



State of Ohio Environmental Protection Agency

**RE: FINAL PERMIT TO INSTALL MODIFICATION  
MONTGOMERY COUNTY**

**CERTIFIED MAIL**

Street Address:

122 S. Front Street

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

Mailing Address:

Lazarus Gov. Center  
P.O. Box 1049

**Application No: 08-03855**

**DATE: 11/28/2003**

Pinnacle Gas Producers LLC  
Richard DiGia  
425 S Main St Ste 201  
Ann Arbor, MI 48104-2393

Enclosed Please find a modification to the Ohio EPA Permit To Install referenced above which will modify the terms and conditions.

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

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

Sincerely,

*Michael W. Ahern*

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

CC: USEPA

RAPCA



Permit To Install  
Terms and Conditions

Issue Date: 11/28/2003  
Effective Date: 11/28/2003

**FINAL ADMINISTRATIVE MODIFICATION OF PERMIT TO INSTALL 08-03855**

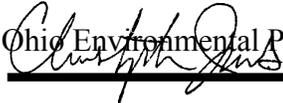
Application Number: 08-03855  
APS Premise Number: 0857103154  
Permit Fee: **\$450**  
Name of Facility: Pinnacle Gas Producers LLC  
Person to Contact: Richard DiGia  
Address: 425 S Main St Ste 201  
Ann Arbor, MI 48104-2393

Location of proposed air contaminant source(s) [emissions unit(s)]:  
**4220 Pinnacle Rd**  
**Moraine, Ohio**

Description of proposed emissions unit(s):  
**Administrative modification to revise emissions limits and test methods based on the results of the initial compliance demonstration.**

The above named entity is hereby granted a modification to the permit to install described above pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this modification does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the above described source(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 included in the application, the above described source(s) of pollutants will be granted the necessary operating permits.

This permit is granted subject to the conditions attached hereto.

  
Ohio Environmental Protection Agency

Director

## **Part I - GENERAL TERMS AND CONDITIONS**

### **A. Permit to Install General Terms and Conditions**

#### **1. Compliance Requirements**

The emissions unit(s) identified in this Permit to Install shall remain in full compliance with all applicable State laws and regulations and the terms and conditions of this permit.

#### **2. Reporting Requirements**

The permittee shall submit required reports in the following manner:

- a. Reports of any required monitoring and/or recordkeeping information shall be submitted to the appropriate Ohio EPA District Office or local air agency.
- b. Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursions) from emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and recordkeeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the appropriate Ohio EPA District Office or local air agency. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

#### **3. Records Retention Requirements**

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

#### **4. Inspections and Information Requests**

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

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

**5. Scheduled Maintenance/Malfunction Reporting**

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

**6. Permit Transfers**

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

**7. Air Pollution Nuisance**

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

**8. Termination of Permit to Install**

This Permit to Install shall terminate within eighteen months of the effective date of the Permit to Install if the owner or operator has not undertaken a continuing program of installation or modification or has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation or modification. This deadline may be extended by up to 12 months if application is made to the Director within a reasonable time before the termination date and the party shows good cause for any such extension.

**9. Construction of New Sources(s)**

The proposed emissions unit(s) shall be constructed in strict accordance with the plans and application submitted for this permit to the Director of the Ohio Environmental Protection Agency. There may be no deviation from the approved plans without the express, written approval of the Agency. Any deviations from the approved plans or the above conditions may lead to such sanctions

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and penalties as provided under Ohio law. Approval of these plans does not constitute an assurance that the proposed facilities will operate in compliance with all Ohio laws and regulations. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed sources cannot meet the requirements of this permit or cannot meet applicable standards.

If the construction of the proposed emissions unit(s) has already begun or has been completed prior to the date the Director of the Environmental Protection Agency approves the permit application and plans, the approval does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the approved plans. The action of beginning and/or completing construction prior to obtaining the Director's approval constitutes a violation of OAC rule 3745-31-02. Furthermore, issuance of the Permit to Install does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Approval of the plans in any case is not to be construed as an approval of the facility as constructed and/or completed. Moreover, issuance of the Permit to Install is not to be construed as a waiver of any rights that the Ohio Environmental Protection Agency (or other persons) may have against the applicant for starting construction prior to the effective date of the permit. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed facilities cannot meet the requirements of this permit or cannot meet applicable standards.

**10. Public Disclosure**

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

**11. Applicability**

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

**12. Best Available Technology**

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

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

a. If the permittee is required to apply for a Title V permit pursuant to OAC Chapter

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

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

#### **14. Construction Compliance Certification**

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

#### **15. Fees**

The permittee shall pay fees to the Director of the Ohio EPA in accordance with ORC section 3745.11 and OAC Chapter 3745-78. The permittee shall pay all applicable Permit to Install fees within 30 days after the issuance of this Permit to Install.

#### **B. Permit to Install Summary of Allowable Emissions**

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

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

<u>Pollutant</u>	<u>Tons Per Year</u>
NOx	23.52
CO	43.14
NMOC	28.86
HAPs	5.26

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Facility ID: 0857103154

Emissions Unit ID: B001

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

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

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	OAC rule 3745-17-11(B)(5)(b)
B001 - 12 MMBtu/hour (1,626 bhp) pipeline quality gas/natural gas-fired compressor engine	OAC rule 3745-31-05(A)(3)	
		OAC rule 3745-18-06(G)

OAC rule 3745-17-07 (A)(1)

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PTI A

Modification Issued: 11/28/2003

Emissions Unit ID: B001

Applicable Emissions  
Limitations/Control Measures

The non-methane organic compound (NMOC) emissions from this emissions unit shall not exceed 5.38 lbs/hour and 23.6 tons/year (TPY).

The sulfur dioxide emissions (SO<sub>2</sub>) from this emissions unit shall not exceed 0.001 lb SO<sub>2</sub> /MMBtu actual heat input.

The opacity of any visible emissions from this emissions unit shall not exceed 10% as a six minute average.

The emissions of nitrogen oxides (NO<sub>x</sub>) from this emissions unit shall not exceed 5.37 lbs/hour and 23.52 TPY.

The emissions of carbon monoxide (CO) shall not exceed 9.85 lbs/hour and 43.14 TPY.

Compliance with this rule shall also include compliance with OAC rules 3745 -17-07(A), 3745-17-11(B), and 3745-18-06(G).

The emissions limits established by this rule are less stringent than the limits established pursuant to OAC rule 3745-31-05(A)(3).

The particulate emissions from this

emissions from this emissions unit shall not exceed 0.062 pound/MMBtu of actual heat input.

The emission limits established by this rule are less stringent than the limits established pursuant to OAC rule 3745-31-05(A)(3).

**2. Additional Terms and Conditions**

- 2.a** The compressor shall be exempt from the SO<sub>2</sub> mass emission limitation during any day in which the only fuel burned is natural gas (including pipeline quality gas concentrated from landfill gas) having a heat content of greater than 950 Btu per standard cubic foot and a sulfur content of less than 0.6 pound per million standard cubic feet.

**B. Operational Restrictions**

1. The permittee shall burn only natural gas, or pipeline quality gas concentrated from landfill gas in this emissions unit. .
2. In the event that the landfill gas collection system is in operable, the compressor shall be shut down and all valves in the control system contributing to venting of the gas to the atmosphere shall be closed within one hour.
3. The permittee shall maintain and operate an air/fuel mixture controller on the gas fired landfill gas compressor engine.

**C. Monitoring and/or Recordkeeping Requirements**

1. The permittee shall maintain monthly records of the type and quantity of fuel burned in the compressor engine.
2. During the first 12 months of operation the permittee shall collect a representative sample of the gaseous fuel burned in this emissions unit and either analyze or have it analyzed, for heat content and sulfur content. This sampling and analysis shall be completed once per calendar month in accordance with ASTM methods D1072, D3031, or D3246. Future gaseous fuel analysis requirements for this emissions unit will be established in the Permit to Operate as necessary. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.
3. The permittee shall develop and maintain a quality assurance manual for the gas fired, stationary, internal combustion engine powering the landfill gas compressor and the components of the landfill gas compressor within three months after initial operation of the engine.
4. The permittee shall maintain a log of records detailing the operation of the gas fired, stationary, internal combustion engine powering the landfill gas compressor. The records shall include any quality assurance or maintenance performed, all monitoring of the engine and the engines components, a record of each date and time when the engine operated outside of the quality

assurance limits along with the type of fuel the engine was burning, and the steps taken to correct the problem. This log shall be available for review during regular business hours at the facility by the Director or his representatives.

#### **D. Reporting Requirements**

1. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas or pipeline quality gas concentrated from landfill gas was burned in the gas fired, stationary, internal combustion engine powering the landfill gas compressor. These reports shall be submitted within 30 days after the deviation occurred.
2. The permittee shall submit quarterly reports detailing the results of the sampling and analysis of the gaseous fuel burned in the stationary, internal combustion engine powering the landfill gas compressor for the first twelve months of operation. These reports shall contain, at a minimum, the analyzed heat content, in Btus per cubic foot and sulfur content in parts per million on a volumetric basis.

#### **E. Testing Requirements**

1. Compliance with the emission limitation(s) in section A.1 of these terms and conditions shall be determined in accordance with the following method(s):
  - a. Emission Limitation-  
0.062 lb particulate/MMBtu actual heat input  
  
Applicable Compliance Method-  
If required, compliance shall be determined based on the results of stack testing conducted in accordance with OAC rule 3745-17-03(B)(10).
  - b. Emission Limitation-  
0.001 lb SO<sub>2</sub> /MMBtu actual heat input  
  
Applicable Compliance Method-  
If required, compliance shall be determined based on the results of stack testing conducted in accordance with OAC rule 3745-18-04(F).
  - c. Emission Limitation-  
5.37 lbs/hour NO<sub>x</sub>  
  
Applicable Compliance Method-

Emissions Unit ID: **B001**

Compliance shall be determined based on the results of stack testing conducted in accordance with the test methods and procedures specified in 40 CFR Part 60, Appendix A Methods 7, 7A, 7B or 7E.

- d. Emission Limitation-  
23.52 TPY NO<sub>x</sub>

Applicable Compliance Method-

The 23.52 TPY limitation was developed by multiplying the 5.37 lbs/hour limitation by the maximum operating schedule of 8,760 hours per year, divided by 2,000 pounds per ton. Therefore, provided compliance is shown with the hourly emission limitation, compliance will also be shown with the annual limitation.

- e. Emission Limitation-  
9.85 lbs/hour CO

Applicable Compliance Method-

Compliance shall be based upon stack testing in accordance with the test methods and procedures specified in 40 CFR Part 60, Appendix A, Methods 10 or 10B.

- f. Emission Limitation-  
43.14 TPY CO

Applicable Compliance Method-

The 43.14 TPY limitation was developed by multiplying the 9.85 lbs/hour limitation by the maximum operating schedule of 8,760 hours per year, divided by 2,000 pounds per ton. Therefore, provided compliance is shown with the hourly emission limitation, compliance will also be shown with the annual limitation.

- g. Emission Limitation-  
5.38 lbs/hour non-methane organic compounds

Applicable Compliance Method

Compliance shall be based upon stack testing in accordance with the test methods and procedures specified in 40 CFR Part 60, Appendix A, Methods 18, 25, or 25A.

- h. Emission Limitation

23.6 tons/year non-methane organic compounds

Applicable Compliance Method

The 23.6 TPY limitation was developed by multiplying the 5.38 lbs/hour limitation by the maximum operating schedule of 8,760 hours per year, divided by 2,000 pounds per ton.

Therefore, provided compliance is shown with the hourly emission limitation, compliance will also be shown with the annual limitation.

- i. Emission Limitation-  
visible emissions less than 10 percent opacity as six minute average

Applicable Compliance Method-

If required, compliance shall be determined based on the results of visible emissions readings taken in accordance with OAC rule 3745-17-03(B)(1) and U.S. EPA Reference Method 9 of 40 CFR Part 60, Appendix A.

2. The permittee shall conduct, or have conducted, an initial performance test for emissions unit B001 in accordance with the following requirements:
  - a. the performance test shall be performed within 60 days after the achieving maximum production rate, but not later than 180 days after initial startup of the landfill gas processing plant;
  - b. the performance test shall be conducted to demonstrate compliance with the allowable emission rates for NO<sub>x</sub>, CO and NMOC;
  - c. the following test methods of 40 CFR Part 60, Appendix A shall be employed to demonstrate compliance with the allowable mass emission rates: for NO<sub>x</sub>, 7, 7A, 7B, or 7E, for CO, 10, or 10B and for NMOC, Methods 18,25 and/or 25A;
  - d. the test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Regional Air Pollution Control Agency.

Compliance with this requirement was demonstrated during testing completed on July 30 and 31, 2003. Future emissions testing requirements for this emissions unit will be established in the Permit to Operate as necessary.

3. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the

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**Modif**

**Facility ID: 0857103154**

Emissions Unit ID: **B001**

results of the emission test(s).

4. Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.
5. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

**F. Miscellaneous Requirements**

None

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

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

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P001 - Landfill gas processing plant to produce pipeline quality natural gas (methane), with thermal oxidizer control; and flare for periods of start-up.	OAC rule 3745-31-05(A)(3)	A control system shall be designed and operated to reduce non-methane organic compound emissions (NMOC) by 98 percent, by weight (See II.A.2.a.)
		The NMOC emissions from this emissions unit shall not exceed 1.2 lbs/hour and 5.26 tons/year (TPY).
	40 CFR Part 60.18	The hazardous air pollutant HAP emissions as defined in Section 112(b) of the Clean Air Act Amendments of 1990 from this emissions unit shall not exceed 1.2 lbs/hour and 5.26 tons/year (TPY).
		No visible emissions from the flare except for periods not to exceed a total of 5 minutes during any two consecutive hours.
		See II.A.2.e.

**2. Additional Terms and Conditions**

**Modification Issued: 11/28/2003**

- 2.a** The permittee shall process all collected gas to the landfill gas processing plant (P001) for subsequent sale or use. All emissions from the gas treatment system shall be vented to a thermal oxidizer that is designed and operated to reduce NMOC emissions by 98 percent.
- 2.b** the landfill gas processing plant shall produce pipeline quality natural gas (methane) from the landfill gas collected by the Pinnacle Road Landfill and Recycling Facility (Ohio EPA Facility Landfill ID 0857101458) and the Stony Hollow Recycling Facility (Ohio EPA Facility Landfill ID 0857043008) landfill gas extraction system.
- 2.c** During all periods of start-up of the landfill gas processing plant, a flare shall be employed initially with the collected landfill gas emissions ultimately diverted to the thermal oxidizer.
- 2.d** During all periods of start-up when the landfill gas is routed to the flare control system, 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 two consecutive hours.
- 2.e** The exit velocity of the flare shall be less than  $V_{\max}$  and less than 122 meters/second (400 feet/second), where  $V_{\max}$  is determined by the following equation:

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

$V_{\max}$  = maximum permitted velocity, in meters/second

$H_T$  = Net heating value of the fuel gas, MJ/scm

28.8 = constant

31.7 = constant

**B. Operational Restrictions**

1. The permittee shall not process more than 4.5 million standard cubic feet per day of landfill gas on a dry basis. Dry basis means the collected landfill gas with the free water removed.
2. Prior to the completion of the initial performance test, the average combustion temperature within the thermal oxidizer, for any 3-hour block of time when the emissions unit is in operation, shall not be below 1,350 °F.
3. After the initial performance test is completed, the average combustion temperature within the thermal oxidizer, for any 3-hour block of time when the emissions unit is operation, shall not be more than 50 °F below the average temperature during the most recent emissions test that demonstrated compliance.

Emissions Unit ID: **P001**

4. The flare control system shall be operated at all times when gas is directed to the flare.
5. The net heating value of the gas being combusted shall be 200 Btu/scf or greater except during periods, not to exceed 30 minutes, when only the CO<sub>2</sub> vent stream is flowing through the flare.

### **C. Monitoring and/or Recordkeeping Requirements**

1. The permittee shall maintain daily records of the amount of landfill gas processed, on a dry basis.
2. The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal oxidizer when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturers recommendations, with any modifications deemed necessary by the permittee.
3. The permittee shall collect and record the following information each day:
  - a. Prior to the completion of the initial performance test, all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer, when the emissions unit was in operation, was below 1,350 °F;
  - b. Following the completion of the initial performance test, all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer, when the emissions unit was in operation, was below the average temperature during the most recent emissions test that demonstrated compliance; and,
  - c. A log of the downtime for the thermal oxidizer and the thermal oxidizer monitoring and recording equipment, when the emissions unit was in operation.
4. The permittee shall record all periods of operation during which a flame was not present on the flare control system when gas is directed to the flare.
5. During periods of start-up, or any other time, when the permittee routes landfill gas to the flare control system, the permittee shall maintain a record of the quantity of landfill gas burned and the length of time during which landfill gas was routed to the flare system.
6. The permittee shall install, calibrate, maintain, and operate gas flow measuring devices that record the gas flow rate to the processing and the gas flow out of the plant.
7. The permittee shall keep for at least 5 years up-to-date readily accessible records of the following

information for each emissions unit:

- a. continuous records of the equipment operating parameters.
- b. records for any periods of operation during which the parameter boundaries established during the most recent performance test and exceeded; and,
- c. records of all visible emissions readings, heat content determinations, flow rate measurements, exit velocity determinations made during the initial performance test, and all continuous records of the flare pilot flame.

Emissions Unit ID: **P001**

8. The permittee shall keep up-to-date, readily accessible records for the life of the control equipment of the data measured during the initial performance test of 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.
9. The permittee shall maintain records of the duration, including the date and time, of any periods during which only the CO<sub>2</sub> vent stream is flowing through the flare.

#### **D. Reporting Requirements**

1. The permittee shall submit quarterly deviation (excursion) reports which identify all days during which more than 4.5 million standard cubic feet of landfill gas, on a dry basis, was processed by these emissions units.
2. The permittee shall submit quarterly deviation (excursion) reports which identify all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer does not comply with the temperature limitation specified above.
3. The permittee shall submit quarterly deviation (excursion) reports which identify each period during which the flame was not present on the flare control system when gas is directed to the flare.
4. The permittee shall notify the Director (RAPCA) of any periods greater than 30 minutes when only the CO<sub>2</sub> vent stream is flowing through the flare. This notification shall include a copy of such record and shall be submitted to the Director (RAPCA) within 45 days after the exceedance occurs.
5. Any breakdown or malfunction of the thermal oxidizer and/or flare resulting in the emission of uncontrolled process gas or raw landfill gas shall be reported to the Director (RAPCA) within one hour after the occurrence or as soon as reasonably possible, in accordance with the requirements specified in OAC rule 3745-15-06, and immediate remedial measures shall be undertaken to correct the problem and prevent further emissions to the atmosphere.

#### **E. Testing Requirements**

1. Compliance with the emission limitation(s) in section A.1 of these terms and conditions shall be determined in accordance with the following method(s):
  - a. Emission Limitation-  
98% weight-percent destruction of NMOC

**Pinna**

**PTI A**

**Modification Issued: 11/28/2003**

Emissions Unit ID: **P001**

Applicable Compliance Method-

Compliance shall be determined based on the results of stack testing conducted in accordance with U.S. EPA Reference Methods 18, 25 and/or 25A of 40 CFR Part 60, Appendix A.

**Modification Issued: 11/28/2003**

- b. Emission Limitation-  
1.2 lbs/hour NMOC

Applicable Compliance Method-

Compliance shall be determined based on the results of stack testing conducted in accordance with U.S. EPA Reference Methods 18, 25 and/or 25A of 40 CFR Part 60, Appendix A.

- c. Emission Limitation-  
5.26 TPY NMOC

Applicable Compliance Method-

The 5.26 TPY limitation was developed by multiplying the 1.2 lbs/hour limitation by the maximum operating schedule of 8,760 hours per year, divided by 2,000 pounds per ton. Therefore, provided compliance is shown with the hourly emission limitation, compliance will also be shown with the annual limitation.

- d. Emission Limitation-  
1.2 lbs/hour HAP

Applicable Compliance Method-

Compliance shall be determined using the latest version of the U.S. EPA Landfill Air Emissions Estimation Model for the development of this permit, version 1.1 of U.S. EPA Landfill Air Emissions Estimation Model Program was utilized. It is assumed that the destruction of HAPs will be accomplished by the thermal oxidizer and that all collected gas is routed to the landfill gas processing plant.

- e. Emission Limitation-  
5.26 TPY HAP

Applicable Compliance Method-

Compliance shall be determined using the latest version of the U.S. EPA Landfill Air Emissions Estimation Model for the development of this permit, version 1.1 of U.S. EPA Landfill Air Emissions Estimation Model Program was utilized. The 5.26 TPY limitation was developed by multiplying the 1.2 lbs/hour limitation by the maximum operating schedule of 8,760 hours per year, divided by 2,000 pounds per ton. Therefore, provided compliance is shown with the hourly emission limitation, compliance will also be shown with the annual limitation.

- f. Emission Limitation-

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**Facility ID: 0857103154**

Emissions Unit ID: **P001**

No visible emissions from the flare control system, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.

Modification Issued: 11/28/2003

Applicable Compliance Method-

Compliance shall be determined by visible emissions evaluations performed in accordance with 40 CFR Part 60, using the procedures specified in U.S. EPA Reference Method 22 of 40 CFR Part 60, Appendix A.

2. The permittee shall conduct, or have conducted, an initial performance test for emissions unit P001 in accordance with the following requirements:
  - a. the performance test shall be performed within 60 days after the achieving maximum production rate, but not later than 180 days after initial startup of the landfill gas processing plant;
  - b. the performance test shall be conducted to demonstrate compliance with the minimum 98 weight percent destruction of NMOC;
  - c. the following test methods of 40 CFR Part 60, Appendix A shall be used to demonstrate compliance with the minimum 98 weight percent destruction efficiency requirement for NMOC, Methods 18, 25 and/or 25A, if method 18 is used the minimum list of compounds to be tested shall be those published in the most recent Compilation of Air Pollutant Emission Factors (AP-42). The following equation shall be used to calculate efficiency:

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

where:  $\text{NMOC}_{\text{in}}$  = mass of NMOC entering the control system

$\text{NMOC}_{\text{out}}$  = mass of NMOC exiting the control system

- d. the test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Regional Air Pollution Control Agency.
- e. The permittee shall determine the net heating value of the gas being combusted in the flare control system by collecting a representative sample of the gaseous fuel burned in the flare and analyzing the fuel for heat content in accordance with ASTM Method D1945 or; by using the following equation:

$$H_T = K \sum_{i=1} C_i H_i$$

where:

$H_T$  = net heating value of the sample, in MJ/scm; where the enthalpy per mole of offgas

is based on combustion at 25°C and 760 mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20°C.

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

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

$H_i =$  net heat of combustion of sample component i, kcal/g mole at 25 °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.

Compliance with this requirement was demonstrated during testing completed on July 30 and 31, 2003. Future emissions testing requirements for this emissions unit will be established in the Permit to Operate as necessary.

3. The actual exit velocity of a flare shall be determined by dividing the volumetric flowrate (in units of standard time and pressure), as determined by U.S. EPA Reference Method 2, 2A, 2C, or 2D as appropriate; by the unobstructed (free) cross sectional area of the flare tip. Compliance with this requirement was demonstrated during testing completed on July 30 and 31, 2003. Future emissions testing requirements for this emissions unit will be established in the Permit to Operate as necessary.
4. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).
5. Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.
6. A comprehensive written report on the results of the emissions test(s) shall be signed by the

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person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

**F. Miscellaneous Requirements**

None