State of Ohio Environmental Protection Agency

RE: FINAL PERMIT TO INSTALL **CERTIFIED MAIL**
MAHONING COUNTY

Street Address: Mailing Address: Lazarus Gov. Center
Lazarus Gov. Center **TELE:** (614) 644-3020 **FAX:** (614) 644-2329

Application No: 02-14296

DATE: 4/5/2001

Carbon Limestone LFG Power Station
Leslie Cook
7700 San Felipe, Suite 480
Houston, TX 77063

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

The Ohio EPA is urging companies to investigate pollution prevention and energy conservation. Not only will this reduce pollution and energy consumption, but it can also save you money. If you would like to learn ways you can save money while protecting the environment, please contact our Office of Pollution Prevention at (614) 644-3469.

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

Environmental Review Appeals Commission
236 East Town Street, Room 300
Columbus, Ohio 43215

Very truly yours,

Thomas G. Rigo
Field Operations and Permit Section
Division of Air Pollution Control

CC: USEPA **NEDO** **Mahoning-Trumbull APC Agency**

FINAL PERMIT TO INSTALL 02-14296

Application Number:	02-14296
APS Premise Number:	0250050996
Permit Fee:	**$3200**
Name of Facility:	Carbon Limestone LFG Power Station
Person to Contact:	Leslie Cook
Address:	7700 San Felipe, Suite 480 Houston, TX 77063

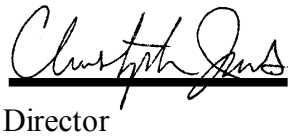
Location of proposed air contaminant source(s) [emissions unit(s)]:
8100 South Stateline Rd
Lowellville, Ohio

Description of proposed emissions unit(s):
16 Internal Combustion Engines burning landfill gas to produce electricity.

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

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency



Director

Part I - GENERAL TERMS AND CONDITIONS

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

1. Monitoring and Related Recordkeeping and Reporting Requirements

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

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

ii. The date(s) analyses were performed.

iii. The company or entity that performed the analyses.

iv. The analytical techniques or methods used.

v. The results of such analyses.

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

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

c. Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall submit required reports in the following manner:

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

ii. Quarterly written reports of (i) any deviations from federally enforceable emission limitations, operational restrictions, and control device operating parameter limitations, excluding deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06, that have been detected by the testing, monitoring and recordkeeping requirements specified in this permit, (ii) the probable cause of such deviations, and (iii) any corrective actions or preventive measures taken, shall be made to the appropriate Ohio EPA District Office or local air agency. The written reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous

calendar quarters. See B.11 below if no deviations occurred during the quarter.

iii. Written reports, which identify any deviations from the federally enforceable monitoring, recordkeeping, and reporting requirements contained in this permit shall be submitted 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. If no deviations occurred during a six-month period, the permittee shall submit a semi-annual report, which states that no deviations occurred during that period.

iv. 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.

2. Scheduled Maintenance/Malfunction Reporting

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction, i.e., upset, of any emissions units or any associated air pollution control system(s) shall be reported to the appropriate Ohio EPA District Office or local air agency in accordance with paragraph (B) of OAC rule 3745-15-06. (The definition of an upset condition shall be the same as that used in OAC rule 3745-15-06(B)(1) for a malfunction.) The verbal and written reports shall be submitted pursuant to OAC rule 3745-15-06**.**
Except as provided in that rule, any scheduled maintenance or malfunction necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emission unit(s) that is (are) served by such control system(s).

3. Risk Management Plans

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

4. Title IV Provisions

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

5. Severability Clause

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

6. General Requirements

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

7. Fees

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

8. Federal and State Enforceability

Only those terms and conditions designated in this permit as federally enforceable, that are

required under the Act, or any 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.

9. Compliance Requirements

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

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

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

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

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

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

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

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

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

10. Permit To Operate Application

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

b. If the permittee is required to apply for permit(s) pursuant to OAC Chapter 3745-35, the source(s) identified in this Permit 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 thirty (30) days after commencing operation of the source(s) covered by this permit.

11. Best Available Technology

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

B. State Only Enforceable 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 Related to Monitoring and Recordkeeping Requirements

The permittee shall submit required reports in the following manner:

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

b. Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursions) from state-only required emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and recordkeeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the appropriate Ohio EPA District Office or local air agency. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted 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. Permit Transfers

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

4. 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.

5. 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.

6. Construction of New Sources(s)

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

7. 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.

8. 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).

9. 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.

10. 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.

C. Permit To Install Summary of Allowable Emissions

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

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

Pollutant	Tons Per Year
Oxides of Nitrogen	173.9
Carbon Monoxide	580.0
Organic Compounds	47.68
Sulfur Dioxide	16.16
PM_{10}	26.56
Particulate Emissions	60.96*
Hydrogen Chloride	3.52
Formaldehyde	2.88

* = includes PM_{10} emissions

Part II - FACILITY SPECIFIC TERMS AND CONDITIONS

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

None

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

None

Emissions Unit ID: P001

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

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements	
P001 - 1400 bkW (14.0 million Btu/hr) Deutz TBG 620 V16 K Internal combustion engine to produce electricity from landfill gas.	OAC rule 3745-31-05 (A)(3)	
		OAC rule 3745-17-11 (B)(5)(b)
		OAC rule 3745-17-07 (A)(1)
	40 CFR Part 52, Section 52.21 and OAC rule 3745-31-10 through OAC rule 3745-31-20.	OAC rule 3745-18-06(D)

Applicable Emissions Limitations/Control Measures	tons per year).*	3745-31-05(A)(3).
	PM_{10} emissions shall not exceed 0.38 pound per hour; 1.66 tons per year*	
Non-methane organic compound (NMOC) emissions shall be reduced by 98 weight percent or reduce the outlet NMOC emissions to less than 20 parts per million by volume, dry basis (ppmvd) as hexane at 3 percent oxygen.	Oxides of Nitrogen emissions shall not exceed 0.18 pound per mmBtu, actual heat input (2.48 pounds per hour; 10.87 tons per year).*	
	Carbon monoxide emissions shall not exceed 0.59 pound per mmBtu, actual heat input (8.28 pounds per hour; 36.25 tons per year).*	
Visible emissions shall not exceed 10% opacity as a six-minute average.	Organic compound emissions shall not exceed 0.68 pound per hour; 2.98 tons per year.*	
Sulfur dioxide emissions shall not exceed 0.23 pound per hour; 1.01 tons per year.	* = compliance with this annual allowable is based on a rolling 12-month average.	
Hydrogen chloride emissions shall not exceed 0.05 pound per hour; 0.22 ton per year.	The particulate emission limitation specified by this rule is equivalent to the limit established by OAC rule 3745-31-05(A)(3), 40 CFR Part 52, Section 52.21 and OAC rule 3745-31-10 through 20.	
Formaldehyde emissions shall not exceed 0.04 pound per hour; 0.18 ton per year.		
The requirements of this rule also include compliance with the requirements of 40 CFR Part 52, Section 52.21, OAC rule 3745-31-10 through 20.	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).	
Particulate emissions shall not exceed 0.062 pound per mmBtu, actual heat input (0.87 pound per hour; 3.81	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule	

Emissions Unit ID: P001

2. Additional Terms and Conditions

2.a The internal combustion engine shall operate using lean burn technology.

2.b This internal combustion engine is one of sixteen (16) internal combustion engines being permitted under this permit to install.

2.c The hourly and annual emission limitations are based upon the emissions unit potential to emit utilizing lean burn technology. Therefore, no records are required to demonstrate compliance with these limits.

II. Operational Restrictions

1. This emissions unit shall burn only landfill gas.

2. The permittee shall install, calibrate, maintain and operate according to the manufacturer's specifications a device at the inlet to the internal combustion engine which completely shuts off gas flow to the internal combustion engine when the internal combustion engine is not operating.

3. When the internal combustion engine is not operating, the landfill gas shall be diverted to the existing enclosed combustor at the Carbon Limestone Landfill (02-50-07-0850) or to an internal combustion engine that is operating.

4. The average combustion chamber temperature within the internal combustion engine, for any 3-hour block of time when the emissions unit is in operation, shall be established at the initial compliance test. A minimum temperature needs to be established to ensure destruction of NMOC.

5. The emissions unit shall not exceed the following emissions limits based upon a rolling, 12-month summation of the emissions: 3.81 TPY PE, 1.66 TPY PM10, 10.87 TPY Oxides of Nitrogen, 36.25 TPY CO, and 2.98 TPY OC.

   To ensure enforceability during the first 12 calendar months of operation following the issuance of this permit, the permittee shall not exceed the emission levels specified in the following table:

Month(s)	Maximum Allowable Cumulative Emissions of PE (Tons)
1	0.32
1-2	0.64
1-3	0.95
1-4	1.27
1-5	1.59
1-6	1.91
1-7	2.22
1-8	2.54

1-9	2.86
1-10	3.18
1-11	3.49
1-12	3.81

Month(s)	Maximum Allowable Cumulative Emissions of PM10 (Tons)
1	0.14
1-2	0.28
1-3	0.42
1-4	0.55
1-5	0.69
1-6	0.83
1-7	0.97
1-8	1.11
1-9	1.25
1-10	1.38
1-11	1.52
1-12	1.66

Month(s)	Maximum Allowable Cumulative Emissions of Oxides of Nitrogen (Tons)
1	0.91
1-2	1.81
1-3	2.72
1-4	3.62
1-5	4.53
1-6	5.44
1-7	6.34

1-8	7.24
1-9	8.15
1-10	9.06
1-11	9.96
1-12	10.87

Month(s)	Maximum Allowable Cumulative Emissions of CO (Tons)
1	3.02
1-2	6.04
1-3	9.06
1-4	12.08
1-5	15.10
1-6	18.13
1-7	21.15
1-8	24.17
1-9	27.19
1-10	30.21
1-11	33.23
1-12	36.25

Month(s)	Maximum Allowable Cumulative Emissions of OC (Tons)
1	0.25
1-2	0.50
1-3	0.75
1-4	0.99
1-5	1.24
1-6	1.49
1-7	1.74

1-8	1.99
1-9	2.23
1-10	2.48
1-11	2.73
1-12	2.98

After the first 12 calendar months of operation following issuance of this permit, compliance with the annual emission limitation for PE, PM10, Oxides of Nitrogen, CO, and OC shall be based upon a rolling, 12-month summation of the monthly emissions.

III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall perform weekly checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving each emissions unit. The presence or absence of any visible emissions shall be noted in an operations log for each unit. If visible emissions are observed, the permittee shall also note the following in the operation log:

   a. the color of the emissions;

   b. the cause of the visible emissions;

   c. the total duration of any visible emission incident; and,

   d. any corrective actions taken to eliminate the visible emissions.

2. The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion chamber temperature within the internal combustion engine. 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 manufacturer's recommendations, with any modifications deemed necessary by the permittee.

3. The permittee shall collect and record , each day, all 3-hour blocks of time during which the average combustion chamber temperature within the internal combustion engine was less than the allowable minimum temperature established during the initial compliance test.

4. The permittee shall record each day when a fuel other than landfill gas was burned in this emissions unit.

5. The permittee shall maintain records of the accumulative PE, PM10, Oxides of Nitrogen, CO, and OC emissions for the first 12 months of operation following the issuance of this permit and of the rolling, 12-month summation of the PE, PM10, Oxides of Nitrogen, CO, and OC emissions beginning after the first 12 calendar months of operation following the issuance of this permit.

6. The excursion reports required above are due by the dates described in the General Terms and Conditions of this permit.

IV. Reporting Requirements

1. The permittee shall submit semiannual written reports which (a) identify all days during which any visible particulate emissions were observed from the stack serving the emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Northeast District Office of the Ohio EPA by January 31 and July 31 of each year and shall cover the previous 6-month period.

2. The permittee shall submit deviation (excursion) reports which identify all 3-hour blocks of time which the average combustion chamber temperature within the internal combustion engine does not comply with the temperature limitation specified above.

3. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than landfill gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

4. Any breakdown or malfunction resulting in the emission of raw landfill gas to the atmosphere shall be reported to the Northeast District Office of the Ohio EPA within one 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.

5. The permittee shall submit deviation reports that identify all exceedances of the rolling, 12-month emission limitations.

V. Testing Requirements

1. Emission Testing Requirement

   The permittee shall conduct, or have conducted, emissions testing for this emissions unit in accordance with the following requirements:

   a. the emission testing shall be conducted within 90 days from the start-up of the emissions unit;

   b. the emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate; nitrogen oxide (NOx), carbon monoxide (CO), particulate matter (PM), hydrogen chloride (HCl) and organic

compounds (OC).

c. the emission testing shall be conducted to demonstrate compliance with either the removal of 98 weight percent of non-methane organic compounds (NMOC) or the reduction of the outlet concentration of NMOC to less than 20 parts per million by volume, dry basis (ppmvd) as hexane at 3 percent oxygen. The gas header to the internal combustion engine and the egress of the engines are required to be tested to ensure the destruction on NMOC;

d. the following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): NOx - Method 7 or 7E, CO - Method 10, OC - Method 25 or 25A, PM - Method 5, HCl - Method 26;

e. the test(s) shall be conducted while the emissions unit is operating at or near maximum capacity, unless otherwise specified or approved by the Ohio EPA, Northeast District Office; and,

f. the compliance test shall be performed on one of the following similar emissions units P001, P002, P003, P004, P005, P006, P007, P008, P009, P010, P011, P012, P013, P014, P015, or P016.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Northeast District Office of the Ohio EPA. 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, Northeast District Office's refusal to accept the results of the emission test(s).

Personnel from the Ohio EPA, Northeast District Office 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.

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 Ohio EPA, Northeast District Office 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 Ohio EPA Northeast District Office.

2. Compliance with the emission limitation(s) established in this permit shall be determined in accordance with the following method(s):

a. Emission Limitation:

Organic Compound emissions shall not exceed 0.68 pound per hour; 2.98 tons per year.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined in accordance with the performance test requirement. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton) and record keeping required under section III.5.

b. Emission Limitation:

Visible emission shall not exceed 10% opacity as a six-minute average.

Applicable Compliance Method:
Compliance shall be demonstrated by using 40 CFR, Part 60, Appendix A, Method 9.

c. Emission Limitation:

Particulate matter emissions shall not exceed 0.062 pound per mmBtu, actual heat input, 0.87 pound per hour; and 3.81 tons per year.

Applicable Compliance Method:
If required by the Ohio EPA, compliance with the hourly emission limitation shall be determined in accordance with Method 5 of 40 CFR, Part 60, Appendix A. Compliance

with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton) and record keeping required under section III.5.

d. Emission Limitation:

Oxides of Nitrogen emissions shall not exceed 0.18 pound per mmBtu, actual heat input, 2.48 pounds per hour; and 10.87 tons per year.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined in accordance with the performance test requirement. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton) and record keeping required under section III.5.

e. Emission Limitation:

Carbon Monoxide emissions shall not exceed 0.59 pound per mmBtu, actual heat input, 8.28 pounds per hour; 36.25 tons per year.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined in accordance with the performance test requirement. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton) and record keeping required under section III.5.

f. Emission Limitation:

Sulfur Dioxide emissions shall not exceed 0.23 pound per hour; 1.01 ton per year.

Emissions Unit ID: P001

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be demonstrated by multiplying the maximum inlet gas flow of 0.029 MMscf per hour by an AP-42 emission factor of 7.786 pounds of Sulfur Dioxide per MMscf, (Section 2.4 "Municipal Solid Waste Landfills, 11/98). Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton).

g. Emission Limitation:

Hydrogen chloride emissions shall not exceed 0.05 pound per hour; 0.22 tons per year.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined in accordance with Method 26 of 40 CFR, Part 60, Appendix A. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton).

h. Emission Limitation:

Non-methane organic compound (NMOC) emissions shall be reduced by 98 weight percent or reduce the outlet NMOC emissions to less than 20 parts per million by volume, dry basis (ppmvd) as hexane at 3 percent oxygen.

Applicable Compliance Method:
Compliance with the control efficiency limitation shall be determined in accordance with the performance test requirement of section V.1.

i. Emission Limitation:

Formaldehyde emissions shall not exceed 0.04 pound per hour; 0.18 ton per year.

Applicable Compliance Method:
If required by the Ohio EPA, compliance with the hourly emission limitation shall be determined in accordance with EPA reference method 0011 of SW-846 Chapter 10. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton).

VI. Miscellaneous Requirements

None

B. State Only Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
P001 - 1400 bkW (14.0 million Btu/hr) Deutz TBG 620 V16 K Internal combustion engine to produce electricity from landfill gas.	Air Toxics Policy	None

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

1. The permit to install for this emissions unit (P001) was evaluated based on the actual materials and the design parameters of (P001, P002, P003, P004, P005, P006, P007, P008, P009, P010, P011, P012, P013, P014, P015, and P016) emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the TSCREEN model. The predicted 1-hour maximum ground-level concentration from the use of the TSCREEN model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Hydrogen Chloride
Ceiling Value (mg/m3): 7.46
Maximum Hourly Emission Rate (lbs/hr): 0.05
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 0.2
MAGLC (ug/m3): 131

Pollutant: Formaldehyde
Ceiling Value (mg/m3): 0.37
Maximum Hourly Emission Rate (lbs/hr): 0.04
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 0.16
MAGLC (ug/m3): 6.5

Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be still satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

a. changes in the composition of the materials used (typically for coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled;

b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and

c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Air Toxic Policy" will be satisfied for the above changes, the

Emissions Unit ID: P001

Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01(VV)(1)(a)(ii), and a modification of the existing permit to install will not be required. If the change(s) is (are) defined as a modification under other provisions of the modification definition (other than (VV)(1)(a)(ii)), then the permittee shall obtain a final permit to install prior to the change.

The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy:"

a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);

b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and

c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

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

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements	
P002 - 1400 bkW (14.0 million Btu/hr) Deutz TBG 620 V16 K Internal combustion engine to produce electricity from landfill gas.	OAC rule 3745-31-05 (A)(3)	40 CFR Part 52, Section 52.21 and OAC rule 3745-31-10 through OAC rule 3745-31-20.
		OAC rule 3745-17-11 (B)(5)(b)

	Applicable Emissions Limitations/Control Measures	
OAC rule 3745-17-07 (A)(1)	Non-methane organic compound (NMOC) emissions shall be reduced by 98 weight percent or reduce the outlet NMOC emissions to less than 20 parts per million by volume, dry basis (ppmvd) as hexane at 3 percent oxygen.	Oxides of Nitrogen emissions shall not exceed 0.18 pound per mmBtu, actual heat input (2.48 pounds per hour; 10.87 tons per year).*
OAC rule 3745-18-06(D)	Visible emissions shall not exceed 10% opacity as a six-minute average.	Carbon monoxide emissions shall not exceed 0.59 pound per mmBtu, actual heat input (8.28 pounds per hour; 36.25 tons per year).*
	Sulfur dioxide emissions shall not exceed 0.23 pound per hour; 1.01 tons per year.	Organic compound emissions shall not exceed 0.68 pound per hour; 2.98 tons per year.*
	Hydrogen chloride emissions shall not exceed 0.05 pound per hour; 0.22 ton per year.	* = compliance with this annual allowable is based on a rolling 12-month average.
	Formaldehyde emissions shall not exceed 0.04 pound per hour; 0.18 ton per year.	The particulate emission limitation specified by this rule is equivalent to the limit established by OAC rule 3745-31-05(A)(3), 40 CFR Part 52, Section 52.21 and OAC rule 3745-31-10 through 20.
	The requirements of this rule also include compliance with the requirements of 40 CFR Part 52, Section 52.21, OAC rule 3745-31-10 through 20.	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
	Particulate emissions shall not exceed 0.062 pound per mmBtu, actual heat input (0.87 pound per hour; 3.81 tons per year).*	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
	PM_{10} emissions shall not exceed 0.38 pound per hour; 1.66 tons per year*	

Emissions Unit ID: P002

2. Additional Terms and Conditions

2.a The internal combustion engine shall operate using lean burn technology.

2.b This internal combustion engine is one of sixteen (16) internal combustion engines being permitted under this permit to install.

2.c The hourly and annual emission limitations are based upon the emissions unit potential to emit utilizing lean burn technology. Therefore, no records are required to demonstrate compliance with these limits.

II. Operational Restrictions

1. This emissions unit shall burn only landfill gas.

2. The permittee shall install, calibrate, maintain and operate according to the manufacturer's specifications a device at the inlet to the internal combustion engine which completely shuts off gas flow to the internal combustion engine when the internal combustion engine is not operating.

3. When the internal combustion engine is not operating, the landfill gas shall be diverted to the existing enclosed combustor at the Carbon Limestone Landfill (02-50-07-0850) or to an internal combustion engine that is operating.

4. The average combustion chamber temperature within the internal combustion engine, for any 3-hour block of time when the emissions unit is in operation, shall be established at the initial compliance test. A minimum temperature needs to be established to ensure destruction of NMOC.

5. The emissions unit shall not exceed the following emissions limits based upon a rolling, 12-month summation of the emissions: 3.81 TPY PE, 1.66 TPY PM10, 10.87 TPY Oxides of Nitrogen, 36.25 TPY CO, and 2.98 TPY OC.

   To ensure enforceability during the first 12 calendar months of operation following the issuance of this permit, the permittee shall not exceed the emission levels specified in the following table:

Month(s)	Maximum Allowable Cumulative Emissions of PE (Tons)
1	0.32
1-2	0.64
1-3	0.95
1-4	1.27
1-5	1.59
1-6	1.91
1-7	2.22
1-8	2.54

1-9	2.86
1-10	3.18
1-11	3.49
1-12	3.81

Month(s)	Maximum Allowable Cumulative Emissions of PM10 (Tons)
1	0.14
1-2	0.28
1-3	0.42
1-4	0.55
1-5	0.69
1-6	0.83
1-7	0.97
1-8	1.11
1-9	1.25
1-10	1.38
1-11	1.52
1-12	1.66

Month(s)	Maximum Allowable Cumulative Emissions of Oxides of Nitrogen (Tons)
1	0.91
1-2	1.81
1-3	2.72
1-4	3.62
1-5	4.53
1-6	5.44
1-7	6.34

1-8	7.24
1-9	8.15
1-10	9.06
1-11	9.96
1-12	10.87

Month(s)	Maximum Allowable Cumulative Emissions of CO (Tons)
1	3.02
1-2	6.04
1-3	9.06
1-4	12.08
1-5	15.10
1-6	18.13
1-7	21.15
1-8	24.17
1-9	27.19
1-10	30.21
1-11	33.23
1-12	36.25

Month(s)	Maximum Allowable Cumulative Emissions of OC (Tons)
1	0.25
1-2	0.50
1-3	0.75
1-4	0.99
1-5	1.24
1-6	1.49
1-7	1.74

1-8	1.99
1-9	2.23
1-10	2.48
1-11	2.73
1-12	2.98

After the first 12 calendar months of operation following issuance of this permit, compliance with the annual emission limitation for PE, PM10, Oxides of Nitrogen, CO, and OC shall be based upon a rolling, 12-month summation of the monthly emissions.

III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall perform weekly checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving each emissions unit. The presence or absence of any visible emissions shall be noted in an operations log for each unit. If visible emissions are observed, the permittee shall also note the following in the operation log:

   a. the color of the emissions;

   b. the cause of the visible emissions;

   c. the total duration of any visible emission incident; and,

   d. any corrective actions taken to eliminate the visible emissions.

2. The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion chamber temperature within the internal combustion engine. 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 manufacturer's recommendations, with any modifications deemed necessary by the permittee.

3. The permittee shall collect and record , each day, all 3-hour blocks of time during which the average combustion chamber temperature within the internal combustion engine was less than the allowable minimum temperature established during the initial compliance test.

4. The permittee shall record each day when a fuel other than landfill gas was burned in this emissions unit.

5. The permittee shall maintain records of the accumulative PE, PM10, Oxides of Nitrogen, CO, and OC emissions for the first 12 months of operation following the issuance of this permit and of the rolling, 12-month summation of the PE, PM10, Oxides of Nitrogen, CO, and OC emissions beginning after the first 12 calendar months of operation following the issuance of this permit.

IV. Reporting Requirements

1. The permittee shall submit semiannual written reports which (a) identify all days during which any visible particulate emissions were observed from the stack serving the emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Northeast District Office of the Ohio EPA by January 31 and July 31 of each year and shall cover the previous 6-month period.

2. The permittee shall submit deviation (excursion) reports which identify all 3-hour blocks of time which the average combustion chamber temperature within the internal combustion engine does not comply with the temperature limitation specified above.

3. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than landfill gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

4. Any breakdown or malfunction resulting in the emission of raw landfill gas to the atmosphere shall be reported to the Northeast District Office of the Ohio EPA within one 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.

5. The permittee shall submit deviation reports that identify all exceedances of the rolling, 12-month emission limitations.

6. The excursion reports required above are due by the dates described in the General Terms and Conditions of this permit.

V. Testing Requirements

1. Emission Testing Requirement

   The permittee shall conduct, or have conducted, emissions testing for this emissions unit in accordance with the following requirements:

   a. the emission testing shall be conducted within 90 days from the start-up of the emissions unit;

   b. the emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate; nitrogen oxide (NOx), carbon monoxide (CO), particulate matter

(PM), hydrogen chloride (HCl) and organic compounds (OC).

c. the emission testing shall be conducted to demonstrate compliance with either the removal of 98 weight percent of non-methane organic compounds (NMOC) or the reduction of the outlet concentration of NMOC to less than 20 parts per million by volume, dry basis (ppmvd) as hexane at 3 percent oxygen. The gas header to the internal combustion engine and the egress of the engines are required to be tested to ensure the destruction on NMOC;

d. the following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): NOx - Method 7 or 7E, CO - Method 10, OC - Method 25 or 25A, PM - Method 5, HCl - Method 26;

e. the test(s) shall be conducted while the emissions unit is operating at or near maximum capacity, unless otherwise specified or approved by the Ohio EPA, Northeast District Office; and,

f. the compliance test shall be performed on one of the following similar emissions units P001, P002, P003, P004, P005, P006, P007, P008, P009, P010, P011, P012, P013, P014, P015, or P016.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Northeast District Office of the Ohio EPA. 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, Northeast District Office's refusal to accept the results of the emission test(s).

Personnel from the Ohio EPA, Northeast District Office 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.

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 Ohio EPA, Northeast District Office 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 Ohio EPA Northeast District Office.

2. Compliance with the emission limitation(s) established in this permit shall be determined in accordance with the following method(s):

a. Emission Limitation:

Organic Compound emissions shall not exceed 0.68 pound per hour; 2.98 tons per year.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined in accordance with the performance test requirement. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton) and record keeping required under section III.5.

b. Emission Limitation:

Visible emission shall not exceed 10% opacity as a six-minute average.

Applicable Compliance Method:
Compliance shall be demonstrated by using 40 CFR, Part 60, Appendix A, Method 9.

c. Emission Limitation:

Particulate matter emissions shall not exceed 0.062 pound per mmBtu, actual heat input, 0.87 pound per hour; and 3.81 tons per year.

Applicable Compliance Method:
If required by the Ohio EPA, compliance with the hourly emission limitation shall be determined in accordance with Method 5 of 40 CFR, Part 60, Appendix A. Compliance

with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton) and record keeping required under section III.5.

d. Emission Limitation:

Oxides of Nitrogen emissions shall not exceed 0.18 pound per mmBtu, actual heat input, 2.48 pounds per hour; and 10.87 tons per year.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined in accordance with the performance test requirement. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton) and record keeping required under section III.5.

e. Emission Limitation:

Carbon Monoxide emissions shall not exceed 0.59 pound per mmBtu, actual heat input, 8.28 pounds per hour; 36.25 tons per year.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined in accordance with the performance test requirement. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton) and record keeping required under section III.5.

f. Emission Limitation:

Sulfur Dioxide emissions shall not exceed

Emissions Unit ID: P002

0.23 pound per hour; 1.01 ton per year.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be demonstrated by multiplying the maximum inlet gas flow of 0.029 MMscf per hour by an AP-42 emission factor of 7.786 pounds of Sulfur Dioxide per MMscf, (Section 2.4 "Municipal Solid Waste Landfills, 11/98). Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton).

g. Emission Limitation:

Hydrogen chloride emissions shall not exceed 0.05 pound per hour; 0.22 tons per year.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined in accordance with Method 26 of 40 CFR, Part 60, Appendix A. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton).

h. Emission Limitation:

Non-methane organic compound (NMOC) emissions shall be reduced by 98 weight percent or reduce the outlet NMOC emissions to less than 20 parts per million by volume, dry basis (ppmvd) as hexane at 3 percent oxygen.

Applicable Compliance Method:
Compliance with the control efficiency limitation shall be determined in accordance with the performance test requirement of section V.1.

i. Emission Limitation:

Formaldehyde emissions shall not exceed 0.04 pound per hour; 0.18 ton per year.

Applicable Compliance Method:
If required by the Ohio EPA, compliance with the hourly emission limitation shall be determined in accordance with EPA reference method 0011 of SW-846 Chapter 10. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton).

VI. Miscellaneous Requirements

None

B. State Only Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment		
	P002 - 1400 bkW (14.0 million Btu/hr) Deutz TBG 620 V16 K Internal combustion engine to	produce electricity from landfill gas.

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

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

1. The permit to install for this emissions unit (P002) was evaluated based on the actual materials and the design parameters of (P001, P002, P003, P004, P005, P006, P007, P008, P009, P010, P011, P012, P013, P014, P015, and P016) emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the TSCREEN model. The predicted 1-hour maximum ground-level concentration from the use of the TSCREEN model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

   Pollutant: Hydrogen Chloride
   Ceiling Value (mg/m3): 7.46
   Maximum Hourly Emission Rate (lbs/hr): 0.05
   Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 0.2
   MAGLC (ug/m3): 131

Pollutant: Formaldehyde
Ceiling Value (mg/m3): 0.37
Maximum Hourly Emission Rate (lbs/hr): 0.04
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 0.16
MAGLC (ug/m3): 6.5

Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be still satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

a. changes in the composition of the materials used (typically for coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled;

b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and

c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Air Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01(VV)(1)(a)(ii), and a modification of the existing permit to install will not be required. If the change(s) is (are) defined as a modification under other provisions of the modification definition (other than (VV)(1)(a)(ii)), then the permittee shall obtain a final permit to install prior to the change.

Emissions Unit ID: P002

The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy:"

a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);

b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and

c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

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

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements	
P003 - 1400 bkW (14.0 million Btu/hr) Deutz TBG 620 V16 K Internal combustion engine to produce electricity from landfill gas.	OAC rule 3745-31-05 (A)(3)	40 CFR Part 52, Section 52.21 and OAC rule 3745-31-10 through OAC rule 3745-31-20.
		OAC rule 3745-17-11 (B)(5)(b)

	Applicable Emissions Limitations/Control Measures	
OAC rule 3745-17-07 (A)(1)	Non-methane organic compound (NMOC) emissions shall be reduced by 98 weight percent or reduce the outlet NMOC emissions to less than 20 parts per million by volume, dry basis (ppmvd) as hexane at 3 percent oxygen.	Oxides of Nitrogen emissions shall not exceed 0.18 pound per mmBtu, actual heat input (2.48 pounds per hour; 10.87 tons per year).*
OAC rule 3745-18-06(D)	Visible emissions shall not exceed 10% opacity as a six-minute average.	Carbon monoxide emissions shall not exceed 0.59 pound per mmBtu, actual heat input (8.28 pounds per hour; 36.25 tons per year).*
	Sulfur dioxide emissions shall not exceed 0.23 pound per hour; 1.01 tons per year.	Organic compound emissions shall not exceed 0.68 pound per hour; 2.98 tons per year.*
	Hydrogen chloride emissions shall not exceed 0.05 pound per hour; 0.22 ton per year.	* = compliance with this annual allowable is based on a rolling 12-month average.
	Formaldehyde emissions shall not exceed 0.04 pound per hour; 0.18 ton per year.	The particulate emission limitation specified by this rule is equivalent to the limit established by OAC rule 3745-31-05(A)(3), 40 CFR Part 52, Section 52.21 and OAC rule 3745-31-10 through 20.
	The requirements of this rule also include compliance with the requirements of 40 CFR Part 52, Section 52.21, OAC rule 3745-31-10 through 20.	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
	Particulate emissions shall not exceed 0.062 pound per mmBtu, actual heat input (0.87 pound per hour; 3.81 tons per year).*	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
	PM_{10} emissions shall not exceed 0.38 pound per hour; 1.66 tons per year.*	

Emissions Unit ID: P003

2. Additional Terms and Conditions

2.a The internal combustion engine shall operate using lean burn technology.

2.b This internal combustion engine is one of sixteen (16) internal combustion engines being permitted under this permit to install.

2.c The hourly and annual emission limitations are based upon the emissions unit potential to emit utilizing lean burn technology. Therefore, no records are required to demonstrate compliance with these limits.

II. Operational Restrictions

1. This emissions unit shall burn only landfill gas.

2. The permittee shall install, calibrate, maintain and operate according to the manufacturer's specifications a device at the inlet to the internal combustion engine which completely shuts off gas flow to the internal combustion engine when the internal combustion engine is not operating.

3. When the internal combustion engine is not operating, the landfill gas shall be diverted to the existing enclosed combustor at the Carbon Limestone Landfill (02-50-07-0850) or to an internal combustion engine that is operating.

4. The average combustion chamber temperature within the internal combustion engine, for any 3-hour block of time when the emissions unit is in operation, shall be established at the initial compliance test. A minimum temperature needs to be established to ensure destruction of NMOC.

5. The emissions unit shall not exceed the following emissions limits based upon a rolling, 12-month summation of the emissions: 3.81 TPY PE, 1.66 TPY PM10, 10.87 TPY Oxides of Nitrogen, 36.25 TPY CO, and 2.98 TPY OC.

   To ensure enforceability during the first 12 calendar months of operation following the issuance of this permit, the permittee shall not exceed the emission levels specified in the following table:

Month(s)	Maximum Allowable Cumulative Emissions of PE (Tons)
1	0.32
1-2	0.64
1-3	0.95
1-4	1.27
1-5	1.59
1-6	1.91
1-7	2.22
1-8	2.54

1-9	2.86
1-10	3.18
1-11	3.49
1-12	3.81

Month(s)	Maximum Allowable Cumulative Emissions of PM10 (Tons)
1	0.14
1-2	0.28
1-3	0.42
1-4	0.55
1-5	0.69
1-6	0.83
1-7	0.97
1-8	1.11
1-9	1.25
1-10	1.38
1-11	1.52
1-12	1.66

Month(s)	Maximum Allowable Cumulative Emissions of Oxides of Nitrogen (Tons)
1	0.91
1-2	1.81
1-3	2.72
1-4	3.62
1-5	4.53
1-6	5.44
1-7	6.34

1-8	7.24
1-9	8.15
1-10	9.06
1-11	9.96
1-12	10.87

Month(s)	Maximum Allowable Cumulative Emissions of CO (Tons)
1	3.02
1-2	6.04
1-3	9.06
1-4	12.08
1-5	15.10
1-6	18.13
1-7	21.15
1-8	24.17
1-9	27.19
1-10	30.21
1-11	33.23
1-12	36.25

Month(s)	Maximum Allowable Cumulative Emissions of OC (Tons)
1	0.25
1-2	0.50
1-3	0.75
1-4	0.99
1-5	1.24
1-6	1.49
1-7	1.74

1-8	1.99
1-9	2.23
1-10	2.48
1-11	2.73
1-12	2.98

After the first 12 calendar months of operation following issuance of this permit, compliance with the annual emission limitation for PE, PM10, Oxides of Nitrogen, CO, and OC shall be based upon a rolling, 12-month summation of the monthly emissions.

III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall perform weekly checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving each emissions unit. The presence or absence of any visible emissions shall be noted in an operations log for each unit. If visible emissions are observed, the permittee shall also note the following in the operation log:

   a. the color of the emissions;

   b. the cause of the visible emissions;

   c. the total duration of any visible emission incident; and,

   d. any corrective actions taken to eliminate the visible emissions.

2. The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion chamber temperature within the internal combustion engine. 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 manufacturer's recommendations, with any modifications deemed necessary by the permittee.

3. The permittee shall collect and record , each day, all 3-hour blocks of time during which the average combustion chamber temperature within the internal combustion engine was less than the allowable minimum temperature established during the initial compliance test.

4. The permittee shall record each day when a fuel other than landfill gas was burned in this emissions unit.

5. The permittee shall maintain records of the accumulative PE, PM10, Oxides of Nitrogen, CO, and OC emissions for the first 12 months of operation following the issuance of this permit and of the rolling, 12-month summation of the PE, PM10, Oxides of Nitrogen, CO, and OC emissions beginning after the first 12 calendar months of operation following the issuance of this permit.

IV. Reporting Requirements

1. The permittee shall submit semiannual written reports which (a) identify all days during which any visible particulate emissions were observed from the stack serving the emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Northeast District Office of the Ohio EPA by January 31 and July 31 of each year and shall cover the previous 6-month period.

2. The permittee shall submit deviation (excursion) reports which identify all 3-hour blocks of time which the average combustion chamber temperature within the internal combustion engine does not comply with the temperature limitation specified above.

3. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than landfill gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

4. Any breakdown or malfunction resulting in the emission of raw landfill gas to the atmosphere shall be reported to the Northeast District Office of the Ohio EPA within one 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.

5. The permittee shall submit deviation reports that identify all exceedances of the rolling, 12-month emission limitations.

6. The excursion reports required above are due by the dates described in the General Terms and Conditions of this permit.

V. Testing Requirements

1. Emission Testing Requirement

   The permittee shall conduct, or have conducted, emissions testing for this emissions unit in accordance with the following requirements:

   a. the emission testing shall be conducted within 90 days from the start-up of the emissions unit;

   b. the emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate; nitrogen oxide (NOx), carbon monoxide (CO), particulate matter

(PM), hydrogen chloride (HCl) and organic compounds (OC).

c. the emission testing shall be conducted to demonstrate compliance with either the removal of 98 weight percent of non-methane organic compounds (NMOC) or the reduction of the outlet concentration of NMOC to less than 20 parts per million by volume, dry basis (ppmvd) as hexane at 3 percent oxygen. The gas header to the internal combustion engine and the egress of the engines are required to be tested to ensure the destruction on NMOC;

d. the following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): NOx - Method 7 or 7E, CO - Method 10, OC - Method 25 or 25A, PM - Method 5, HCl - Method 26;

e. the test(s) shall be conducted while the emissions unit is operating at or near maximum capacity, unless otherwise specified or approved by the Ohio EPA, Northeast District Office; and,

f. the compliance test shall be performed on one of the following similar emissions units P001, P002, P003, P004, P005, P006, P007, P008, P009, P010, P011, P012, P013, P014, P015, or P016.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Northeast District Office of the Ohio EPA. 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, Northeast District Office's refusal to accept the results of the emission test(s).

Personnel from the Ohio EPA, Northeast District Office 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.

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 Ohio EPA, Northeast District Office 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 Ohio EPA Northeast District Office.

2. Compliance with the emission limitation(s) established in this permit shall be determined in accordance with the following method(s):

a. Emission Limitation:

Organic Compound emissions shall not exceed 0.68 pound per hour; 2.98 tons per year.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined in accordance with the performance test requirement. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton) and record keeping required under section III.5.

b. Emission Limitation:

Visible emission shall not exceed 10% opacity as a six-minute average.

Applicable Compliance Method:
Compliance shall be demonstrated by using 40 CFR, Part 60, Appendix A, Method 9.

c. Emission Limitation:

Particulate matter emissions shall not exceed 0.062 pound per mmBtu, actual heat input, 0.87 pound per hour; and 3.81 tons per year.

Applicable Compliance Method:
If required by the Ohio EPA, compliance with the hourly emission limitation shall be determined in accordance with Method 5 of 40 CFR, Part 60, Appendix A. Compliance

with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton) and record keeping required under section III.5.

d. Emission Limitation:

Oxides of Nitrogen emissions shall not exceed 0.18 pound per mmBtu, actual heat input, 2.48 pounds per hour; and 10.87 tons per year.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined in accordance with the performance test requirement. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton) and record keeping required under section III.5.

e. Emission Limitation:

Carbon Monoxide emissions shall not exceed 0.59 pound per mmBtu, actual heat input, 8.28 pounds per hour; 36.25 tons per year.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined in accordance with the performance test requirement. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton) and record keeping required under section III.5.

f. Emission Limitation:

Sulfur Dioxide emissions shall not exceed 0.23 pound per hour; 1.01 ton per year.

Emissions Unit ID: P003

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be demonstrated by multiplying the maximum inlet gas flow of 0.029 MMscf per hour by an AP-42 emission factor of 7.786 pounds of Sulfur Dioxide per MMscf, (Section 2.4 "Municipal Solid Waste Landfills, 11/98). Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton).

g. Emission Limitation:

Hydrogen chloride emissions shall not exceed 0.05 pound per hour; 0.22 tons per year.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined in accordance with Method 26 of 40 CFR, Part 60, Appendix A. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton).

h. Emission Limitation:

Non-methane organic compound (NMOC) emissions shall be reduced by 98 weight percent or reduce the outlet NMOC emissions to less than 20 parts per million by volume, dry basis (ppmvd) as hexane at 3 percent oxygen.

Applicable Compliance Method:
Compliance with the control efficiency limitation shall be determined in accordance with the performance test requirement of section V.1.

i. Emission Limitation:

Formaldehyde emissions shall not exceed 0.04 pound per hour; 0.18 ton per year.

Applicable Compliance Method:
If required by the Ohio EPA, compliance with the hourly emission limitation shall be determined in accordance with EPA reference method 0011 of SW-846 Chapter 10. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton).

VI. Miscellaneous Requirements

None

B. State Only Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
P003 - 1400 bkW (14.0 million Btu/hr) Deutz TBG 620 V16 K Internal combustion engine to produce electricity from landfill gas	None	None

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

1. The permit to install for this emissions unit (P003) was evaluated based on the actual materials and the design parameters of (P001, P002, P003, P004, P005, P006, P007, P008, P009, P010, P011, P012, P013, P014, P015, and P016) emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the TSCREEN model. The predicted 1-hour maximum ground-level concentration from the use of the TSCREEN model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Hydrogen Chloride
Ceiling Value (mg/m3): 7.46
Maximum Hourly Emission Rate (lbs/hr): 0.05
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 0.2
MAGLC (ug/m3): 131

Pollutant: Formaldehyde
Ceiling Value (mg/m3): 0.37
Maximum Hourly Emission Rate (lbs/hr): 0.04
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 0.16
MAGLC (ug/m3): 6.5

Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be still satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

a. changes in the composition of the materials used (typically for coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled;

b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and

c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Air Toxic Policy" will be satisfied for the above changes, the

Emissions Unit ID: P003

Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01(VV)(1)(a)(ii), and a modification of the existing permit to install will not be required. If the change(s) is (are) defined as a modification under other provisions of the modification definition (other than (VV)(1)(a)(ii)), then the permittee shall obtain a final permit to install prior to the change.

The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy:"

a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);

b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and

c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

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

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements	
P004 - 1400 bkW (14.0 million Btu/hr) Deutz TBG 620 V16 K Internal combustion engine to produce electricity from landfill gas.	OAC rule 3745-31-05 (A)(3)	40 CFR Part 52, Section 52.21 and OAC rule 3745-31-10 through OAC rule 3745-31-20.
		OAC rule 3745-17-11 (B)(5)(b)

	Applicable Emissions Limitations/Control Measures	
OAC rule 3745-17-07 (A)(1)	Non-methane organic compound (NMOC) emissions shall be reduced by 98 weight percent or reduce the outlet NMOC emissions to less than 20 parts per million by volume, dry basis (ppmvd) as hexane at 3 percent oxygen.	Oxides of Nitrogen emissions shall not exceed 0.18 pound per mmBtu, actual heat input (2.48 pounds per hour; 10.87 tons per year).*
OAC rule 3745-18-06(D)	Visible emissions shall not exceed 10% opacity as a six-minute average.	Carbon monoxide emissions shall not exceed 0.59 pound per mmBtu, actual heat input (8.28 pounds per hour; 36.25 tons per year).*
	Sulfur dioxide emissions shall not exceed 0.23 pound per hour; 1.01 tons per year.	Organic compound emissions shall not exceed 0.68 pound per hour; 2.98 tons per year.*
	Hydrogen chloride emissions shall not exceed 0.05 pound per hour; 0.22 ton per year.	* = compliance with this annual allowable is based on a rolling 12-month average.
	Formaldehyde emissions shall not exceed 0.04 pound per hour; 0.18 ton per year.	The particulate emission limitation specified by this rule is equivalent to the limit established by OAC rule 3745-31-05(A)(3), 40 CFR Part 52, Section 52.21 and OAC rule 3745-31-10 through 20.
	The requirements of this rule also include compliance with the requirements of 40 CFR Part 52, Section 52.21, OAC rule 3745-31-10 through 20.	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
	Particulate emissions shall not exceed 0.062 pound per mmBtu, actual heat input (0.87 pound per hour; 3.81 tons per year).*	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
	PM_{10} emissions shall not exceed 0.38 pound per hour; 1.66 tons per year.*	

Emissions Unit ID: P004

2. Additional Terms and Conditions

2.a The internal combustion engine shall operate using lean burn technology.

2.b This internal combustion engine is one of sixteen (16) internal combustion engines being permitted under this permit to install.

2.c The hourly and annual emission limitations are based upon the emissions unit potential to emit utilizing lean burn technology. Therefore, no records are required to demonstrate compliance with these limits.

II. Operational Restrictions

1. This emissions unit shall burn only landfill gas.

2. The permittee shall install, calibrate, maintain and operate according to the manufacturer's specifications a device at the inlet to the internal combustion engine which completely shuts off gas flow to the internal combustion engine when the internal combustion engine is not operating.

3. When the internal combustion engine is not operating, the landfill gas shall be diverted to the existing enclosed combustor at the Carbon Limestone Landfill (02-50-07-0850) or to an internal combustion engine that is operating.

4. The average combustion chamber temperature within the internal combustion engine, for any 3-hour block of time when the emissions unit is in operation, shall be established at the initial compliance test. A minimum temperature needs to be established to ensure destruction of NMOC.

5. The emissions unit shall not exceed the following emissions limits based upon a rolling, 12-month summation of the emissions: 3.81 TPY PE, 1.66 TPY PM10, 10.87 TPY Oxides of Nitrogen, 36.25 TPY CO, and 2.98 TPY OC.

   To ensure enforceability during the first 12 calendar months of operation following the issuance of this permit, the permittee shall not exceed the emission levels specified in the following table:

Month(s)	Maximum Allowable Cumulative Emissions of PE (Tons)
1	0.32
1-2	0.64
1-3	0.95
1-4	1.27
1-5	1.59
1-6	1.91
1-7	2.22
1-8	2.54

1-9	2.86
1-10	3.18
1-11	3.49
1-12	3.81

Month(s)	Maximum Allowable Cumulative Emissions of PM10 (Tons)
1	0.14
1-2	0.28
1-3	0.42
1-4	0.55
1-5	0.69
1-6	0.83
1-7	0.97
1-8	1.11
1-9	1.25
1-10	1.38
1-11	1.52
1-12	1.66

Month(s)	Maximum Allowable Cumulative Emissions of Oxides of Nitrogen (Tons)
1	0.91
1-2	1.81
1-3	2.72
1-4	3.62
1-5	4.53
1-6	5.44
1-7	6.34

1-8	7.24
1-9	8.15
1-10	9.06
1-11	9.96
1-12	10.87

Month(s)	Maximum Allowable Cumulative Emissions of CO (Tons)
1	3.02
1-2	6.04
1-3	9.06
1-4	12.08
1-5	15.10
1-6	18.13
1-7	21.15
1-8	24.17
1-9	27.19
1-10	30.21
1-11	33.23
1-12	36.25

Month(s)	Maximum Allowable Cumulative Emissions of OC (Tons)
1	0.25
1-2	0.50
1-3	0.75
1-4	0.99
1-5	1.24
1-6	1.49
1-7	1.74

1-8	1.99
1-9	2.23
1-10	2.48
1-11	2.73
1-12	2.98

After the first 12 calendar months of operation following issuance of this permit, compliance with the annual emission limitation for PE, PM10, Oxides of Nitrogen, CO, and OC shall be based upon a rolling, 12-month summation of the monthly emissions.

III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall perform weekly checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving each emissions unit. The presence or absence of any visible emissions shall be noted in an operations log for each unit. If visible emissions are observed, the permittee shall also note the following in the operation log:

   a. the color of the emissions;

   b. the cause of the visible emissions;

   c. the total duration of any visible emission incident; and,

   d. any corrective actions taken to eliminate the visible emissions.

2. The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion chamber temperature within the internal combustion engine. 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 manufacturer's recommendations, with any modifications deemed necessary by the permittee.

3. The permittee shall collect and record , each day, all 3-hour blocks of time during which the average combustion chamber temperature within the internal combustion engine was less than the allowable minimum temperature established during the initial compliance test.

4. The permittee shall record each day when a fuel other than landfill gas was burned in this emissions unit.

5. The permittee shall maintain records of the accumulative PE, PM10, Oxides of Nitrogen, CO, and OC emissions for the first 12 months of operation following the issuance of this permit and of the rolling, 12-month summation of the PE, PM10, Oxides of Nitrogen, CO, and OC emissions beginning after the first 12 calendar months of operation following the issuance of this permit.

IV. Reporting Requirements

1. The permittee shall submit semiannual written reports which (a) identify all days during which any visible particulate emissions were observed from the stack serving the emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Northeast District Office of the Ohio EPA by January 31 and July 31 of each year and shall cover the previous 6-month period.

2. The permittee shall submit deviation (excursion) reports which identify all 3-hour blocks of time which the average combustion chamber temperature within the internal combustion engine does not comply with the temperature limitation specified above.

3. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than landfill gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

4. Any breakdown or malfunction resulting in the emission of raw landfill gas to the atmosphere shall be reported to the Northeast District Office of the Ohio EPA within one 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.

5. The permittee shall submit deviation reports that identify all exceedances of the rolling, 12-month emission limitations.

6. The excursion reports required above are due by the dates described in the General Terms and Conditions of this permit.

V. Testing Requirements

1. Emission Testing Requirement

   The permittee shall conduct, or have conducted, emissions testing for this emissions unit in accordance with the following requirements:

   a. the emission testing shall be conducted within 90 days from the start-up of the emissions unit;

   b. the emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate; nitrogen oxide (NOx), carbon monoxide (CO), particulate matter

(PM), hydrogen chloride (HCl) and organic compounds (OC).

c. the emission testing shall be conducted to demonstrate compliance with either the removal of 98 weight percent of non-methane organic compounds (NMOC) or the reduction of the outlet concentration of NMOC to less than 20 parts per million by volume, dry basis (ppmvd) as hexane at 3 percent oxygen. The gas header to the internal combustion engine and the egress of the engines are required to be tested to ensure the destruction on NMOC;

d. the following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): NOx - Method 7 or 7E, CO - Method 10, OC - Method 25 or 25A, PM - Method 5, HCl - Method 26;

e. the test(s) shall be conducted while the emissions unit is operating at or near maximum capacity, unless otherwise specified or approved by the Ohio EPA, Northeast District Office; and,

f. the compliance test shall be performed on one of the following similar emissions units P001, P002, P003, P004, P005, P006, P007, P008, P009, P010, P011, P012, P013, P014, P015, or P016.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Northeast District Office of the Ohio EPA. 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, Northeast District Office's refusal to accept the results of the emission test(s).

Personnel from the Ohio EPA, Northeast District Office 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.

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 Ohio EPA, Northeast District Office 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 Ohio EPA Northeast District Office.

2. Compliance with the emission limitation(s) established in this permit shall be determined in accordance with the following method(s):

a. Emission Limitation:

Organic Compound emissions shall not exceed 0.68 pound per hour; 2.98 tons per year.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined in accordance with the performance test requirement. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton) and record keeping required under section III.5.

b. Emission Limitation:

Visible emission shall not exceed 10% opacity as a six-minute average.

Applicable Compliance Method:
Compliance shall be demonstrated by using 40 CFR, Part 60, Appendix A, Method 9.

c. Emission Limitation:

Particulate matter emissions shall not exceed 0.062 pound per mmBtu, actual heat input, 0.87 pound per hour; and 3.81 tons per year.

Applicable Compliance Method:
If required by the Ohio EPA, compliance with the hourly emission limitation shall be determined in accordance with Method 5 of 40 CFR, Part 60, Appendix A. Compliance

with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton) and record keeping required under section III.5.

d. Emission Limitation:

Oxides of Nitrogen emissions shall not exceed 0.18 pound per mmBtu, actual heat input, 2.48 pounds per hour; and 10.87 tons per year.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined in accordance with the performance test requirement. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton) and record keeping required under section III.5.

e. Emission Limitation:

Carbon Monoxide emissions shall not exceed 0.59 pound per mmBtu, actual heat input, 8.28 pounds per hour; 36.25 tons per year.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined in accordance with the performance test requirement. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton) and record keeping required under section III.5.

f. Emission Limitation:

Sulfur Dioxide emissions shall not exceed 0.23 pound per hour; 1.01 ton per year.

Emissions Unit ID: P004

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be demonstrated by multiplying the maximum inlet gas flow of 0.029 MMscf per hour by an AP-42 emission factor of 7.786 pounds of Sulfur Dioxide per MMscf, (Section 2.4 "Municipal Solid Waste Landfills, 11/98). Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton).

g. Emission Limitation:

Hydrogen chloride emissions shall not exceed 0.05 pound per hour; 0.22 tons per year.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined in accordance with Method 26 of 40 CFR, Part 60, Appendix A. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton).

h. Emission Limitation:

Non-methane organic compound (NMOC) emissions shall be reduced by 98 weight percent or reduce the outlet NMOC emissions to less than 20 parts per million by volume, dry basis (ppmvd) as hexane at 3 percent oxygen.

Applicable Compliance Method:
Compliance with the control efficiency limitation shall be determined in accordance with the performance test requirement of section V.1.

i. Emission Limitation:

Formaldehyde emissions shall not exceed 0.04 pound per hour; 0.18 ton per year.

Applicable Compliance Method:
If required by the Ohio EPA, compliance with the hourly emission limitation shall be determined in accordance with EPA reference method 0011 of SW-846 Chapter 10. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton).

VI. Miscellaneous Requirements

None

B. State Only Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
P004 - 1400 bkW (14.0 million Btu/hr) Deutz TBG 620 V16 K Internal combustion engine to produce electricity from landfill gas	None	None

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

1. The permit to install for this emissions unit (P004) was evaluated based on the actual materials and the design parameters of (P001, P002, P003, P004, P005, P006, P007, P008, P009, P010, P011, P012, P013, P014, P015, and P016) emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the TSCREEN model. The predicted 1-hour maximum ground-level concentration from the use of the TSCREEN model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Hydrogen Chloride
Ceiling Value (mg/m3): 7.46
Maximum Hourly Emission Rate (lbs/hr): 0.05
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 0.2
MAGLC (ug/m3): 131

Pollutant: Formaldehyde
Ceiling Value (mg/m3): 0.37
Maximum Hourly Emission Rate (lbs/hr): 0.04
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 0.16
MAGLC (ug/m3): 6.5

Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be still satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

a. changes in the composition of the materials used (typically for coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled;

b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and

c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Air Toxic Policy" will be satisfied for the above changes, the

Emissions Unit ID: P004

Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01(VV)(1)(a)(ii), and a modification of the existing permit to install will not be required. If the change(s) is (are) defined as a modification under other provisions of the modification definition (other than (VV)(1)(a)(ii)), then the permittee shall obtain a final permit to install prior to the change.

The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy:"

a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);

b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and

c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

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

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements	
P005 - 1400 bkW (14.0 million Btu/hr) Deutz TBG 620 V16 K Internal combustion engine to produce electricity from landfill gas.	OAC rule 3745-31-05 (A)(3)	40 CFR Part 52, Section 52.21 and OAC rule 3745-31-10 through OAC rule 3745-31-20.
		OAC rule 3745-17-11 (B)(5)(b)

	Applicable Emissions Limitations/Control Measures	
OAC rule 3745-17-07 (A)(1)	Non-methane organic compound (NMOC) emissions shall be reduced by 98 weight percent or reduce the outlet NMOC emissions to less than 20 parts per million by volume, dry basis (ppmvd) as hexane at 3 percent oxygen. Visible emissions shall not exceed 10% opacity as a six-minute average. Sulfur dioxide emissions shall not exceed 0.23 pound per hour; 1.01 tons per year. Hydrogen chloride emissions shall not exceed 0.05 pound per hour; 0.22 ton per year. Formaldehyde emissions shall not exceed 0.04 pound per hour; 0.18 ton per year. The requirements of this rule also include compliance with the requirements of 40 CFR Part 52, Section 52.21, OAC rule 3745-31-10 through 20. Particulate emissions shall not exceed 0.062 pound per mmBtu, actual heat input (0.87 pound per hour; 3.81 tons per year).* PM_{10} emissions shall not exceed 0.38 pound per hour; 1.66 tons per year.*	Oxides of Nitrogen emissions shall not exceed 0.18 pound per mmBtu, actual heat input (2.48 pounds per hour; 10.87 tons per year).*
OAC rule 3745-18-06(D)		Carbon monoxide emissions shall not exceed 0.59 pound per mmBtu, actual heat input (8.28 pounds per hour; 36.25 tons per year).* Organic compound emissions shall not exceed 0.68 pound per hour; 2.98 tons per year.* * = compliance with this annual allowable is based on a rolling 12-month average. The particulate emission limitation specified by this rule is equivalent to the limit established by OAC rule 3745-31-05(A)(3), 40 CFR Part 52, Section 52.21 and OAC rule 3745-31-10 through 20. The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3). The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

Emissions Unit ID: P005

2. Additional Terms and Conditions

2.a The internal combustion engine shall operate using lean burn technology.

2.b This internal combustion engine is one of sixteen (16) internal combustion engines being permitted under this permit to install.

2.c The hourly and annual emission limitations are based upon the emissions unit potential to emit utilizing lean burn technology. Therefore, no records are required to demonstrate compliance with these limits.

II. Operational Restrictions

1. This emissions unit shall burn only landfill gas.

2. The permittee shall install, calibrate, maintain and operate according to the manufacturer's specifications a device at the inlet to the internal combustion engine which completely shuts off gas flow to the internal combustion engine when the internal combustion engine is not operating.

3. When the internal combustion engine is not operating, the landfill gas shall be diverted to the existing enclosed combustor at the Carbon Limestone Landfill (02-50-07-0850) or to an internal combustion engine that is operating.

4. The average combustion chamber temperature within the internal combustion engine, for any 3-hour block of time when the emissions unit is in operation, shall be established at the initial compliance test. A minimum temperature needs to be established to ensure destruction of NMOC.

5. The emissions unit shall not exceed the following emissions limits based upon a rolling, 12-month summation of the emissions: 3.81 TPY PE, 1.66 TPY PM10, 10.87 TPY Oxides of Nitrogen, 36.25 TPY CO, and 2.98 TPY OC.

   To ensure enforceability during the first 12 calendar months of operation following the issuance of this permit, the permittee shall not exceed the emission levels specified in the following table :

Month(s)	Maximum Allowable Cumulative Emissions of PE (Tons)
1	0.32
1-2	0.64
1-3	0.95
1-4	1.27
1-5	1.59
1-6	1.91
1-7	2.22
1-8	2.54

1-9	2.86
1-10	3.18
1-11	3.49
1-12	3.81

Month(s)	Maximum Allowable Cumulative Emissions of PM10 (Tons)
1	0.14
1-2	0.28
1-3	0.42
1-4	0.55
1-5	0.69
1-6	0.83
1-7	0.97
1-8	1.11
1-9	1.25
1-10	1.38
1-11	1.52
1-12	1.66

Month(s)	Maximum Allowable Cumulative Emissions of Oxides of Nitrogen (Tons)
1	0.91
1-2	1.81
1-3	2.72
1-4	3.62
1-5	4.53
1-6	5.44
1-7	6.34

1-8	7.24
1-9	8.15
1-10	9.06
1-11	9.96
1-12	10.87

Month(s)	Maximum Allowable Cumulative Emissions of CO (Tons)
1	3.02
1-2	6.04
1-3	9.06
1-4	12.08
1-5	15.10
1-6	18.13
1-7	21.15
1-8	24.17
1-9	27.19
1-10	30.21
1-11	33.23
1-12	36.25

Month(s)	Maximum Allowable Cumulative Emissions of OC (Tons)
1	0.25
1-2	0.50
1-3	0.75
1-4	0.99
1-5	1.24
1-6	1.49
1-7	1.74

1-8	1.99
1-9	2.23
1-10	2.48
1-11	2.73
1-12	2.98

After the first 12 calendar months of operation following issuance of this permit, compliance with the annual emission limitation for PE, PM10, Oxides of Nitrogen, CO, and OC shall be based upon a rolling, 12-month summation of the monthly emissions.

III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall perform weekly checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving each emissions unit. The presence or absence of any visible emissions shall be noted in an operations log for each unit. If visible emissions are observed, the permittee shall also note the following in the operation log:

   a. the color of the emissions;

   b. the cause of the visible emissions;

   c. the total duration of any visible emission incident; and,

   d. any corrective actions taken to eliminate the visible emissions.

2. The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion chamber temperature within the internal combustion engine. 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 manufacturer's recommendations, with any modifications deemed necessary by the permittee.

3. The permittee shall collect and record , each day, all 3-hour blocks of time during which the average combustion chamber temperature within the internal combustion engine was less than the allowable minimum temperature established during the initial compliance test.

4. The permittee shall record each day when a fuel other than landfill gas was burned in this emissions unit.

5. The permittee shall maintain records of the accumulative PE, PM10, Oxides of Nitrogen, CO, and OC emissions for the first 12 months of operation following the issuance of this permit and of the rolling, 12-month summation of the PE, PM10, Oxides of Nitrogen, CO, and OC emissions beginning after the first 12 calendar months of operation following the issuance of this permit.

IV. Reporting Requirements

1. The permittee shall submit semiannual written reports which (a) identify all days during which any visible particulate emissions were observed from the stack serving the emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Northeast District Office of the Ohio EPA by January 31 and July 31 of each year and shall cover the previous 6-month period.

2. The permittee shall submit deviation (excursion) reports which identify all 3-hour blocks of time which the average combustion chamber temperature within the internal combustion engine does not comply with the temperature limitation specified above.

3. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than landfill gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

4. Any breakdown or malfunction resulting in the emission of raw landfill gas to the atmosphere shall be reported to the Northeast District Office of the Ohio EPA within one 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.

5. The permittee shall submit deviation reports that identify all exceedances of the rolling, 12-month emission limitations.

6. The excursion reports required above are due by the dates described in the General Terms and Conditions of this permit.

V. Testing Requirements

1. Emission Testing Requirement

   The permittee shall conduct, or have conducted, emissions testing for this emissions unit in accordance with the following requirements:

   a. the emission testing shall be conducted within 90 days from the start-up of the emissions unit;

   b. the emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate; nitrogen oxide (NOx), carbon monoxide (CO), particulate matter (PM), hydrogen chloride (HCl) and organic

compounds (OC).

c. the emission testing shall be conducted to demonstrate compliance with either the removal of 98 weight percent of non-methane organic compounds (NMOC) or the reduction of the outlet concentration of NMOC to less than 20 parts per million by volume, dry basis (ppmvd) as hexane at 3 percent oxygen. The gas header to the internal combustion engine and the egress of the engines are required to be tested to ensure the destruction on NMOC;

d. the following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): NOx - Method 7 or 7E, CO - Method 10, OC - Method 25 or 25A, PM - Method 5, HCl - Method 26;

e. the test(s) shall be conducted while the emissions unit is operating at or near maximum capacity, unless otherwise specified or approved by the Ohio EPA, Northeast District Office; and,

f. the compliance test shall be performed on one of the following similar emissions units P001, P002, P003, P004, P005, P006, P007, P008, P009, P010, P011, P012, P013, P014, P015, or P016.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Northeast District Office of the Ohio EPA. 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, Northeast District Office's refusal to accept the results of the emission test(s).

Personnel from the Ohio EPA, Northeast District Office 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.

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 Ohio EPA, Northeast District Office 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 Ohio EPA Northeast District Office.

2. Compliance with the emission limitation(s) established in this permit shall be determined in accordance with the following method(s):

a. Emission Limitation:

Organic Compound emissions shall not exceed 0.68 pound per hour; 2.98 tons per year.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined in accordance with the performance test requirement. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton) and record keeping required under section III.5.

b. Emission Limitation:

Visible emission shall not exceed 10% opacity as a six-minute average.

Applicable Compliance Method:
Compliance shall be demonstrated by using 40 CFR, Part 60, Appendix A, Method 9.

c. Emission Limitation:

Particulate matter emissions shall not exceed 0.062 pound per mmBtu, actual heat input, 0.87 pound per hour; and 3.81 tons per year.

Applicable Compliance Method:
If required by the Ohio EPA, compliance with the hourly emission limitation shall be determined in accordance with Method 5 of 40 CFR, Part 60, Appendix A. Compliance

with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton) and record keeping required under section III.5.

d. Emission Limitation:

Oxides of Nitrogen emissions shall not exceed 0.18 pound per mmBtu, actual heat input, 2.48 pounds per hour; and 10.87 tons per year.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined in accordance with the performance test requirement. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton) and record keeping required under section III.5.

e. Emission Limitation:

Carbon Monoxide emissions shall not exceed 0.59 pound per mmBtu, actual heat input, 8.28 pounds per hour; 36.25 tons per year.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined in accordance with the performance test requirement. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton) and record keeping required under section III.5.

f. Emission Limitation:

Sulfur Dioxide emissions shall not exceed 0.23 pound per hour; 1.01 ton per year.

Emissions Unit ID: P005

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be demonstrated by multiplying the maximum inlet gas flow of 0.029 MMscf per hour by an AP-42 emission factor of 7.786 pounds of Sulfur Dioxide per MMscf, (Section 2.4 "Municipal Solid Waste Landfills, 11/98). Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton).

g. Emission Limitation:

Hydrogen chloride emissions shall not exceed 0.05 pound per hour; 0.22 tons per year.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined in accordance with Method 26 of 40 CFR, Part 60, Appendix A. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton).

h. Emission Limitation:

Non-methane organic compound (NMOC) emissions shall be reduced by 98 weight percent or reduce the outlet NMOC emissions to less than 20 parts per million by volume, dry basis (ppmvd) as hexane at 3 percent oxygen.

Applicable Compliance Method:
Compliance with the control efficiency limitation shall be determined in accordance with the performance test requirement of section V.1.

i. Emission Limitation:

Formaldehyde emissions shall not exceed 0.04 pound per hour; 0.18 ton per year.

Applicable Compliance Method:
If required by the Ohio EPA, compliance with the hourly emission limitation shall be determined in accordance with PA reference method 0011 of SW-846 Chapter 10. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and

divided by 2000 (pounds per ton).

VI. Miscellaneous Requirements

None

B. State Only Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
P005 - 1400 bkW (14.0 million Btu/hr) Deutz TBG 620 V16 K Internal combustion engine to produce electricity from landfill gas	None	None

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

1. The permit to install for this emissions unit (P005) was evaluated based on the actual materials and the design parameters of (P001, P002, P003, P004, P005, P006, P007, P008, P009, P010, P011, P012, P013, P014, P015, and P016) emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the TSCREEN model. The predicted 1-hour maximum ground-level concentration from the use of the TSCREEN model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Hydrogen Chloride
Ceiling Value (mg/m3): 7.46
Maximum Hourly Emission Rate (lbs/hr): 0.05
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 0.2
MAGLC (ug/m3): 131

Pollutant: Formaldehyde
Ceiling Value (mg/m3): 0.37
Maximum Hourly Emission Rate (lbs/hr): 0.04
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 0.16
MAGLC (ug/m3): 6.5

Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be still satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

a. changes in the composition of the materials used (typically for coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled;

b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and

c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Air Toxic Policy" will be satisfied for the above changes, the

Emissions Unit ID: P005

Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01(VV)(1)(a)(ii), and a modification of the existing permit to install will not be required. If the change(s) is (are) defined as a modification under other provisions of the modification definition (other than (VV)(1)(a)(ii)), then the permittee shall obtain a final permit to install prior to the change.

The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy:"

a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);

b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and

c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

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

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements	
P006 - 1400 bkW (14.0 million Btu/hr) Deutz TBG 620 V16 K Internal combustion engine to produce electricity from landfill gas.	OAC rule 3745-31-05 (A)(3)	40 CFR Part 52, Section 52.21 and OAC rule 3745-31-10 through OAC rule 3745-31-20.
		OAC rule 3745-17-11 (B)(5)(b)

	Applicable Emissions Limitations/Control Measures	
OAC rule 3745-17-07 (A)(1)	Non-methane organic compound (NMOC) emissions shall be reduced by 98 weight percent or reduce the outlet NMOC emissions to less than 20 parts per million by volume, dry basis (ppmvd) as hexane at 3 percent oxygen.	Oxides of Nitrogen emissions shall not exceed 0.18 pound per mmBtu, actual heat input (2.48 pounds per hour; 10.87 tons per year).*
OAC rule 3745-18-06(D)	Visible emissions shall not exceed 10% opacity as a six-minute average.	Carbon monoxide emissions shall not exceed 0.59 pound per mmBtu, actual heat input (8.28 pounds per hour; 6.25 tons per year).*
	Sulfur dioxide emissions shall not exceed 0.23 pound per hour; 1.01 tons per year.	Organic compound emissions shall not exceed 0.68 pound per hour; 2.98 tons per year.*
	Hydrogen chloride emissions shall not exceed 0.05 pound per hour; 0.22 ton per year.	* = compliance with this annual allowable is based on a rolling 12-month average.
	Formaldehyde emissions shall not exceed 0.04 pound per hour; 0.18 ton per year.	The particulate emission limitation specified by this rule is equivalent to the limit established by OAC rule 3745-31-05(A)(3), 40 CFR Part 52, Section 52.21 and OAC rule 3745-31-10 through 20.
	The requirements of this rule also include compliance with the requirements of 40 CFR Part 52, Section 52.21, OAC rule 3745-31-10 through 20.	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
	Particulate emissions shall not exceed 0.062 pound per mmBtu, actual heat input (0.87 pound per hour; 3.81 tons per year).*	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
	PM_{10} emissions shall not exceed 0.38 pound per hour; 1.66 tons per year.*	

Emissions Unit ID: P006

2. Additional Terms and Conditions

2.a The internal combustion engine shall operate using lean burn technology.

2.b This internal combustion engine is one of sixteen (16) internal combustion engines being permitted under this permit to install.

2.c The hourly and annual emission limitations are based upon the emissions unit potential to emit utilizing lean burn technology. Therefore, no records are required to demonstrate compliance with these limits.

II. Operational Restrictions

1. This emissions unit shall burn only landfill gas.

2. The permittee shall install, calibrate, maintain and operate according to the manufacturer's specifications a device at the inlet to the internal combustion engine which completely shuts off gas flow to the internal combustion engine when the internal combustion engine is not operating.

3. When the internal combustion engine is not operating, the landfill gas shall be diverted to the existing enclosed combustor at the Carbon Limestone Landfill (02-50-07-0850) or to an internal combustion engine that is operating.

4. The average combustion chamber temperature within the internal combustion engine, for any 3-hour block of time when the emissions unit is in operation, shall be established at the initial compliance test. A minimum temperature needs to be established to ensure destruction of NMOC.

5. The emissions unit shall not exceed the following emissions limits based upon a rolling, 12-month summation of the emissions: 3.81 TPY PE, 1.66 TPY PM10, 10.87 TPY Oxides of Nitrogen, 36.25 TPY CO, and 2.98 TPY OC.

   To ensure enforceability during the first 12 calendar months of operation following the issuance of this permit, the permittee shall not exceed the emission levels specified in the following table:

Month(s)	Maximum Allowable Cumulative Emissions of PE (Tons)
1	0.32
1-2	0.64
1-3	0.95
1-4	1.27
1-5	1.59
1-6	1.91
1-7	2.22
1-8	2.54

1-9	2.86
1-10	3.18
1-11	3.49
1-12	3.81

Month(s)	Maximum Allowable Cumulative Emissions of PM10 (Tons)
1	0.14
1-2	0.28
1-3	0.42
1-4	0.55
1-5	0.69
1-6	0.83
1-7	0.97
1-8	1.11
1-9	1.25
1-10	1.38
1-11	1.52
1-12	1.66

Month(s)	Maximum Allowable Cumulative Emissions of Oxides of Nitrogen (Tons)
1	0.91
1-2	1.81
1-3	2.72
1-4	3.62
1-5	4.53
1-6	5.44
1-7	6.34

1-8	7.24
1-9	8.15
1-10	9.06
1-11	9.96
1-12	10.87

Month(s)	Maximum Allowable Cumulative Emissions of CO (Tons)
1	3.02
1-2	6.04
1-3	9.06
1-4	12.08
1-5	15.10
1-6	18.13
1-7	21.15
1-8	24.17
1-9	27.19
1-10	30.21
1-11	33.23
1-12	36.25

Month(s)	Maximum Allowable Cumulative Emissions of OC (Tons)
1	0.25
1-2	0.50
1-3	0.75
1-4	0.99
1-5	1.24
1-6	1.49
1-7	1.74

1-8	1.99
1-9	2.23
1-10	2.48
1-11	2.73
1-12	2.98

After the first 12 calendar months of operation following issuance of this permit, compliance with the annual emission limitation for PE, PM10, Oxides of Nitrogen, CO, and OC shall be based upon a rolling, 12-month summation of the monthly emissions.

III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall perform weekly checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving each emissions unit. The presence or absence of any visible emissions shall be noted in an operations log for each unit. If visible emissions are observed, the permittee shall also note the following in the operation log:

   a. the color of the emissions;

   b. the cause of the visible emissions;

   c. the total duration of any visible emission incident; and,

   d. any corrective actions taken to eliminate the visible emissions.

2. The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion chamber temperature within the internal combustion engine. 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 manufacturer's recommendations, with any modifications deemed necessary by the permittee.

3. The permittee shall collect and record , each day, all 3-hour blocks of time during which the average combustion chamber temperature within the internal combustion engine was less than the allowable minimum temperature established during the initial compliance test.

4. The permittee shall record each day when a fuel other than landfill gas was burned in this emissions unit.

5. The permittee shall maintain records of the accumulative PE, PM10, Oxides of Nitrogen, CO, and OC emissions for the first 12 months of operation following the issuance of this permit and of the rolling, 12-month summation of the PE, PM10, Oxides of Nitrogen, CO, and OC emissions beginning after the first 12 calendar months of operation following the issuance of this permit.

IV. Reporting Requirements

1. The permittee shall submit semiannual written reports which (a) identify all days during which any visible particulate emissions were observed from the stack serving the emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Northeast District Office of the Ohio EPA by January 31 and July 31 of each year and shall cover the previous 6-month period.

2. The permittee shall submit deviation (excursion) reports which identify all 3-hour blocks of time which the average combustion chamber temperature within the internal combustion engine does not comply with the temperature limitation specified above.

3. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than landfill gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

4. Any breakdown or malfunction resulting in the emission of raw landfill gas to the atmosphere shall be reported to the Northeast District Office of the Ohio EPA within one 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.

5. The permittee shall submit deviation reports that identify all exceedances of the rolling, 12-month emission limitations.

6. The excursion reports required above are due by the dates described in the General Terms and Conditions of this permit.

V. Testing Requirements

1. Emission Testing Requirement

   The permittee shall conduct, or have conducted, emissions testing for this emissions unit in accordance with the following requirements:

   a. the emission testing shall be conducted within 90 days from the start-up of the emissions unit;

   b. the emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate; nitrogen oxide (NOx), carbon monoxide (CO), particulate matter (PM), hydrogen chloride (HCl) and organic

compounds (OC).

c. the emission testing shall be conducted to demonstrate compliance with either the removal of 98 weight percent of non-methane organic compounds (NMOC) or the reduction of the outlet concentration of NMOC to less than 20 parts per million by volume, dry basis (ppmvd) as hexane at 3 percent oxygen. The gas header to the internal combustion engine and the egress of the engines are required to be tested to ensure the destruction on NMOC;

d. the following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): NOx - Method 7 or 7E, CO - Method 10, OC - Method 25 or 25A, PM - Method 5, HCl - Method 26;

e. the test(s) shall be conducted while the emissions unit is operating at or near maximum capacity, unless otherwise specified or approved by the Ohio EPA, Northeast District Office; and,

f. the compliance test shall be performed on one of the following similar emissions units P001, P002, P003, P004, P005, P006, P007, P008, P009, P010, P011, P012, P013, P014, P015, or P016.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Northeast District Office of the Ohio EPA. 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, Northeast District Office's refusal to accept the results of the emission test(s).

Personnel from the Ohio EPA, Northeast District Office 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.

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 Ohio EPA, Northeast District Office 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 Ohio EPA Northeast District Office.

2. Compliance with the emission limitation(s) established in this permit shall be determined in accordance with the following method(s):

a. Emission Limitation:

Organic Compound emissions shall not exceed 0.68 pound per hour; 2.98 tons per year.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined in accordance with the performance test requirement. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton) and record keeping required under section III.5.

b. Emission Limitation:

Visible emission shall not exceed 10% opacity as a six-minute average.

Applicable Compliance Method:
Compliance shall be demonstrated by using 40 CFR, Part 60, Appendix A, Method 9.

c. Emission Limitation:

Particulate matter emissions shall not exceed 0.062 pound per mmBtu, actual heat input, 0.87 pound per hour; and 3.81 tons per year.

Applicable Compliance Method:
If required by the Ohio EPA, compliance with the hourly emission limitation shall be determined in accordance with Method 5 of 40 CFR, Part 60, Appendix A. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton) and record keeping required under section III.5.

d. Emission Limitation:

Oxides of Nitrogen emissions shall not exceed 0.18 pound per mmBtu, actual heat input, 2.48 pounds per hour; and 10.87 tons per year.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined in accordance with the performance test requirement. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton) and record keeping required under section III.5.

e. Emission Limitation:

Carbon Monoxide emissions shall not exceed

0.59 pound per mmBtu, actual heat input, 8.28 pounds per hour; 36.25 tons per year.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined in accordance with the performance test requirement. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton) and record keeping required under section III.5.

f. Emission Limitation:

Sulfur Dioxide emissions shall not exceed 0.23 pound per hour; 1.01 ton per year.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be demonstrated by multiplying the maximum inlet gas flow of 0.029 MMscf per hour by an AP-42 emission factor of 7.786 pounds of Sulfur Dioxide per MMscf, (Section 2.4 "Municipal Solid Waste Landfills, 11/98). Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton).

g. Emission Limitation:

Hydrogen chloride emissions shall not exceed 0.05 pound per hour; 0.22 tons per year.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined in accordance with Method 26 of 40 CFR, Part 60, Appendix A. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton).

h. Emission Limitation:

Non-methane organic compound (NMOC) emissions shall be reduced by 98 weight percent or reduce the outlet NMOC emissions to less than 20 parts per million by volume, dry basis (ppmvd) as hexane at 3 percent oxygen.

Applicable Compliance Method:
Compliance with the control efficiency limitation shall be determined in accordance with the performance test requirement of section V.1.

i. Emission Limitation:

Formaldehyde emissions shall not exceed 0.04 pound per hour; 0.18 ton per year.

Applicable Compliance Method:
If required by the Ohio EPA, compliance with the hourly emission limitation shall be determined in accordance with EPA reference method 0011 of SW-846 Chapter 10. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton).

VI. Miscellaneous Requirements

None

B. State Only Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
P006 - 1400 bkW (14.0 million Btu/hr) Deutz TBG 620 V16 K Internal combustion engine to produce electricity from landfill gas	None	None

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

1. The permit to install for this emissions unit (P006) was evaluated based on the actual materials and the design parameters of (P001, P002, P003, P004, P005, P006, P007, P008, P009, P010, P011, P012, P013, P014, P015, and P016) emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the TSCREEN model. The predicted 1-hour maximum ground-level concentration from the use of the TSCREEN model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Hydrogen Chloride
Ceiling Value (mg/m3): 7.46
Maximum Hourly Emission Rate (lbs/hr): 0.05
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 0.2
MAGLC (ug/m3): 131

Pollutant: Formaldehyde
Ceiling Value (mg/m3): 0.37
Maximum Hourly Emission Rate (lbs/hr): 0.04
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 0.16
MAGLC (ug/m3): 6.5

Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be still satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

a. changes in the composition of the materials used (typically for coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled;

b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and

c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Air Toxic Policy" will be satisfied for the above changes, the

Emissions Unit ID: P006

Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01(VV)(1)(a)(ii), and a modification of the existing permit to install will not be required. If the change(s) is (are) defined as a modification under other provisions of the modification definition (other than (VV)(1)(a)(ii)), then the permittee shall obtain a final permit to install prior to the change.

The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy:"

a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);

b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and

c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

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

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements	
P007 - 1400 bkW (14.0 million Btu/hr) Deutz TBG 620 V16 K Internal combustion engine to produce electricity from landfill gas.	OAC rule 3745-31-05 (A)(3)	40 CFR Part 52, Section 52.21 and OAC rule 3745-31-10 through OAC rule 3745-31-20.
		OAC rule 3745-17-11 (B)(5)(b)

	Applicable Emissions Limitations/Control Measures	
OAC rule 3745-17-07 (A)(1)	Non-methane organic compound (NMOC) emissions shall be reduced by 98 weight percent or reduce the outlet NMOC emissions to less than 20 parts per million by volume, dry basis (ppmvd) as hexane at 3 percent oxygen.	Oxides of Nitrogen emissions shall not exceed 0.18 pound per mmBtu, actual heat input (2.48 pounds per hour; 10.87 tons per year).*
OAC rule 3745-18-06(D)	Visible emissions shall not exceed 10% opacity as a six-minute average.	Carbon monoxide emissions shall not exceed 0.59 pound per mmBtu, actual heat input (8.28 pounds per hour; 36.25 tons per year).*
	Sulfur dioxide emissions shall not exceed 0.23 pound per hour; 1.01 tons per year.	Organic compound emissions shall not exceed 0.68 pound per hour; 2.98 tons per year.*
	Hydrogen chloride emissions shall not exceed 0.05 pound per hour; 0.22 ton per year.	* = compliance with this annual allowable is based on a rolling 12-month average.
	Formaldehyde emissions shall not exceed 0.04 pound per hour; 0.18 ton per year.	The particulate emission limitation specified by this rule is equivalent to the limit established by OAC rule 3745-31-05(A)(3), 40 CFR Part 52, Section 52.21 and OAC rule 3745-31-10 through 20.
	The requirements of this rule also include compliance with the requirements of 40 CFR Part 52, Section 52.21, OAC rule 3745-31-10 through 20.	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
	Particulate emissions shall not exceed 0.062 pound per mmBtu, actual heat input (0.87 pound per hour; 3.81 tons per year).*	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
	PM_{10} emissions shall not exceed 0.38 pound per hour; 1.66 tons per year.*	

Emissions Unit ID: P007

2. Additional Terms and Conditions

2.a The internal combustion engine shall operate using lean burn technology.

2.b This internal combustion engine is one of sixteen (16) internal combustion engines being permitted under this permit to install.

2.c The hourly and annual emission limitations are based upon the emissions unit potential to emit utilizing lean burn technology. Therefore, no records are required to demonstrate compliance with these limits.

II. Operational Restrictions

1. This emissions unit shall burn only landfill gas.

2. The permittee shall install, calibrate, maintain and operate according to the manufacturer's specifications a device at the inlet to the internal combustion engine which completely shuts off gas flow to the internal combustion engine when the internal combustion engine is not operating.

3. When the internal combustion engine is not operating, the landfill gas shall be diverted to the existing enclosed combustor at the Carbon Limestone Landfill (02-50-07-0850) or to an internal combustion engine that is operating.

4. The average combustion chamber temperature within the internal combustion engine, for any 3-hour block of time when the emissions unit is in operation, shall be established at the initial compliance test. A minimum temperature needs to be established to ensure destruction of NMOC.

5. The emissions unit shall not exceed the following emissions limits based upon a rolling, 12-month summation of the emissions: 3.81 TPY PE, 1.66 TPY PM10 10.87 TPY Oxides of Nitrogen, 36.25 TPY CO, and 2.98 TPY OC.

   To ensure enforceability during the first 12 calendar months of operation following the issuance of this permit, the permittee shall not exceed the emission levels specified in the following table:

Month(s)	Maximum Allowable Cumulative Emissions of PE (Tons)
1	0.32
1-2	0.64
1-3	0.95
1-4	1.27
1-5	1.59
1-6	1.91
1-7	2.22
1-8	2.54

1-9	2.86
1-10	3.18
1-11	3.49
1-12	3.81

Month(s)	Maximum Allowable Cumulative Emissions of PM10 (Tons)
1	0.14
1-2	0.28
1-3	0.42
1-4	0.55
1-5	0.69
1-6	0.83
1-7	0.97
1-8	1.11
1-9	1.25
1-10	1.38
1-11	1.52
1-12	1.66

Month(s)	Maximum Allowable Cumulative Emissions of Oxides of Nitrogen (Tons)
1	0.91
1-2	1.81
1-3	2.72
1-4	3.62
1-5	4.53
1-6	5.44
1-7	6.34

1-8	7.24
1-9	8.15
1-10	9.06
1-11	9.96
1-12	10.87

Month(s)	Maximum Allowable Cumulative Emissions of CO (Tons)
1	3.02
1-2	6.04
1-3	9.06
1-4	12.08
1-5	15.10
1-6	18.13
1-7	21.15
1-8	24.17
1-9	27.19
1-10	30.21
1-11	33.23
1-12	36.25

Month(s)	Maximum Allowable Cumulative Emissions of OC (Tons)
1	0.25
1-2	0.50
1-3	0.75
1-4	0.99
1-5	1.24
1-6	1.49
1-7	1.74

1-8	1.99
1-9	2.23
1-10	2.48
1-11	2.73
1-12	2.98

After the first 12 calendar months of operation following issuance of this permit, compliance with the annual emission limitation for PE, PM10, Oxides of Nitrogen, CO, and OC shall be based upon a rolling, 12-month summation of the monthly emissions.

III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall perform weekly checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving each emissions unit. The presence or absence of any visible emissions shall be noted in an operations log for each unit. If visible emissions are observed, the permittee shall also note the following in the operation log:

   a. the color of the emissions;

   b. the cause of the visible emissions;

   c. the total duration of any visible emission incident; and,

   d. any corrective actions taken to eliminate the visible emissions.

2. The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion chamber temperature within the internal combustion engine. 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 manufacturer's recommendations, with any modifications deemed necessary by the permittee.

3. The permittee shall collect and record , each day, all 3-hour blocks of time during which the average combustion chamber temperature within the internal combustion engine was less than the allowable minimum temperature established during the initial compliance test.

4. The permittee shall record each day when a fuel other than landfill gas was burned in this emissions unit.

5. The permittee shall maintain records of the accumulative PE, PM10, Oxides of Nitrogen, CO, and OC emissions for the first 12 months of operation following the issuance of this permit and of the rolling, 12-month summation of the PE, PM10, Oxides of Nitrogen, CO, and OC emissions beginning after the first 12 calendar months of operation following the issuance of this permit.

IV. Reporting Requirements

1. The permittee shall submit semiannual written reports which (a) identify all days during which any visible particulate emissions were observed from the stack serving the emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Northeast District Office of the Ohio EPA by January 31 and July 31 of each year and shall cover the previous 6-month period.

2. The permittee shall submit deviation (excursion) reports which identify all 3-hour blocks of time which the average combustion chamber temperature within the internal combustion engine does not comply with the temperature limitation specified above.

3. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than landfill gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

4. Any breakdown or malfunction resulting in the emission of raw landfill gas to the atmosphere shall be reported to the Northeast District Office of the Ohio EPA within one 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.

5. The permittee shall submit deviation reports that identify all exceedances of the rolling, 12-month emission limitations.

6. The excursion reports required above are due by the dates described in the General Terms and Conditions of this permit.

V. Testing Requirements

1. Emission Testing Requirement

   The permittee shall conduct, or have conducted, emissions testing for this emissions unit in accordance with the following requirements:

   a. the emission testing shall be conducted within 90 days from the start-up of the emissions unit;

   b. the emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate; nitrogen oxide (NOx), carbon monoxide (CO), particulate matter (PM), hydrogen chloride (HCl) and organic

compounds (OC).

c. the emission testing shall be conducted to demonstrate compliance with either the removal of 98 weight percent of non-methane organic compounds (NMOC) or the reduction of the outlet concentration of NMOC to less than 20 parts per million by volume, dry basis (ppmvd) as hexane at 3 percent oxygen. The gas header to the internal combustion engine and the egress of the engines are required to be tested to ensure the destruction on NMOC;

d. the following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): NOx - Method 7 or 7E, CO - Method 10, OC - Method 25 or 25A, PM - Method 5, HCl - Method 26;

e. the test(s) shall be conducted while the emissions unit is operating at or near maximum capacity, unless otherwise specified or approved by the Ohio EPA, Northeast District Office; and,

f. the compliance test shall be performed on one of the following similar emissions units P001, P002, P003, P004, P005, P006, P007, P008, P009, P010, P011, P012, P013, P014, P015, or P016.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Northeast District Office of the Ohio EPA. 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, Northeast District Office's refusal to accept the results of the emission test(s).

Personnel from the Ohio EPA, Northeast District Office 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.

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 Ohio EPA, Northeast District Office 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 Ohio EPA Northeast District Office.

2. Compliance with the emission limitation(s) established in this permit shall be determined in accordance with the following method(s):

a. Emission Limitation:

Organic Compound emissions shall not exceed 0.68 pound per hour; 2.98 tons per year.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined in accordance with the performance test requirement. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton) and record keeping required under section III.5.

b. Emission Limitation:

Visible emission shall not exceed 10% opacity as a six-minute average.

Applicable Compliance Method:
Compliance shall be demonstrated by using 40 CFR, Part 60, Appendix A, Method 9.

c. Emission Limitation:

Particulate matter emissions shall not exceed 0.062 pound per mmBtu, actual heat input, 0.87 pound per hour; and 3.81 tons per year.

Applicable Compliance Method:
If required by the Ohio EPA, compliance with the hourly emission limitation shall be determined in accordance with Method 5 of 40 CFR, Part 60, Appendix A. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton) and record keeping required under section III.5.

d. Emission Limitation:

Oxides of Nitrogen emissions shall not exceed 0.18 pound per mmBtu, actual heat input, 2.48 pounds per hour; and 10.87 tons per year.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined in accordance with the performance test requirement. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton) and record

keeping required under section III.5.

e. Emission Limitation:

Carbon Monoxide emissions shall not exceed 0.59 pound per mmBtu, actual heat input, 8.28 pounds per hour; 36.25 tons per year.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined in accordance with the performance test requirement. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton) and record keeping required under section III.5.

f. Emission Limitation:

Sulfur Dioxide emissions shall not exceed 0.23 pound per hour; 1.01 ton per year.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be demonstrated by multiplying the maximum inlet gas flow of 0.029 MMscf per hour by an AP-42 emission factor of 7.786 pounds of Sulfur Dioxide per MMscf, (Section 2.4 "Municipal Solid Waste Landfills, 11/98). Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton).

g. Emission Limitation:

Hydrogen chloride emissions shall not exceed 0.05 pound per hour; 0.22 tons per year.

Applicable Compliance Method:

Emissions Unit ID: P007

Compliance with the hourly emission limitation shall be determined in accordance with Method 26 of 40 CFR, Part 60, Appendix A. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton).

h. Emission Limitation:

Non-methane organic compound (NMOC) emissions shall be reduced by 98 weight percent or reduce the outlet NMOC emissions to less than 20 parts per million by volume, dry basis (ppmvd) as hexane at 3 percent oxygen.

Applicable Compliance Method:
Compliance with the control efficiency limitation shall be determined in accordance with the performance test requirement of section V.1.

i. Emission Limitation:

Formaldehyde emissions shall not exceed 0.04 pound per hour; 0.18 ton per year.

Applicable Compliance Method:
If required by the Ohio EPA, compliance with the hourly emission limitation shall be determined in accordance with EPA reference method 0011 of SW-846 Chapter 10. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton).

VI. Miscellaneous Requirements

None

B. State Only Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
P007 - 1400 bkW (14.0 million Btu/hr) Deutz TBG 620 V16 K Internal combustion engine to produce electricity from landfill gas	None	None

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

1. The permit to install for this emissions unit (P007) was evaluated based on the actual materials and the design parameters of (P001, P002, P003, P004, P005, P006, P007, P008, P009, P010, P011, P012, P013, P014, P015, and P016) emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the TSCREEN model. The predicted 1-hour maximum ground-level concentration from the use of the TSCREEN model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Hydrogen Chloride
Ceiling Value (mg/m3): 7.46
Maximum Hourly Emission Rate (lbs/hr): 0.05
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 0.2
MAGLC (ug/m3): 131

Pollutant: Formaldehyde
Ceiling Value (mg/m3): 0.37
Maximum Hourly Emission Rate (lbs/hr): 0.04
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 0.16
MAGLC (ug/m3): 6.5

Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be still satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

a. changes in the composition of the materials used (typically for coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled;

b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and

c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Air Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01(VV)(1)(a)(ii), and a modification of the existing permit to install will not be required. If the change(s) is (are) defined as a modification under other provisions of the modification definition (other than (VV)(1)(a)(ii)), then the permittee shall obtain a final permit to install prior to the change.

Emissions Unit ID: P007

The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy:"

a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);

b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and

c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

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

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements	
P008 - 1400 bkW (14.0 million Btu/hr) Deutz TBG 620 V16 K Internal combustion engine to produce electricity from landfill gas.	OAC rule 3745-31-05 (A)(3)	40 CFR Part 52, Section 52.21 and OAC rule 3745-31-10 through OAC rule 3745-31-20.
		OAC rule 3745-17-11 (B)(5)(b)

	Applicable Emissions Limitations/Control Measures	
OAC rule 3745-17-07 (A)(1)	Non-methane organic compound (NMOC) emissions shall be reduced by 98 weight percent or reduce the outlet NMOC emissions to less than 20 parts per million by volume, dry basis (ppmvd) as hexane at 3 percent oxygen.	Oxides of Nitrogen emissions shall not exceed 0.18 pound per mmBtu, actual heat input (2.48 pounds per hour; 10.87 tons per year).*
OAC rule 3745-18-06(D)	Visible emissions shall not exceed 10% opacity as a six-minute average.	Carbon monoxide emissions shall not exceed 0.59 pound per mmBtu, actual heat input (8.28 pounds per hour; 36.25 tons per year).*
	Sulfur dioxide emissions shall not exceed 0.23 pound per hour; 1.01 tons per year.	Organic compound emissions shall not exceed 0.68 pound per hour; 2.98 tons per year.*
	Hydrogen chloride emissions shall not exceed 0.05 pound per hour; 0.22 ton per year.	* = compliance with this annual allowable is based on a rolling 12-month average.
	Formaldehyde emissions shall not exceed 0.04 pound per hour; 0.18 ton per year.	The particulate emission limitation specified by this rule is equivalent to the limit established by OAC rule 3745-31-05(A)(3), 40 CFR Part 52, Section 52.21 and OAC rule 3745-31-10 through 20.
	The requirements of this rule also include compliance with the requirements of 40 CFR Part 52, Section 52.21, OAC rule 3745-31-10 through 20.	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
	Particulate emissions shall not exceed 0.062 pound per mmBtu, actual heat input (0.87 pound per hour; 3.81 tons per year).*	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
	PM_{10} emissions shall not exceed 0.38 pound per hour; 1.66 tons per year.*	

Emissions Unit ID: P008

2. Additional Terms and Conditions

2.a The internal combustion engine shall operate using lean burn technology.

2.b This internal combustion engine is one of sixteen (16) internal combustion engines being permitted under this permit to install.

2.c The hourly and annual emission limitations are based upon the emissions unit potential to emit utilizing lean burn technology. Therefore, no records are required to demonstrate compliance with these limits.

II. Operational Restrictions

1. This emissions unit shall burn only landfill gas.

2. The permittee shall install, calibrate, maintain and operate according to the manufacturer's specifications a device at the inlet to the internal combustion engine which completely shuts off gas flow to the internal combustion engine when the internal combustion engine is not operating.

3. When the internal combustion engine is not operating, the landfill gas shall be diverted to the existing enclosed combustor at the Carbon Limestone Landfill (02-50-07-0850) or to an internal combustion engine that is operating.

4. The average combustion chamber temperature within the internal combustion engine, for any 3-hour block of time when the emissions unit is in operation, shall be established at the initial compliance test. A minimum temperature needs to be established to ensure destruction of NMOC.

5. The emissions unit shall not exceed the following emissions limits based upon a rolling, 12-month summation of the emissions: 3.81 TPY PE, 1.66 TPY PM10, 10.87 TPY Oxides of Nitrogen, 36.25 TPY CO, and 2.98 TPY OC.

   To ensure enforceability during the first 12 calendar months of operation following the issuance of this permit, the permittee shall not exceed the emission levels specified in the following table:

Month(s)	Maximum Allowable Cumulative Emissions of PE (Tons)
1	0.32
1-2	0.64
1-3	0.95
1-4	1.27
1-5	1.59
1-6	1.91
1-7	2.22
1-8	2.54

1-9	2.86
1-10	3.18
1-11	3.49
1-12	3.81

Month(s)	Maximum Allowable Cumulative Emissions of PM10 (Tons)
1	0.14
1-2	0.28
1-3	0.42
1-4	0.55
1-5	0.69
1-6	0.83
1-7	0.97
1-8	1.11
1-9	1.25
1-10	1.38
1-11	1.52
1-12	1.66

Month(s)	Maximum Allowable Cumulative Emissions of Oxides of Nitrogen (Tons)
1	0.91
1-2	1.81
1-3	2.72
1-4	3.62
1-5	4.53
1-6	5.44
1-7	6.34

1-8	7.24
1-9	8.15
1-10	9.06
1-11	9.96
1-12	10.87

Month(s)	Maximum Allowable Cumulative Emissions of CO (Tons)
1	3.02
1-2	6.04
1-3	9.06
1-4	12.08
1-5	15.10
1-6	18.13
1-7	21.15
1-8	24.17
1-9	27.19
1-10	30.21
1-11	33.23
1-12	36.25

Month(s)	Maximum Allowable Cumulative Emissions of OC (Tons)
1	0.25
1-2	0.50
1-3	0.75
1-4	0.99
1-5	1.24
1-6	1.49
1-7	1.74

1-8	1.99
1-9	2.23
1-10	2.48
1-11	2.73
1-12	2.98

After the first 12 calendar months of operation following issuance of this permit, compliance with the annual emission limitation for PE, PM10, Oxides of Nitrogen, CO, and OC shall be based upon a rolling, 12-month summation of the monthly emissions.

III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall perform weekly checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving each emissions unit. The presence or absence of any visible emissions shall be noted in an operations log for each unit. If visible emissions are observed, the permittee shall also note the following in the operation log:

   a. the color of the emissions;

   b. the cause of the visible emissions;

   c. the total duration of any visible emission incident; and,

   d. any corrective actions taken to eliminate the visible emissions.

2. The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion chamber temperature within the internal combustion engine. 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 manufacturer's recommendations, with any modifications deemed necessary by the permittee.

3. The permittee shall collect and record , each day, all 3-hour blocks of time during which the average combustion chamber temperature within the internal combustion engine was less than the allowable minimum temperature established during the initial compliance test.

4. The permittee shall record each day when a fuel other than landfill gas was burned in this emissions unit.

5. The permittee shall maintain records of the accumulative PE, PM10, Oxides of Nitrogen, CO, and OC emissions for the first 12 months of operation following the issuance of this permit and of the rolling, 12-month summation of the PE, PM10, Oxides of Nitrogen, CO, and OC emissions beginning after the first 12 calendar months of operation following the issuance of this permit.

IV. Reporting Requirements

1. The permittee shall submit semiannual written reports which (a) identify all days during which any visible particulate emissions were observed from the stack serving the emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Northeast District Office of the Ohio EPA by January 31 and July 31 of each year and shall cover the previous 6-month period.

2. The permittee shall submit deviation (excursion) reports which identify all 3-hour blocks of time which the average combustion chamber temperature within the internal combustion engine does not comply with the temperature limitation specified above.

3. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than landfill gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

4. Any breakdown or malfunction resulting in the emission of raw landfill gas to the atmosphere shall be reported to the Northeast District Office of the Ohio EPA within one 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.

5. The permittee shall submit deviation reports that identify all exceedances of the rolling, 12-month emission limitations.

6. The excursion reports required above are due by the dates described in the General Terms and Conditions of this permit.

V. Testing Requirements

1. Emission Testing Requirement

   The permittee shall conduct, or have conducted, emissions testing for this emissions unit in accordance with the following requirements:

   a. the emission testing shall be conducted within 90 days from the start-up of the emissions unit;

   b. the emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate; nitrogen oxide (NOx), carbon monoxide (CO), particulate matter (PM), hydrogen chloride (HCl) and organic

compounds (OC).

c. the emission testing shall be conducted to demonstrate compliance with either the removal of 98 weight percent of non-methane organic compounds (NMOC) or the reduction of the outlet concentration of NMOC to less than 20 parts per million by volume, dry basis (ppmvd) as hexane at 3 percent oxygen. The gas header to the internal combustion engine and the egress of the engines are required to be tested to ensure the destruction on NMOC;

d. the following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): NOx - Method 7 or 7E, CO - Method 10, OC - Method 25 or 25A, PM - Method 5, HCl - Method 26;

e. the test(s) shall be conducted while the emissions unit is operating at or near maximum capacity, unless otherwise specified or approved by the Ohio EPA, Northeast District Office; and,

f. the compliance test shall be performed on one of the following similar emissions units P001, P002, P003, P004, P005, P006, P007, P008, P009, P010, P011, P012, P013, P014, P015, or P016.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Northeast District Office of the Ohio EPA. 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, Northeast District Office's refusal to accept the results of the emission test(s).

Personnel from the Ohio EPA, Northeast District Office 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.

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 Ohio EPA, Northeast District Office 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 Ohio EPA Northeast District Office.

2. Compliance with the emission limitation(s) established in this permit shall be determined in accordance with the following method(s):

a. Emission Limitation:

Organic Compound emissions shall not exceed 0.68 pound per hour; 2.98 tons per year.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined in accordance with the performance test requirement. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton) and record keeping required under section III.5.

b. Emission Limitation:

Visible emission shall not exceed 10% opacity as a six-minute average.

Applicable Compliance Method:
Compliance shall be demonstrated by using 40 CFR, Part 60, Appendix A, Method 9.

c. Emission Limitation:

Particulate matter emissions shall not exceed 0.062 pound per mmBtu, actual heat input, 0.87 pound per hour; and 3.81 tons per year.

Applicable Compliance Method:
If required by the Ohio EPA, compliance with the hourly emission limitation shall be determined in accordance with Method 5 of 40 CFR, Part 60, Appendix A. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton) and record keeping required under section III.5.

d. Emission Limitation:

Oxides of Nitrogen emissions shall not exceed 0.18 pound per mmBtu, actual heat input, 2.48 pounds per hour; and 10.87 tons per year.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined in accordance with the performance test requirement. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton) and record keeping required under section III.5.

e. Emission Limitation:

Carbon Monoxide emissions shall not exceed

0.59 pound per mmBtu, actual heat input, 8.28 pounds per hour; 36.25 tons per year.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined in accordance with the performance test requirement. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton) and record keeping required under section III.5.

f. Emission Limitation:

Sulfur Dioxide emissions shall not exceed 0.23 pound per hour; 1.01 ton per year.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be demonstrated by multiplying the maximum inlet gas flow of 0.029 MMscf per hour by an AP-42 emission factor of 7.786 pounds of Sulfur Dioxide per MMscf, (Section 2.4 "Municipal Solid Waste Landfills, 11/98). Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton).

g. Emission Limitation:

Hydrogen chloride emissions shall not exceed 0.05 pound per hour; 0.22 tons per year.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined in accordance with Method 26 of 40 CFR, Part 60, Appendix A. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton).

h. Emission Limitation:

Non-methane organic compound (NMOC) emissions shall be reduced by 98 weight percent or reduce the outlet NMOC emissions to less than 20 parts per million by volume, dry basis (ppmvd) as hexane at 3 percent oxygen.

Applicable Compliance Method:
Compliance with the control efficiency limitation shall be determined in accordance with the performance test requirement of section V.1.

i. Emission Limitation:

Formaldehyde emissions shall not exceed 0.04 pound per hour; 0.18 ton per year.

Applicable Compliance Method:
If required by the Ohio EPA, compliance with the hourly emission limitation shall be determined in accordance with EPA reference method 0011 of SW-846 Chapter 10. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton).

VI. Miscellaneous Requirements

None

B. State Only Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
P008 - 1400 bkW (14.0 million Btu/hr) Deutz TBG 620 V16 K Internal combustion engine to produce electricity from landfill gas	None	None

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

1. The permit to install for this emissions unit (P008) was evaluated based on the actual materials and the design parameters of (P001, P002, P003, P004, P005, P006, P007, P008, P009, P010, P011, P012, P013, P014, P015, and P016) emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the TSCREEN model. The predicted 1-hour maximum ground-level concentration from the use of the TSCREEN model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Hydrogen Chloride
Ceiling Value (mg/m3): 7.46
Maximum Hourly Emission Rate (lbs/hr): 0.05
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 0.2
MAGLC (ug/m3): 131

Pollutant: Formaldehyde
Ceiling Value (mg/m3): 0.37
Maximum Hourly Emission Rate (lbs/hr): 0.04
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 0.16
MAGLC (ug/m3): 6.5

Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be still satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

a. changes in the composition of the materials used (typically for coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled;

b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and

c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Air Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01(VV)(1)(a)(ii), and a modification of the existing permit to install will not be required. If the change(s) is (are) defined as a modification under other provisions of the modification definition (other than (VV)(1)(a)(ii)), then the permittee shall obtain a final permit to install prior to the change.

Emissions Unit ID: P008

The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy:"

a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);

b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and

c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

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

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements	
P009 - 1400 bkW (14.0 million Btu/hr) Deutz TBG 620 V16 K Internal combustion engine to produce electricity from landfill gas.	OAC rule 3745-31-05 (A)(3)	40 CFR Part 52, Section 52.21 and OAC rule 3745-31-10 through OAC rule 3745-31-20.
		OAC rule 3745-17-11 (B)(5)(b)

	Applicable Emissions Limitations/Control Measures	
OAC rule 3745-17-07 (A)(1)	Non-methane organic compound (NMOC) emissions shall be reduced by 98 weight percent or reduce the outlet NMOC emissions to less than 20 parts per million by volume, dry basis (ppmvd) as hexane at 3 percent oxygen.	Oxides of Nitrogen emissions shall not exceed 0.18 pound per mmBtu, actual heat input (2.48 pounds per hour; 10.87 tons per year).*
OAC rule 3745-18-06(D)	Visible emissions shall not exceed 10% opacity as a six-minute average.	Carbon monoxide emissions shall not exceed 0.59 pound per mmBtu, actual heat input (8.28 pounds per hour; 36.25 tons per year).*
	Sulfur dioxide emissions shall not exceed 0.23 pound per hour; 1.01 tons per year.	Organic compound emissions shall not exceed 0.68 pound per hour; 2.98 tons per year.*
	Hydrogen chloride emissions shall not exceed 0.05 pound per hour; 0.22 ton per year.	* = compliance with this annual allowable is based on a rolling 12-month average.
	Formaldehyde emissions shall not exceed 0.04 pound per hour; 0.18 ton per year.	The particulate emission limitation specified by this rule is equivalent to the limit established by OAC rule 3745-31-05(A)(3), 40 CFR Part 52, Section 52.21 and OAC rule 3745-31-10 through 20.
	The requirements of this rule also include compliance with the requirements of 40 CFR Part 52, Section 52.21, OAC rule 3745-31-10 through 20.	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
	Particulate emissions shall not exceed 0.062 pound per mmBtu, actual heat input (0.87 pound per hour; 3.81 tons per year).*	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
	PM_{10} emissions shall not exceed 0.38 pound per hour; 1.66 tons per year.*	

Emissions Unit ID: P009

2. Additional Terms and Conditions

2.a The internal combustion engine shall operate using lean burn technology.

2.b This internal combustion engine is one of sixteen (16) internal combustion engines being permitted under this permit to install.

2.c The hourly and annual emission limitations are based upon the emissions unit potential to emit utilizing lean burn technology. Therefore, no records are required to demonstrate compliance with these limits.

II. Operational Restrictions

1. This emissions unit shall burn only landfill gas.

2. The permittee shall install, calibrate, maintain and operate according to the manufacturer's specifications a device at the inlet to the internal combustion engine which completely shuts off gas flow to the internal combustion engine when the internal combustion engine is not operating.

3. When the internal combustion engine is not operating, the landfill gas shall be diverted to the existing enclosed combustor at the Carbon Limestone Landfill (02-50-07-0850) or to an internal combustion engine that is operating.

4. The average combustion chamber temperature within the internal combustion engine, for any 3-hour block of time when the emissions unit is in operation, shall be established at the initial compliance test. A minimum temperature needs to be established to ensure destruction of NMOC.

5. The emissions unit shall not exceed the following emissions limits based upon a rolling, 12-month summation of the emissions: 3.81 TPY PE, 1.66 TPY PM10, 10.87 TPY Oxides of Nitrogen, 36.25 TPY CO, and 2.98 TPY OC.

   To ensure enforceability during the first 12 calendar months of operation following the issuance of this permit, the permittee shall not exceed the emission levels specified in the following table:

Month(s)	Maximum Allowable Cumulative Emissions of PE (Tons)
1	0.32
1-2	0.64
1-3	0.95
1-4	1.27
1-5	1.59
1-6	1.91
1-7	2.22
1-8	2.54

1-9	2.86
1-10	3.18
1-11	3.49
1-12	3.81

Month(s)	Maximum Allowable Cumulative Emissions of PM10 (Tons)
1	0.14
1-2	0.28
1-3	0.42
1-4	0.55
1-5	0.69
1-6	0.83
1-7	0.97
1-8	1.11
1-9	1.25
1-10	1.38
1-11	1.52
1-12	1.66

Month(s)	Maximum Allowable Cumulative Emissions of Oxides of Nitrogen (Tons)
1	0.91
1-2	1.81
1-3	2.72
1-4	3.62
1-5	4.53
1-6	5.44
1-7	6.34

1-8	7.24
1-9	8.15
1-10	9.06
1-11	9.96
1-12	10.87

Month(s)	Maximum Allowable Cumulative Emissions of CO (Tons)
1	3.02
1-2	6.04
1-3	9.06
1-4	12.08
1-5	15.10
1-6	18.13
1-7	21.15
1-8	24.17
1-9	27.19
1-10	30.21
1-11	33.23
1-12	36.25

Month(s)	Maximum Allowable Cumulative Emissions of OC (Tons)
1	0.25
1-2	0.50
1-3	0.75
1-4	0.99
1-5	1.24
1-6	1.49
1-7	1.74

1-8	1.99
1-9	2.23
1-10	2.48
1-11	2.73
1-12	2.98

After the first 12 calendar months of operation following issuance of this permit, compliance with the annual emission limitation for PE, PM10, Oxides of Nitrogen, CO, and OC shall be based upon a rolling, 12-month summation of the monthly emissions.

III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall perform weekly checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving each emissions unit. The presence or absence of any visible emissions shall be noted in an operations log for each unit. If visible emissions are observed, the permittee shall also note the following in the operation log:

   a. the color of the emissions;

   b. the cause of the visible emissions;

   c. the total duration of any visible emission incident; and,

   d. any corrective actions taken to eliminate the visible emissions.

2. The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion chamber temperature within the internal combustion engine. 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 manufacturer's recommendations, with any modifications deemed necessary by the permittee.

3. The permittee shall collect and record , each day, all 3-hour blocks of time during which the average combustion chamber temperature within the internal combustion engine was less than the allowable minimum temperature established during the initial compliance test.

4. The permittee shall record each day when a fuel other than landfill gas was burned in this emissions unit.

5. The permittee shall maintain records of the accumulative PE, PM10, Oxides of Nitrogen, CO, and OC emissions for the first 12 months of operation following the issuance of this permit and of the rolling, 12-month summation of the PE, PM10, Oxides of Nitrogen, CO, and OC emissions beginning after the first 12 calendar months of operation following the issuance of this permit.

IV. Reporting Requirements

1. The permittee shall submit semiannual written reports which (a) identify all days during which any visible particulate emissions were observed from the stack serving the emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Northeast District Office of the Ohio EPA by January 31 and July 31 of each year and shall cover the previous 6-month period.

2. The permittee shall submit deviation (excursion) reports which identify all 3-hour blocks of time which the average combustion chamber temperature within the internal combustion engine does not comply with the temperature limitation specified above.

3. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than landfill gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

4. Any breakdown or malfunction resulting in the emission of raw landfill gas to the atmosphere shall be reported to the Northeast District Office of the Ohio EPA within one 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.

5. The permittee shall submit deviation reports that identify all exceedances of the rolling, 12-month emission limitations.

6. The excursion reports required above are due by the dates described in the General Terms and Conditions of this permit.

V. Testing Requirements

1. Emission Testing Requirement

   The permittee shall conduct, or have conducted, emissions testing for this emissions unit in accordance with the following requirements:

   a. the emission testing shall be conducted within 90 days from the start-up of the emissions unit;

   b. the emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate; nitrogen oxide (NOx), carbon monoxide (CO), particulate matter (PM), hydrogen chloride (HCl) and organic

compounds (OC).

c. the emission testing shall be conducted to demonstrate compliance with either the removal of 98 weight percent of non-methane organic compounds (NMOC) or the reduction of the outlet concentration of NMOC to less than 20 parts per million by volume, dry basis (ppmvd) as hexane at 3 percent oxygen. The gas header to the internal combustion engine and the egress of the engines are required to be tested to ensure the destruction on NMOC;

d. the following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): NOx - Method 7 or 7E, CO - Method 10, OC - Method 25 or 25A, PM - Method 5, HCl - Method 26;

e. the test(s) shall be conducted while the emissions unit is operating at or near maximum capacity, unless otherwise specified or approved by the Ohio EPA, Northeast District Office; and,

f. the compliance test shall be performed on one of the following similar emissions units P001, P002, P003, P004, P005, P006, P007, P008, P009, P010, P011, P012, P013, P014, P015, or P016.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Northeast District Office of the Ohio EPA. 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, Northeast District Office's refusal to accept the results of the emission test(s).

Personnel from the Ohio EPA, Northeast District Office 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.

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 Ohio EPA, Northeast District Office 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 Ohio EPA Northeast District Office.

2. Compliance with the emission limitation(s) established in this permit shall be determined in accordance with the following method(s):

a. Emission Limitation:

Organic Compound emissions shall not exceed 0.68 pound per hour; 2.98 tons per year.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined in accordance with the performance test requirement. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton) and record keeping required under section III.5.

b. Emission Limitation:

Visible emission shall not exceed 10% opacity as a six-minute average.

Applicable Compliance Method:
Compliance shall be demonstrated by using 40 CFR, Part 60, Appendix A, Method 9.

c. Emission Limitation:

Particulate matter emissions shall not exceed 0.062 pound per mmBtu, actual heat input, 0.87 pound per hour; and 3.81 tons per year.

Applicable Compliance Method:
If required by the Ohio EPA, compliance with the hourly emission limitation shall be determined in accordance with Method 5 of 40 CFR, Part 60, Appendix A. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton) and record keeping required under section III.5.

d. Emission Limitation:

Oxides of Nitrogen emissions shall not exceed 0.18 pound per mmBtu, actual heat input, 2.48 pounds per hour; and 10.87 tons per year.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined in accordance with the performance test requirement. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton) and record keeping required under section III.5.

e. Emission Limitation:

Carbon Monoxide emissions shall not exceed

0.59 pound per mmBtu, actual heat input, 8.28 pounds per hour; 36.25 tons per year.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined in accordance with the performance test requirement. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton) and record keeping required under section III.5.

f. Emission Limitation:

Sulfur Dioxide emissions shall not exceed 0.23 pound per hour; 1.01 ton per year.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be demonstrated by multiplying the maximum inlet gas flow of 0.029 MMscf per hour by an AP-42 emission factor of 7.786 pounds of Sulfur Dioxide per MMscf, (Section 2.4 "Municipal Solid Waste Landfills, 11/98). Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton).

g. Emission Limitation:

Hydrogen chloride emissions shall not exceed 0.05 pound per hour; 0.22 tons per year.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined in accordance with Method 26 of 40 CFR, Part 60, Appendix A. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton).

h. Emission Limitation:

Non-methane organic compound (NMOC) emissions shall be reduced by 98 weight percent or reduce the outlet NMOC emissions to less than 20 parts per million by volume, dry basis (ppmvd) as hexane at 3 percent oxygen.

Applicable Compliance Method:
Compliance with the control efficiency limitation shall be determined in accordance with the performance test requirement of section V.1.

i. Emission Limitation:

Formaldehyde emissions shall not exceed 0.04 pound per hour; 0.18 ton per year.

Applicable Compliance Method:
If required by the Ohio EPA, compliance with the hourly emission limitation shall be determined in accordance with EPA reference method 0011 of SW-846 Chapter 10. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton).

VI. Miscellaneous Requirements

None

B. State Only Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
P009 - 1400 bkW (14.0 million Btu/hr) Deutz TBG 620 V16 K Internal combustion engine to produce electricity from landfill gas	None	None

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

1. The permit to install for this emissions unit (P009) was evaluated based on the actual materials and the design parameters of (P001, P002, P003, P004, P005, P006, P007, P008, P009, P010, P011, P012, P013, P014, P015, and P016) emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the TSCREEN model. The predicted 1-hour maximum ground-level concentration from the use of the TSCREEN model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Hydrogen Chloride
Ceiling Value (mg/m3): 7.46
Maximum Hourly Emission Rate (lbs/hr): 0.05
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 0.2
MAGLC (ug/m3): 131

Pollutant: Formaldehyde
Ceiling Value (mg/m3): 0.37
Maximum Hourly Emission Rate (lbs/hr): 0.04
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 0.16
MAGLC (ug/m3): 6.5

Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be still satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

a. changes in the composition of the materials used (typically for coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled;

b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and

c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Air Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01(VV)(1)(a)(ii), and a modification of the existing permit to install will not be required. If the change(s) is (are) defined as a modification under other provisions of the modification definition (other than (VV)(1)(a)(ii)), then the permittee shall obtain a final permit to install prior to the change.

Emissions Unit ID: P009

The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy:"

a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);

b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and

c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

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

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements	
		40 CFR Part 52, Section 52.21 and OAC rule 3745-31-10 through OAC rule 3745-31-20.
P010 - 1400 bkW (14.0 million Btu/hr) Deutz TBG 620 V16 K Internal combustion engine to produce electricity from landfill gas.	OAC rule 3745-31-05 (A)(3)	
		OAC rule 3745-17-11 (B)(5)(b)

	Applicable Emissions Limitations/Control Measures	
OAC rule 3745-17-07 (A)(1)	Non-methane organic compound (NMOC) emissions shall be reduced by 98 weight percent or reduce the outlet NMOC emissions to less than 20 parts per million by volume, dry basis (ppmvd) as hexane at 3 percent oxygen.	Oxides of Nitrogen emissions shall not exceed 0.18 pound per mmBtu, actual heat input (2.48 pounds per hour; 10.87 tons per year).*
OAC rule 3745-18-06(D)	Visible emissions shall not exceed 10% opacity as a six-minute average.	Carbon monoxide emissions shall not exceed 0.59 pound per mmBtu, actual heat input (8.28 pounds per hour; 36.25 tons per year).*
	Sulfur dioxide emissions shall not exceed 0.23 pound per hour; 1.01 tons per year.	Organic compound emissions shall not exceed 0.68 pound per hour; 2.98 tons per year.*
	Hydrogen chloride emissions shall not exceed 0.05 pound per hour; 0.22 ton per year.	* = compliance with this annual allowable is based on a rolling 12-month average.
	Formaldehyde emissions shall not exceed 0.04 pound per hour; 0.18 ton per year.	The particulate emission limitation specified by this rule is equivalent to the limit established by OAC rule 3745-31-05(A)(3), 40 CFR Part 52, Section 52.21 and OAC rule 3745-31-10 through 20.
	The requirements of this rule also include compliance with the requirements of 40 CFR Part 52, Section 52.21, OAC rule 3745-31-10 through 20.	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
	Particulate emissions shall not exceed 0.062 pound per mmBtu, actual heat input (0.87 pound per hour; 3.81 tons per year).*	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
	PM_{10} emissions shall not exceed 0.38 pound per hour; 1.66 tons per year.*	

Emissions Unit ID: P010

2. Additional Terms and Conditions

2.a The internal combustion engine shall operate using lean burn technology.

2.b This internal combustion engine is one of sixteen (16) internal combustion engines being permitted under this permit to install.

2.c The hourly and annual emission limitations are based upon the emissions unit potential to emit utilizing lean burn technology. Therefore, no records are required to demonstrate compliance with these limits.

II. Operational Restrictions

1. This emissions unit shall burn only landfill gas.

2. The permittee shall install, calibrate, maintain and operate according to the manufacturer's specifications a device at the inlet to the internal combustion engine which completely shuts off gas flow to the internal combustion engine when the internal combustion engine is not operating.

3. When the internal combustion engine is not operating, the landfill gas shall be diverted to the existing enclosed combustor at the Carbon Limestone Landfill (02-50-07-0850) or to an internal combustion engine that is operating.

4. The average combustion chamber temperature within the internal combustion engine, for any 3-hour block of time when the emissions unit is in operation, shall be established at the initial compliance test. A minimum temperature needs to be established to ensure destruction of NMOC.

5. The emissions unit shall not exceed the following emissions limits based upon a rolling, 12-month summation of the emissions: 3.81 TPY PE, 1.66 TPY PM10, 10.87 TPY Oxides of Nitrogen, 36.25 TPY CO, and 2.98 TPY OC.

   To ensure enforceability during the first 12 calendar months of operation following the issuance of this permit, the permittee shall not exceed the emission levels specified in the following table:

Month(s)	Maximum Allowable Cumulative Emissions of PE (Tons)
1	0.32
1-2	0.64
1-3	0.95
1-4	1.27
1-5	1.59
1-6	1.91
1-7	2.22
1-8	2.54

1-9	2.86
1-10	3.18
1-11	3.49
1-12	3.81

Month(s)	Maximum Allowable Cumulative Emissions of PM10 (Tons)
1	0.14
1-2	0.28
1-3	0.42
1-4	0.55
1-5	0.69
1-6	0.83
1-7	0.97
1-8	1.11
1-9	1.25
1-10	1.38
1-11	1.52
1-12	1.66

Month(s)	Maximum Allowable Cumulative Emissions of Oxides of Nitrogen (Tons)
1	0.91
1-2	1.81
1-3	2.72
1-4	3.62
1-5	4.53
1-6	5.44
1-7	6.34

1-8	7.24
1-9	8.15
1-10	9.06
1-11	9.96
1-12	10.87

Month(s)	Maximum Allowable Cumulative Emissions of CO (Tons)
1	3.02
1-2	6.04
1-3	9.06
1-4	12.08
1-5	15.10
1-6	18.13
1-7	21.15
1-8	24.17
1-9	27.19
1-10	30.21
1-11	33.23
1-12	36.25

Month(s)	Maximum Allowable Cumulative Emissions of OC (Tons)
1	0.25
1-2	0.50
1-3	0.75
1-4	0.99
1-5	1.24
1-6	1.49
1-7	1.74

1-8	1.99
1-9	2.23
1-10	2.48
1-11	2.73
1-12	2.98

After the first 12 calendar months of operation following issuance of this permit, compliance with the annual emission limitation for PE, PM10, Oxides of Nitrogen, CO, and OC shall be based upon a rolling, 12-month summation of the monthly emissions.

III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall perform weekly checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving each emissions unit. The presence or absence of any visible emissions shall be noted in an operations log for each unit. If visible emissions are observed, the permittee shall also note the following in the operation log:

   a. the color of the emissions;

   b. the cause of the visible emissions;

   c. the total duration of any visible emission incident; and,

   d. any corrective actions taken to eliminate the visible emissions.

2. The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion chamber temperature within the internal combustion engine. 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 manufacturer's recommendations, with any modifications deemed necessary by the permittee.

3. The permittee shall collect and record , each day, all 3-hour blocks of time during which the average combustion chamber temperature within the internal combustion engine was less than the allowable minimum temperature established during the initial compliance test.

4. The permittee shall record each day when a fuel other than landfill gas was burned in this emissions unit.

5. The permittee shall maintain records of the accumulative PE, PM10, Oxides of Nitrogen, CO, and OC emissions for the first 12 months of operation following the issuance of this permit and of the rolling, 12-month summation of the PE, PM10, Oxides of Nitrogen, CO, and OC emissions beginning after the first 12 calendar months of operation following the issuance of this permit.

IV. Reporting Requirements

1. The permittee shall submit semiannual written reports which (a) identify all days during which any visible particulate emissions were observed from the stack serving the emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Northeast District Office of the Ohio EPA by January 31 and July 31 of each year and shall cover the previous 6-month period.

2. The permittee shall submit deviation (excursion) reports which identify all 3-hour blocks of time which the average combustion chamber temperature within the internal combustion engine does not comply with the temperature limitation specified above.

3. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than landfill gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

4. Any breakdown or malfunction resulting in the emission of raw landfill gas to the atmosphere shall be reported to the Northeast District Office of the Ohio EPA within one 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.

5. The permittee shall submit deviation reports that identify all exceedances of the rolling, 12-month emission limitations.

6. The excursion reports required above are due by the dates described in the General Terms and Conditions of this permit.

V. Testing Requirements

1. Emission Testing Requirement

   The permittee shall conduct, or have conducted, emissions testing for this emissions unit in accordance with the following requirements:

   a. the emission testing shall be conducted within 90 days from the start-up of the emissions unit;

   b. the emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate; nitrogen oxide (NOx), carbon monoxide (CO), particulate matter (PM), hydrogen chloride (HCl) and organic

compounds (OC).

c. the emission testing shall be conducted to demonstrate compliance with either the removal of 98 weight percent of non-methane organic compounds (NMOC) or the reduction of the outlet concentration of NMOC to less than 20 parts per million by volume, dry basis (ppmvd) as hexane at 3 percent oxygen. The gas header to the internal combustion engine and the egress of the engines are required to be tested to ensure the destruction on NMOC;

d. the following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): NOx - Method 7 or 7E, CO - Method 10, OC - Method 25 or 25A, PM - Method 5, HCl - Method 26;

e. the test(s) shall be conducted while the emissions unit is operating at or near maximum capacity, unless otherwise specified or approved by the Ohio EPA, Northeast District Office; and,

f. the compliance test shall be performed on one of the following similar emissions units P001, P002, P003, P004, P005, P006, P007, P008, P009, P010, P011, P012, P013, P014, P015, or P016.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Northeast District Office of the Ohio EPA. 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, Northeast District Office's refusal to accept the results of the emission test(s).

Personnel from the Ohio EPA, Northeast District Office 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.

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 Ohio EPA, Northeast District Office 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 Ohio EPA Northeast District Office.

2. Compliance with the emission limitation(s) established in this permit shall be determined in accordance with the following method(s):

a. Emission Limitation:

Organic Compound emissions shall not exceed 0.68 pound per hour; 2.98 tons per year.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined in accordance with the performance test requirement. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton) and record keeping required under section III.5.

b. Emission Limitation:

Visible emission shall not exceed 10% opacity as a six-minute average.

Applicable Compliance Method:
Compliance shall be demonstrated by using 40 CFR, Part 60, Appendix A, Method 9.

c. Emission Limitation:

Particulate matter emissions shall not exceed 0.062 pound per mmBtu, actual heat input, 0.87 pound per hour; and 3.81 tons per year.

Applicable Compliance Method:
If required by the Ohio EPA, compliance with the hourly emission limitation shall be determined in accordance with Method 5 of 40 CFR, Part 60, Appendix A. Compliance

with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton) and record keeping required under section III.5.

d. Emission Limitation:

Oxides of Nitrogen emissions shall not exceed 0.18 pound per mmBtu, actual heat input, 2.48 pounds per hour; and 10.87 tons per year.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined in accordance with the performance test requirement. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton) and record keeping required under section III.5.

e. Emission Limitation:

Carbon Monoxide emissions shall not exceed 0.59 pound per mmBtu, actual heat input, 8.28 pounds per hour; 36.25 tons per year.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined in accordance with the performance test requirement. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton) and record keeping required under section III.5.

f. Emission Limitation:

Sulfur Dioxide emissions shall not exceed 0.23 pound per hour; 1.01 ton per year.

Emissions Unit ID: P010

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be demonstrated by multiplying the maximum inlet gas flow of 0.029 MMscf per hour by an AP-42 emission factor of 7.786 pounds of Sulfur Dioxide per MMscf, (Section 2.4 "Municipal Solid Waste Landfills, 11/98). Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton).

g. Emission Limitation:

Hydrogen chloride emissions shall not exceed 0.05 pound per hour; 0.22 tons per year.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined in accordance with Method 26 of 40 CFR, Part 60, Appendix A. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton).

h. Emission Limitation:

Non-methane organic compound (NMOC) emissions shall be reduced by 98 weight percent or reduce the outlet NMOC emissions to less than 20 parts per million by volume, dry basis (ppmvd) as hexane at 3 percent oxygen.

Applicable Compliance Method:
Compliance with the control efficiency limitation shall be determined in accordance with the performance test requirement of section V.1.

i. Emission Limitation:

Formaldehyde emissions shall not exceed 0.04 pound per hour; 0.18 ton per year.

Applicable Compliance Method:
If required by the Ohio EPA, compliance with the hourly emission limitation shall be determined in accordance with EPA reference method 0011 of SW-846 Chapter 10. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton).

VI. Miscellaneous Requirements

None

B. State Only Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
P010 - 1400 bkW (14.0 million Btu/hr) Deutz TBG 620 V16 K Internal combustion engine to produce electricity from landfill gas	None	None

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

1. The permit to install for this emissions unit (P010) was evaluated based on the actual materials and the design parameters of (P001, P002, P003, P004, P005, P006, P007, P008, P009, P010, P011, P012, P013, P014, P015, and P016) emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the TSCREEN model. The predicted 1-hour maximum ground-level concentration from the use of the TSCREEN model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Hydrogen Chloride
Ceiling Value (mg/m3): 7.46
Maximum Hourly Emission Rate (lbs/hr): 0.05
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 0.2
MAGLC (ug/m3): 131

Pollutant: Formaldehyde
Ceiling Value (mg/m3): 0.37
Maximum Hourly Emission Rate (lbs/hr): 0.04
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 0.16
MAGLC (ug/m3): 6.5

Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be still satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

a. changes in the composition of the materials used (typically for coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled;

b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and

c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Air Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01(VV)(1)(a)(ii), and a modification of the existing permit to install will not be required. If the change(s) is (are) defined as a modification under other provisions of the modification definition (other than (VV)(1)(a)(ii)), then the permittee shall obtain a final permit to install prior to the change.

Emissions Unit ID: P010

The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy:"

a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);

b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and

c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

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

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements	
P011 - 1400 bkW (14.0 million Btu/hr) Deutz TBG 620 V16 K Internal combustion engine to produce electricity from landfill gas.	OAC rule 3745-31-05 (A)(3)	40 CFR Part 52, Section 52.21 and OAC rule 3745-31-10 through OAC rule 3745-31-20.
		OAC rule 3745-17-11 (B)(5)(b)

	Applicable Emissions Limitations/Control Measures	
OAC rule 3745-17-07 (A)(1)	Non-methane organic compound (NMOC) emissions shall be reduced by 98 weight percent or reduce the outlet NMOC emissions to less than 20 parts per million by volume, dry basis (ppmvd) as hexane at 3 percent oxygen.	Oxides of Nitrogen emissions shall not exceed 0.18 pound per mmBtu, actual heat input (2.48 pounds per hour; 10.87 tons per year).*
OAC rule 3745-18-06(D)	Visible emissions shall not exceed 10% opacity as a six-minute average.	Carbon monoxide emissions shall not exceed 0.59 pound per mmBtu, actual heat input (8.28 pounds per hour; 36.25 tons per year).*
	Sulfur dioxide emissions shall not exceed 0.23 pound per hour; 1.01 tons per year.	Organic compound emissions shall not exceed 0.68 pound per hour; 2.98 tons per year.*
	Hydrogen chloride emissions shall not exceed 0.05 pound per hour; 0.22 ton per year.	* = compliance with this annual allowable is based on a rolling 12-month average.
	Formaldehyde emissions shall not exceed 0.04 pound per hour; 0.18 ton per year.	The particulate emission limitation specified by this rule is equivalent to the limit established by OAC rule 3745-31-05(A)(3), 40 CFR Part 52, Section 52.21 and OAC rule 3745-31-10 through 20.
	The requirements of this rule also include compliance with the requirements of 40 CFR Part 52, Section 52.21, OAC rule 3745-31-10 through 20.	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
	Particulate emissions shall not exceed 0.062 pound per mmBtu, actual heat input (0.87 pound per hour; 3.81 tons per year).*	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
	PM_{10} emissions shall not exceed 0.38 pound per hour; 1.66 tons per year.*	

Emissions Unit ID: P011

2. Additional Terms and Conditions

2.a The internal combustion engine shall operate using lean burn technology.

2.b This internal combustion engine is one of sixteen (16) internal combustion engines being permitted under this permit to install.

2.c The hourly and annual emission limitations are based upon the emissions unit potential to emit utilizing lean burn technology. Therefore, no records are required to demonstrate compliance with these limits.

II. Operational Restrictions

1. This emissions unit shall burn only landfill gas.

2. The permittee shall install, calibrate, maintain and operate according to the manufacturer's specifications a device at the inlet to the internal combustion engine which completely shuts off gas flow to the internal combustion engine when the internal combustion engine is not operating.

3. When the internal combustion engine is not operating, the landfill gas shall be diverted to the existing enclosed combustor at the Carbon Limestone Landfill (02-50-07-0850) or to an internal combustion engine that is operating.

4. The average combustion chamber temperature within the internal combustion engine, for any 3-hour block of time when the emissions unit is in operation, shall be established at the initial compliance test. A minimum temperature needs to be established to ensure destruction of NMOC.

5. The emissions unit shall not exceed the following emissions limits based upon a rolling, 12-month summation of the emissions: 3.81 TPY PE, 1.66 TPY PM10, 10.87 TPY Oxides of Nitrogen, 36.25 TPY CO, and 2.98 TPY OC.

   To ensure enforceability during the first 12 calendar months of operation following the issuance of this permit, the permittee shall not exceed the emission levels specified in the following table:

Month(s)	Maximum Allowable Cumulative Emissions of PE (Tons)
1	0.32
1-2	0.64
1-3	0.95
1-4	1.27
1-5	1.59
1-6	1.91
1-7	2.22
1-8	2.54

1-9	2.86
1-10	3.18
1-11	3.49
1-12	3.81

Month(s)	Maximum Allowable Cumulative Emissions of PM10 (Tons)
1	0.14
1-2	0.28
1-3	0.42
1-4	0.55
1-5	0.69
1-6	0.83
1-7	0.97
1-8	1.11
1-9	1.25
1-10	1.38
1-11	1.52
1-12	1.66

Month(s)	Maximum Allowable Cumulative Emissions of Oxides of Nitrogen (Tons)
1	0.91
1-2	1.81
1-3	2.72
1-4	3.62
1-5	4.53
1-6	5.44
1-7	6.34

1-8	7.24
1-9	8.15
1-10	9.06
1-11	9.96
1-12	10.87

Month(s)	Maximum Allowable Cumulative Emissions of CO (Tons)
1	3.02
1-2	6.04
1-3	9.06
1-4	12.08
1-5	15.10
1-6	18.13
1-7	21.15
1-8	24.17
1-9	27.19
1-10	30.21
1-11	33.23
1-12	36.25

Month(s)	Maximum Allowable Cumulative Emissions of OC (Tons)
1	0.25
1-2	0.50
1-3	0.75
1-4	0.99
1-5	1.24
1-6	1.49
1-7	1.74

1-8	1.99
1-9	2.23
1-10	2.48
1-11	2.73
1-12	2.98

After the first 12 calendar months of operation following issuance of this permit, compliance with the annual emission limitation for PE, PM10, Oxides of Nitrogen, CO, and OC shall be based upon a rolling, 12-month summation of the monthly emissions.

III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall perform weekly checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving each emissions unit. The presence or absence of any visible emissions shall be noted in an operations log for each unit. If visible emissions are observed, the permittee shall also note the following in the operation log:

   a. the color of the emissions;

   b. the cause of the visible emissions;

   c. the total duration of any visible emission incident; and,

   d. any corrective actions taken to eliminate the visible emissions.

2. The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion chamber temperature within the internal combustion engine. 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 manufacturer's recommendations, with any modifications deemed necessary by the permittee.

3. The permittee shall collect and record , each day, all 3-hour blocks of time during which the average combustion chamber temperature within the internal combustion engine was less than the allowable minimum temperature established during the initial compliance test.

4. The permittee shall record each day when a fuel other than landfill gas was burned in this emissions unit.

5. The permittee shall maintain records of the accumulative PE, PM10, Oxides of Nitrogen, CO, and OC emissions for the first 12 months of operation following the issuance of this permit and of the rolling, 12-month summation of the PE, PM10, Oxides of Nitrogen, CO, and OC emissions beginning after the first 12 calendar months of operation following the issuance of this permit.

IV. Reporting Requirements

1. The permittee shall submit semiannual written reports which (a) identify all days during which any visible particulate emissions were observed from the stack serving the emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Northeast District Office of the Ohio EPA by January 31 and July 31 of each year and shall cover the previous 6-month period.

2. The permittee shall submit deviation (excursion) reports which identify all 3-hour blocks of time which the average combustion chamber temperature within the internal combustion engine does not comply with the temperature limitation specified above.

3. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than landfill gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

4. Any breakdown or malfunction resulting in the emission of raw landfill gas to the atmosphere shall be reported to the Northeast District Office of the Ohio EPA within one 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.

5. The permittee shall submit deviation reports that identify all exceedances of the rolling, 12-month emission limitations.

6. The excursion reports required above are due by the dates described in the General Terms and Conditions of this permit.

V. Testing Requirements

1. Emission Testing Requirement

   The permittee shall conduct, or have conducted, emissions testing for this emissions unit in accordance with the following requirements:

   a. the emission testing shall be conducted within 90 days from the start-up of the emissions unit;

   b. the emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate; nitrogen oxide (NOx), carbon monoxide (CO), particulate matter (PM), hydrogen chloride (HCl) and organic

compounds (OC).

c. the emission testing shall be conducted to demonstrate compliance with either the removal of 98 weight percent of non-methane organic compounds (NMOC) or the reduction of the outlet concentration of NMOC to less than 20 parts per million by volume, dry basis (ppmvd) as hexane at 3 percent oxygen. The gas header to the internal combustion engine and the egress of the engines are required to be tested to ensure the destruction on NMOC;

d. the following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): NOx - Method 7 or 7E, CO - Method 10, OC - Method 25 or 25A, PM - Method 5, HCl - Method 26;

e. the test(s) shall be conducted while the emissions unit is operating at or near maximum capacity, unless otherwise specified or approved by the Ohio EPA, Northeast District Office; and,

f. the compliance test shall be performed on one of the following similar emissions units P001, P002, P003, P004, P005, P006, P007, P008, P009, P010, P011, P012, P013, P014, P015, or P016.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Northeast District Office of the Ohio EPA. 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, Northeast District Office's refusal to accept the results of the emission test(s).

Personnel from the Ohio EPA, Northeast District Office 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.

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 Ohio EPA, Northeast District Office 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 Ohio EPA Northeast District Office.

2. Compliance with the emission limitation(s) established in this permit shall be determined in accordance with the following method(s):

a. Emission Limitation:

Organic Compound emissions shall not exceed 0.68 pound per hour; 2.98 tons per year.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined in accordance with the performance test requirement. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton) and record keeping required under section III.5.

b. Emission Limitation:

Visible emission shall not exceed 10% opacity as a six-minute average.

Applicable Compliance Method:
Compliance shall be demonstrated by using 40 CFR, Part 60, Appendix A, Method 9.

c. Emission Limitation:

Particulate matter emissions shall not exceed 0.062 pound per mmBtu, actual heat input, 0.87 pound per hour; and 3.81 tons per year.

Applicable Compliance Method:
If required by the Ohio EPA, compliance with the hourly emission limitation shall be determined in accordance with Method 5 of 40 CFR, Part 60, Appendix A. Compliance

with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton) and record keeping required under section III.5.

d. Emission Limitation:

Oxides of Nitrogen emissions shall not exceed 0.18 pound per mmBtu, actual heat input, 2.48 pounds per hour; and 10.87 tons per year.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined in accordance with the performance test requirement. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton) and record keeping required under section III.5.

e. Emission Limitation:

Carbon Monoxide emissions shall not exceed 0.59 pound per mmBtu, actual heat input, 8.28 pounds per hour; 36.25 tons per year.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined in accordance with the performance test requirement. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton) and record keeping required under section III.5.

f. Emission Limitation:

Sulfur Dioxide emissions shall not exceed 0.23 pound per hour; 1.01 ton per year.

Emissions Unit ID: P011

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be demonstrated by multiplying the maximum inlet gas flow of 0.029 MMscf per hour by an AP-42 emission factor of 7.786 pounds of Sulfur Dioxide per MMscf, (Section 2.4 "Municipal Solid Waste Landfills, 11/98). Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton).

g. Emission Limitation:

Hydrogen chloride emissions shall not exceed 0.05 pound per hour; 0.22 tons per year.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined in accordance with Method 26 of 40 CFR, Part 60, Appendix A. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton).

h. Emission Limitation:

Non-methane organic compound (NMOC) emissions shall be reduced by 98 weight percent or reduce the outlet NMOC emissions to less than 20 parts per million by volume, dry basis (ppmvd) as hexane at 3 percent oxygen.

Applicable Compliance Method:
Compliance with the control efficiency limitation shall be determined in accordance with the performance test requirement of section V.1.

i. Emission Limitation:

Formaldehyde emissions shall not exceed 0.04 pound per hour; 0.18 ton per year.

Applicable Compliance Method:
If required by the Ohio EPA, compliance with the hourly emission limitation shall be determined in accordance with EPA reference method 0011 of SW-846 Chapter 10. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton).

VI. Miscellaneous Requirements

None

B. State Only Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
P011 - 1400 bkW (14.0 million Btu/hr) Deutz TBG 620 V16 K Internal combustion engine to produce electricity from landfill gas	None	None

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

1. The permit to install for this emissions unit (P011) was evaluated based on the actual materials and the design parameters of (P001, P002, P003, P004, P005, P006, P007, P008, P009, P010, P011, P012, P013, P014, P015, and P016) emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the TSCREEN model. The predicted 1-hour maximum ground-level concentration from the use of the TSCREEN model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Hydrogen Chloride
Ceiling Value (mg/m3): 7.46
Maximum Hourly Emission Rate (lbs/hr): 0.05
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 0.2
MAGLC (ug/m3): 131

Pollutant: Formaldehyde
Ceiling Value (mg/m3): 0.37
Maximum Hourly Emission Rate (lbs/hr): 0.04
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 0.16
MAGLC (ug/m3): 6.5

Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be still satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

a. changes in the composition of the materials used (typically for coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled;

b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and

c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Air Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01(VV)(1)(a)(ii), and a modification of the existing permit to install will not be required. If the change(s) is (are) defined as a modification under other provisions of the modification definition (other than (VV)(1)(a)(ii)), then the permittee shall obtain a final permit to install prior to the change.

The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy:"

a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);

b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and

c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

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

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements	
		40 CFR Part 52, Section 52.21 and OAC rule 3745-31-10 through OAC rule 3745-31-20.
P012 - 1400 bkW (14.0 million Btu/hr) Deutz TBG 620 V16 K Internal combustion engine to produce electricity from landfill gas.	OAC rule 3745-31-05 (A)(3)	
		OAC rule 3745-17-11 (B)(5)(b)

	Applicable Emissions Limitations/Control Measures	
OAC rule 3745-17-07 (A)(1)	Non-methane organic compound (NMOC) emissions shall be reduced by 98 weight percent or reduce the outlet NMOC emissions to less than 20 parts per million by volume, dry basis (ppmvd) as hexane at 3 percent oxygen.	Oxides of Nitrogen emissions shall not exceed 0.18 pound per mmBtu, actual heat input (2.48 pounds per hour; 10.87 tons per year).*
OAC rule 3745-18-06(D)	Visible emissions shall not exceed 10% opacity as a six-minute average.	Carbon monoxide emissions shall not exceed 0.59 pound per mmBtu, actual heat input (8.28 pounds per hour; 36.25 tons per year).*
	Sulfur dioxide emissions shall not exceed 0.23 pound per hour; 1.01 tons per year.	Organic compound emissions shall not exceed 0.68 pound per hour; 2.98 tons per year.*
	Hydrogen chloride emissions shall not exceed 0.05 pound per hour; 0.22 ton per year.	* = compliance with this annual allowable is based on a rolling 12-month average.
	Formaldehyde emissions shall not exceed 0.04 pound per hour; 0.18 ton per year.	The particulate emission limitation specified by this rule is equivalent to the limit established by OAC rule 3745-31-05(A)(3), 40 CFR Part 52, Section 52.21 and OAC rule 3745-31-10 through 20.
	The requirements of this rule also include compliance with the requirements of 40 CFR Part 52, Section 52.21, OAC rule 3745-31-10 through 20.	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
	Particulate emissions shall not exceed 0.062 pound per mmBtu, actual heat input (0.87 pound per hour; 3.81 tons per year).*	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
	PM_{10} emissions shall not exceed 0.38 pound per hour; 1.66 tons per year.*	

Emissions Unit ID: P012

2. Additional Terms and Conditions

2.a The internal combustion engine shall operate using lean burn technology.

2.b This internal combustion engine is one of sixteen (16) internal combustion engines being permitted under this permit to install.

2.c The hourly and annual emission limitations are based upon the emissions unit potential to emit utilizing lean burn technology. Therefore, no records are required to demonstrate compliance with these limits.

II. Operational Restrictions

1. This emissions unit shall burn only landfill gas.

2. The permittee shall install, calibrate, maintain and operate according to the manufacturer's specifications a device at the inlet to the internal combustion engine which completely shuts off gas flow to the internal combustion engine when the internal combustion engine is not operating.

3. When the internal combustion engine is not operating, the landfill gas shall be diverted to the existing enclosed combustor at the Carbon Limestone Landfill (02-50-07-0850) or to an internal combustion engine that is operating.

4. The average combustion chamber temperature within the internal combustion engine, for any 3-hour block of time when the emissions unit is in operation, shall be established at the initial compliance test. A minimum temperature needs to be established to ensure destruction of NMOC.

5. The emissions unit shall not exceed the following emissions limits based upon a rolling, 12-month summation of the emissions: 3.81 TPY PE, 1.66 TPY PM10, 10.87 TPY Oxides of Nitrogen, 36.25 TPY CO, and 2.98 TPY OC.

   To ensure enforceability during the first 12 calendar months of operation following the issuance of this permit, the permittee shall not exceed the emission levels specified in the following table:

Month(s)	Maximum Allowable Cumulative Emissions of PE (Tons)
1	0.32
1-2	0.64
1-3	0.95
1-4	1.27
1-5	1.59
1-6	1.91
1-7	2.22
1-8	2.54

1-9	2.86
1-10	3.18
1-11	3.49
1-12	3.81

Month(s)	Maximum Allowable Cumulative Emissions of PM10 (Tons)
1	0.14
1-2	0.28
1-3	0.42
1-4	0.55
1-5	0.69
1-6	0.83
1-7	0.97
1-8	1.11
1-9	1.25
1-10	1.38
1-11	1.52
1-12	1.66

Month(s)	Maximum Allowable Cumulative Emissions of Oxides of Nitrogen (Tons)
1	0.91
1-2	1.81
1-3	2.72
1-4	3.62
1-5	4.53
1-6	5.44
1-7	6.34

1-8	7.24
1-9	8.15
1-10	9.06
1-11	9.96
1-12	10.87

Month(s)	Maximum Allowable Cumulative Emissions of CO (Tons)
1	3.02
1-2	6.04
1-3	9.06
1-4	12.08
1-5	15.10
1-6	18.13
1-7	21.15
1-8	24.17
1-9	27.19
1-10	30.21
1-11	33.23
1-12	36.25

Month(s)	Maximum Allowable Cumulative Emissions of OC (Tons)
1	0.25
1-2	0.50
1-3	0.75
1-4	0.99
1-5	1.24
1-6	1.49
1-7	1.74

1-8	1.99
1-9	2.23
1-10	2.48
1-11	2.73
1-12	2.98

After the first 12 calendar months of operation following issuance of this permit, compliance with the annual emission limitation for PE, PM10, Oxides of Nitrogen, CO, and OC shall be based upon a rolling, 12-month summation of the monthly emissions.

III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall perform weekly checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving each emissions unit. The presence or absence of any visible emissions shall be noted in an operations log for each unit. If visible emissions are observed, the permittee shall also note the following in the operation log:

   a. the color of the emissions;

   b. the cause of the visible emissions;

   c. the total duration of any visible emission incident; and,

   d. any corrective actions taken to eliminate the visible emissions.

2. The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion chamber temperature within the internal combustion engine. 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 manufacturer's recommendations, with any modifications deemed necessary by the permittee.

3. The permittee shall collect and record , each day, all 3-hour blocks of time during which the average combustion chamber temperature within the internal combustion engine was less than the allowable minimum temperature established during the initial compliance test.

4. The permittee shall record each day when a fuel other than landfill gas was burned in this emissions unit.

5. The permittee shall maintain records of the accumulative PE, PM10, Oxides of Nitrogen, CO, and OC emissions for the first 12 months of operation following the issuance of this permit and of the rolling, 12-month summation of the PE, PM10, Oxides of Nitrogen, CO, and OC emissions beginning after the first 12 calendar months of operation following the issuance of this permit.

IV. Reporting Requirements

1. The permittee shall submit semiannual written reports which (a) identify all days during which any visible particulate emissions were observed from the stack serving the emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Northeast District Office of the Ohio EPA by January 31 and July 31 of each year and shall cover the previous 6-month period.

2. The permittee shall submit deviation (excursion) reports which identify all 3-hour blocks of time which the average combustion chamber temperature within the internal combustion engine does not comply with the temperature limitation specified above.

3. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than landfill gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

4. Any breakdown or malfunction resulting in the emission of raw landfill gas to the atmosphere shall be reported to the Northeast District Office of the Ohio EPA within one 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.

5. The permittee shall submit deviation reports that identify all exceedances of the rolling, 12-month emission limitations.

6. The excursion reports required above are due by the dates described in the General Terms and Conditions of this permit.

V. Testing Requirements

1. Emission Testing Requirement

   The permittee shall conduct, or have conducted, emissions testing for this emissions unit in accordance with the following requirements:

   a. the emission testing shall be conducted within 90 days from the start-up of the emissions unit;

   b. the emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate; nitrogen oxide (NOx), carbon monoxide (CO), particulate matter (PM), hydrogen chloride (HCl) and organic

compounds (OC).

c. the emission testing shall be conducted to demonstrate compliance with either the removal of 98 weight percent of non-methane organic compounds (NMOC) or the reduction of the outlet concentration of NMOC to less than 20 parts per million by volume, dry basis (ppmvd) as hexane at 3 percent oxygen. The gas header to the internal combustion engine and the egress of the engines are required to be tested to ensure the destruction on NMOC;

d. the following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): NOx - Method 7 or 7E, CO - Method 10, OC - Method 25 or 25A, PM - Method 5, HCl - Method 26;

e. the test(s) shall be conducted while the emissions unit is operating at or near maximum capacity, unless otherwise specified or approved by the Ohio EPA, Northeast District Office; and,

f. the compliance test shall be performed on one of the following similar emissions units P001, P002, P003, P004, P005, P006, P007, P008, P009, P010, P011, P012, P013, P014, P015, or P016.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Northeast District Office of the Ohio EPA. 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, Northeast District Office's refusal to accept the results of the emission test(s).

Personnel from the Ohio EPA, Northeast District Office 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.

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 Ohio EPA, Northeast District Office 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 Ohio EPA Northeast District Office.

2. Compliance with the emission limitation(s) established in this permit shall be determined in accordance with the following method(s):

a. Emission Limitation:

Organic Compound emissions shall not exceed 0.68 pound per hour; 2.98 tons per year.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined in accordance with the performance test requirement. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton) and record keeping required under section III.5.

b. Emission Limitation:

Visible emission shall not exceed 10% opacity as a six-minute average.

Applicable Compliance Method:
Compliance shall be demonstrated by using 40 CFR, Part 60, Appendix A, Method 9.

c. Emission Limitation:

Particulate matter emissions shall not exceed 0.062 pound per mmBtu, actual heat input, 0.87 pound per hour; and 3.81 tons per year.

Applicable Compliance Method:
If required by the Ohio EPA, compliance with the hourly emission limitation shall be determined in accordance with Method 5 of 40 CFR, Part 60, Appendix A. Compliance

with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton) and record keeping required under section III.5.

d. Emission Limitation:

Oxides of Nitrogen emissions shall not exceed 0.18 pound per mmBtu, actual heat input, 2.48 pounds per hour; and 10.87 tons per year.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined in accordance with the performance test requirement. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton) and record keeping required under section III.5.

e. Emission Limitation:

Carbon Monoxide emissions shall not exceed 0.59 pound per mmBtu, actual heat input, 8.28 pounds per hour; 36.25 tons per year.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined in accordance with the performance test requirement. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton) and record keeping required under section III.5.

f. Emission Limitation:

Sulfur Dioxide emissions shall not exceed 0.23 pound per hour; 1.01 ton per year.

Emissions Unit ID: P012

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be demonstrated by multiplying the maximum inlet gas flow of 0.029 MMscf per hour by an AP-42 emission factor of 7.786 pounds of Sulfur Dioxide per MMscf, (Section 2.4 "Municipal Solid Waste Landfills, 11/98). Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton).

g. Emission Limitation:

Hydrogen chloride emissions shall not exceed 0.05 pound per hour; 0.22 tons per year.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined in accordance with Method 26 of 40 CFR, Part 60, Appendix A. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton).

h. Emission Limitation:

Non-methane organic compound (NMOC) emissions shall be reduced by 98 weight percent or reduce the outlet NMOC emissions to less than 20 parts per million by volume, dry basis (ppmvd) as hexane at 3 percent oxygen.

Applicable Compliance Method:
Compliance with the control efficiency limitation shall be determined in accordance with the performance test requirement of section V.1.

i. Emission Limitation:

Formaldehyde emissions shall not exceed 0.04 pound per hour; 0.18 ton per year.

Applicable Compliance Method:
If required by the Ohio EPA, compliance with the hourly emission limitation shall be determined in accordance with EPA reference method 0011 of SW-846 Chapter 10. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton).

VI. Miscellaneous Requirements

None

B. State Only Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
P012 - 1400 bkW (14.0 million Btu/hr) Deutz TBG 620 V16 K Internal combustion engine to produce electricity from landfill gas	None	None

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

1. The permit to install for this emissions unit (P012) was evaluated based on the actual materials and the design parameters of (P001, P002, P003, P004, P005, P006, P007, P008, P009, P010, P011, P012, P013, P014, P015, and P016) emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the TSCREEN model. The predicted 1-hour maximum ground-level concentration from the use of the TSCREEN model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Hydrogen Chloride
Ceiling Value (mg/m3): 7.46
Maximum Hourly Emission Rate (lbs/hr): 0.05
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 0.2
MAGLC (ug/m3): 131

Pollutant: Formaldehyde
Ceiling Value (mg/m3): 0.37
Maximum Hourly Emission Rate (lbs/hr): 0.04
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 0.16
MAGLC (ug/m3): 6.5

Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be still satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

a. changes in the composition of the materials used (typically for coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled;

b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and

c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Air Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01(VV)(1)(a)(ii), and a modification of the existing permit to install will not be required. If the change(s) is (are) defined as a modification under other provisions of the modification definition (other than (VV)(1)(a)(ii)), then the permittee shall obtain a final permit to install prior to the change.

Emissions Unit ID: P012

The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy:"

a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);

b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and

c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

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

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements	
P013 - 1400 bkW (14.0 million Btu/hr) Deutz TBG 620 V16 K Internal combustion engine to produce electricity from landfill gas.	OAC rule 3745-31-05 (A)(3)	40 CFR Part 52, Section 52.21 and OAC rule 3745-31-10 through OAC rule 3745-31-20.
		OAC rule 3745-17-11 (B)(5)(b)

	Applicable Emissions Limitations/Control Measures	
OAC rule 3745-17-07 (A)(1)	Non-methane organic compound (NMOC) emissions shall be reduced by 98 weight percent or reduce the outlet NMOC emissions to less than 20 parts per million by volume, dry basis (ppmvd) as hexane at 3 percent oxygen.	Oxides of Nitrogen emissions shall not exceed 0.18 pound per mmBtu, actual heat input (2.48 pounds per hour; 10.87 tons per year).*
OAC rule 3745-18-06(D)	Visible emissions shall not exceed 10% opacity as a six-minute average.	Carbon monoxide emissions shall not exceed 0.59 pound per mmBtu, actual heat input (8.28 pounds per hour; 36.25 tons per year).*
	Sulfur dioxide emissions shall not exceed 0.23 pound per hour; 1.01 tons per year.	Organic compound emissions shall not exceed 0.68 pound per hour; 2.98 tons per year.*
	Hydrogen chloride emissions shall not exceed 0.05 pound per hour; 0.22 ton per year.	* = compliance with this annual allowable is based on a rolling 12-month average.
	Formaldehyde emissions shall not exceed 0.04 pound per hour; 0.18 ton per year.	The particulate emission limitation specified by this rule is equivalent to the limit established by OAC rule 3745-31-05(A)(3), 40 CFR Part 52, Section 52.21 and OAC rule 3745-31-10 through 20.
	The requirements of this rule also include compliance with the requirements of 40 CFR Part 52, Section 52.21, OAC rule 3745-31-10 through 20.	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
	Particulate emissions shall not exceed 0.062 pound per mmBtu, actual heat input (0.87 pound per hour; 3.81 tons per year).*	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
	PM_{10} emissions shall not exceed 0.38 pound per hour; 1.66 tons per year.*	

Emissions Unit ID: P013

2. Additional Terms and Conditions

2.a The internal combustion engine shall operate using lean burn technology.

2.b This internal combustion engine is one of sixteen (16) internal combustion engines being permitted under this permit to install.

2.c The hourly and annual emission limitations are based upon the emissions unit potential to emit utilizing lean burn technology. Therefore, no records are required to demonstrate compliance with these limits.

II. Operational Restrictions

1. This emissions unit shall burn only landfill gas.

2. The permittee shall install, calibrate, maintain and operate according to the manufacturer's specifications a device at the inlet to the internal combustion engine which completely shuts off gas flow to the internal combustion engine when the internal combustion engine is not operating.

3. When the internal combustion engine is not operating, the landfill gas shall be diverted to the existing enclosed combustor at the Carbon Limestone Landfill (02-50-07-0850) or to an internal combustion engine that is operating.

4. The average combustion chamber temperature within the internal combustion engine, for any 3-hour block of time when the emissions unit is in operation, shall be established at the initial compliance test. A minimum temperature needs to be established to ensure destruction of NMOC.

5. The emissions unit shall not exceed the following emissions limits based upon a rolling, 12-month summation of the emissions: 3.81 TPY PE, 1.66 TPY PM10, 10.87 TPY Oxides of Nitrogen, 36.25 TPY CO, and 2.98 TPY OC.

   To ensure enforceability during the first 12 calendar months of operation following the issuance of this permit, the permittee shall not exceed the emission levels specified in the following table:

Month(s)	Maximum Allowable Cumulative Emissions of PE (Tons)
1	0.32
1-2	0.64
1-3	0.95
1-4	1.27
1-5	1.59
1-6	1.91
1-7	2.22
1-8	2.54

1-9	2.86
1-10	3.18
1-11	3.49
1-12	3.81

Month(s)	Maximum Allowable Cumulative Emissions of PM10 (Tons)
1	0.14
1-2	0.28
1-3	0.42
1-4	0.55
1-5	0.69
1-6	0.83
1-7	0.97
1-8	1.11
1-9	1.25
1-10	1.38
1-11	1.52
1-12	1.66

Month(s)	Maximum Allowable Cumulative Emissions of Oxides of Nitrogen (Tons)
1	0.91
1-2	1.81
1-3	2.72
1-4	3.62
1-5	4.53
1-6	5.44
1-7	6.34

1-8	7.24
1-9	8.15
1-10	9.06
1-11	9.96
1-12	10.87

Month(s)	Maximum Allowable Cumulative Emissions of CO (Tons)
1	3.02
1-2	6.04
1-3	9.06
1-4	12.08
1-5	15.10
1-6	18.13
1-7	21.15
1-8	24.17
1-9	27.19
1-10	30.21
1-11	33.23
1-12	36.25

Month(s)	Maximum Allowable Cumulative Emissions of OC (Tons)
1	0.25
1-2	0.50
1-3	0.75
1-4	0.99
1-5	1.24
1-6	1.49
1-7	1.74

1-8	1.99
1-9	2.23
1-10	2.48
1-11	2.73
1-12	2.98

After the first 12 calendar months of operation following issuance of this permit, compliance with the annual emission limitation for PE, PM10, Oxides of Nitrogen, CO, and OC shall be based upon a rolling, 12-month summation of the monthly emissions.

III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall perform weekly checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving each emissions unit. The presence or absence of any visible emissions shall be noted in an operations log for each unit. If visible emissions are observed, the permittee shall also note the following in the operation log:

   a. the color of the emissions;

   b. the cause of the visible emissions;

   c. the total duration of any visible emission incident; and,

   d. any corrective actions taken to eliminate the visible emissions.

2. The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion chamber temperature within the internal combustion engine. 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 manufacturer's recommendations, with any modifications deemed necessary by the permittee.

3. The permittee shall collect and record , each day, all 3-hour blocks of time during which the average combustion chamber temperature within the internal combustion engine was less than the allowable minimum temperature established during the initial compliance test.

4. The permittee shall record each day when a fuel other than landfill gas was burned in this emissions unit.

5. The permittee shall maintain records of the accumulative PE, PM10, Oxides of Nitrogen, CO, and OC emissions for the first 12 months of operation following the issuance of this permit and of the rolling, 12-month summation of the PE, PM10, Oxides of Nitrogen, CO, and OC emissions beginning after the first 12 calendar months of operation following the issuance of this permit.

IV. Reporting Requirements

1. The permittee shall submit semiannual written reports which (a) identify all days during which any visible particulate emissions were observed from the stack serving the emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Northeast District Office of the Ohio EPA by January 31 and July 31 of each year and shall cover the previous 6-month period.

2. The permittee shall submit deviation (excursion) reports which identify all 3-hour blocks of time which the average combustion chamber temperature within the internal combustion engine does not comply with the temperature limitation specified above.

3. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than landfill gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

4. Any breakdown or malfunction resulting in the emission of raw landfill gas to the atmosphere shall be reported to the Northeast District Office of the Ohio EPA within one 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.

5. The permittee shall submit deviation reports that identify all exceedances of the rolling, 12-month emission limitations.

6. The excursion reports required above are due by the dates described in the General Terms and Conditions of this permit.

V. Testing Requirements

1. Emission Testing Requirement

   The permittee shall conduct, or have conducted, emissions testing for this emissions unit in accordance with the following requirements:

   a. the emission testing shall be conducted within 90 days from the start-up of the emissions unit;

   b. the emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate; nitrogen oxide (NOx), carbon monoxide (CO), particulate matter (PM), hydrogen chloride (HCl) and organic

compounds (OC).

c. the emission testing shall be conducted to demonstrate compliance with either the removal of 98 weight percent of non-methane organic compounds (NMOC) or the reduction of the outlet concentration of NMOC to less than 20 parts per million by volume, dry basis (ppmvd) as hexane at 3 percent oxygen. The gas header to the internal combustion engine and the egress of the engines are required to be tested to ensure the destruction on NMOC;

d. the following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): NOx - Method 7 or 7E, CO - Method 10, OC - Method 25 or 25A, PM - Method 5, HCl - Method 26;

e. the test(s) shall be conducted while the emissions unit is operating at or near maximum capacity, unless otherwise specified or approved by the Ohio EPA, Northeast District Office; and,

f. the compliance test shall be performed on one of the following similar emissions units P001, P002, P003, P004, P005, P006, P007, P008, P009, P010, P011, P012, P013, P014, P015, or P016.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Northeast District Office of the Ohio EPA. 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, Northeast District Office's refusal to accept the results of the emission test(s).

Personnel from the Ohio EPA, Northeast District Office 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.

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 Ohio EPA, Northeast District Office 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 Ohio EPA Northeast District Office.

2. Compliance with the emission limitation(s) established in this permit shall be determined in accordance with the following method(s):

a. Emission Limitation:

Organic Compound emissions shall not exceed 0.68 pound per hour; 2.98 tons per year.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined in accordance with the performance test requirement. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton) and record keeping required under section III.5.

b. Emission Limitation:

Visible emission shall not exceed 10% opacity as a six-minute average.

Applicable Compliance Method:
Compliance shall be demonstrated by using 40 CFR, Part 60, Appendix A, Method 9.

c. Emission Limitation:

Particulate matter emissions shall not exceed 0.062 pound per mmBtu, actual heat input, 0.87 pound per hour; and 3.81 tons per year.

Applicable Compliance Method:
If required by the Ohio EPA, compliance with the hourly emission limitation shall be determined in accordance with Method 5 of 40 CFR, Part 60, Appendix A. Compliance

with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton) and record keeping required under section III.5.

d. Emission Limitation:

Oxides of Nitrogen emissions shall not exceed 0.18 pound per mmBtu, actual heat input, 2.48 pounds per hour; and 10.87 tons per year.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined in accordance with the performance test requirement. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton) and record keeping required under section III.5.

e. Emission Limitation:

Carbon Monoxide emissions shall not exceed 0.59 pound per mmBtu, actual heat input, 8.28 pounds per hour; 36.25 tons per year.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined in accordance with the performance test requirement. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton) and record keeping required under section III.5.

f. Emission Limitation:

Sulfur Dioxide emissions shall not exceed 0.23 pound per hour; 1.01 ton per year.

Emissions Unit ID: P013

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be demonstrated by multiplying the maximum inlet gas flow of 0.029 MMscf per hour by an AP-42 emission factor of 7.786 pounds of Sulfur Dioxide per MMscf, (Section 2.4 "Municipal Solid Waste Landfills, 11/98). Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton).

g. Emission Limitation:

Hydrogen chloride emissions shall not exceed 0.05 pound per hour; 0.22 tons per year.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined in accordance with Method 26 of 40 CFR, Part 60, Appendix A. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton).

h. Emission Limitation:

Non-methane organic compound (NMOC) emissions shall be reduced by 98 weight percent or reduce the outlet NMOC emissions to less than 20 parts per million by volume, dry basis (ppmvd) as hexane at 3 percent oxygen.

Applicable Compliance Method:
Compliance with the control efficiency limitation shall be determined in accordance with the performance test requirement of section V.1.

i. Emission Limitation:

Formaldehyde emissions shall not exceed 0.04 pound per hour; 0.18 ton per year.

Applicable Compliance Method:
If required by the Ohio EPA, compliance with the hourly emission limitation shall be determined in accordance with EPA reference method 0011 of SW-846 Chapter 10. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton).

VI. Miscellaneous Requirements

None

B. State Only Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
P013 - 1400 bkW (14.0 million Btu/hr) Deutz TBG 620 V16 K Internal combustion engine to produce electricity from landfill gas	None	None

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

1. The permit to install for this emissions unit (P013) was evaluated based on the actual materials and the design parameters of (P001, P002, P003, P004, P005, P006, P007, P008, P009, P010, P011, P012, P013, P014, P015, and P016) emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the TSCREEN model. The predicted 1-hour maximum ground-level concentration from the use of the TSCREEN model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Hydrogen Chloride
Ceiling Value (mg/m3): 7.46
Maximum Hourly Emission Rate (lbs/hr): 0.05
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 0.2
MAGLC (ug/m3): 131

Pollutant: Formaldehyde
Ceiling Value (mg/m3): 0.37
Maximum Hourly Emission Rate (lbs/hr): 0.04
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 0.16
MAGLC (ug/m3): 6.5

Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be still satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

a. changes in the composition of the materials used (typically for coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled;

b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and

c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Air Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01(VV)(1)(a)(ii), and a modification of the existing permit to install will not be required. If the change(s) is (are) defined as a modification under other provisions of the modification definition (other than (VV)(1)(a)(ii)), then the permittee shall obtain a final permit to install prior to the change.

Emissions Unit ID: P013

The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy:"

a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);

b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and

c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

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

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements	
P014 - 1400 bkW (14.0 million Btu/hr) Deutz TBG 620 V16 K Internal combustion engine to produce electricity from landfill gas.	OAC rule 3745-31-05 (A)(3)	40 CFR Part 52, Section 52.21 and OAC rule 3745-31-10 through OAC rule 3745-31-20.
		OAC rule 3745-17-11 (B)(5)(b)

	Applicable Emissions Limitations/Control Measures	
OAC rule 3745-17-07 (A)(1)	Non-methane organic compound (NMOC) emissions shall be reduced by 98 weight percent or reduce the outlet NMOC emissions to less than 20 parts per million by volume, dry basis (ppmvd) as hexane at 3 percent oxygen.	Oxides of Nitrogen emissions shall not exceed 0.18 pound per mmBtu, actual heat input (2.48 pounds per hour; 10.87 tons per year).*
OAC rule 3745-18-06(D)	Visible emissions shall not exceed 10% opacity as a six-minute average.	Carbon monoxide emissions shall not exceed 0.59 pound per mmBtu, actual heat input (8.28 pounds per hour; 36.25 tons per year).*
	Sulfur dioxide emissions shall not exceed 0.23 pound per hour; 1.01 tons per year.	Organic compound emissions shall not exceed 0.68 pound per hour; 2.98 tons per year.*
	Hydrogen chloride emissions shall not exceed 0.05 pound per hour; 0.22 ton per year.	* = compliance with this annual allowable is based on a rolling 12-month average.
	Formaldehyde emissions shall not exceed 0.04 pound per hour; 0.18 ton per year.	The particulate emission limitation specified by this rule is equivalent to the limit established by OAC rule 3745-31-05(A)(3), 40 CFR Part 52, Section 52.21 and OAC rule 3745-31-10 through 20.
	The requirements of this rule also include compliance with the requirements of 40 CFR Part 52, Section 52.21, OAC rule 3745-31-10 through 20.	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
	Particulate emissions shall not exceed 0.062 pound per mmBtu, actual heat input (0.87 pound per hour; 3.81 tons per year).*	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
	PM_{10} emissions shall not exceed 0.38 pound per hour; 1.66 tons per year.*	

Emissions Unit ID: P014

2. Additional Terms and Conditions

2.a The internal combustion engine shall operate using lean burn technology.

2.b This internal combustion engine is one of sixteen (16) internal combustion engines being permitted under this permit to install.

2.c The hourly and annual emission limitations are based upon the emissions unit potential to emit utilizing lean burn technology. Therefore, no records are required to demonstrate compliance with these limits.

II. Operational Restrictions

1. This emissions unit shall burn only landfill gas.

2. The permittee shall install, calibrate, maintain and operate according to the manufacturer's specifications a device at the inlet to the internal combustion engine which completely shuts off gas flow to the internal combustion engine when the internal combustion engine is not operating.

3. When the internal combustion engine is not operating, the landfill gas shall be diverted to the existing enclosed combustor at the Carbon Limestone Landfill (02-50-07-0850) or to an internal combustion engine that is operating.

4. The average combustion chamber temperature within the internal combustion engine, for any 3-hour block of time when the emissions unit is in operation, shall be established at the initial compliance test. A minimum temperature needs to be established to ensure destruction of NMOC.

5. The emissions unit shall not exceed the following emissions limits based upon a rolling, 12-month summation of the emissions: 3.81 TPY PE, 1.66 TPY PM10, 10.87 TPY Oxides of Nitrogen, 36.25 TPY CO, and 2.98 TPY OC.

   To ensure enforceability during the first 12 calendar months of operation following the issuance of this permit, the permittee shall not exceed the emission levels specified in the following table :

Month(s)	Maximum Allowable Cumulative Emissions of PE (Tons)
1	0.32
1-2	0.64
1-3	0.95
1-4	1.27
1-5	1.59
1-6	1.91
1-7	2.22
1-8	2.54

1-9	2.86
1-10	3.18
1-11	3.49
1-12	3.81

Month(s)	Maximum Allowable Cumulative Emissions of PM10 (Tons)
1	0.14
1-2	0.28
1-3	0.42
1-4	0.55
1-5	0.69
1-6	0.83
1-7	0.97
1-8	1.11
1-9	1.25
1-10	1.38
1-11	1.52
1-12	1.66

Month(s)	Maximum Allowable Cumulative Emissions of Oxides of Nitrogen (Tons)
1	0.91
1-2	1.81
1-3	2.72
1-4	3.62
1-5	4.53
1-6	5.44
1-7	6.34

1-8	7.24
1-9	8.15
1-10	9.06
1-11	9.96
1-12	10.87

Month(s)	Maximum Allowable Cumulative Emissions of CO (Tons)
1	3.02
1-2	6.04
1-3	9.06
1-4	12.08
1-5	15.10
1-6	18.13
1-7	21.15
1-8	24.17
1-9	27.19
1-10	30.21
1-11	33.23
1-12	36.25

Month(s)	Maximum Allowable Cumulative Emissions of OC (Tons)
1	0.25
1-2	0.50
1-3	0.75
1-4	0.99
1-5	1.24
1-6	1.49
1-7	1.74

1-8	1.99
1-9	2.23
1-10	2.48
1-11	2.73
1-12	2.98

After the first 12 calendar months of operation following issuance of this permit, compliance with the annual emission limitation for PE, PM10, Oxides of Nitrogen, CO, and OC shall be based upon a rolling, 12-month summation of the monthly emissions.

III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall perform weekly checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving each emissions unit. The presence or absence of any visible emissions shall be noted in an operations log for each unit. If visible emissions are observed, the permittee shall also note the following in the operation log:

   a. the color of the emissions;

   b. the cause of the visible emissions;

   c. the total duration of any visible emission incident; and,

   d. any corrective actions taken to eliminate the visible emissions.

2. The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion chamber temperature within the internal combustion engine. 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 manufacturer's recommendations, with any modifications deemed necessary by the permittee.

3. The permittee shall collect and record , each day, all 3-hour blocks of time during which the average combustion chamber temperature within the internal combustion engine was less than the allowable minimum temperature established during the initial compliance test.

4. The permittee shall record each day when a fuel other than landfill gas was burned in this emissions unit.

5. The permittee shall maintain records of the accumulative PE, PM10, Oxides of Nitrogen, CO, and OC emissions for the first 12 months of operation following the issuance of this permit and of the rolling, 12-month summation of the PE, PM10, Oxides of Nitrogen, CO, and OC emissions beginning after the first 12 calendar months of operation following the issuance of this permit.

IV. Reporting Requirements

1. The permittee shall submit semiannual written reports which (a) identify all days during which any visible particulate emissions were observed from the stack serving the emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Northeast District Office of the Ohio EPA by January 31 and July 31 of each year and shall cover the previous 6-month period.

2. The permittee shall submit deviation (excursion) reports which identify all 3-hour blocks of time which the average combustion chamber temperature within the internal combustion engine does not comply with the temperature limitation specified above.

3. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than landfill gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

4. Any breakdown or malfunction resulting in the emission of raw landfill gas to the atmosphere shall be reported to the Northeast District Office of the Ohio EPA within one 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.

5. The permittee shall submit deviation reports that identify all exceedances of the rolling, 12-month emission limitations.

6. The excursion reports required above are due by the dates described in the General Terms and Conditions of this permit.

V. Testing Requirements

1. Emission Testing Requirement

   The permittee shall conduct, or have conducted, emissions testing for this emissions unit in accordance with the following requirements:

   a. the emission testing shall be conducted within 90 days from the start-up of the emissions unit;

   b. the emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate; nitrogen oxide (NOx), carbon monoxide (CO), particulate matter (PM), hydrogen chloride (HCl) and organic

compounds (OC).

c. the emission testing shall be conducted to demonstrate compliance with either the removal of 98 weight percent of non-methane organic compounds (NMOC) or the reduction of the outlet concentration of NMOC to less than 20 parts per million by volume, dry basis (ppmvd) as hexane at 3 percent oxygen. The gas header to the internal combustion engine and the egress of the engines are required to be tested to ensure the destruction on NMOC;

d. the following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): NOx - Method 7 or 7E, CO - Method 10, OC - Method 25 or 25A, PM - Method 5, HCl - Method 26;

e. the test(s) shall be conducted while the emissions unit is operating at or near maximum capacity, unless otherwise specified or approved by the Ohio EPA, Northeast District Office; and,

f. the compliance test shall be performed on one of the following similar emissions units P001, P002, P003, P004, P005, P006, P007, P008, P009, P010, P011, P012, P013, P014, P015, or P016.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Northeast District Office of the Ohio EPA. 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, Northeast District Office's refusal to accept the results of the emission test(s).

Personnel from the Ohio EPA, Northeast District Office 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.

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 Ohio EPA, Northeast District Office 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 Ohio EPA Northeast District Office.

2. Compliance with the emission limitation(s) established in this permit shall be determined in accordance with the following method(s):

a. Emission Limitation:

Organic Compound emissions shall not exceed 0.68 pound per hour; 2.98 tons per year.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined in accordance with the performance test requirement. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton) and record keeping required under section III.5.

b. Emission Limitation:

Visible emission shall not exceed 10% opacity as a six-minute average.

Applicable Compliance Method:
Compliance shall be demonstrated by using 40 CFR, Part 60, Appendix A, Method 9.

c. Emission Limitation:

Particulate matter emissions shall not exceed 0.062 pound per mmBtu, actual heat input, 0.87 pound per hour; and 3.81 tons per year.

Applicable Compliance Method:
If required by the Ohio EPA, compliance with the hourly emission limitation shall be determined in accordance with Method 5 of 40 CFR, Part 60, Appendix A. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton) and record keeping required under section III.5.

d. Emission Limitation:

Oxides of Nitrogen emissions shall not exceed 0.18 pound per mmBtu, actual heat input, 2.48 pounds per hour; and 10.87 tons per year.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined in accordance with the performance test requirement. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton) and record

keeping required under section III.5.

e. Emission Limitation:

Carbon Monoxide emissions shall not exceed 0.59 pound per mmBtu, actual heat input, 8.28 pounds per hour; 36.25 tons per year.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined in accordance with the performance test requirement. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton) and record keeping required under section III.5.

f. Emission Limitation:

Sulfur Dioxide emissions shall not exceed 0.23 pound per hour; 1.01 ton per year.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be demonstrated by multiplying the maximum inlet gas flow of 0.029 MMscf per hour by an AP-42 emission factor of 7.786 pounds of Sulfur Dioxide per MMscf, (Section 2.4 "Municipal Solid Waste Landfills, 11/98). Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton).

g. Emission Limitation:

Hydrogen chloride emissions shall not exceed 0.05 pound per hour; 0.22 tons per year.

Applicable Compliance Method:

Emissions Unit ID: P014

Compliance with the hourly emission limitation shall be determined in accordance with Method 26 of 40 CFR, Part 60, Appendix A. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton).

h. Emission Limitation:

Non-methane organic compound (NMOC) emissions shall be reduced by 98 weight percent or reduce the outlet NMOC emissions to less than 20 parts per million by volume, dry basis (ppmvd) as hexane at 3 percent oxygen.

Applicable Compliance Method:
Compliance with the control efficiency limitation shall be determined in accordance with the performance test requirement of section V.1.

i. Emission Limitation:

Formaldehyde emissions shall not exceed 0.04 pound per hour; 0.18 ton per year.

Applicable Compliance Method:
If required by the Ohio EPA, compliance with the hourly emission limitation shall be determined in accordance with EPA reference method 0011 of SW-846 Chapter 10. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton).

VI. Miscellaneous Requirements

None

B. State Only Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
P014 - 1400 bkW (14.0 million Btu/hr) Deutz TBG 620 V16 K Internal combustion engine to produce electricity from landfill gas	None	None

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

1. The permit to install for this emissions unit (P014) was evaluated based on the actual materials and the design parameters of (P001, P002, P003, P004, P005, P006, P007, P008, P009, P010, P011, P012, P013, P014, P015, and P016) emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the TSCREEN model. The predicted 1-hour maximum ground-level concentration from the use of the TSCREEN model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Hydrogen Chloride
Ceiling Value (mg/m3): 7.46
Maximum Hourly Emission Rate (lbs/hr): 0.05
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 0.2
MAGLC (ug/m3): 131

Pollutant: Formaldehyde
Ceiling Value (mg/m3): 0.37
Maximum Hourly Emission Rate (lbs/hr): 0.04
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 0.16
MAGLC (ug/m3): 6.5

Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be still satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

a. changes in the composition of the materials used (typically for coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled;

b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and

c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Air Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01(VV)(1)(a)(ii), and a modification of the existing permit to install will not be required. If the change(s) is (are) defined as a modification under other provisions of the modification definition (other than (VV)(1)(a)(ii)), then the permittee shall obtain a final permit to install prior to the change.

Emissions Unit ID: P014

The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy:"

a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);

b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and

c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

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

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements	
P015 - 1400 bkW (14.0 million Btu/hr) Deutz TBG 620 V16 K Internal combustion engine to produce electricity from landfill gas.	OAC rule 3745-31-05 (A)(3)	40 CFR Part 52, Section 52.21 and OAC rule 3745-31-10 through OAC rule 3745-31-20.
		OAC rule 3745-17-11 (B)(5)(b)

	Applicable Emissions Limitations/Control Measures	
OAC rule 3745-17-07 (A)(1)	Non-methane organic compound (NMOC) emissions shall be reduced by 98 weight percent or reduce the outlet NMOC emissions to less than 20 parts per million by volume, dry basis (ppmvd) as hexane at 3 percent oxygen.	Oxides of Nitrogen emissions shall not exceed 0.18 pound per mmBtu, actual heat input (2.48 pounds per hour; 10.87 tons per year).*
OAC rule 3745-18-06(D)	Visible emissions shall not exceed 10% opacity as a six-minute average.	Carbon monoxide emissions shall not exceed 0.59 pound per mmBtu, actual heat input (8.28 pounds per hour; 36.25 tons per year).*
	Sulfur dioxide emissions shall not exceed 0.23 pound per hour; 1.01 tons per year.	Organic compound emissions shall not exceed 0.68 pound per hour; 2.98 tons per year.*
	Hydrogen chloride emissions shall not exceed 0.05 pound per hour; 0.22 ton per year.	* = compliance with this annual allowable is based on a rolling 12-month average.
	Formaldehyde emissions shall not exceed 0.04 pound per hour; 0.18 ton per year.	The particulate emission limitation specified by this rule is equivalent to the limit established by OAC rule 3745-31-05(A)(3), 40 CFR Part 52, Section 52.21 and OAC rule 3745-31-10 through 20.
	The requirements of this rule also include compliance with the requirements of 40 CFR Part 52, Section 52.21, OAC rule 3745-31-10 through 20.	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
	Particulate emissions shall not exceed 0.062 pound per mmBtu, actual heat input (0.87 pound per hour; 3.81 tons per year).*	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
	PM_{10} emissions shall not exceed 0.38 pound per hour; 1.66 tons per year.*	

Emissions Unit ID: P015

2. Additional Terms and Conditions

2.a The internal combustion engine shall operate using lean burn technology.

2.b This internal combustion engine is one of sixteen (16) internal combustion engines being permitted under this permit to install.

2.c The hourly and annual emission limitations are based upon the emissions unit potential to emit utilizing lean burn technology. Therefore, no records are required to demonstrate compliance with these limits.

II. Operational Restrictions

1. This emissions unit shall burn only landfill gas.

2. The permittee shall install, calibrate, maintain and operate according to the manufacturer's specifications a device at the inlet to the internal combustion engine which completely shuts off gas flow to the internal combustion engine when the internal combustion engine is not operating.

3. When the internal combustion engine is not operating, the landfill gas shall be diverted to the existing enclosed combustor at the Carbon Limestone Landfill (02-50-07-0850) or to an internal combustion engine that is operating.

4. The average combustion chamber temperature within the internal combustion engine, for any 3-hour block of time when the emissions unit is in operation, shall be established at the initial compliance test. A minimum temperature needs to be established to ensure destruction of NMOC.

5. The emissions unit shall not exceed the following emissions limits based upon a rolling, 12-month summation of the emissions: 3.81 TPY PE, 1.66 TPY PM10, 10.87 TPY Oxides of Nitrogen, 36.25 TPY CO, and 2.98 TPY OC.

   To ensure enforceability during the first 12 calendar months of operation following the issuance of this permit, the permittee shall not exceed the emission levels specified in the following table:

Month(s)	Maximum Allowable Cumulative Emissions of PE (Tons)
1	0.32
1-2	0.64
1-3	0.95
1-4	1.27
1-5	1.59
1-6	1.91
1-7	2.22
1-8	2.54

1-9	2.86
1-10	3.18
1-11	3.49
1-12	3.81

Month(s)	Maximum Allowable Cumulative Emissions of PM10 (Tons)
1	0.14
1-2	0.28
1-3	0.42
1-4	0.55
1-5	0.69
1-6	0.83
1-7	0.97
1-8	1.11
1-9	1.25
1-10	1.38
1-11	1.52
1-12	1.66

Month(s)	Maximum Allowable Cumulative Emissions of Oxides of Nitrogen (Tons)
1	0.91
1-2	1.81
1-3	2.72
1-4	3.62
1-5	4.53
1-6	5.44
1-7	6.34

1-8	7.24
1-9	8.15
1-10	9.06
1-11	9.96
1-12	10.87

Month(s)	Maximum Allowable Cumulative Emissions of CO (Tons)
1	3.02
1-2	6.04
1-3	9.06
1-4	12.08
1-5	15.10
1-6	18.13
1-7	21.15
1-8	24.17
1-9	27.19
1-10	30.21
1-11	33.23
1-12	36.25

Month(s)	Maximum Allowable Cumulative Emissions of OC (Tons)
1	0.25
1-2	0.50
1-3	0.75
1-4	0.99
1-5	1.24
1-6	1.49
1-7	1.74

1-8	1.99
1-9	2.23
1-10	2.48
1-11	2.73
1-12	2.98

After the first 12 calendar months of operation following issuance of this permit, compliance with the annual emission limitation for PE, PM10, Oxides of Nitrogen, CO, and OC shall be based upon a rolling, 12-month summation of the monthly emissions.

III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall perform weekly checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving each emissions unit. The presence or absence of any visible emissions shall be noted in an operations log for each unit. If visible emissions are observed, the permittee shall also note the following in the operation log:

   a. the color of the emissions;

   b. the cause of the visible emissions;

   c. the total duration of any visible emission incident; and,

   d. any corrective actions taken to eliminate the visible emissions.

2. The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion chamber temperature within the internal combustion engine. 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 manufacturer's recommendations, with any modifications deemed necessary by the permittee.

3. The permittee shall collect and record , each day, all 3-hour blocks of time during which the average combustion chamber temperature within the internal combustion engine was less than the allowable minimum temperature established during the initial compliance test.

4. The permittee shall record each day when a fuel other than landfill gas was burned in this emissions unit.

5. The permittee shall maintain records of the accumulative PE, PM10, Oxides of Nitrogen, CO, and OC emissions for the first 12 months of operation following the issuance of this permit and of the rolling, 12-month summation of the PE, PM10, Oxides of Nitrogen, CO, and OC emissions beginning after the first 12 calendar months of operation following the issuance of this permit.

IV. Reporting Requirements

1. The permittee shall submit semiannual written reports which (a) identify all days during which any visible particulate emissions were observed from the stack serving the emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Northeast District Office of the Ohio EPA by January 31 and July 31 of each year and shall cover the previous 6-month period.

2. The permittee shall submit deviation (excursion) reports which identify all 3-hour blocks of time which the average combustion chamber temperature within the internal combustion engine does not comply with the temperature limitation specified above.

3. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than landfill gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

4. Any breakdown or malfunction resulting in the emission of raw landfill gas to the atmosphere shall be reported to the Northeast District Office of the Ohio EPA within one 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.

5. The permittee shall submit deviation reports that identify all exceedances of the rolling, 12-month emission limitations.

6. The excursion reports required above are due by the dates described in the General Terms and Conditions of this permit.

V. Testing Requirements

1. Emission Testing Requirement

   The permittee shall conduct, or have conducted, emissions testing for this emissions unit in accordance with the following requirements:

   a. the emission testing shall be conducted within 90 days from the start-up of the emissions unit;

   b. the emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate; nitrogen oxide (NOx), carbon monoxide (CO), particulate matter (PM), hydrogen chloride (HCl) and organic

compounds (OC).

c. the emission testing shall be conducted to demonstrate compliance with either the removal of 98 weight percent of non-methane organic compounds (NMOC) or the reduction of the outlet concentration of NMOC to less than 20 parts per million by volume, dry basis (ppmvd) as hexane at 3 percent oxygen. The gas header to the internal combustion engine and the egress of the engines are required to be tested to ensure the destruction on NMOC;

d. the following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): NOx - Method 7 or 7E, CO - Method 10, OC - Method 25 or 25A, PM - Method 5, HCl - Method 26;

e. the test(s) shall be conducted while the emissions unit is operating at or near maximum capacity, unless otherwise specified or approved by the Ohio EPA, Northeast District Office; and,

f. the compliance test shall be performed on one of the following similar emissions units P001, P002, P003, P004, P005, P006, P007, P008, P009, P010, P011, P012, P013, P014, P015, or P016.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Northeast District Office of the Ohio EPA. 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, Northeast District Office's refusal to accept the results of the emission test(s).

Personnel from the Ohio EPA, Northeast District Office 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.

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 Ohio EPA, Northeast District Office 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 Ohio EPA Northeast District Office.

2. Compliance with the emission limitation(s) established in this permit shall be determined in accordance with the following method(s):

a. Emission Limitation:

Organic Compound emissions shall not exceed 0.68 pound per hour; 2.98 tons per year.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined in accordance with the performance test requirement. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton) and record keeping required under section III.5.

b. Emission Limitation:

Visible emission shall not exceed 10% opacity as a six-minute average.

Applicable Compliance Method:
Compliance shall be demonstrated by using 40 CFR, Part 60, Appendix A, Method 9.

c. Emission Limitation:

Particulate matter emissions shall not exceed 0.062 pound per mmBtu, actual heat input, 0.87 pound per hour; and 3.81 tons per year.

Applicable Compliance Method:
If required by the Ohio EPA, compliance with the hourly emission limitation shall be determined in accordance with Method 5 of 40 CFR, Part 60, Appendix A. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton) and record keeping required under section III.5.

d. Emission Limitation:

Oxides of Nitrogen emissions shall not exceed 0.18 pound per mmBtu, actual heat input, 2.48 pounds per hour; and 10.87 tons per year.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined in accordance with the performance test requirement. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton) and record keeping required under section III.5.

e. Emission Limitation:

Carbon Monoxide emissions shall not exceed

0.59 pound per mmBtu, actual heat input, 8.28 pounds per hour; 36.25 tons per year.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined in accordance with the performance test requirement. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton) and record keeping required under section III.5.

f. Emission Limitation:

Sulfur Dioxide emissions shall not exceed 0.23 pound per hour; 1.01 ton per year.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be demonstrated by multiplying the maximum inlet gas flow of 0.029 MMscf per hour by an AP-42 emission factor of 7.786 pounds of Sulfur Dioxide per MMscf, (Section 2.4 "Municipal Solid Waste Landfills, 11/98). Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton).

g. Emission Limitation:

Hydrogen chloride emissions shall not exceed 0.05 pound per hour; 0.22 tons per year.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined in accordance with Method 26 of 40 CFR, Part 60,

Emissions Unit ID: P015

Appendix A. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton).

h. Emission Limitation:

Non-methane organic compound (NMOC) emissions shall be reduced by 98 weight percent or reduce the outlet NMOC emissions to less than 20 parts per million by volume, dry basis (ppmvd) as hexane at 3 percent oxygen.

Applicable Compliance Method:
Compliance with the control efficiency limitation shall be determined in accordance with the performance test requirement of section V.1.

i. Emission Limitation:

Formaldehyde emissions shall not exceed 0.04 pound per hour; 0.18 ton per year.

Applicable Compliance Method:
If required by the Ohio EPA, compliance with the hourly emission limitation shall be determined in accordance with EPA reference method 0011 of SW-846 Chapter 10. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton).

VI. Miscellaneous Requirements

None

B. State Only Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
P015 - 1400 bkW (14.0 million Btu/hr) Deutz TBG 620 V16 K Internal combustion engine to produce electricity from landfill gas	None	None

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

1. The permit to install for this emissions unit (P015) was evaluated based on the actual materials and the design parameters of (P001, P002, P003, P004, P005, P006, P007, P008, P009, P010, P011, P012, P013, P014, P015, and P016) emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the TSCREEN model. The predicted 1-hour maximum ground-level concentration from the use of the TSCREEN model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Hydrogen Chloride
Ceiling Value (mg/m3): 7.46
Maximum Hourly Emission Rate (lbs/hr): 0.05
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 0.2
MAGLC (ug/m3): 131

Pollutant: Formaldehyde
Ceiling Value (mg/m3): 0.37
Maximum Hourly Emission Rate (lbs/hr): 0.04
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 0.16
MAGLC (ug/m3): 6.5

Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be still satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

a. changes in the composition of the materials used (typically for coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled;

b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and

c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Air Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01(VV)(1)(a)(ii), and a modification of the existing permit to install will not be required. If the change(s) is (are) defined as a modification under other provisions of the modification definition (other than (VV)(1)(a)(ii)), then the permittee shall obtain a final permit to install prior to the change.

Emissions Unit ID: P015

The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy:"

a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);

b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and

c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

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

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements	
P016 - 1400 bkW (14.0 million Btu/hr) Deutz TBG 620 V16 K Internal combustion engine to produce electricity from landfill gas.	OAC rule 3745-31-05 (A)(3)	40 CFR Part 52, Section 52.21 and OAC rule 3745-31-10 through OAC rule 3745-31-20.
		OAC rule 3745-17-11 (B)(5)(b)

	Applicable Emissions Limitations/Control Measures	
OAC rule 3745-17-07 (A)(1)	Non-methane organic compound (NMOC) emissions shall be reduced by 98 weight percent or reduce the outlet NMOC emissions to less than 20 parts per million by volume, dry basis (ppmvd) as hexane at 3 percent oxygen.	Oxides of Nitrogen emissions shall not exceed 0.18 pound per mmBtu, actual heat input (2.48 pounds per hour; 10.87 tons per year).*
OAC rule 3745-18-06(D)	Visible emissions shall not exceed 10% opacity as a six-minute average.	Carbon monoxide emissions shall not exceed 0.59 pound per mmBtu, actual heat input (8.28 pounds per hour; 36.25 tons per year).*
	Sulfur dioxide emissions shall not exceed 0.23 pound per hour; 1.01 tons per year.	Organic compound emissions shall not exceed 0.68 pound per hour; 2.98 tons per year.*
	Hydrogen chloride emissions shall not exceed 0.05 pound per hour; 0.22 ton per year.	* = compliance with this annual allowable is based on a rolling 12-month average.
	Formaldehyde emissions shall not exceed 0.04 pound per hour; 0.18 ton per year.	The particulate emission limitation specified by this rule is equivalent to the limit established by OAC rule 3745-31-05(A)(3), 40 CFR Part 52, Section 52.21 and OAC rule 3745-31-10 through 20.
	The requirements of this rule also include compliance with the requirements of 40 CFR Part 52, Section 52.21, OAC rule 3745-31-10 through 20.	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
	Particulate emissions shall not exceed 0.062 pound per mmBtu, actual heat input (0.87 pound per hour; 3.81 tons per year).*	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
	PM_{10} emissions shall not exceed 0.38 pound per hour; 1.66 tons per year.*	

Emissions Unit ID: P016

2. Additional Terms and Conditions

2.a The internal combustion engine shall operate using lean burn technology.

2.b This internal combustion engine is one of sixteen (16) internal combustion engines being permitted under this permit to install.

2.c The hourly and annual emission limitations are based upon the emissions unit potential to emit utilizing lean burn technology. Therefore, no records are required to demonstrate compliance with these limits.

II. Operational Restrictions

1. This emissions unit shall burn only landfill gas.

2. The permittee shall install, calibrate, maintain and operate according to the manufacturer's specifications a device at the inlet to the internal combustion engine which completely shuts off gas flow to the internal combustion engine when the internal combustion engine is not operating.

3. When the internal combustion engine is not operating, the landfill gas shall be diverted to the existing enclosed combustor at the Carbon Limestone Landfill (02-50-07-0850) or to an internal combustion engine that is operating.

4. The average combustion chamber temperature within the internal combustion engine, for any 3-hour block of time when the emissions unit is in operation, shall be established at the initial compliance test. A minimum temperature needs to be established to ensure destruction of NMOC.

5. The emissions unit shall not exceed the following emissions limits based upon a rolling, 12-month summation of the emissions: 3.81 TPY PE, 1.66 TPY PM10, 10.87 TPY Oxides of Nitrogen, 36.25 TPY CO, and 2.98 TPY OC.

   To ensure enforceability during the first 12 calendar months of operation following the issuance of this permit, the permittee shall not exceed the emission levels specified in the following table :

Month(s)	Maximum Allowable Cumulative Emissions of PE (Tons)
1	0.32
1-2	0.64
1-3	0.95
1-4	1.27
1-5	1.59
1-6	1.91
1-7	2.22
1-8	2.54

1-9	2.86
1-10	3.18
1-11	3.49
1-12	3.81

Month(s)	Maximum Allowable Cumulative Emissions of PM10 (Tons)
1	0.14
1-2	0.28
1-3	0.42
1-4	0.55
1-5	0.69
1-6	0.83
1-7	0.97
1-8	1.11
1-9	1.25
1-10	1.38
1-11	1.52
1-12	1.66

Month(s)	Maximum Allowable Cumulative Emissions of Oxides of Nitrogen (Tons)
1	0.91
1-2	1.81
1-3	2.72
1-4	3.62
1-5	4.53
1-6	5.44
1-7	6.34

1-8	7.24
1-9	8.15
1-10	9.06
1-11	9.96
1-12	10.87

Month(s)	Maximum Allowable Cumulative Emissions of CO (Tons)
1	3.02
1-2	6.04
1-3	9.06
1-4	12.08
1-5	15.10
1-6	18.13
1-7	21.15
1-8	24.17
1-9	27.19
1-10	30.21
1-11	33.23
1-12	36.25

Month(s)	Maximum Allowable Cumulative Emissions of OC (Tons)
1	0.25
1-2	0.50
1-3	0.75
1-4	0.99
1-5	1.24
1-6	1.49
1-7	1.74

1-8	1.99
1-9	2.23
1-10	2.48
1-11	2.73
1-12	2.98

After the first 12 calendar months of operation following issuance of this permit, compliance with the annual emission limitation for PE, PM10, Oxides of Nitrogen, CO, and OC shall be based upon a rolling, 12-month summation of the monthly emissions.

III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall perform weekly checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving each emissions unit. The presence or absence of any visible emissions shall be noted in an operations log for each unit. If visible emissions are observed, the permittee shall also note the following in the operation log:

   a. the color of the emissions;

   b. the cause of the visible emissions;

   c. the total duration of any visible emission incident; and,

   d. any corrective actions taken to eliminate the visible emissions.

2. The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion chamber temperature within the internal combustion engine. 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 manufacturer's recommendations, with any modifications deemed necessary by the permittee.

3. The permittee shall collect and record , each day, all 3-hour blocks of time during which the average combustion chamber temperature within the internal combustion engine was less than the allowable minimum temperature established during the initial compliance test.

4. The permittee shall record each day when a fuel other than landfill gas was burned in this emissions unit.

5. The permittee shall maintain records of the accumulative PE, PM10, Oxides of Nitrogen, CO, and OC emissions for the first 12 months of operation following the issuance of this permit and of the rolling, 12-month summation of the PE, PM10, Oxides of Nitrogen, CO, and OC emissions beginning after the first 12 calendar months of operation following the issuance of this permit.

IV. Reporting Requirements

1. The permittee shall submit semiannual written reports which (a) identify all days during which any visible particulate emissions were observed from the stack serving the emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Northeast District Office of the Ohio EPA by January 31 and July 31 of each year and shall cover the previous 6-month period.

2. The permittee shall submit deviation (excursion) reports which identify all 3-hour blocks of time which the average combustion chamber temperature within the internal combustion engine does not comply with the temperature limitation specified above.

3. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than landfill gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

4. Any breakdown or malfunction resulting in the emission of raw landfill gas to the atmosphere shall be reported to the Northeast District Office of the Ohio EPA within one 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.

5. The permittee shall submit deviation reports that identify all exceedances of the rolling, 12-month emission limitations.

6. The excursion reports required above are due by the dates described in the General Terms and Conditions of this permit.

V. Testing Requirements

1. Emission Testing Requirement

   The permittee shall conduct, or have conducted, emissions testing for this emissions unit in accordance with the following requirements:

   a. the emission testing shall be conducted within 90 days from the start-up of the emissions unit;

   b. the emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate; nitrogen oxide (NOx), carbon monoxide (CO), particulate matter (PM), hydrogen chloride (HCl) and organic

compounds (OC).

c. the emission testing shall be conducted to demonstrate compliance with either the removal of 98 weight percent of non-methane organic compounds (NMOC) or the reduction of the outlet concentration of NMOC to less than 20 parts per million by volume, dry basis (ppmvd) as hexane at 3 percent oxygen. The gas header to the internal combustion engine and the egress of the engines are required to be tested to ensure the destruction on NMOC;

d. the following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): NOx - Method 7 or 7E, CO - Method 10, OC - Method 25 or 25A, PM - Method 5, HCl - Method 26;

e. the test(s) shall be conducted while the emissions unit is operating at or near maximum capacity, unless otherwise specified or approved by the Ohio EPA, Northeast District Office; and,

f. the compliance test shall be performed on one of the following similar emissions units P001, P002, P003, P004, P005, P006, P007, P008, P009, P010, P011, P012, P013, P014, P015, or P016.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Northeast District Office of the Ohio EPA. 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, Northeast District Office's refusal to accept the results of the emission test(s).

Personnel from the Ohio EPA, Northeast District Office 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.

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 Ohio EPA, Northeast District Office 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 Ohio EPA Northeast District Office.

2. Compliance with the emission limitation(s) established in this permit shall be determined in accordance with the following method(s):

a. Emission Limitation:

Organic Compound emissions shall not exceed 0.68 pound per hour; 2.98 tons per year.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined in accordance with the performance test requirement. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton) and record keeping required under section III.5.

b. Emission Limitation:

Visible emission shall not exceed 10% opacity as a six-minute average.

Applicable Compliance Method:
Compliance shall be demonstrated by using 40 CFR, Part 60, Appendix A, Method 9.

c. Emission Limitation:

Particulate matter emissions shall not exceed 0.062 pound per mmBtu, actual heat input, 0.87 pound per hour; and 3.81 tons per year.

Applicable Compliance Method:
If required by the Ohio EPA, compliance with the hourly emission limitation shall be determined in accordance with Method 5 of 40 CFR, Part 60, Appendix A. Compliance

with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton) and record keeping required under section III.5.

d. Emission Limitation:

Oxides of Nitrogen emissions shall not exceed 0.18 pound per mmBtu, actual heat input, 2.48 pounds per hour; and 10.87 tons per year.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined in accordance with the performance test requirement. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton) and record keeping required under section III.5.

e. Emission Limitation:

Carbon Monoxide emissions shall not exceed 0.59 pound per mmBtu, actual heat input, 8.28 pounds per hour; 36.25 tons per year.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined in accordance with the performance test requirement. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton) and record keeping required under section III.5.

f. Emission Limitation:

Sulfur Dioxide emissions shall not exceed 0.23 pound per hour; 1.01 ton per year.

Emissions Unit ID: P016

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be demonstrated by multiplying the maximum inlet gas flow of 0.029 MMscf per hour by an AP-42 emission factor of 7.786 pounds of Sulfur Dioxide per MMscf, (Section 2.4 "Municipal Solid Waste Landfills, 11/98). Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton).

g. Emission Limitation:

Hydrogen chloride emissions shall not exceed 0.05 pound per hour; 0.22 tons per year.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined in accordance with Method 26 of 40 CFR, Part 60, Appendix A. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton).

h. Emission Limitation:

Non-methane organic compound (NMOC) emissions shall be reduced by 98 weight percent or reduce the outlet NMOC emissions to less than 20 parts per million by volume, dry basis (ppmvd) as hexane at 3 percent oxygen.

Applicable Compliance Method:
Compliance with the control efficiency limitation shall be determined in accordance with the performance test requirement of section V.1.

i. Emission Limitation:

Formaldehyde emissions shall not exceed 0.04 pound per hour; 0.18 ton per year.

Applicable Compliance Method:
If required by the Ohio EPA, compliance with the hourly emission limitation shall be determined in accordance with EPA reference method 0011 of SW-846 Chapter 10. Compliance with the annual limitation is based on the allowable hourly emission rate multiplied by 8760 (hours per year) and divided by 2000 (pounds per ton).

VI. Miscellaneous Requirements

None

B. State Only Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
P016 - 1400 bkW (14.0 million Btu/hr) Deutz TBG 620 V16 K Internal combustion engine to produce electricity from landfill gas	None	None

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

1. The permit to install for this emissions unit (P016) was evaluated based on the actual materials and the design parameters of (P001, P002, P003, P004, P005, P006, P007, P008, P009, P010, P011, P012, P013, P014, P015, and P016) emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the TSCREEN model. The predicted 1-hour maximum ground-level concentration from the use of the TSCREEN model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Hydrogen Chloride
Ceiling Value (mg/m3): 7.46
Maximum Hourly Emission Rate (lbs/hr): 0.05
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 0.2
MAGLC (ug/m3): 131

Pollutant: Formaldehyde
Ceiling Value (mg/m3): 0.37
Maximum Hourly Emission Rate (lbs/hr): 0.04
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 0.16
MAGLC (ug/m3): 6.5

Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be still satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

a. changes in the composition of the materials used (typically for coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled;

b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and

c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Air Toxic Policy" will be satisfied for the above changes, the

Emissions Unit ID: P016

Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01(VV)(1)(a)(ii), and a modification of the existing permit to install will not be required. If the change(s) is (are) defined as a modification under other provisions of the modification definition (other than (VV)(1)(a)(ii)), then the permittee shall obtain a final permit to install prior to the change.

The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy:"

a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);

b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and

c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

NEW SOURCE REVIEW FORM B

PTI Number: 02-14296 Facility ID: 0250050996

FACILITY NAME Carbon Limestone LFG Power Station

FACILITY DESCRIPTION 16 Internal Combustion Engines burning landfill gas to produce electricity CITY/TWP Lowellville

SIC CODE 4911 SCC CODE 2-03-002-01 EMISSIONS UNIT ID P001

EMISSIONS UNIT DESCRIPTION 1400 bkW (14.0 million Btu/hr) Deutz TBG 620 V16 K Internal combustion engine to produce electricity from landfill gas.

DATE INSTALLED Upon Issuance

EMISSIONS: (Click on bubble help for Air Quality Descriptions)

Pollutants	Air Quality Description	Actual Emissions Rate		PTI Allowable	
		Short Term Rate	Tons Per Year	Short Term Rate	Tons Per Year
Particulate Matter	attainment	0.062 lb/mmBtu;0.87 lb/hr	3.81	0.062 lb/mmBtu;0.87 lb/hr	3.81
PM_{10}	attainment	0.38 lb/hr	1.66	0.38 lb/hr	1.66
Sulfur Dioxide	attainment	0.23 lb/hr	1.01	0.23 lb/hr	1.01
Organic Compounds	attainment	0.68 lb/hr	2.98	0.68 lb/hr	2.98
Nitrogen Oxides	attainment	0.18 lb/mmBtu; 2.48 lbs/hr	10.87	0.18 lb/mmBtu; 2.48 lbs/hr	10.87
Carbon Monoxide	attainment	0.59 lb/mmBtu; 8.28 lbs/hr	36.25	0.59 lb/mmBtu; 8.28 lbs/hr	36.25
Lead					
Other: Air Toxics	Formaldehyde	0.04 lb/hr	0.18	0.04 lb/hr	0.18
Other: Air Toxics	Hydrogen Chloride	0.05 lb/hr	0.22	0.05 lb/hr	0.22

APPLICABLE FEDERAL RULES:

NSPS? NESHAP? PSD? Y OFFSET POLICY?

WHAT IS THE BAT DETERMINATION, AND WHAT IS THE BASIS FOR THE DETERMINATION?

Enter Determination: Compliance with the Air Toxics Policy, Employ Lean Burn Technology, compliance with the terms and conditions of this permit.

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? Yes

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT? $ N/A

TOXIC AIR CONTAMINANTS

Ohio EPA's air toxics policy applies to contaminants for which the American Conference of Governmental Industrial Hygienists (ACGIH) has a listed threshold limit value.

AIR TOXICS MODELING PERFORMED*? X YES NO

IDENTIFY THE AIR CONTAMINANTS: Hydrogen Chloride and Formaldehyde

NEW SOURCE REVIEW FORM B

PTI Number: 02-14296 Facility ID: 0250050996

FACILITY NAME Carbon Limestone LFG Power Station

FACILITY DESCRIPTION 16 Internal Combustion Engines burning CITY/TWP Lowellville

Emissions Unit ID: P016

SIC CODE 4911 SCC CODE 2-03-002-01 EMISSIONS UNIT ID P002

EMISSIONS UNIT DESCRIPTION 1400 bkW (14.0 million Btu/hr) Deutz TBG 620 V16 K Internal combustion engine to produce electricity from landfill gas.

DATE INSTALLED Upon Issuance

EMISSIONS: (Click on bubble help for Air Quality Descriptions)

Pollutants	Air Quality Description	Actual Emissions Rate		PTI Allowable	
		Short Term Rate	Tons Per Year	Short Term Rate	Tons Per Year
Particulate Matter	attainment	0.062 lb/mmBtu;0.87 lb/hr	3.81	0.062 lb/mmBtu;0.87 lb/hr	3.81
PM_{10}	attainment	0.38 lb/hr	1.66	0.38 lb/hr	1.66
Sulfur Dioxide	attainment	0.23 lb/hr	1.01	0.23 lb/hr	1.01
Organic Compounds	attainment	0.68 lb/hr	2.98	0.68 lb/hr	2.98
Nitrogen Oxides	attainment	0.18 lb/mmBtu; 2.48 lbs/hr	10.87	0.18 lb/mmBtu; 2.48 lbs/hr	10.87
Carbon Monoxide	attainment	0.59 lb/mmBtu; 8.28 lbs/hr	36.25	0.59 lb/mmBtu; 8.28 lbs/hr	36.25
Lead					
Other: Air Toxics	Formaldehyde	0.04 lb/hr	0.18	0.04 lb/hr	0.18
Other: Air Toxics	Hydrogen Chloride	0.05 lb/hr	0.22	0.05 lb/hr	0.22

APPLICABLE FEDERAL RULES:

NSPS? NESHAP? PSD? Y OFFSET POLICY?

WHAT IS THE BAT DETERMINATION, AND WHAT IS THE BASIS FOR THE DETERMINATION?

Enter Determination: Compliance with the Air Toxics Policy, Employ Lean Burn Technology, compliance with the terms and conditions of this permit.

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? Yes

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT? $ N/A

TOXIC AIR CONTAMINANTS

Ohio EPA's air toxics policy applies to contaminants for which the American Conference of Governmental Industrial Hygienists (ACGIH) has a listed threshold limit value.

AIR TOXICS MODELING PERFORMED*? X YES NO

IDENTIFY THE AIR CONTAMINANTS: Hydrogen Chloride and Formaldehyde

NEW SOURCE REVIEW FORM B

PTI Number: 02-14296 Facility ID: 0250050996

FACILITY NAME Carbon Limestone LFG Power Station

FACILITY DESCRIPTION 16 Internal Combustion Engines burning CITY/TWP Lowellville

Emissions Unit ID: P016

SIC CODE 4911 SCC CODE 2-03-002-01 EMISSIONS UNIT ID P003

EMISSIONS UNIT DESCRIPTION 1400 bkW (14.0 million Btu/hr) Deutz TBG 620 V16 K Internal combustion engine to produce electricity from landfill gas

DATE INSTALLED Upon Issuance

EMISSIONS: (Click on bubble help for Air Quality Descriptions)

Pollutants	Air Quality Description	Actual Emissions Rate		PTI Allowable	
		Short Term Rate	Tons Per Year	Short Term Rate	Tons Per Year
Particulate Matter	attainment	0.062 lb/mmBtu;0.87 lb/hr	3.81	0.062 lb/mmBtu;0.87 lb/hr	3.81
PM_{10}	attainment	0.38 lb/hr	1.66	0.38 lb/hr	1.66
Sulfur Dioxide	attainment	0.23 lb/hr	1.01	0.23 lb/hr	1.01
Organic Compounds	attainment	0.68 lb/hr	2.98	0.68 lb/hr	2.98
Nitrogen Oxides	attainment	0.18 lb/mmBtu; 2.48 lbs/hr	10.87	0.18 lb/mmBtu; 2.48 lbs/hr	10.87
Carbon Monoxide	attainment	0.59 lb/mmBtu; 8.28 lbs/hr	36.25	0.59 lb/mmBtu; 8.28 lbs/hr	36.25
Lead					
Other: Air Toxics	Formaldehyde	0.04 lb/hr	0.18	0.04 lb/hr	0.18
Other: Air Toxics	Hydrogen Chloride	0.05 lb/hr	0.22	0.05 lb/hr	0.22

APPLICABLE FEDERAL RULES:

NSPS? NESHAP? PSD? Y OFFSET POLICY?

WHAT IS THE BAT DETERMINATION, AND WHAT IS THE BASIS FOR THE DETERMINATION?

Enter Determination: Compliance with the Air Toxics Policy, Employ Lean Burn Technology, compliance with the terms and conditions of this permit.

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? Yes

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT? $ N/A

TOXIC AIR CONTAMINANTS

Ohio EPA's air toxics policy applies to contaminants for which the American Conference of Governmental Industrial Hygienists (ACGIH) has a listed threshold limit value.

AIR TOXICS MODELING PERFORMED*? X YES NO

IDENTIFY THE AIR CONTAMINANTS: Hydrogen Chloride and Formaldehyde

NEW SOURCE REVIEW FORM B

PTI Number: 02-14296 Facility ID: 0250050996

FACILITY NAME Carbon Limestone LFG Power Station

FACILITY DESCRIPTION 16 Internal Combustion Engines burning CITY/TWP Lowellville

Emissions Unit ID: P016

SIC CODE 4911 SCC CODE 2-03-002-01 EMISSIONS UNIT ID P004

EMISSIONS UNIT DESCRIPTION 1400 bkW (14.0 million Btu/hr) Deutz TBG 620 V16 K Internal combustion engine to produce electricity from landfill gas

DATE INSTALLED Upon Issuance

EMISSIONS: (Click on bubble help for Air Quality Descriptions)

Pollutants	Air Quality Description	Actual Emissions Rate		PTI Allowable	
		Short Term Rate	Tons Per Year	Short Term Rate	Tons Per Year
Particulate Matter	attainment	0.062 lb/mmBtu;0.87 lb/hr	3.81	0.062 lb/mmBtu;0.87 lb/hr	3.81
PM_{10}	attainment	0.38 lb/hr	1.66	0.38 lb/hr	1.66
Sulfur Dioxide	attainment	0.23 lb/hr	1.01	0.23 lb/hr	1.01
Organic Compounds	attainment	0.68 lb/hr	2.98	0.68 lb/hr	2.98
Nitrogen Oxides	attainment	0.18 lb/mmBtu; 2.48 lbs/hr	10.87	0.18 lb/mmBtu; 2.48 lbs/hr	10.87
Carbon Monoxide	attainment	0.59 lb/mmBtu; 8.28 lbs/hr	36.25	0.59 lb/mmBtu; 8.28 lbs/hr	36.25
Lead					
Other: Air Toxics	Formaldehyde	0.04 lb/hr	0.18	0.04 lb/hr	0.18
Other: Air Toxics	Hydrogen Chloride	0.05 lb/hr	0.22	0.05 lb/hr	0.22

APPLICABLE FEDERAL RULES:

NSPS? NESHAP? PSD? Y OFFSET POLICY?

WHAT IS THE BAT DETERMINATION, AND WHAT IS THE BASIS FOR THE DETERMINATION?

Enter Determination: Compliance with the Air Toxics Policy, Employ Lean Burn Technology, compliance with the terms and conditions of this permit.

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? Yes

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT? $ N/A

TOXIC AIR CONTAMINANTS

Ohio EPA's air toxics policy applies to contaminants for which the American Conference of Governmental Industrial Hygienists (ACGIH) has a listed threshold limit value.

AIR TOXICS MODELING PERFORMED*? X YES NO

IDENTIFY THE AIR CONTAMINANTS: Hydrogen Chloride and Formaldehyde

NEW SOURCE REVIEW FORM B

PTI Number: 02-14296 Facility ID: 0250050996

FACILITY NAME Carbon Limestone LFG Power Station

FACILITY DESCRIPTION 16 Internal Combustion Engines burning CITY/TWP Lowellville

Emissions Unit ID: P016

SIC CODE 4911 SCC CODE 2-03-002-01 EMISSIONS UNIT ID P005

EMISSIONS UNIT DESCRIPTION 1400 bkW (14.0 million Btu/hr) Deutz TBG 620 V16 K Internal combustion engine to produce electricity from landfill gas

DATE INSTALLED Upon Issuance

EMISSIONS: (Click on bubble help for Air Quality Descriptions)

Pollutants	Air Quality Description	Actual Emissions Rate		PTI Allowable	
		Short Term Rate	Tons Per Year	Short Term Rate	Tons Per Year
Particulate Matter	attainment	0.062 lb/mmBtu;0.87 lb/hr	3.81	0.062 lb/mmBtu;0.87 lb/hr	3.81
PM_{10}	attainment	0.38 lb/hr	1.66	0.38 lb/hr	1.66
Sulfur Dioxide	attainment	0.23 lb/hr	1.01	0.23 lb/hr	1.01
Organic Compounds	attainment	0.68 lb/hr	2.98	0.68 lb/hr	2.98
Nitrogen Oxides	attainment	0.18 lb/mmBtu; 2.48 lbs/hr	10.87	0.18 lb/mmBtu; 2.48 lbs/hr	10.87
Carbon Monoxide	attainment	0.59 lb/mmBtu; 8.28 lbs/hr	36.25	0.59 lb/mmBtu; 8.28 lbs/hr	36.25
Lead					
Other: Air Toxics	Formaldehyde	0.04 lb/hr	0.18	0.04 lb/hr	0.18
Other: Air Toxics	Hydrogen Chloride	0.05 lb/hr	0.22	0.05 lb/hr	0.22

APPLICABLE FEDERAL RULES:

NSPS? NESHAP? PSD? Y OFFSET POLICY?

WHAT IS THE BAT DETERMINATION, AND WHAT IS THE BASIS FOR THE DETERMINATION?

Enter Determination: Compliance with the Air Toxics Policy, Employ Lean Burn Technology, compliance with the terms and conditions of this permit.

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? Yes

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT? $ N/A

TOXIC AIR CONTAMINANTS

Ohio EPA's air toxics policy applies to contaminants for which the American Conference of Governmental Industrial Hygienists (ACGIH) has a listed threshold limit value.

AIR TOXICS MODELING PERFORMED*? X YES NO

IDENTIFY THE AIR CONTAMINANTS: Hydrogen Chloride and Formaldehyde

NEW SOURCE REVIEW FORM B

PTI Number: 02-14296 Facility ID: 0250050996

FACILITY NAME Carbon Limestone LFG Power Station

FACILITY DESCRIPTION 16 Internal Combustion Engines burning CITY/TWP Lowellville

Emissions Unit ID: P016

SIC CODE 4911 SCC CODE 2-03-002-01 EMISSIONS UNIT ID P006

EMISSIONS UNIT DESCRIPTION 1400 bkW (14.0 million Btu/hr) Deutz TBG 620 V16 K Internal combustion engine to produce electricity from landfill gas

DATE INSTALLED Upon Issuance

EMISSIONS: (Click on bubble help for Air Quality Descriptions)

Pollutants	Air Quality Description	Actual Emissions Rate		PTI Allowable	
		Short Term Rate	Tons Per Year	Short Term Rate	Tons Per Year
Particulate Matter	attainment	0.062 lb/mmBtu;0.87 lb/hr	3.81	0.062 lb/mmBtu;0.87 lb/hr	3.81
PM_{10}	attainment	0.38 lb/hr	1.66	0.38 lb/hr	1.66
Sulfur Dioxide	attainment	0.23 lb/hr	1.01	0.23 lb/hr	1.01
Organic Compounds	attainment	0.68 lb/hr	2.98	0.68 lb/hr	2.98
Nitrogen Oxides	attainment	0.18 lb/mmBtu; 2.48 lbs/hr	10.87	0.18 lb/mmBtu; 2.48 lbs/hr	10.87
Carbon Monoxide	attainment	0.59 lb/mmBtu; 8.28 lbs/hr	36.25	0.59 lb/mmBtu; 8.28 lbs/hr	36.25
Lead					
Other: Air Toxics	Formaldehyde	0.04 lb/hr	0.18	0.04 lb/hr	0.18
Other: Air Toxics	Hydrogen Chloride	0.05 lb/hr	0.22	0.05 lb/hr	0.22

APPLICABLE FEDERAL RULES:

NSPS? NESHAP? PSD? Y OFFSET POLICY?

WHAT IS THE BAT DETERMINATION, AND WHAT IS THE BASIS FOR THE DETERMINATION?

Enter Determination: Compliance with the Air Toxics Policy, Employ Lean Burn Technology, compliance with the terms and conditions of this permit.

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? Yes

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT? $ N/A

TOXIC AIR CONTAMINANTS

Ohio EPA's air toxics policy applies to contaminants for which the American Conference of Governmental Industrial Hygienists (ACGIH) has a listed threshold limit value.

AIR TOXICS MODELING PERFORMED*? X YES NO

IDENTIFY THE AIR CONTAMINANTS: Hydrogen Chloride and Formaldehyde

NEW SOURCE REVIEW FORM B

PTI Number: 02-14296 Facility ID: 0250050996

FACILITY NAME Carbon Limestone LFG Power Station

FACILITY DESCRIPTION 16 Internal Combustion Engines burning CITY/TWP Lowellville

Emissions Unit ID: P016

SIC CODE 4911 SCC CODE 2-03-002-01 EMISSIONS UNIT ID P007

EMISSIONS UNIT DESCRIPTION 1400 bkW (14.0 million Btu/hr) Deutz TBG 620 V16 K Internal combustion engine to produce electricity from landfill gas

DATE INSTALLED Upon Issuance

EMISSIONS: (Click on bubble help for Air Quality Descriptions)

Pollutants	Air Quality Description	Actual Emissions Rate		PTI Allowable	
		Short Term Rate	Tons Per Year	Short Term Rate	Tons Per Year
Particulate Matter	attainment	0.062 lb/mmBtu;0.87 lb/hr	3.81	0.062 lb/mmBtu;0.87 lb/hr	3.81
PM_{10}	attainment	0.38 lb/hr	1.66	0.38 lb/hr	1.66
Sulfur Dioxide	attainment	0.23 lb/hr	1.01	0.23 lb/hr	1.01
Organic Compounds	attainment	0.68 lb/hr	2.98	0.68 lb/hr	2.98
Nitrogen Oxides	attainment	0.18 lb/mmBtu; 2.48 lbs/hr	10.87	0.18 lb/mmBtu; 2.48 lbs/hr	10.87
Carbon Monoxide	attainment	0.59 lb/mmBtu; 8.28 lbs/hr	36.25	0.59 lb/mmBtu; 8.28 lbs/hr	36.25
Lead					
Other: Air Toxics	Formaldehyde	0.04 lb/hr	0.18	0.04 lb/hr	0.18
Other: Air Toxics	Hydrogen Chloride	0.05 lb/hr	0.22	0.05 lb/hr	0.22

APPLICABLE FEDERAL RULES:

NSPS? NESHAP? PSD? Y OFFSET POLICY?

WHAT IS THE BAT DETERMINATION, AND WHAT IS THE BASIS FOR THE DETERMINATION?

Enter Determination: Compliance with the Air Toxics Policy, Employ Lean Burn Technology, compliance with the terms and conditions of this permit.

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? Yes

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT? $ N/A

TOXIC AIR CONTAMINANTS

Ohio EPA's air toxics policy applies to contaminants for which the American Conference of Governmental Industrial Hygienists (ACGIH) has a listed threshold limit value.

AIR TOXICS MODELING PERFORMED*? X YES NO

IDENTIFY THE AIR CONTAMINANTS: Hydrogen Chloride and Formaldehyde

NEW SOURCE REVIEW FORM B

PTI Number: 02-14296 Facility ID: 0250050996

FACILITY NAME Carbon Limestone LFG Power Station

FACILITY DESCRIPTION 16 Internal Combustion Engines burning CITY/TWP Lowellville

Emissions Unit ID: P016

SIC CODE 4911 SCC CODE 2-03-002-01 EMISSIONS UNIT ID P008

EMISSIONS UNIT DESCRIPTION 1400 bkW (14.0 million Btu/hr) Deutz TBG 620 V16 K Internal combustion engine to produce electricity from landfill gas

DATE INSTALLED Upon Issuance

EMISSIONS: (Click on bubble help for Air Quality Descriptions)

Pollutants	Air Quality Description	Actual Emissions Rate		PTI Allowable	
		Short Term Rate	Tons Per Year	Short Term Rate	Tons Per Year
Particulate Matter	attainment	0.062 lb/mmBtu;0.87 lb/hr	3.81	0.062 lb/mmBtu;0.87 lb/hr	3.81
PM_{10}	attainment	0.38 lb/hr	1.66	0.38 lb/hr	1.66
Sulfur Dioxide	attainment	0.23 lb/hr	1.01	0.23 lb/hr	1.01
Organic Compounds	attainment	0.68 lb/hr	2.98	0.68 lb/hr	2.98
Nitrogen Oxides	attainment	0.18 lb/mmBtu; 2.48 lbs/hr	10.87	0.18 lb/mmBtu; 2.48 lbs/hr	10.87
Carbon Monoxide	attainment	0.59 lb/mmBtu; 8.28 lbs/hr	36.25	0.59 lb/mmBtu; 8.28 lbs/hr	36.25
Lead					
Other: Air Toxics	Formaldehyde	0.04 lb/hr	0.18	0.04 lb/hr	0.18
Other: Air Toxics	Hydrogen Chloride	0.05 lb/hr	0.22	0.05 lb/hr	0.22

APPLICABLE FEDERAL RULES:

NSPS? NESHAP? PSD? Y OFFSET POLICY?

WHAT IS THE BAT DETERMINATION, AND WHAT IS THE BASIS FOR THE DETERMINATION?

Enter Determination: Compliance with the Air Toxics Policy, Employ Lean Burn Technology, compliance with the terms and conditions of this permit.

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? Yes

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT? $ N/A

TOXIC AIR CONTAMINANTS

Ohio EPA's air toxics policy applies to contaminants for which the American Conference of Governmental Industrial Hygienists (ACGIH) has a listed threshold limit value.

AIR TOXICS MODELING PERFORMED*? X YES NO

IDENTIFY THE AIR CONTAMINANTS: Hydrogen Chloride and Formaldehyde

NEW SOURCE REVIEW FORM B

PTI Number: 02-14296 Facility ID: 0250050996

FACILITY NAME Carbon Limestone LFG Power Station

FACILITY DESCRIPTION 16 Internal Combustion Engines burning CITY/TWP Lowellville

Emissions Unit ID: P016

SIC CODE 4911 SCC CODE 2-03-002-01 EMISSIONS UNIT ID P009

EMISSIONS UNIT DESCRIPTION 1400 bkW (14.0 million Btu/hr) Deutz TBG 620 V16 K Internal combustion engine to produce electricity from landfill gas

DATE INSTALLED Upon Issuance

EMISSIONS: (Click on bubble help for Air Quality Descriptions)

Pollutants	Air Quality Description	Actual Emissions Rate		PTI Allowable	
		Short Term Rate	Tons Per Year	Short Term Rate	Tons Per Year
Particulate Matter	attainment	0.062 lb/mmBtu;0.87 lb/hr	3.81	0.062 lb/mmBtu;0.87 lb/hr	3.81
PM_{10}	attainment	0.38 lb/hr	1.66	0.38 lb/hr	1.66
Sulfur Dioxide	attainment	0.23 lb/hr	1.01	0.23 lb/hr	1.01
Organic Compounds	attainment	0.68 lb/hr	2.98	0.68 lb/hr	2.98
Nitrogen Oxides	attainment	0.18 lb/mmBtu; 2.48 lbs/hr	10.87	0.18 lb/mmBtu; 2.48 lbs/hr	10.87
Carbon Monoxide	attainment	0.59 lb/mmBtu; 8.28 lbs/hr	36.25	0.59 lb/mmBtu; 8.28 lbs/hr	36.25
Lead					
Other: Air Toxics	Formaldehyde	0.04 lb/hr	0.18	0.04 lb/hr	0.18
Other: Air Toxics	Hydrogen Chloride	0.05 lb/hr	0.22	0.05 lb/hr	0.22

APPLICABLE FEDERAL RULES:

NSPS? NESHAP? PSD? Y OFFSET POLICY?

WHAT IS THE BAT DETERMINATION, AND WHAT IS THE BASIS FOR THE DETERMINATION?

Enter Determination: Compliance with the Air Toxics Policy, Employ Lean Burn Technology, compliance with the terms and conditions of this permit.

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? Yes

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT? $ N/A

TOXIC AIR CONTAMINANTS

Ohio EPA's air toxics policy applies to contaminants for which the American Conference of Governmental Industrial Hygienists (ACGIH) has a listed threshold limit value.

AIR TOXICS MODELING PERFORMED*? X YES NO

IDENTIFY THE AIR CONTAMINANTS: Hydrogen Chloride and Formaldehyde

NEW SOURCE REVIEW FORM B

PTI Number: 02-14296 Facility ID: 0250050996

FACILITY NAME Carbon Limestone LFG Power Station

FACILITY DESCRIPTION 16 Internal Combustion Engines burning CITY/TWP Lowellville

Emissions Unit ID: P016

SIC CODE 4911 SCC CODE 2-03-002-01 EMISSIONS UNIT ID P010

EMISSIONS UNIT DESCRIPTION 1400 bkW (14.0 million Btu/hr) Deutz TBG 620 V16 K Internal combustion engine to produce electricity from landfill gas

DATE INSTALLED Upon Issuance

EMISSIONS: (Click on bubble help for Air Quality Descriptions)

Pollutants	Air Quality Description	Actual Emissions Rate		PTI Allowable	
		Short Term Rate	Tons Per Year	Short Term Rate	Tons Per Year
Particulate Matter	attainment	0.062 lb/mmBtu;0.87 lb/hr	3.81	0.062 lb/mmBtu;0.87 lb/hr	3.81
PM_{10}	attainment	0.38 lb/hr	1.66	0.38 lb/hr	1.66
Sulfur Dioxide	attainment	0.23 lb/hr	1.01	0.23 lb/hr	1.01
Organic Compounds	attainment	0.68 lb/hr	2.98	0.68 lb/hr	2.98
Nitrogen Oxides	attainment	0.18 lb/mmBtu; 2.48 lbs/hr	10.87	0.18 lb/mmBtu; 2.48 lbs/hr	10.87
Carbon Monoxide	attainment	0.59 lb/mmBtu; 8.28 lbs/hr	36.25	0.59 lb/mmBtu; 8.28 lbs/hr	36.25
Lead					
Other: Air Toxics	Formaldehyde	0.04 lb/hr	0.18	0.04 lb/hr	0.18
Other: Air Toxics	Hydrogen Chloride	0.05 lb/hr	0.22	0.05 lb/hr	0.22

APPLICABLE FEDERAL RULES:

NSPS? NESHAP? PSD? Y OFFSET POLICY?

WHAT IS THE BAT DETERMINATION, AND WHAT IS THE BASIS FOR THE DETERMINATION?

Enter Determination: Compliance with the Air Toxics Policy, Employ Lean Burn Technology, compliance with the terms and conditions of this permit.

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? Yes

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT? $ N/A

TOXIC AIR CONTAMINANTS

Ohio EPA's air toxics policy applies to contaminants for which the American Conference of Governmental Industrial Hygienists (ACGIH) has a listed threshold limit value.

AIR TOXICS MODELING PERFORMED*? X YES NO

IDENTIFY THE AIR CONTAMINANTS: Hydrogen Chloride and Formaldehyde

NEW SOURCE REVIEW FORM B

PTI Number: 02-14296 Facility ID: 0250050996

FACILITY NAME Carbon Limestone LFG Power Station

FACILITY DESCRIPTION 16 Internal Combustion Engines burning CITY/TWP Lowellville

Emissions Unit ID: P016

SIC CODE 4911 SCC CODE 2-03-002-01 EMISSIONS UNIT ID P011

EMISSIONS UNIT DESCRIPTION 1400 bkW (14.0 million Btu/hr) Deutz TBG 620 V16 K Internal combustion engine to produce electricity from landfill gas

DATE INSTALLED Upon Issuance

EMISSIONS: (Click on bubble help for Air Quality Descriptions)

Pollutants	Air Quality Description	Actual Emissions Rate		PTI Allowable	
		Short Term Rate	Tons Per Year	Short Term Rate	Tons Per Year
Particulate Matter	attainment	0.062 lb/mmBtu;0.87 lb/hr	3.81	0.062 lb/mmBtu;0.87 lb/hr	3.81
PM_{10}	attainment	0.38 lb/hr	1.66	0.38 lb/hr	1.66
Sulfur Dioxide	attainment	0.23 lb/hr	1.01	0.23 lb/hr	1.01
Organic Compounds	attainment	0.68 lb/hr	2.98	0.68 lb/hr	2.98
Nitrogen Oxides	attainment	0.18 lb/mmBtu; 2.48 lbs/hr	10.87	0.18 lb/mmBtu; 2.48 lbs/hr	10.87
Carbon Monoxide	attainment	0.59 lb/mmBtu; 8.28 lbs/hr	36.25	0.59 lb/mmBtu; 8.28 lbs/hr	36.25
Lead					
Other: Air Toxics	Formaldehyde	0.04 lb/hr	0.18	0.04 lb/hr	0.18
Other: Air Toxics	Hydrogen Chloride	0.05 lb/hr	0.22	0.05 lb/hr	0.22

APPLICABLE FEDERAL RULES:

NSPS? NESHAP? PSD? Y OFFSET POLICY?

WHAT IS THE BAT DETERMINATION, AND WHAT IS THE BASIS FOR THE DETERMINATION?

Enter Determination: Compliance with the Air Toxics Policy, Employ Lean Burn Technology, compliance with the terms and conditions of this permit.

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? Yes

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT? $ N/A

TOXIC AIR CONTAMINANTS

Ohio EPA's air toxics policy applies to contaminants for which the American Conference of Governmental Industrial Hygienists (ACGIH) has a listed threshold limit value.

AIR TOXICS MODELING PERFORMED*? X YES NO

IDENTIFY THE AIR CONTAMINANTS: Hydrogen Chloride and Formaldehyde

NEW SOURCE REVIEW FORM B

PTI Number: 02-14296 Facility ID: 0250050996

FACILITY NAME Carbon Limestone LFG Power Station

FACILITY DESCRIPTION 16 Internal Combustion Engines burning CITY/TWP Lowellville

Emissions Unit ID: P016

SIC CODE 4911 SCC CODE 2-03-002-01 EMISSIONS UNIT ID P012

EMISSIONS UNIT DESCRIPTION 1400 bkW (14.0 million Btu/hr) Deutz TBG 620 V16 K Internal combustion engine to produce electricity from landfill gas

DATE INSTALLED Upon Issuance

EMISSIONS: (Click on bubble help for Air Quality Descriptions)

Pollutants	Air Quality Description	Actual Emissions Rate		PTI Allowable	
		Short Term Rate	Tons Per Year	Short Term Rate	Tons Per Year
Particulate Matter	attainment	0.062 lb/mmBtu;0.87 lb/hr	3.81	0.062 lb/mmBtu;0.87 lb/hr	3.81
PM_{10}	attainment	0.38 lb/hr	1.66	0.38 lb/hr	1.66
Sulfur Dioxide	attainment	0.23 lb/hr	1.01	0.23 lb/hr	1.01
Organic Compounds	attainment	0.68 lb/hr	2.98	0.68 lb/hr	2.98
Nitrogen Oxides	attainment	0.18 lb/mmBtu; 2.48 lbs/hr	10.87	0.18 lb/mmBtu; 2.48 lbs/hr	10.87
Carbon Monoxide	attainment	0.59 lb/mmBtu; 8.28 lbs/hr	36.25	0.59 lb/mmBtu; 8.28 lbs/hr	36.25
Lead					
Other: Air Toxics	Formaldehyde	0.04 lb/hr	0.18	0.04 lb/hr	0.18
Other: Air Toxics	Hydrogen Chloride	0.05 lb/hr	0.22	0.05 lb/hr	0.22

APPLICABLE FEDERAL RULES:

NSPS? NESHAP? PSD? Y OFFSET POLICY?

WHAT IS THE BAT DETERMINATION, AND WHAT IS THE BASIS FOR THE DETERMINATION?

Enter Determination: Compliance with the Air Toxics Policy, Employ Lean Burn Technology, compliance with the terms and conditions of this permit.

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? Yes

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT? $ N/A

TOXIC AIR CONTAMINANTS

Ohio EPA's air toxics policy applies to contaminants for which the American Conference of Governmental Industrial Hygienists (ACGIH) has a listed threshold limit value.

AIR TOXICS MODELING PERFORMED*? X YES NO

IDENTIFY THE AIR CONTAMINANTS: Hydrogen Chloride and Formaldehyde

NEW SOURCE REVIEW FORM B

PTI Number: 02-14296 Facility ID: 0250050996

FACILITY NAME Carbon Limestone LFG Power Station

FACILITY DESCRIPTION 16 Internal Combustion Engines burning CITY/TWP Lowellville

Emissions Unit ID: P016

SIC CODE 4911 SCC CODE 2-03-002-01 EMISSIONS UNIT ID P013

EMISSIONS UNIT DESCRIPTION 1400 bkW (14.0 million Btu/hr) Deutz TBG 620 V16 K Internal combustion engine to produce electricity from landfill gas

DATE INSTALLED Upon Issuance

EMISSIONS: (Click on bubble help for Air Quality Descriptions)

Pollutants	Air Quality Description	Actual Emissions Rate		PTI Allowable	
		Short Term Rate	Tons Per Year	Short Term Rate	Tons Per Year
Particulate Matter	attainment	0.062 lb/mmBtu;0.87 lb/hr	3.81	0.062 lb/mmBtu;0.87 lb/hr	3.81
PM_{10}	attainment	0.38 lb/hr	1.66	0.38 lb/hr	1.66
Sulfur Dioxide	attainment	0.23 lb/hr	1.01	0.23 lb/hr	1.01
Organic Compounds	attainment	0.68 lb/hr	2.98	0.68 lb/hr	2.98
Nitrogen Oxides	attainment	0.18 lb/mmBtu; 2.48 lbs/hr	10.87	0.18 lb/mmBtu; 2.48 lbs/hr	10.87
Carbon Monoxide	attainment	0.59 lb/mmBtu; 8.28 lbs/hr	36.25	0.59 lb/mmBtu; 8.28 lbs/hr	36.25
Lead					
Other: Air Toxics	Formaldehyde	0.04 lb/hr	0.18	0.04 lb/hr	0.18
Other: Air Toxics	Hydrogen Chloride	0.05 lb/hr	0.22	0.05 lb/hr	0.22

APPLICABLE FEDERAL RULES:

NSPS? NESHAP? PSD? Y OFFSET POLICY?

WHAT IS THE BAT DETERMINATION, AND WHAT IS THE BASIS FOR THE DETERMINATION?

Enter Determination: Compliance with the Air Toxics Policy, Employ Lean Burn Technology, compliance with the terms and conditions of this permit.

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? Yes

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT? $ N/A

TOXIC AIR CONTAMINANTS

Ohio EPA's air toxics policy applies to contaminants for which the American Conference of Governmental Industrial Hygienists (ACGIH) has a listed threshold limit value.

AIR TOXICS MODELING PERFORMED*? X YES NO

IDENTIFY THE AIR CONTAMINANTS: Hydrogen Chloride and Formaldehyde

NEW SOURCE REVIEW FORM B

PTI Number: 02-14296 Facility ID: 0250050996

FACILITY NAME Carbon Limestone LFG Power Station

FACILITY DESCRIPTION 16 Internal Combustion Engines burning CITY/TWP Lowellville

Emissions Unit ID: P016

SIC CODE 4911 SCC CODE 2-03-002-01 EMISSIONS UNIT ID P014

EMISSIONS UNIT DESCRIPTION 1400 bkW (14.0 million Btu/hr) Deutz TBG 620 V16 K Internal combustion engine to produce electricity from landfill gas

DATE INSTALLED Upon Issuance

EMISSIONS: (Click on bubble help for Air Quality Descriptions)

Pollutants	Air Quality Description	Actual Emissions Rate		PTI Allowable	
		Short Term Rate	Tons Per Year	Short Term Rate	Tons Per Year
Particulate Matter	attainment	0.062 lb/mmBtu;0.87 lb/hr	3.81	0.062 lb/mmBtu;0.87 lb/hr	3.81
PM_{10}	attainment	0.38 lb/hr	1.66	0.38 lb/hr	1.66
Sulfur Dioxide	attainment	0.23 lb/hr	1.01	0.23 lb/hr	1.01
Organic Compounds	attainment	0.68 lb/hr	2.98	0.68 lb/hr	2.98
Nitrogen Oxides	attainment	0.18 lb/mmBtu; 2.48 lbs/hr	10.87	0.18 lb/mmBtu; 2.48 lbs/hr	10.87
Carbon Monoxide	attainment	0.59 lb/mmBtu; 8.28 lbs/hr	36.25	0.59 lb/mmBtu; 8.28 lbs/hr	36.25
Lead					
Other: Air Toxics	Formaldehyde	0.04 lb/hr	0.18	0.04 lb/hr	0.18
Other: Air Toxics	Hydrogen Chloride	0.05 lb/hr	0.22	0.05 lb/hr	0.22

APPLICABLE FEDERAL RULES:

NSPS? NESHAP? PSD? Y OFFSET POLICY?

WHAT IS THE BAT DETERMINATION, AND WHAT IS THE BASIS FOR THE DETERMINATION?

Enter Determination: Compliance with the Air Toxics Policy, Employ Lean Burn Technology, compliance with the terms and conditions of this permit.

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? Yes

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT? $ N/A

TOXIC AIR CONTAMINANTS

Ohio EPA's air toxics policy applies to contaminants for which the American Conference of Governmental Industrial Hygienists (ACGIH) has a listed threshold limit value.

AIR TOXICS MODELING PERFORMED*? X YES NO

IDENTIFY THE AIR CONTAMINANTS: Hydrogen Chloride and Formaldehyde

NEW SOURCE REVIEW FORM B

PTI Number: 02-14296 Facility ID: 0250050996

FACILITY NAME Carbon Limestone LFG Power Station

FACILITY DESCRIPTION 16 Internal Combustion Engines burning CITY/TWP Lowellville

Emissions Unit ID: P016

SIC CODE 4911 SCC CODE 2-03-002-01 EMISSIONS UNIT ID P015

EMISSIONS UNIT DESCRIPTION 1400 bkW (14.0 million Btu/hr) Deutz TBG 620 V16 K Internal combustion engine to produce electricity from landfill gas

DATE INSTALLED Upon Issuance

EMISSIONS: (Click on bubble help for Air Quality Descriptions)

Pollutants	Air Quality Description	Actual Emissions Rate		PTI Allowable	
		Short Term Rate	Tons Per Year	Short Term Rate	Tons Per Year
Particulate Matter	attainment	0.062 lb/mmBtu;0.87 lb/hr	3.81	0.062 lb/mmBtu;0.87 lb/hr	3.81
PM_{10}	attainment	0.38 lb/hr	1.66	0.38 lb/hr	1.66
Sulfur Dioxide	attainment	0.23 lb/hr	1.01	0.23 lb/hr	1.01
Organic Compounds	attainment	0.68 lb/hr	2.98	0.68 lb/hr	2.98
Nitrogen Oxides	attainment	0.18 lb/mmBtu; 2.48 lbs/hr	10.87	0.18 lb/mmBtu; 2.48 lbs/hr	10.87
Carbon Monoxide	attainment	0.59 lb/mmBtu; 8.28 lbs/hr	36.25	0.59 lb/mmBtu; 8.28 lbs/hr	36.25
Lead					
Other: Air Toxics	Formaldehyde	0.04 lb/hr	0.18	0.04 lb/hr	0.18
Other: Air Toxics	Hydrogen Chloride	0.05 lb/hr	0.22	0.05 lb/hr	0.22

APPLICABLE FEDERAL RULES:

NSPS? NESHAP? PSD? Y OFFSET POLICY?

WHAT IS THE BAT DETERMINATION, AND WHAT IS THE BASIS FOR THE DETERMINATION?

Enter Determination: Compliance with the Air Toxics Policy, Employ Lean Burn Technology, compliance with the terms and conditions of this permit.

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? Yes

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT? $ N/A

TOXIC AIR CONTAMINANTS

Ohio EPA's air toxics policy applies to contaminants for which the American Conference of Governmental Industrial Hygienists (ACGIH) has a listed threshold limit value.

AIR TOXICS MODELING PERFORMED*? X YES NO

IDENTIFY THE AIR CONTAMINANTS: Hydrogen Chloride and Formaldehyde

NEW SOURCE REVIEW FORM B

PTI Number: 02-14296 Facility ID: 0250050996

FACILITY NAME Carbon Limestone LFG Power Station

FACILITY DESCRIPTION 16 Internal Combustion Engines burning CITY/TWP Lowellville

Emissions Unit ID: P016

SIC CODE 4911 SCC CODE 2-03-002-01 EMISSIONS UNIT ID P016

EMISSIONS UNIT DESCRIPTION 1400 bkW (14.0 million Btu/hr) Deutz TBG 620 V16 K Internal combustion engine to produce electricity from landfill gas

DATE INSTALLED Upon Issuance

EMISSIONS: (Click on bubble help for Air Quality Descriptions)

Pollutants	Air Quality Description	Actual Emissions Rate		PTI Allowable	
		Short Term Rate	Tons Per Year	Short Term Rate	Tons Per Year
Particulate Matter	attainment	0.062 lb/mmBtu;0.87 lb/hr	3.81	0.062 lb/mmBtu;0.87 lb/hr	3.81
PM_{10}	attainment	0.38 lb/hr	1.66	0.38 lb/hr	1.66
Sulfur Dioxide	attainment	0.23 lb/hr	1.01	0.23 lb/hr	1.01
Organic Compounds	attainment	0.68 lb/hr	2.98	0.68 lb/hr	2.98
Nitrogen Oxides	attainment	0.18 lb/mmBtu; 2.48 lbs/hr	10.87	0.18 lb/mmBtu; 2.48 lbs/hr	10.87
Carbon Monoxide	attainment	0.59 lb/mmBtu; 8.28 lbs/hr	36.25	0.59 lb/mmBtu; 8.28 lbs/hr	36.25
Lead					
Other: Air Toxics	Formaldehyde	0.04 lb/hr	0.18	0.04 lb/hr	0.18
Other: Air Toxics	Hydrogen Chloride	0.05 lb/hr	0.22	0.05 lb/hr	0.22

APPLICABLE FEDERAL RULES:

NSPS? NESHAP? PSD? Y OFFSET POLICY?

WHAT IS THE BAT DETERMINATION, AND WHAT IS THE BASIS FOR THE DETERMINATION?

Enter Determination: Compliance with the Air Toxics Policy, Employ Lean Burn Technology, compliance with the terms and conditions of this permit.

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? Yes

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT? $ N/A

TOXIC AIR CONTAMINANTS

Ohio EPA's air toxics policy applies to contaminants for which the American Conference of Governmental Industrial Hygienists (ACGIH) has a listed threshold limit value.

AIR TOXICS MODELING PERFORMED*? X YES NO

IDENTIFY THE AIR CONTAMINANTS: Hydrogen Chloride and Formaldehyde

NEW SOURCE REVIEW FORM B

PTI Number: 02-14296 Facility ID: 0250050996

FACILITY NAME Carbon Limestone LFG Power Station

FACILITY DESCRIPTION 16 Internal Combustion Engines burning CITY/TWP Lowellville

Emissions Unit ID: P016

Ohio EPA Permit to Install Information Form Please describe below any documentation which is being submitted with this recommendation (must be sent the same day). Electronic items should be submitted with the e-mail transmitting the PTI terms, and in software that CO can utilize. If mailing any hard copy, this section must be printed as a cover page. All items must be clearly labeled indicating the PTI name and number. Submit hard copy items to **Pam McGraner**, AQM&P, DAPC, Central Office, and electronic files to **airpti@epa.state.oh.us**

Please fill out the following. If the checkbox does not work, replace it with an 'X'	Electronic	**Additional information** File Name Convention (your PTI # plus this letter)	Hard Copy	None
Calculations (required)	☐	0000000**c**.wpd	☒	
Modeling form/results	☐	0000000**s**.wpd	☒	☐
PTI Application (complete or partial)*	☐	0000000**a**.wpd	☐	☐
BAT Study	☐	0000000**b.**wpd	☐	☐
Other/misc.	☐	0000000**t**.wpd	☐	☐

* Mandatory for netting, PSD, nonattainment NSR, 112(g), 21-07(G)(9)(g) and 21-09(U)(2)(f) - 2 complete copies.

Please complete (see comment bubble to the left for additional instructions):

NSR Discussion

This permit is for 16 internal combustion engines that will produce electricity by burning landfill gas (LFG). The emissions from this new facility are significant enough to trigger a PSD review. The facility has submitted modeling for the PSD review. The facility passes Air Toxics modeling, see attached. The facility is not subject to 112g as total HAP emissions total 6.84 TPY. 40 CFR 60, Subpart WWW does not apply to this facility. WWW applies only to municipal solid waste facilities. This facility is a power station. A BAT requirement ensures that LFG is controlled consistent with the requirements of WWW.

The facility has submitted modeling data and results to Bill Spires-DAPC,CO. The applicable limits on this permit are slightly over the values that were used during the modeling. The higher values are due to rounding. In an e-mail from Bill Spires he indicated that the emission limits and modeling results are directly proportional. The proportionality allows for a modeling result prediction at any emission rate. Since the emission rate increase is small, and the facility passed the modeling by a large margin, it is safe to assume that the facility will pass modeling at the increased emission rate.

Within the PTI application the facility includes an explanation of BACT for NOx, CO, VOC, and PM10. In summary, BACT for NOx is lean burn for each engine; BACT for CO is not proposed because it historically has not been a concern. BACT for VOC is not proposed because the engines are already meeting the emission level that has been acceptable for BACT analysis. BACT for PM10 is not proposed because the present suggested emission rate of (0.09 g/hp-hr) in an attainment area is only slightly higher than a comparable emission rate of (0.06 g/hp-hr) in a non-attainment area of California.

If additional information is required, please contact Erik Bewley-DAPC,NEDO.

Please complete for these type permits (For PSD/NSR Permit, place mouse over this text):

☐ **Synthetic Minor Determination and/or** ☐ **Netting Determination**

Permit To Install **ENTER PTI NUMBER HERE**

NEW SOURCE REVIEW FORM B

PTI Number: 02-14296 Facility ID: 0250050996

FACILITY NAME Carbon Limestone LFG Power Station

FACILITY DESCRIPTION 16 Internal Combustion Engines burning CITY/TWP Lowellville

Emissions Unit ID: P016

PLEASE PROVIDE ADDITIONAL NOTES OR COMMENTS AS NECESSARY:

NONE

Please complete:

SUMMARY (for informational purposes only)

TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS

Pollutant	Tons Per Year
Oxides of Nitrogen	173.76
Carbon Monoxide	579.52
Organic Compounds	47.68
Sulfur Dioxide	16.16
PM_{10}	26.56
Particulate Emissions	
Hydrogen Chloride	60.96*
Formaldehyde	3.52
	2.88

* = includes PM_{10} emissions