirements in this permit are based on a material mistake, or that inaccurate statements were made in establishing the emissions standards or other terms and conditions of this permit related to such federally applicable requirements.
  - d. The Administrator of the U.S. EPA or the Director of the Ohio EPA determines that this permit must be revised or revoked to assure compliance with the applicable requirements.  
*(Authority for term: OAC rules 3745-77-07(A)(12) and 3745-77-08(D))*

#### **11. Federal and State Enforceability**

Only those terms and conditions designated in this permit as federally enforceable, that are required under the Act, or any of its applicable requirements, including relevant provisions designed to limit the potential to emit of a source, are enforceable by the Administrator of the U.S. EPA, the State, and citizens under the Act. All other terms and conditions of this permit shall not be federally enforceable and shall be enforceable under State law only.  
*(Authority for term: OAC rule 3745-77-07(B))*

#### **12. Compliance Requirements**

- a. Any document (including reports) required to be submitted and required by a federally applicable requirement in this Title V permit shall include a certification by a responsible official that, based on information and belief formed after reasonable inquiry, the statements in the document are true, accurate, and complete.
- b. Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Director of the Ohio EPA or an authorized representative of the Director to:
  - i. At reasonable times, enter upon the permittee's premises where a source is located or the emissions-related activity is conducted, or where records must be kept under the conditions of this permit.
  - ii. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit, subject to the protection from disclosure to the public of confidential information consistent with paragraph (E) of OAC rule 3745-77-03.
  - iii. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.

- iv. As authorized by the Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit and applicable requirements.
- c. The permittee shall submit progress reports to the appropriate Ohio EPA District Office or local air agency concerning any schedule of compliance for meeting an applicable requirement. Progress reports shall be submitted semiannually, or more frequently if specified in the applicable requirement or by the Director of the Ohio EPA. Progress reports shall contain the following:
  - i. Dates for achieving the activities, milestones, or compliance required in any schedule of compliance, and dates when such activities, milestones, or compliance were achieved.
  - ii. An explanation of why any dates in any schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.
- d. Compliance certifications concerning the terms and conditions contained in this permit that are federally enforceable emission limitations, standards, or work practices, shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) and the Administrator of the U.S. EPA in the following manner and with the following content:
  - i. Compliance certifications shall be submitted annually on a calendar year basis. The annual certification shall be submitted on or before April 30th of each year during the permit term.
  - ii. Compliance certifications shall include the following:
    - (a) An identification of each term or condition of this permit that is the basis of the certification.
    - (b) The permittee's current compliance status.
    - (c) Whether compliance was continuous or intermittent.
    - (d) The method(s) used for determining the compliance status of the source currently and over the required reporting period.
    - (e) Such other facts as the Director of the Ohio EPA may require in the permit to determine the compliance status of the source.
  - iii. Compliance certifications shall contain such additional requirements as may be specified pursuant to sections 114(a)(3) and 504(b) of the Act.

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

### **13. Permit Shield**

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

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

**14. Operational Flexibility**

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

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

**15. Emergencies**

The permittee shall have an affirmative defense of emergency to an action brought for noncompliance with technology-based emission limitations if the conditions of OAC rule 3745-77-07(G)(3) are met. This emergency defense provision is in addition to any emergency or upset provision contained in any applicable requirement.

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

**16. Off-Permit Changes**

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

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

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

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

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

**17. Compliance Method Requirements**

Nothing in this permit shall alter or affect the ability of any person to establish compliance with, or a violation of, any applicable requirement through the use of credible evidence to the extent authorized by law. Nothing in this permit shall be construed to waive any defenses otherwise available to the permittee, including but not limited to, any challenge to the Credible Evidence Rule (see 62 Fed. Reg. 8314, Feb. 24, 1997), in the context of any future proceeding.

*(This term is provided for informational purposes only.)*

**18. Insignificant Activities**

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

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

**19. Permit to Install Requirement**

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

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

**20. Air Pollution Nuisance**

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

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

**B. State Only Enforceable Section**

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

The permittee shall submit required reports in the following manner:

- a. Reports of any required monitoring and/or record keeping information shall be submitted to the appropriate Ohio EPA District Office or local air agency.
- b. Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (i) any deviations (excursions) from emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and record keeping requirements specified in this

permit, (ii) the probable cause of such deviations, and (iii) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the appropriate Ohio EPA District Office or local air agency. In identifying each deviation, the permittee shall specify the applicable requirement for which the deviation occurred, describe each deviation, and provide the magnitude and duration of each deviation. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

**2. Records Retention Requirements**

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

**3. Inspections and Information Requests**

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

**4. Scheduled Maintenance/Malfunction Reporting**

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

**5. Permit Transfers**

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

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

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

## Part II - Specific Facility Terms and Conditions

### A. State and Federally Enforceable Section

1. The landfill site and the gas collection system (3 flares) are owned and operated by the Cuyahoga Regional Sanitary Landfill (Ohio EPA premise number 1318247813). A second independent company, MM Cuyahoga Energy LLC (Ohio EPA premise number 1318538151) owns and operates 4 internal combustion engines, also located on this facility's site. The 4 internal combustion engines (2 engines in tandem) are used to drive 2 generators which in turn produce electricity. The engines also serve as the control system for the non-methane organic compound emissions generated by the landfill. Whenever the non-methane organic compound emissions are vented to the 4 internal combustion engines, then the non-methane emissions will be controlled in accordance with the terms and conditions specified in the MM Cuyahoga Energy LLC Title V permit.
2. For the purposes of Title V permitting and determining the applicability of New Source Review requirements, the U.S. EPA considers this facility and the facility operated by MM Cuyahoga Energy LLC (Ohio EPA premise number 1318538151) to be one facility.

### B. State Only Enforceable Section

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

Z002: roadways/parking;  
Z003: AST#1 - 350-gallon gasoline above ground storage tank;  
Z004: AST#2 - 300-gallon kerosene above ground storage tank;  
Z005: AST#3 - 275-gallon engine oil above ground storage tank;  
Z006: AST#4 - 275-gallon hydraulic oil above ground storage tank;  
Z007: AST#5 - 275-gallon transmission fluid above ground storage tank; and  
Z008: AST#6 - 275-gallon waste oil above ground storage tank.

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

**Part III - Terms and Conditions for Emissions Units**

**Emissions Unit ID:** Landfill w/ collection/control sys. inc. fug. LFG (Z001)  
**Activity Description:** Closed MSW landfill including three landfill gas control flares

**A. State and Federally Enforceable Section**

**I. Applicable Emissions Limitations and/or Control Requirements**

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
closed MSW landfill, equipped with a gas collection and control system (3 open flares) - (Z001)	OAC Chapter 3745-76	See sections A.I.2.a through A.I.2.e below.
	40 CFR Part 60, Subpart Cc	The requirements specified in this rule are equivalent to the requirements specified in OAC Chapter 3745-76.

**2. Additional Terms and Conditions**

**2.a** Design, construction, and siting of the gas extraction wells and gas collection system shall be in accordance with Ohio's Chapter 111(d) plan for existing MSW landfills as approved by the USEPA, the gas collection and control system design plan, and standard industry methods and practices currently in use. The gas collection system shall:

- i. be designed to handle the maximum expected gas flow rate, as calculated pursuant to OAC rule 3745-76-10(A)(1), from the entire area of the landfill that warrants control over the intended use period of the gas control or treatment system equipment;
- ii. collect gas from each area, cell, or group of cells in the landfill in which the initial solid waste has been placed for a period of 5 years or more if active, or 2 years or more if closed or at final grade;
- iii. collect gas at a sufficient extraction rate;
- iv. be designed to minimize off-site migration of subsurface gas; and
- v. meet all other specifications for active collection systems specified in OAC rule 3745-76-14.

**2.b** All landfill gas collected shall be routed to one or more of the facility's open flares, which shall be designed and operated in accordance with the following requirements as established in OAC rule 3745-76-15:

- i. Flares shall be designed for and operated with no visible emissions as determined by the methods specified in section A.V.2 of this permit, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.
- ii. Flares shall be operated with a flame present at all times, as determined by the procedures specified in section A.III of this permit.
- iii. Flares shall be used only with the net heating value of the gas being combusted being 11.2 MJ/scm (300 Btu/scf) or greater if the flare is steam-assisted or air-assisted; or with the net heating value of the gas being combusted being 7.45 MJ/scm (200 Btu/scf) or greater if the flare is nonassisted. The net heating value of the gas being combusted shall be determined by the methods specified in section A.V.3 of this permit.
- iv. Steam-assisted and nonassisted flares shall be designed for and operated with an exit velocity, as determined by the methods specified in section A.V.4 of this permit, less than 18.3 m/sec (60 ft/sec), except as provided below.
- v. Steam-assisted and nonassisted flares designed for and operated with an exit velocity, as determined by the methods specified in section A.V.4 of this permit, equal to or greater than 18.3 m/sec (60 ft/sec) but less than 122 m/sec (400 ft/sec), are allowed if the net heating value of the gas being combusted is greater than 37.3 MJ/scf (1000 Btu/scf).
- vi. Steam-assisted and nonassisted flares designed for and operated with an exit velocity, as determined by methods specified in section A.V.4 of this permit, less than the velocity, Vmax, as determined by the method specified in section A.V.5 of this permit, and less than 122 m/sec (400 ft/sec) are allowed.
- vii. Air-assisted flares shall be designed and operated with an exit velocity less than the velocity, Vmax, as determined by the method specified in section A.V.6 of this permit.

Flares used to comply with OAC Chapter 3745-76 requirements shall be steam-assisted, air-assisted, or nonassisted.

**2.c** The equipment that constitutes the gas collection and control system shall be properly maintained and kept in good operating condition at all times.

**2.d** The collection and control system shall be operated in accordance with the applicable provisions specified in OAC rules 3745-76-08, 3745-76-10, and 3745-76-11.

## 2. Additional Terms and Conditions (continued)

- 2.e** The collection and control system may be capped or removed provided that all of the following conditions are met:
- The landfill shall be a closed landfill as defined in OAC rule 3745-76-01(3). A closure report shall be submitted to the Director as provided in OAC rule 3745-76-12(D).
  - The collection and control system shall have been in operation a minimum of 15 years from when the first well was installed and put into operation.
  - Following the procedures specified in OAC rule 3745-76-09(B), the calculated NMOC gas produced by the landfill shall be less than 50 megagrams per year on 3 successive test dates. The test dates shall be no less than 90 days apart, and no more than 180 days apart.

## II. Operational Restrictions

- The gas collection system shall be operated such that gas is collected from each area in the MSW landfill where:
  - municipal solid waste has been placed for 5 years or more; or
  - acceptance of municipal solid waste has ceased for at least 2 years.

The wells serving the gas collection system shall be placed in accordance with the facility's approved design plan. Each well shall be installed no later than 60 days after the date on which the initial solid waste has been in place for a period of 2 years or more. Each well shall be installed as a measure to abate or minimize the migration of explosive gas when the Director orders the permittee to perform such measures pursuant to OAC rule 3745-76-12(O).
- The gas collection system shall be operated in such a manner as to provide negative pressure at each wellhead except under the following conditions:
  - A fire or increased well temperature. (The permittee shall record instances when positive pressure occurs in efforts to avoid a fire.)
  - Use of a geomembrane or synthetic cover. (The permittee shall develop acceptable pressure limits in the design plan.)
  - A decommissioned well. (A well may experience a static positive pressure after shutdown to accommodate for declining flows. All design changes shall be approved by the Director of Ohio EPA.)
- The permittee shall operate each interior wellhead in the collection system with a landfill gas temperature less than 55 degrees Celsius and with either a nitrogen level less than 20% or an oxygen level less than 5%. The permittee may establish a higher operating temperature, nitrogen, or oxygen value at a particular well. A higher operating value demonstration shall show supporting data that the elevated parameter does not cause fires or significantly inhibit the anaerobic decomposition by killing methanogens.
- The permittee shall operate the collection system so that the methane concentration is less than 500 parts per million above background at the surface of the landfill.

To determine whether this level is exceeded, the permittee 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 permittee may establish an alternative traversing pattern that ensures equivalent coverage. A surface monitoring design plan shall be developed that includes a topographical map with the monitoring route and the rationale for any site-specific deviations from the thirty meter intervals. Areas with steep slopes or other dangerous areas may be excluded from the surface testing.
- The permittee shall operate the system such that all collected gases are vented to a control system designed and operated in compliance with OAC rule 3745-76-07(B)(2)(c). In the event the collection or control system is inoperable, the gas mover system shall be shut down and all valves in the collection and control system contributing to venting of the gas to the atmosphere shall be closed within one hour.
- The permittee shall operate the control system at all times when the collected gas is routed to the system.
- If monitoring demonstrates that the operational requirements in sections A.II.2, A.II.3, or A.II.4 of this permit are not met, corrective action shall be taken as specified in sections A.III.1.a through A.III.1.c or A.III.3.d. If corrective actions are taken as specified in section A.III, the monitored exceedance is not a violation of the operational requirements in sections A.II.2, A.II.3, or A.II.4 of this permit.

## III. Monitoring and/or Record Keeping Requirements

- The permittee shall operate and maintain 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.

Except for the 3 conditions specified in section A.II.2, if a positive pressure exists, action shall be initiated to correct the exceedance within 5 calendar days. If negative pressure cannot be achieved without excess air infiltration within 15 calendar days of the first measurement, the gas collection system shall be expanded to correct the exceedance within 120 days of the initial measurement of positive pressure. Any attempted corrective measure shall not cause exceedances of other operational or performance standards. An alternative timeline for correcting the exceedance may be submitted to the Director for approval.
  - Monitor nitrogen or oxygen concentration in the landfill gas on a monthly basis (see section A.V.1 for the nitrogen or oxygen concentration sampling procedures.)

If a well exceeds one of the concentration levels specified in section A.II.3, action shall be initiated to correct the exceedance within 5 calendar days. If correction of the exceedance cannot be achieved within 15 calendar days of the first measurement, the gas collection system shall be expanded to correct the exceedance within 120 days of the initial exceedance. Any attempted corrective measure shall not cause exceedances of other operational or performance standards. An alternative timeline for correcting the exceedance may be submitted to the Director for approval.
  - Monitor the temperature of the landfill gas on a monthly basis.

If a well exceeds the temperature level specified in section A.II.3, action shall be initiated to correct the exceedance within 5 calendar days. If correction of the exceedance cannot be achieved within 15 calendar days of the first measurement, the gas collection system shall be expanded to correct the exceedance within 120 days of the initial exceedance. Any attempted corrective measure shall not cause exceedances of other operational or performance standards. An alternative timeline for correcting the exceedance may be submitted to the Director for approval.

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

2. The permittee shall calibrate, maintain, and operate, according to the manufacturer's specification the following equipment:
  - a. 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.
  - b. A device that records flow to or bypass of the flare. The permittee shall either:
    - i. 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 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. The permittee shall monitor surface concentrations of methane according to the instrument specifications and procedures provided in sections A.III.3.a through A.III.3.d below. Any closed landfill that has no monitored exceedances of the operational standard in 3 consecutive quarterly monitoring periods may skip to annual monitoring. Any methane reading of 500 parts per million or more above background detected during the annual monitoring returns the frequency for that landfill to quarterly monitoring.
- 3.a The permittee 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 following specifications:
  - i. The portable analyzer shall meet the instrument specifications provided in section 3 of Method 21 of Appendix A of 40 CFR Part 60, except that "methane" shall replace all references to VOC.
  - ii. The calibration gas shall be methane, diluted to a nominal concentration of 500 parts per million in air.
  - iii. To meet the performance evaluation requirements in section 3.1.3 of Method 21 of Appendix A of 40 CFR Part 60, the instrument evaluation procedures of section 4.4 of Method 21 of Appendix A of 40 CFR Part 60 shall be used.
  - iv. The calibration procedures provided in section 4.2 of Method 21 of Appendix A of 40 CFR Part 60 shall be followed immediately before commencing a surface monitoring survey.
- 3.b The background concentration shall be determined by moving the probe inlet upwind and downwind outside the boundary of the landfill at a distance of at least 30 meters from the perimeter wells.
- 3.c Surface emission monitoring shall be performed in accordance with section 4.3.1 of Method 21 of Appendix A of 40 CFR Part 60, except that the probe inlet shall be placed within 5 to 10 centimeters of the ground. Monitoring shall be performed during favorable meteorological conditions.
- 3.d Any reading of 500 parts per million or more above background at any location shall be recorded as a monitored exceedance and the actions specified below shall be taken. As long as the specified actions are taken, the exceedance is not a violation of the operational requirement specified in section A.II.4.
  - 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 section A.III.3.d.v shall be taken, and no further monitoring of that location is required until the action specified in section A.III.3.d.v has been taken.
  - iv. Any location that initially showed an exceedance but has a methane concentration less than 500 parts per million methane above background at the 10-day re-monitoring specified in sections A.III.3.d.ii and A.III.3.d.iii shall be re-monitored 1 month from the initial exceedance. If the 1-month re-monitoring shows a concentration less than 500 parts per million above background, no further monitoring of that location is required until the next quarterly monitoring period. If the 1-month re-monitoring shows an exceedance, the actions specified in section A.III.3.d.iii or A.III.3.d.v shall be taken.
  - v. For any location where monitored methane concentration equals or exceeds 500 parts per million above background 3 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 Director for approval.
4. The permittee shall keep up-to-date, readily accessible, on-site records of the design capacity report which triggered OAC rule 3745-76-07(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.
5. The permittee shall keep up-to-date, readily accessible records for the life of the control equipment of the data listed below as measured during the initial performance test or compliance determination. 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.
  - a. The maximum expected gas generation flow rate as calculated in OAC rule 3745-76-10(A)(1). The permittee may use another method to determine the maximum gas generation flow rate, if the method has been approved by the Director.
  - b. The density of wells, horizontal collectors, surface collectors, or other gas extraction devices determined using the procedures specified in OAC rule 3745-76-14(A)(1).
  - c. 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 OAC rule 3745-76-15; 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 was absent.
6. The permittee shall keep up-to-date, readily accessible continuous records of the gauge pressure in the gas collection header, nitrogen or oxygen concentration in the landfill gas, and temperature of the landfill gas 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.

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

7. The permittee 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.
8. The permittee shall keep up-to-date, readily accessible continuous records of the flame or flare pilot flame monitoring and up-to-date, readily accessible records of all periods of operation in which the flame or flare pilot flame is absent.
9. The permittee shall keep for the life of the collection system an up-to-date, readily accessible plot map showing each existing and planned collector in the system and providing a unique identification location label for each collector. The permittee shall also keep up-to-date, readily accessible records of the installation date and location of all newly installed collectors.
10. The permittee shall keep up-to-date, readily accessible records of all collection and control system exceedances of the operational standards in section A.II of this permit, the reading in the subsequent month, whether or not the second reading is an exceedance, and the location of each exceedance.
11. The permittee shall, upon each visit to this closed facility, and at a minimum of once per month during normal operating conditions, visually inspect the flare and record whether or not any visible emissions are present and the duration of any visible emissions.
12. The gas collection and control system shall be equipped with an auto-dial communication mechanism incorporated into it so that should a malfunction develop with the flare and/or blower system, the gas system technician will automatically be paged by phone.
13. The permittee shall calculate the NMOC emission rate for purposes of determining when the collection and control system can be removed as provided in OAC rule 3745-76-07(B)(2)(e), using the following equation:

$$\text{MNMOC} = 1.89 \times 10^{-3} \text{QLFG CNMOC}$$

Where,

MNMOC = mass emission rate of NMOC, megagrams per year

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

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

The flow rate of landfill gas, QLFG, shall be determined by measuring the total landfill gas flow rate at the common header pipe that leads to the control device using a gas flow measuring device calibrated according to the provisions of section 4 of Method 2E of Appendix A of 40 CFR Part 60.

The average NMOC concentration, CNMOC, shall be determined by collecting and analyzing landfill gas sampled from the common header pipe before the gas moving or condensate removal equipment using the procedures in Method 25C or Method 18 of Appendix A of 40 CFR Part 60. If using Method 18 of Appendix A of 40 CFR Part 60, 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 permittee shall divide the NMOC concentration from Method 25C of Appendix A of 40 CFR Part 60 by 6 to convert from CNMOC, as carbon, to NMOC, as hexane.

The permittee may use another method to determine landfill gas flow rate and NMOC concentration if the method has been approved by the Director.

### IV. Reporting Requirements

1. The permittee shall submit an equipment removal report to the Director 30 days prior to removal or cessation of operation of the control equipment.

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

- a. a copy of the closure report submitted in accordance with OAC rule 3745-27-11(E);
- b. a copy of the initial performance test report demonstrating that the 15-year minimum control period has expired; and
- c. dated copies of 3 successive NMOC emission rate reports demonstrating that the landfill is no longer producing 50 megagrams or greater of NMOC per year.

The Director may request such additional information as may be necessary to verify that all of the conditions for removal in OAC rule 3745-76-07(B)(2)(e) have been met.

#### IV. Reporting Requirements (continued)

2. The permittee shall submit annual reports that identify the following:
  - a. all periods of time during which the gauge pressure in the gas collection headers was positive (except for the 3 conditions specified in section A.II.2) and the actual gauge pressure value for each time period;
  - b. all periods of time during which the nitrogen or oxygen concentrations in the landfill gas exceeded the allowable concentration levels and the actual nitrogen or oxygen concentrations for each time period;
  - c. all periods of time during which the temperature of the landfill gas exceeded the allowable temperature level and the actual landfill gas temperature for each time period;
  - d. all periods of time during which any open flare was in service and its associated heat sensing device was not in operation;
  - e. all periods of time during which any open flare was in service and the device that records flow to or bypass of the flare was not in service or not recording flow at the specified intervals; or all periods of time during which the control system bypass line valve was not secured in the closed position with a car-seal or a lock-and-key type configuration;
  - f. if monitoring the gas flow rate, all periods of time during which the gas stream is diverted from the control device through a bypass line;
  - g. all periods of time during which the control device was not operating for a period exceeding 1 hour;
  - h. all periods of time during which the collection system was not operating in excess of 5 days;
  - i. the location of each exceedance of the 500 parts per million methane concentration and the concentration recorded at each location for which an exceedance was recorded in the previous month; and
  - j. the date of installation and the location of each well or collection system expansion added pursuant to OAC rules 3745-76-10(A)(3), 3745-76-10(B), and 3745-76-10(C)(4).

The reports shall be submitted by January 31 of each year.

3. Any breakdown or malfunction of the landfill gas flare resulting in the emission of raw landfill gas from the gas collection and control system for more than one hour shall be reported to the appropriate Ohio EPA District Office or local air agency within 1 hour after the occurrence, or as soon as reasonably possible, and immediate remedial measures shall be undertaken to correct the problem and prevent further emissions to the atmosphere.
4. In the event of a potential emergency, such as a fire within the landfill, wells affected may be temporarily shut off, which could result in a positive gauge pressure. The appropriate Ohio EPA District Office or local air agency shall be notified within 1 working day of any shutdowns of any wells.
5. The permittee shall submit semi-annual reports which include an identification of any record showing that visible emissions were present from the flare. The reports shall be submitted by January 31 and July 31 of each year and shall cover the previous 6 calendar months.
6. In addition to the initial performance test report required in OAC rule 3745-76-07(B)(2)(c)(ii), the permittee shall submit the information required in OAC rule 3745-76-12(G)(1) through (5).
7. The permittee shall submit an NMOC annual emission rate report to the appropriate Ohio EPA District Office or local air agency. The report shall include all the data, calculations, sample reports and measurements used to estimate the annual emissions.

#### V. Testing Requirements

1. The permittee shall determine the nitrogen or oxygen concentration level in the landfill gas in accordance with one of the following procedures:
  - a. The nitrogen level shall be determined using Method 3c of Appendix A of 40 CFR part 60, unless an alternative test method is established as allowed by OAC rule 3745-76-07(B)(2)(a).
  - b. Unless an alternative test method is established as allowed by OAC rule 3745-76-07(B)(2)(a), the oxygen level shall be determined by an oxygen meter using Method 3A of Appendix A of 40 CFR Part 60 except that:
    - a. the span shall be set so that the regulatory limitation is between 20 and 50% of the span;
    - b. a data recorder is not required;
    - c. only 2 calibration gases are required, a zero and span, and ambient air may be used as the span;
    - d. a calibration error check is not required; and
    - e. the allowable sample bias, zero drift, and calibration drift are plus or minus 10%.
2. Emission Limitation:  
No visible emissions from each flare, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.

Applicable Compliance Method:

Compliance shall be demonstrated through visible emission observations performed in accordance with 40 CFR Part 60, Appendix A, Method 22.

**V. Testing Requirements (continued)**

3. The net heating value of the gas being combusted in a flare shall be calculated using the following equation:

$$H_t = k \sum C_i H_i$$

Where:

K = constant,  $1.740 \times 10^{-7}$  (1/ppm)(g mole/scm)(MJ/kcal)  
Where the standard temperature for (g mole/scm) is 20 degrees C;

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

C<sub>i</sub> = concentration of sample component i in ppm on a wet basis, as measured for organics by reference Method 18 and measured for hydrogen and carbon monoxide by ASTM D1946-77;

H<sub>i</sub> = net heat of combustion of sample component i, kcal/g mole at 25 degrees C and 760 mm Hg. The heats of combustion may be determined using ASTM D2382-76 if published values are not available or cannot be calculated.

4. The actual exit velocity of a flare shall be determined by dividing the volumetric flowrate (in units of standard temperature and pressure), as determined by reference Methods 2, 2A, 2C, or 2D as appropriate; by the unobstructed (free) cross sectional area of the flare tip.
5. The maximum permitted velocity V<sub>MAX</sub>, for flares complying with section A.I.2.b.vi of this permit shall be determined by the following equation:

$$\text{Log}_{10}(V_{MAX}) = (H_t + 28.8) / 31.7$$

Where:

V<sub>MAX</sub> = maximum permitted velocity, m/sec

28.8 = constant

31.7 = constant

H<sub>t</sub> = the net heating value as determined in section A.V.3 of this permit.

6. The maximum permitted velocity, V<sub>MAX</sub>, for air-assisted flares shall be determined by the following equation:

$$V_{MAX} = 8.706 + 0.7084(H_t)$$

Where:

V<sub>MAX</sub> = maximum permitted velocity, m/sec

8.706 = constant

0.7084 = constant

H<sub>t</sub> = the net heating value as determined in section A.V.3 of this permit.

**VI. Miscellaneous Requirements**

**None**

**B. State Enforceable Section**

**I. Applicable Emissions Limitations and/or Control Requirements**

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
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**2. Additional Terms and Conditions**

None

**II. Operational Restrictions**

None

**III. Monitoring and/or Record Keeping Requirements**

None

**IV. Reporting Requirements**

None

**V. Testing Requirements**

None

**VI. Miscellaneous Requirements**

None

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