



John R. Kasich, Governor  
Mary Taylor, Lt. Governor  
Scott J. Nally, Director

6/12/2013

Certified Mail

James Hiendlmayr  
Bio-Gas Technologies, LTD  
2025 George St  
Sandusky, OH 44870

RE: FINALAIR POLLUTION PERMIT-TO-INSTALL  
Facility ID: 0322000295  
Permit Number: P0114529  
Permit Type: Initial Installation  
County: Erie

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

Dear Permit Holder:

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

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

**How to appeal this permit**

The issuance of this PTI is a final action of the Director and may be appealed to the Environmental Review Appeals Commission pursuant to Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. The appeal must be filed with the Commission within thirty (30) days after notice of the Director's action. The appeal must be accompanied by a filing fee of \$70.00, made payable to "Ohio Treasurer Josh Mandel," which the Commission, in its discretion, may reduce if by affidavit you demonstrate that payment of the full amount of the fee would cause extreme hardship. Notice of the filing of the appeal shall be filed with the Director within three (3) days of filing with the Commission. Ohio EPA requests that a copy of the appeal be served upon the Ohio Attorney General's Office, Environmental Enforcement Section. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

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

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

The Ohio EPA is encouraging companies to investigate pollution prevention and energy conservation. Not only will this reduce pollution and energy consumption, but it can also save you money. If you would like to learn ways you can save money while protecting the environment, please contact our Office of Compliance Assistance and Pollution Prevention at (614) 644-3469. Additionally, all or a portion of the capital expenditures related to installing air pollution control equipment under this permit may be eligible for financing and State tax exemptions through the Ohio Air Quality Development Authority (OAQDA) under Ohio Revised Code Section 3706. For more information, see the OAQDA website: [www.ohioairquality.org/clean\\_air](http://www.ohioairquality.org/clean_air)

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

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

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

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

If you have any questions, please contact Ohio EPA DAPC, Northwest District Office at (419)3528461 or the Office of Compliance Assistance and Pollution Prevention at (614) 644-3469.

Sincerely,

*Michael W. Ahern*

Michael W. Ahern, Manager

Permit Issuance and Data Management Section, DAPC

Cc: U.S. EPA  
Ohio EPA-NWDO; Michigan; Canada



**FINAL**

**Division of Air Pollution Control  
Permit-to-Install  
for  
Bio-Gas Technologies, LTD**

Facility ID:	0322000295
Permit Number:	P0114529
Permit Type:	Initial Installation
Issued:	6/12/2013
Effective:	6/12/2013





**Division of Air Pollution Control**  
**Permit-to-Install**  
for  
Bio-Gas Technologies, LTD

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**Final Permit-to-Install**  
Bio-Gas Technologies, LTD  
**Permit Number:** P0114529  
**Facility ID:** 0322000295  
**Effective Date:** 6/12/2013

## Authorization

Facility ID: 0322000295  
Facility Description: Electric Services  
Application Number(s): A0047436  
Permit Number: P0114529  
Permit Description: Initial installation PTI for a landfill gas flare (P901) formerly permitted by Erie County Sanitary Landfill.  
Permit Type: Initial Installation  
Permit Fee: \$400.00  
Issue Date: 6/12/2013  
Effective Date: 6/12/2013

This document constitutes issuance to:

Bio-Gas Technologies, LTD  
10215 Hoover Road  
Milan, OH 44846

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

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

Ohio EPA DAPC, Northwest District Office  
347 North Dunbridge Road  
Bowling Green, OH 43402  
(419)352-8461

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

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

A handwritten signature in black ink, appearing to read "Scott J. Nally".

Scott J. Nally  
Director



**Final Permit-to-Install**  
Bio-Gas Technologies, LTD  
**Permit Number:** P0114529  
**Facility ID:** 0322000295  
**Effective Date:**6/12/2013

## Authorization (continued)

Permit Number: P0114529  
Permit Description: Initial installation PTI for a landfill gas flare (P901) formerly permitted by Erie County Sanitary Landfill.

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

<b>Emissions Unit ID:</b>	<b>P003</b>
Company Equipment ID:	LFG Flare
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable



**Final Permit-to-Install**  
Bio-Gas Technologies, LTD  
**Permit Number:** P0114529  
**Facility ID:** 0322000295  
**Effective Date:**6/12/2013

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



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

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

## **2. Severability Clause**

- a) A determination that any term or condition of this permit is invalid shall not invalidate the force or effect of any other term or condition thereof, except to the extent that any other term or condition depends in whole or in part for its operation or implementation upon the term or condition declared invalid.
- b) All terms and conditions designated in parts B and C of this permit are federally enforceable as a practical matter, if they are required under the Act, or any of its applicable requirements, including relevant provisions designed to limit the potential to emit of a source, are enforceable by the Administrator of the U.S. EPA and the State and by citizens (to the extent allowed by section 304 of the Act) under the Act. Terms and conditions in parts B and C of this permit shall not be federally enforceable and shall be enforceable under State law only, only if specifically identified in this permit as such.

## **3. General Requirements**

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



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

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

- a) Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall maintain records that include the following, where applicable, for any required monitoring under this permit:
  - (1) The date, place (as defined in the permit), and time of sampling or measurements.
  - (2) The date(s) analyses were performed.
  - (3) The company or entity that performed the analyses.
  - (4) The analytical techniques or methods used.
  - (5) The results of such analyses.
  - (6) The operating conditions existing at the time of sampling or measurement.
- b) Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include, but not be limited to all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.
- c) Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall submit required reports in the following manner:
  - (1) Reports of any required monitoring and/or recordkeeping of federally enforceable information shall be submitted to the Ohio EPA DAPC, Northwest District Office.



- (2) Quarterly written reports of (i) any deviations from federally enforceable emission limitations, operational restrictions, and control device operating parameter limitations, excluding deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06, that have been detected by the testing, monitoring and recordkeeping requirements specified in this permit, (ii) the probable cause of such deviations, and (iii) any corrective actions or preventive measures taken, shall be made to the Ohio EPA DAPC, Northwest District Office. The written reports shall be submitted (i.e., postmarked) quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. See A.15. below if no deviations occurred during the quarter.
  - (3) Written reports, which identify any deviations from the federally enforceable monitoring, recordkeeping, and reporting requirements contained in this permit shall be submitted (i.e., postmarked) to the Ohio EPA DAPC, Northwest District Office every six months, by January 31 and July 31 of each year for the previous six calendar months. If no deviations occurred during a six-month period, the permittee shall submit a semi-annual report, which states that no deviations occurred during that period.
  - (4) This permit is for an emissions unit located at a Title V facility. Each written report shall be signed by a responsible official certifying that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.
- d) The permittee shall report actual emissions pursuant to OAC Chapter 3745-78 for the purpose of collecting Air Pollution Control Fees.

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

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction, i.e., upset, of any emissions units or any associated air pollution control system(s) shall be reported to the Ohio EPA DAPC, Northwest District Office in accordance with paragraph (B) of OAC rule 3745-15-06. (The definition of an upset condition shall be the same as that used in OAC rule 3745-15-06(B)(1) for a malfunction.) The verbal and written reports shall be submitted pursuant to OAC rule 3745-15-06.

Except as provided in that rule, any scheduled maintenance or malfunction necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emission unit(s) that is (are) served by such control system(s).

## **6. Compliance Requirements**

- a) The emissions unit(s) identified in this Permit shall remain in full compliance with all applicable State laws and regulations and the terms and conditions of this permit.
- b) Any document (including reports) required to be submitted and required by a federally applicable requirement in this permit shall include a certification by a responsible official that, based on information and belief formed after reasonable inquiry, the statements in the document are true, accurate, and complete.



- c) Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Director of the Ohio EPA or an authorized representative of the Director to:
  - (1) At reasonable times, enter upon the permittee's premises where a source is located or the emissions-related activity is conducted, or where records must be kept under the conditions of this permit.
  - (2) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit, subject to the protection from disclosure to the public of confidential information consistent with ORC section 3704.08.
  - (3) Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.
  - (4) As authorized by the Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit and applicable requirements.
- d) The permittee shall submit progress reports to the Ohio EPA DAPC, Northwest District Office concerning any schedule of compliance for meeting an applicable requirement. Progress reports shall be submitted semiannually or more frequently if specified in the applicable requirement or by the Director of the Ohio EPA. Progress reports shall contain the following:
  - (1) Dates for achieving the activities, milestones, or compliance required in any schedule of compliance, and dates when such activities, milestones, or compliance were achieved.
  - (2) An explanation of why any dates in any schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.

## **7. Best Available Technology**

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

## **8. Air Pollution Nuisance**

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

## **9. Reporting Requirements**

The permittee shall submit required reports in the following manner:

- a) Reports of any required monitoring and/or recordkeeping of state-only enforceable information shall be submitted to the Ohio EPA DAPC, Northwest District Office.
- b) Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursions) from state-only required emission limitations, operational restrictions, and control device operating parameter limitations that have



been detected by the testing, monitoring, and recordkeeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the Ohio EPA DAPC, Northwest District Office. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted (i.e., postmarked) quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

## **10. Applicability**

This Permit-to-Install is applicable only to the emissions unit(s) identified in the Permit-to-Install. Separate application must be made to the Director for the installation or modification of any other emissions unit(s).

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

- a) This permit does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. This permit does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the application and terms and conditions of this permit. The action of beginning and/or completing construction prior to obtaining the Director's approval constitutes a violation of OAC rule 3745-31-02. Furthermore, issuance of this permit does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Issuance of this permit is not to be construed as a waiver of any rights that the Ohio Environmental Protection Agency (or other persons) may have against the applicant for starting construction prior to the effective date of the permit. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed facilities cannot meet the requirements of this permit or cannot meet applicable standards.
- b) If applicable, authorization to install any new emissions unit included in this permit shall terminate within eighteen months of the effective date of the permit if the owner or operator has not undertaken a continuing program of installation or has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation. This deadline may be extended by up to 12 months if application is made to the Director within a reasonable time before the termination date and the party shows good cause for any such extension.
- c) The permittee may notify Ohio EPA of any emissions unit that is permanently shut down (i.e., the emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31) by submitting a certification from the authorized official that identifies the date on which the emissions unit was permanently shut down. Authorization to operate the affected emissions unit shall cease upon the date certified by the authorized official that the emissions unit was permanently shut down. At a minimum, notification of permanent shut down shall be made or confirmed by marking the affected emissions unit(s) as "permanently shut down" in Ohio EPA's "Air Services" along with the date the emissions unit(s) was permanently removed and/or disabled. Submitting the facility profile update will constitute notifying of the permanent shutdown of the affected emissions unit(s).



- d) The provisions of this permit shall cease to be enforceable for each affected emissions unit after the date on which an emissions unit is permanently shut down (i.e., emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31). All records relating to any permanently shutdown emissions unit, generated while the emissions unit was in operation, must be maintained in accordance with law. All reports required by this permit must be submitted for any period an affected emissions unit operated prior to permanent shut down. At a minimum, the permit requirements must be evaluated as part of the reporting requirements identified in this permit covering the last period the emissions unit operated.

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

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

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

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

## **13. Construction Compliance Certification**

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

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

## **14. Public Disclosure**

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



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

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

**16. Fees**

The permittee shall pay fees to the Director of the Ohio EPA in accordance with ORC section 3745.11 and OAC Chapter 3745-78. The permittee shall pay all applicable permit-to-install fees within 30 days after the issuance of any permit-to-install. The permittee shall pay all applicable permit-to-operate fees within thirty days of the issuance of the invoice.

**17. Permit Transfers**

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

**18. Risk Management Plans**

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

**19. Title IV Provisions**

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



**Final Permit-to-Install**  
Bio-Gas Technologies, LTD  
**Permit Number:** P0114529  
**Facility ID:** 0322000295  
**Effective Date:**6/12/2013

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



**Final Permit-to-Install**  
Bio-Gas Technologies, LTD  
**Permit Number:** P0114529  
**Facility ID:** 0322000295  
**Effective Date:**6/12/2013

1. All the following facility-wide terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only:
  - a) None.



**Final Permit-to-Install**  
Bio-Gas Technologies, LTD  
**Permit Number:** P0114529  
**Facility ID:** 0322000295  
**Effective Date:**6/12/2013

## **C. Emissions Unit Terms and Conditions**



**1. P003, LFG Flare**

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

Landfill Gas Flare

- a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.
  - (1) OAC rule 3745-31-05(E) – b)(1)d.; b)(2)d.; b)(2)e.; b)(2)f.; c)(1); c)(2); d)(1) through d)(4); e)(1) through e)(3); and f)(1).
- b) Applicable Emissions Limitations and/or Control Requirements
  - (1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	ORC 3704.03(T)	<u>Flare Combustion Emissions:</u> 46.0 pounds carbon monoxide (CO)/10 <sup>6</sup> dscf methane  39.0 lbs nitrogen oxides (NOx)/10 <sup>6</sup> dscf methane  See b)(2)a.
b.	OAC rule 3745-31-05(A)(3), as effective 11/30/01	See b)(2)b.  <u>Controlled Landfill Gas Emissions:</u> 0.14 pound volatile organic compounds (VOC)/hour; 0.03 ton VOC/year  <u>Flare Combustion Emissions:</u> 15.0 pounds particulate matter less than 10 microns in size (PM <sub>10</sub> )/10 <sup>6</sup> dscf methane; 4.69 tons PM <sub>10</sub> /year  1.13 pounds sulfur dioxide (SO <sub>2</sub> )/hour; 4.95 tons SO <sub>2</sub> /year
c.	OAC rule 3745-31-05(A)(3)(a)(ii), as effective 12/01/06	See b)(2)c.
d.	OAC rule 3745-31-05(E)	See b)(2)d. and b)(2)e.  Landfill gas collection and control requirements [See b)(2)f.]



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		Visible Emission Limitation [See b)(2)f.i.]
e.	OAC rule 3745-17-07(B)(1)	This emissions unit is exempt from the visible particulate emission limitations specified in OAC rule 3745-17-07(B) pursuant to OAC rule 3745-17-07(B)(11)(e).
f.	OAC rule 3745-17-08(B)	The facility is not located within an "Appendix A" area as identified in OAC rule 3745-17-08. Therefore, pursuant to OAC rule 3745-17-08(A), this emissions unit is exempt from the requirements of OAC rule 3745-17-08(B)(1).

(2) Additional Terms and Conditions

- a. In accordance with ORC rule 3704.03(T), Best Available Technology (BAT) for NOx and CO emissions from this emissions unit has been determined to be compliance with the emission limitations established in b)(1)a.
- b. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to OAC rule 3745-31-05(A)(3), as effective November 30, 2001, in this permit. The requirements of this also rule include compliance with the state-only restrictions established in accordance with OAC rule 3745-31-05(E).

On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to Ohio Revised Code (ORC) changes effective August 3, 2006 (Senate Bill 265 Changes), such that BAT is no longer required by State regulations for NAAQS pollutants less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of 3745-31-05, then these emission limits/control measures no longer apply.

- c. This rule paragraph applies once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the State Implementation Plan.

The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3)(a) do not apply to the PE, NMOC, and methane emitted from this emissions unit. BAT (under Senate Bill 265 changes) is only applicable to emissions of an air contaminant or precursor of an air contaminant for which a national ambient air quality standard (NAAQS) has been adopted under the Clean Air Act. PE (also referred to as total suspended particulate or particulate



matter), NMOC, and methane are air contaminants that do not involve an established NAAQS.

Additionally, the BAT requirements under OAC rule 3745-31-05(A)(3)(a) do not apply to the VOC, SO<sub>2</sub>, and PM<sub>10</sub> emissions from this air contaminant source because each pollutant is less than 10 tons per year.

- d. The Ohio EPA is imposing terms and conditions under OAC rule 3745-31-05(E) "state-only enforceable limitations" associated with the control of gas from the installation and operation of the voluntary active gas collection system (including the flare).

[OAC rule 3745-31-05(E)]

- e. All gas collected by Erie County Sanitary Landfill (premise number 0322010254) and received by the permittee shall comply with at least one of the following requirements:

- i. The collected gas may be routed to a flare designed and operated in accordance with the requirements specified in b)(2)f.; AND/OR
- ii. The collected gas may be routed to a control system designed and operated to reduce NMOC by 98 weight-percent, or, when an enclosed combustion device is used for control, to either reduce NMOC by 98 weight percent or reduce the outlet NMOC concentration to less than 20 parts per million by volume, dry basis as hexane at 3 percent oxygen. If a boiler or process heater is used as the control device, the landfill gas stream shall be introduced into the flame zone.

[OAC rule 3745-31-05(E)]

- f. Except as provided in b)(2)e.ii., any collected gas received by the permittee shall be vented to an open flare designed and operated as follows:

- i. The flare shall be designed for and operated with no visible emissions as determined by the Method 22 of Appendix A of 40 CFR, Part 60, except for a period not to exceed a total of 5 minutes during any 2 consecutive hours. The observation period for compliance determination is 2 hours and shall be used according to Method 22.
- ii. The flare shall be operated with a flame present at all times. The presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of flame.
- iii. The actual exit velocity of a flare shall be determined by dividing the volumetric flow rate (in units of standard temperature and pressure), as determined by 40 CFR 60 Appendix A Methods 2, 2A, 2C, or 2D as appropriate; by the unobstructed (free) cross sectional area of the flare tip.



iv. Flares shall be steam-assisted, air-assisted, or nonassisted. The permittee shall comply with either the requirements in paragraphs (a) and (b); OR the requirements in paragraph (c):

(a) 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 non-assisted. The net heating value of the gas being combusted shall be determined as follows:

$$H_T = K \times \sum (i = 1 \text{ ton}) \text{ of } C_i H_i$$

where:

$K = \text{constant, } 1.740 \times 10^{-7} [(1/\text{ppm})(\text{g mole/scm})(\text{MJ/Kcal})]$  where the standard temperature for (g mole/scm) is 20 degree Celsius;

$H_T = \text{Net heating value of the sample, MJ/scm; where the net enthalpy per mole of off gas is based on combustion at 25 degree Celsius and 760 mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20 degree Celsius;}$

$C_i = \text{Concentration of sample component } i \text{ in ppm on a wet basis, as measured for organics by 40 CFR 60 Appendix A Method 18 and measured for hydrogen and carbon monoxide by ASTM D1946-77 (Incorporated by reference as specified in 40 CFR 60.17); and}$

$H_i = \text{Net heat of combustion of sample component } i, \text{ kcal/g mole at 25 degree Celsius and 760 mm Hg. The heats of combustion may be determined using ASTM D2382-76 (incorporated by reference as specified in 40 CFR 60.17) if published values are not available or cannot be calculated. For this test, the net heating value is calculated from the concentration of methane in the landfill gas as measured by 40 CFR 60 Appendix A Method 3C. A minimum of three 30-minute Method 3C samples are determined. The measurement of other organic compounds, hydrogen, and carbon monoxide is not applicable.}$

(b) A steam-assisted and non-assisted flare shall be designed for and operated with an exit velocity of less than 18.3 m/sec (60 ft/sec), except:

(i) steam-assisted and non-assisted flares designed for and operated with an exit velocity equal to or greater than 18.3 m/sec but less than 122 m/sec (400 ft/sec) are allowed if the net heating value of the gas being combusted is greater than 37.3 MJ/scm (1,000 BTU/scf); and



- (ii) steam-assisted and non-assisted flares designed for and operated with an exit velocity of less than the velocity,  $V_{max}$ , and less than 122 m/sec (400 ft/sec) are allowed, as determined by the following equation:

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

Where:

$V_{max}$  = Maximum permitted velocity, M/sec

28.8 = Constant

31.7 = Constant

$H_T$  = The net heating value, as determined in b)(2)g.iv.(a).

- (c) Flares shall be used that have a diameter of 3 inches or greater, are non-assisted, have a hydrogen content of 8.0 percent (by volume) or greater, and are designed for and operated with an exit velocity less than 37.2 m/sec (122 ft/sec) and less than the velocity,  $V_{max}$ , as determined by the following equation:

$$V_{max} = (X_{H_2} - K_1) * K_2$$

Where:

$V_{max}$  = Maximum permitted velocity, m/sec

$K_1$  = Constant, 6.0 volume-percent hydrogen

$K_2$  = Constant, 3.9(m/sec)/volume-percent hydrogen

$X_{H_2}$  = Volume-percent of hydrogen, on a wet basis, as calculated by using the American Society for Testing and Materials (ASTM) Method D1946-77.

- v. Air-assisted flares shall be designed and operated with an exit velocity less than the velocity,  $V_{max}$ , as determined by the following equation:

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

Where:

$V_{max}$  = Maximum permitted velocity, m/sec

8.706 = Constant

0.7084 = Constant



$H_T$  = Net heating value, as determined in b)(2)g.iv.(a).

[OAC rule 3745-31-05(E)]

c) Operational Restrictions

- (1) The permittee shall operate the flare at all times when the collected gas is routed to the system.

[OAC rule 3745-31-05(E)]

- (2) A pilot flame shall be maintained at all times in the flare's pilot burner, or a fail-close valve shall be installed to cease gas flow to the flare when there is no flame present.

[OAC rule 3745-31-05(E)]

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall install, calibrate, maintain, and operate the following equipment in accordance with the manufacturer's specifications:

- 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; and
- b. a gas flow rate measuring device that shall record the flow to the control device at least every 15 minutes.

[OAC rule 3745-31-05(E)]

- (2) If a gas flow rate measuring device is not installed, then the permittee shall 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.

[OAC rule 3745-31-05(E)]

- (3) The permittee shall maintain the following information for the life of the control equipment as measured during, if applicable, the initial performance test or compliance demonstration:

- a. the flare type (i.e., steam-assisted, air-assisted, or non-assisted);
- b. all visible emission readings;
- c. heat content determinations of the gas;
- d. flow rate or bypass flow rate measurements;



- e. exit velocity determinations made during the performance test as specified in 40 CFR Part 60.18; and
- f. continuous records of the flare flame monitoring and all periods of operation during which the flare flame is absent.

[OAC rule 3745-31-05(E)]

- (4) The permittee shall properly install, operate, and maintain a device to continuously monitor the flare flame when the emissions unit is in operation. The monitoring device and any recorder shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals. In addition, the permittee shall record the following information each day:
  - a. all periods of time during which there was no flame; and
  - b. the downtime for the flare and monitoring equipment when the collection and control systems are in operation.

[OAC rule 3745-31-05(E)]

e) Reporting Requirements

- (1) Any breakdown or malfunction of the landfill gas collection and control system resulting in the emission of raw landfill gas to the atmosphere shall be reported to the Northwest District Office within one hour after the occurrence, or as soon as reasonably possible, and immediate remedial measures shall be undertaken to correct the problem and to prevent further emissions to the atmosphere.

[OAC rule 3745-31-05(E)]

- (2) The permittee shall submit an equipment removal report to the Northwest District Office 30 days prior to removal or cessation of operation of the control equipment. The equipment removal report shall contain the information specified in 40 CFR Part 60.757 (e)(1). The Ohio EPA may request additional information as may be necessary to verify that all of the conditions for removal in 40 CFR Part 60.752 (b)(2)(v) have been met.

[OAC rule 3745-31-05(E)]

- (3) The permittee shall submit annual reports of the recorded information below:
  - a. value and length of time for any exceedance(s) of the of applicable parameters contained in c)(1)a., c)(1)b., and c)(1)d.;
  - b. description and duration of all periods when the gas stream is not vented to off-site facilities and is diverted from the control device (flare) through a bypass line or the indication of bypass flow;
  - c. description and duration of all periods when the control device (flare) was not operating for a period exceeding 1 hour and length of time the control device was not operating;



These reports shall be submitted by January 31 of each year and shall cover the previous calendar year.

[OAC rule 3745-31-05(E)]

- (4) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.

[OAC rule 3745-15-03(A)]

f) Testing Requirements

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

- a. Emission Limitations:

- i. Controlled Landfill Gas:

0.14 pound VOC/hour and 0.03 ton VOC/year

Applicable Compliance Method:

These emissions represent the highest gas generation/emissions rates which could occur at this facility based on the following landfill capacities:

Landfill Unit	Landfill Capacity (tons)	Maximum Receiving Rate
Closed Unit	1,109,999	Landfill Closed 1988
Closed South Unit	1,413,130	Landfill Closed 2002
Active/BAT Unit	4,720,422	800 tons/day; 240,800 tons/year

The landfill emission limitations contained in this permit can be documented as follows:

- i. NMOC emissions were calculated by Landfill Gas Emission Model (LandGEM). The predicted NMOC emissions were converted to VOC emissions by applying the AP-42 Chapter 2.4 (11/98) conversion rate of 39%.
- ii. The following landfill gas collection system capture efficiencies, based on engineering design:
  - (a) Closed Unit: Not collected/vented to flare;
  - (b) Closed South Unit: 70%; and
  - (c) Active/BAT Unit: 52.5%.



- iii. A 98% control efficiency from the flare for the control of NMOC, as applicable.
- iv. A maximum operating schedule of 8,760 hours/year.

[OAC rule 3745-31-05(E)]

b. Emission Limitations: Flare Combustion Emissions

- i. 46.0 pounds CO/10<sup>6</sup>dscf methane; and
- ii. 39.0 lbsNO<sub>x</sub>/10<sup>6</sup> dscf methane

Applicable Compliance Method:

The above flare combustion emission limitations were established based on the emission factors from AP-42 Chapter 2.4, Municipal Solid Waste Landfills (Draft October 2008).

Compliance with the annual emission limitations may be demonstrated by multiplying the pound pollutant/10<sup>6</sup>dscf methane limitations by a maximum operating schedule of 8,760 hours/year and then dividing by 2,000 pounds/ton.

[OAC rule 3745-31-05(E)]

c. Emission Limitations: Flare Combustion Emissions

- i. 1.13 pounds SO<sub>2</sub>/hour and 4.95 tons SO<sub>2</sub>/year

Applicable Compliance Method:

The permittee may demonstrate compliance with the hourly emission limitation by calculating emissions using a combination of the hydrogen sulfide (30 ppvm) and carbonyl sulfide (15 ppmv) concentrations (from laboratory analysis), a landfill gas generation rate of 2,571 scfm, and assuming that 100% of the sulfur content is converted to SO<sub>2</sub>.

Compliance with the annual emission limitation may be demonstrated by multiplying the hourly limitation by a maximum operating schedule of 8,760 hours/year and then dividing by 2,000 pounds/ton.

[OAC rule 3745-31-05(E)]

d. Emission Limitations: Flare Combustion Emissions

- i. 15.0 pounds PM<sub>10</sub>/10<sup>6</sup>dscf methane and 4.12 tons PM<sub>10</sub>/year



Applicable Compliance Method:

The above flare combustion emission limitation was established based on the emission factor from AP-42 Chapter 2.4, Municipal Solid Waste Landfills (Draft October 2008).

Compliance with the annual emission limitation may be demonstrated by multiplying the pound pollutant/10<sup>6</sup>dscf methane limitations by a maximum operating schedule of 8,760 hours/year and then dividing by 2,000 pounds/ton.

[OAC rule 3745-31-05(E)]

e. Emission Limitation:

The flare shall be designed for and operated with no visible emissions, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.

Applicable Compliance Method:

If required, compliance shall be determined by visible emission evaluations performed in accordance with USEPA Reference Method 22 as set forth in "Appendix A on Test Methods" in 40 CFR Part 60 ("Standards of Performance for New Stationary Sources"). The observation period for compliance determination is 2 hours and shall be used according to Method 22.

[OAC rule 3745-31-05(E)]

g) Miscellaneous Requirements

- (1) None.