



State of Ohio Environmental Protection Agency

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

**CERTIFIED MAIL**

Street Address:

122 S. Front Street

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

Mailing Address:

Lazarus Gov. Center  
P.O. Box 1049

**Application No: 01-01305**

**Fac ID: 0125040420**

**DATE: 1/12/2006**

City of Cols Southerly Wastewater Treatment  
Dean Posekany  
6977 South High Street  
Lockbourne, OH 43137

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

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

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

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

Sincerely,

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

CC: USEPA

CDO



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**Permit To Install  
Terms and Conditions**

**Issue Date: 1/12/2006  
Effective Date: 1/12/2006**

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**FINAL PERMIT TO INSTALL 01-01305**

Application Number: 01-01305  
Facility ID: 0125040420  
Permit Fee: **\$3800**  
Name of Facility: City of Cols Southerly Wastewater Treatment  
Person to Contact: Dean Posekany  
Address: 6977 South High Street  
Lockbourne, OH 43137

Location of proposed air contaminant source(s) [emissions unit(s)]:  
**6977 South High Street  
Lockbourne, Ohio**

Description of proposed emissions unit(s):  
**Digester Rehabilitation Project.**

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

**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

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reports shall be submitted (i.e., postmarked) quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. See B.9 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 (i.e., postmarked) to the appropriate Ohio EPA District Office or local air agency every six months, by January 31 and July 31 of each year for the previous six calendar months. If no deviations occurred during a six-month period, the permittee shall submit a semi-annual report, which states that no deviations occurred during that period.
  - iv. If this permit is for an emissions unit located at a Title V facility, then each written report shall be signed by a responsible official certifying that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.
- d. The permittee shall report actual emissions pursuant to OAC Chapter 3745-78 for the purpose of collecting Air Pollution Control Fees.

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

**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 any permit-to-install. The permittee shall pay all applicable permit-to-operate fees within thirty days of the issuance of the invoice.

**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 its applicable requirements, including relevant provisions designed to limit the potential to emit of a source, are enforceable by the Administrator of the U.S. EPA and the State and by citizens (to the extent allowed by section 304 of the Act) under the Act. 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.

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

#### **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.

#### **12. Air Pollution Nuisance**

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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.

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### **13. Permit-To-Install**

A permit-to-install must be obtained pursuant to OAC Chapter 3745-31 prior to "installation" of "any air contaminant source" as defined in OAC rule 3745-31-01, or "modification", as defined in OAC rule 3745-31-01, of any emissions unit included in this permit.

## **B. State Only Enforceable Permit-To-Install General Terms and Conditions**

### **1. Compliance Requirements**

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

### **2. Reporting Requirements**

The permittee shall submit required reports in the following manner:

- a. Reports of any required monitoring and/or recordkeeping of state-only enforceable information shall be submitted to the 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 (i.e., postmarked) quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

### **3. Permit Transfers**

Any transferee of this permit shall assume the responsibilities of the prior permit holder.

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The appropriate Ohio EPA District Office or local air agency must be notified in writing of any transfer of this permit.

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**4. Authorization To Install or Modify**

If applicable, authorization to install or modify any new or existing emissions unit included in this permit shall terminate within eighteen months of the effective date of the permit if the owner or operator has not undertaken a continuing program of installation or 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.

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

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

**6. 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.

**7. 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).

**8. Construction Compliance Certification**

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If applicable, the applicant shall provide Ohio EPA with a written certification (see enclosed form if applicable) 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.

**9. 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., postmarked), 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

<u>Pollutant</u>	<u>Tons Per Year</u>
NOx	37.57
CO	62.14
VOC	2.70
SO2	68.4
PM	7.08

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PTI Application: 01-01205  
Issue**

**Facility ID: 0125040420**

Emissions Unit ID: B027

**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

**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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>
B027 - acid phase sewage sludge digester 1 controlled by a flare	OAC rule 3745-31-05(A)(3)
	OAC rule 3745-17-07(A)
	OAC rule 3745-17-11
	OAC rule 3745-18-06
	OAC rule 3745-21-08(B)
	OAC rule 3745-23-06(B)
	OAC rule 3745-31-05(C) (Synthetic Minor to avoid NSR)

City of

PTI A

Issued: 1/12/2006

Emissions Unit ID: B027

Applicable Emissions Limitations/Control Measures	VOC emissions from emissions units B027-B035 shall not exceed 1.34 tons per rolling 12-month period.
Carbon monoxide (CO) emissions shall not exceed 14.78 lbs/hr.	SO <sub>2</sub> emissions from emissions units B027-B035 shall not exceed 43.75 tons per rolling 12-month period.
Nitrogen Oxide (NO <sub>x</sub> ) emissions shall not exceed 7.2 lbs/hr.	NO <sub>x</sub> emissions from emissions units B027-B035 shall not exceed 25.2 tons per rolling 12-month period.
Sulfur Dioxide (SO <sub>2</sub> ) emissions shall not exceed 12.5 lbs/hr.	PE from emissions units B027-B035 shall not exceed 5.95 tons per rolling 12-month period.
Volatile Organic Compound (VOC) emissions shall not exceed 0.38 lb/hr.	Visible particulate emissions from any stack shall not exceed twenty percent opacity, as a six-minute average, except as provided by rule.
Particulate emissions (PE) shall not exceed 1.7 lbs/hr.	None, see A.I.2.a below.
See A.I.2.e below.	None, see A.I.2.b below.
The requirements of this rule also include compliance with the requirements of OAC rules 3745-31-05(C), 3745-17-07(A), 3745-21-08(B), and 3745-23-06(B).	None, see A.I.2.c below.
CO emissions from emissions units B027-B035 shall not exceed 51.74 tons per rolling 12-month period.	None, see A.I.2.d below.

**2. Additional Terms and Conditions**

- 2.a** The uncontrolled mass rate of particulate emissions (PE) from this emissions unit is less than 10 pounds/hour. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. In addition, pursuant to OAC rule 3745-17-11(A)(2)(b)(i), Table I of OAC rule 3745-17-11 does not apply because the process weight rate can not be ascertained "Process weight" is defined in OAC rule 3745-17-01(B)(14).
- 2.b** The requirements of OAC rule 3745-18-06 do not apply to this emissions unit pursuant to OAC rule 3745-18-06(C).
- 2.c** The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this Permit to Install.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

- 2.d** The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this Permit to Install.

On February 15, 2005, OAC rule 3745-23-06 was rescinded and therefore no longer a part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-23-06, the requirement to satisfy "latest available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

- 2.e** The hourly allowable emission limitations for this emissions unit were established to reflect the hourly potential to emit. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance

with these limits.

**II. Operational Restrictions**

- 1. The maximum annual digester gas production rate from emissions units B027-B035 shall not exceed 700,000,000 standard cubic feet (SCF) per year, based upon a rolling, 12-month summation of the production rates.

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

<u>Month(s)</u>	<u>Maximum Allowable Cumulative digester gas Production(MMSCF)</u>
1	60
1-2	120
1-3	180
1-4	240
1-5	300
1-6	360
1-7	420
1-8	480
1-9	540
1-10	600
1-11	640
1-12	700

After the first 12 calendar months of operation following the issuance of this permit, compliance with the annual digester gas production limitation shall be based upon a rolling, 12-month summation of the digester gas production.

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

- 1. The permittee shall maintain monthly records of the following information:
  - a. The digester gas production for each month, in scf;
  - b. PE, NOx, SO2, CO, and VOC emissions;
  - c. The rolling, 12-month summation of the NOx emissions;
  - d. Beginning after the first 12 calendar months of operation following the issuance of this permit, the rolling, 12-month summation of the digester gas production; and

Also, during the first 12 calendar months of operation following the issuance of this permit, the permittee shall record the cumulative digester gas production for each calendar month.

#### **IV. Reporting Requirements**

1. The permittee shall submit quarterly deviation (excursion) reports which identify all exceedances of the rolling 12-month digester gas production and/or the rolling 12-month NO<sub>x</sub> emission limitations. These reports are due by the date described in Part 1- General Terms and Conditions of this permit under section (A)(1).
2. The permittee shall submit annual PE, NO<sub>x</sub>, SO<sub>2</sub>, CO, and VOC emission reports. These reports shall be submitted by February 1 of each year.

#### **V. Testing Requirements**

1. Compliance with the emission limitations contained in this permit shall be determined in accordance with the following methods:
  - a. Emission Limitation - Carbon monoxide (CO) emissions shall not exceed 14.78 lbs/hr.

Applicable Compliance Method - Compliance with the allowable mass emission rate for carbon monoxide may be determined by multiplying an emission factor of 147.84 lbs of carbon monoxide per million cubic feet of digester gas by the maximum hourly gas production of 100,000 standard cubic feet of digester gas per hour. This emission factor is provided by Varec, the manufacturer of the Westech EB244 enclosed burner and represents an engineering safety factor adjustment of 1.5.

- b. Emission Limitation - Nitrogen Oxide (NO<sub>x</sub>) emissions shall not exceed 7.2 lbs/hr.

Applicable Compliance Method - Compliance with the allowable mass emission rate for NO<sub>x</sub> may be determined by multiplying an emission factor of 72.0 lbs of NO<sub>x</sub> per million cubic feet of digester gas by the maximum hourly gas production of 100,000 standard cubic feet of digester gas per hour. This emission factor is provided by Varec, the manufacturer of the Westech EB244 Enclosed burner and represents an engineering safety factor adjustment of 1.5.

- c. Emission Limitation - Sulfur Dioxide (SO<sub>2</sub>) emissions shall not exceed 12.5 lbs/hr.

Applicable Compliance Method - Compliance with the allowable mass emission rate for sulfur dioxide may be determined by multiplying an emission factor of 125 lbs of sulfur dioxide per million cubic feet of digester gas by the maximum hourly gas production of 100,000 standard cubic feet of digester gas per hour. The emission factor is based on 100% stoichiometric conversion of H<sub>2</sub>S in the digester gas stream to SO<sub>2</sub>. The digester gas H<sub>2</sub>S content of 750 ppmv is based on data from a comparable facility.

- d. Emission Limitation - Volatile Organic Compound (VOC) emissions shall not exceed 0.38 lb/hr.

Applicable Compliance Method - Compliance with the allowable mass emission rate for VOC may be determined by multiplying an emission factor of 3.84 lbs of VOC per million cubic feet of digester gas by the maximum hourly gas production of 100,000 standard cubic feet of digester gas per hour. This emission factor is provided by Varec, the manufacturer of the Westech EB244 Enclosed burner and represents an engineering safety factor adjustment of 1.5.

- e. Emission Limitation - Particulate emissions shall not exceed 1.7 lbs/hr.

Applicable Compliance Method - Compliance with the allowable mass emission rate for particulate emissions may be determined by multiplying an emission factor of 17 lbs of particulate emissions per million cubic feet of digester gas by the maximum hourly gas production of 100,000 standard cubic feet of digester gas per hour. This emission factor is specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 2.4, Table 2.4-5(11/98).

Emissions Unit ID: B027

2. Emission Limitation - CO emissions from emissions units B027-B035 shall not exceed 51.74 tons per rolling 12-month period.

Applicable Compliance Method - Compliance with the annual limitations shall be based upon the records maintained in A.III.1 and the emission calculation methodology referenced in V.1.a.

3. Emission Limitation - VOC emissions from emissions units B027-B035 shall not exceed 1.34 tons per rolling 12-month period.

Applicable Compliance Method - Compliance with the annual limitations shall be based upon the records maintained in A.III.1 and the emission calculation methodology referenced in V.1.d.

4. Emission Limitation - SO<sub>2</sub> emissions from emissions units B027-B035 shall not exceed 43.75 tons per rolling 12-month period.

Applicable Compliance Method - Compliance with the annual limitations shall be based upon the records maintained in A.III.1 and the emission calculation methodology referenced in V.1.c.

5. Emission Limitation - NO<sub>x</sub> emissions from emissions units B027-B035 shall not exceed 25.2 tons per rolling 12-month period.

Applicable Compliance Method - Compliance with the annual limitations shall be based upon the records maintained in A.III.1 and the emission calculation methodology referenced in V.1.b.

6. Emission Limitation - Particulate emissions from emissions units B027-B035 shall not exceed 5.95 tons per rolling 12-month period.

Applicable Compliance Method - Compliance with the annual limitations shall be based upon the records maintained in A.III.1 and the emission calculation methodology referenced in V.1.e.

7. Emission Limitation - Visible particulate emissions from any stack shall not exceed twenty percent opacity as a six-minute average, except as provided by rule.

Applicable Compliance Method - If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

## VI. Miscellaneous Requirements

**City of****PTI A**

Emissions Unit ID: B027

**Issued: 1/12/2006**

1. Modeling to demonstrate compliance with the Ohio EPA's Air Toxic Policy was not necessary since the emissions unit's maximum annual emissions for each toxic compound will be less than 1.0 ton. OAC Chapter 3745-31 requires permittees to apply for and obtain a new or modified permit to install prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant that has a listed TLV to above 1.0 ton per year may require the permittee to apply for and obtain a new permit to install.

City of

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Issued: 1/12/2006

Emissions Unit ID: B027

**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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
B027 - acid phase sewage sludge digester 1 controlled by a flare	None	None

**2. Additional Terms and Conditions**

2.a None

**II. Operational Restrictions**

None

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

None

**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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>
B028 - acid phase sewage sludge digester 2 controlled by a flare	OAC rule 3745-31-05(A)(3)
	OAC rule 3745-17-07(A)
	OAC rule 3745-17-11
	OAC rule 3745-18-06
	OAC rule 3745-21-08(B)
	OAC rule 3745-23-06(B)
	OAC rule 3745-31-05(C) (Synthetic Minor to avoid NSR)

City of

PTI A

Issued: 1/12/2006

Emissions Unit ID: B028

Applicable Emissions Limitations/Control Measures	
Carbon monoxide (CO) emissions shall not exceed 14.78 lbs/hr.	VOC emissions from emissions units B027-B035 shall not exceed 1.34 tons per rolling 12-month period.
Nitrogen Oxide (NO <sub>x</sub> ) emissions shall not exceed 7.2 lbs/hr.	SO <sub>2</sub> emissions from emissions units B027-B035 shall not exceed 43.75 tons per rolling 12-month period.
Sulfur Dioxide (SO <sub>2</sub> ) emissions shall not exceed 12.5 lbs/hr.	NO <sub>x</sub> emissions from emissions units B027-B035 shall not exceed 25.2 tons per rolling 12-month period.
Volatile Organic Compound (VOC) emissions shall not exceed 0.38 lbs/hr.	Particulate emissions from emissions units B027-B035 shall not exceed 5.95 tons per rolling 12-month period.
Particulate emission (PE) shall not exceed 1.7 lbs/hr.	Visible particulate emissions from any stack shall not exceed twenty percent opacity, as a six-minute average, except as provided by rule.
See A.I.2.e below.	
The requirements of this rule also include compliance with the requirements of OAC rules 3745-31-05(C), 3745-17-07(A), 3745-21-08(B), and 3745-23-06(B).	None, see A.I.2.a below. None, see A.I.2.b below. None, see A.I.2.c below. None, see A.I.2.d below.
CO emissions from emissions units B027-B035 shall not exceed 51.74 tons per rolling 12-month period.	

**2. Additional Terms and Conditions**

- 2.a** The uncontrolled mass rate of particulate emissions (PE) from this emissions unit is less than 10 pounds/hour. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. In addition, pursuant to OAC rule 3745-17-11(A)(2)(b)(i), Table I of OAC rule 3745-17-11 does not apply because the process weight rate can not be ascertained "Process weight" is defined in OAC rule 3745-17-01(B)(14).
- 2.b** The requirements of OAC rule 3745-18-06 do not apply to this emissions unit pursuant to OAC rule 3745-18-06(C).
- 2.c** The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this Permit to Install.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

- 2.d** The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this Permit to Install.

On February 15, 2005, OAC rule 3745-23-06 was rescinded and therefore no longer a part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-23-06, the requirement to satisfy "latest available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

- 2.e** The hourly allowable emission limitations for this emissions unit were established to reflect the hourly potential to emit. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance

with these limits.

## II. Operational Restrictions

1. The maximum annual digester gas production rate from emissions units B027-B035 shall not exceed 700,000,000 standard cubic feet (SCF) per year, based upon a rolling, 12-month summation of the production rates.  
 To ensure enforceability during the first 12 calendar months of operation following the issuance of this permit, the permittee shall not exceed the digester gas production rate levels specified in the following table:

<u>Month(s)</u>	<u>Maximum Allowable Cumulative digester gas Production(MMSCF)</u>
1	60
1-2	120
1-3	180
1-4	240
1-5	300
1-6	360
1-7	420
1-8	480
1-9	540
1-10	600
1-11	640
1-12	700

After the first 12 calendar months of operation following the issuance of this permit, compliance with the annual digester gas production limitation shall be based upon a rolling, 12-month summation of the digester gas production.

## III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall maintain monthly records of the following information:
  - a. The digester gas production for each month;
  - b. PE, NO<sub>x</sub>, SO<sub>2</sub>, CO, and VOC emissions;
  - c. The rolling, 12-month summation of the NO<sub>x</sub> emissions;
  - d. Beginning after the first 12 calendar months of operation following the issuance of this permit, the rolling, 12-month summation of the digester gas production; and

Also, during the first 12 calendar months of operation following the issuance of

this permit, the permittee shall record the cumulative digester gas production for each calendar month.

#### **IV. Reporting Requirements**

1. The permittee shall submit quarterly deviation (excursion) reports which identify all exceedances of the rolling 12-month digester gas production and/or the rolling 12-month NO<sub>x</sub> emission limitations. These reports are due by the date described in Part 1- General Terms and Conditions of this permit under section (A)(1).
2. The permittee shall submit annual PE, NO<sub>x</sub>, SO<sub>2</sub>, CO, and VOC emission reports. These reports shall be submitted by February 1 of each year.

#### **V. Testing Requirements**

1. Compliance with the emission limitations contained in this permit shall be determined in accordance with the following methods:
  - a. Emission Limitation - Carbon monoxide (CO) emissions shall not exceed 14.78 lbs/hr.

Applicable Compliance Method -Compliance with the allowable mass emission rate for carbon monoxide may be determined by multiplying an emission factor of 147.84 lbs of carbon monoxide per million cubic feet of digester gas by the maximum hourly gas production of 100,000 standard cubic feet of digester gas per hour. This emission factor is provided by Varec, the manufacturer of the Westech EB244 Enclosed burner and represents an engineering safety factor adjustment of 1.5.

- b. Emission Limitation - Nitrogen Oxide (NO<sub>x</sub>) emissions shall not exceed 7.2 lbs/hr.

Applicable Compliance Method - Compliance with the allowable mass emission rate for NO<sub>x</sub> may be determined by multiplying an emission factor of 72.0 lbs of NO<sub>x</sub> per million cubic feet of digester gas by the maximum hourly gas production of 100,000 standard cubic feet of digester gas per hour. This emission factor is provided by Varec, the manufacturer of the Westech EB244 Enclosed burner and represents an engineering safety factor adjustment of 1.5.

- c. Emission Limitation - Sulfur Dioxide (SO<sub>2</sub>) emissions shall not exceed 12.5 lbs/hr.

Applicable Compliance Method - Compliance with the allowable mass emission rate for sulfur dioxide may be determined by multiplying an emission factor of 125 lbs of sulfur dioxide per million cubic feet of digester gas by the maximum hourly gas production of 100,000 standard cubic feet of digester gas per hour. The emission factor is based on 100% stoichiometric conversion of H<sub>2</sub>S in the digester gas stream to SO<sub>2</sub>. The digester gas H<sub>2</sub>S content of 750 ppmv is based on data from a comparable facility.

- d. Emission Limitation - Volatile Organic Compound (VOC) emissions shall not exceed 0.38 lb/hr.

Applicable Compliance Method - Compliance with the allowable mass emission rate for VOC may be determined by multiplying an emission factor of 3.84 lbs of VOC per million cubic feet of digester gas by the maximum hourly gas production of 100,000 standard cubic feet of digester gas per hour. This emission factor is provided by Varec, the manufacturer of the Westech EB244 Enclosed burner and represents an engineering safety factor adjustment of 1.5.

- e. Emission Limitation - Particulate emissions shall not exceed 1.7 lbs/hr.

Applicable Compliance Method - Compliance with the allowable mass emission rate for particulate emissions may be determined by multiplying an emission factor of 17 lbs of particulate emissions per million cubic feet of digester gas by the maximum hourly gas production of 100,000 standard cubic feet of digester gas per hour. This emission factor is specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 2.4, Table 2.4-5(11/98) .

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2. Emission Limitation - CO emissions from emissions units B027-B035 shall not exceed 51.74 tons per rolling 12-month period.

Applicable Compliance Method - Compliance with the annual limitations shall be based upon the records maintained in A.III.1 and the emission calculation methodology referenced in V.1.a.

3. Emission Limitation - VOC emissions from emissions units B027-B035 shall not exceed 1.34 tons per rolling 12-month period.

Applicable Compliance Method - Compliance with the annual limitations shall be based upon the records maintained in A.III.1 and the emission calculation methodology referenced in V.1.d.

4. Emission Limitation - SO<sub>2</sub> emissions from emissions units B027-B035 shall not exceed 43.75 tons per rolling 12-month period.

Applicable Compliance Method - Compliance with the annual limitations shall be based upon the records maintained in A.III.1 and the emission calculation methodology referenced in V.1.c.

5. Emission Limitation - NO<sub>x</sub> emissions from emissions units B027-B035 shall not exceed 25.2 tons per rolling 12-month period.

Applicable Compliance Method - Compliance with the annual limitations shall be based upon the records maintained in A.III.1 and the emission calculation methodology referenced in V.1.b.

6. Emission Limitation - Particulate emissions from emissions units B027-B035 shall not exceed 5.95 tons per rolling 12-month period.

Applicable Compliance Method - Compliance with the annual limitations shall be based upon the records maintained in A.III.1 and the emission calculation methodology referenced in V.1.e.

7. Emission Limitation - Visible particulate emissions from any stack shall not exceed twenty percent opacity as a six-minute average, except as provided by rule.

Applicable Compliance Method - If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

## **VI. Miscellaneous Requirements**

1. Modeling to demonstrate compliance with the Ohio EPA's Air Toxic Policy was not necessary since the emissions unit's maximum annual emissions for each toxic compound will be less than 1.0 ton. OAC Chapter 3745-31 requires permittees to apply for and obtain a new or modified permit to install prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant that has a listed TLV to above 1.0 ton per year may require the permittee to apply for and obtain a new permit to install.

**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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
B028 - acid phase sewage sludge digester 2 controlled by a flare	None	None

**2. Additional Terms and Conditions**

2.a None

**II. Operational Restrictions**

None

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

None

**IV. Reporting Requirements**

None

**V. Testing Requirements**

None

**VI. Miscellaneous Requirements**

None

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Emissions Unit ID: B029

Issued: 1/12/2006

**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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>
B029 - acid phase sewage sludge digester 3 controlled by a flare	OAC rule 3745-31-05(A)(3)
	OAC rule 3745-17-07(A)
	OAC rule 3745-17-11
	OAC rule 3745-31-05(C) (Synthetic Minor to avoid NSR)
	OAC rule 3745-18-06
	OAC rule 3745-21-08(B)

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OAC rule 3745-23-06(B)	Applicable Emissions <u>Limitations/Control Measures</u>	43.75 tons per rolling 12-month period.
	Carbon monoxide (CO) emissions shall not exceed 14.78 lbs/hr.	NO <sub>x</sub> emissions from emissions units B027-B035 shall not exceed 25.2 tons per rolling 12-month period.
	Nitrogen Oxide (NO <sub>x</sub> ) emissions shall not exceed 7.2 lbs/hr.	Particulate emissions from emissions units B027-B035 shall not exceed 5.95 tons per rolling 12-month period.
	Sulfur Dioxide (SO <sub>2</sub> ) emissions shall not exceed 12.5 lbs/hr.	Visible particulate emissions from any stack shall not exceed twenty percent opacity, as a six-minute average, except as provided by rule.
	Volatile Organic Compound (VOC) emissions shall not exceed 0.38 lb/hr.	None, see A.I.2.a below.
	Particulate emissions shall not exceed 1.7 lbs/hr.	None, see A.I.2.b below.
	See A.I.2.e below.	None, see A.I.2.c below.
	The requirements of this rule also include compliance with the requirements of OAC rules 3745-31-05(C), 3745-17-07(A), 3745-21-08(B), and 3745-23-06(B).	None, see A.I.2.d below.
	CO emissions from emissions units B027-B035 shall not exceed 51.74 tons per rolling 12-month period.	
	VOC emissions from emissions units B027-B035 shall not exceed 1.34 tons per rolling 12-month period.	
	SO <sub>2</sub> emissions from emissions units B027-B035 shall not exceed	

**2. Additional Terms and Conditions**

- 2.a** The uncontrolled mass rate of particulate emissions (PE) from this emissions unit is less than 10 pounds/hour. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. In addition, pursuant to OAC rule 3745-17-11(A)(2)(b)(i), Table I of OAC rule 3745-17-11 does not apply because the process weight rate can not be ascertained "Process weight" is defined in OAC rule 3745-17-01(B)(14).
- 2.b** The requirements of OAC rule 3745-18-06 do not apply to this emissions unit pursuant to OAC rule 3745-18-06(C).
- 2.c** The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this Permit to Install.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

- 2.d** The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this Permit to Install.

On February 15, 2005, OAC rule 3745-23-06 was rescinded and therefore no longer a part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-23-06, the requirement to satisfy "latest available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

- 2.e** The hourly allowable emission limitations for this emissions unit were established to reflect the hourly potential to emit. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance

with these limits.

**II. Operational Restrictions**

- 1. The maximum annual digester gas production rate from emissions units B027-B035 shall not exceed 700,000,000 standard cubic feet (SCF) per year, based upon a rolling, 12-month summation of the production rates.

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

<u>Month(s)</u>	<u>Maximum Allowable Cumulative digester gas Production(MMSCF)</u>
1	60
1-2	120
1-3	180
1-4	240
1-5	300
1-6	360
1-7	420
1-8	480
1-9	540
1-10	600
1-11	640
1-12	700

After the first 12 calendar months of operation following the issuance of this permit, compliance with the annual digester gas production limitation shall be based upon a rolling, 12-month summation of the digester gas production.

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

- 1. The permittee shall maintain monthly records of the following information:
  - a. The digester gas production for each month;
  - b. PE, NOx, SO2, CO, and VOC emissions;
  - c. The rolling, 12-month summation of the NOx emissions;
  - d. Beginning after the first 12 calendar months of operation following the issuance of this permit, the rolling, 12-month summation of the digester gas production ;and

Also, during the first 12 calendar months of operation following the issuance of this permit, the permittee shall record the cumulative digester gas production for each calendar month.

#### IV. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports which identify all exceedances of the rolling 12-month digester gas production and/or the rolling 12-month NO<sub>x</sub> emission limitations. These reports are due by the date described in Part 1- General Terms and Conditions of this permit under section (A)(1).
2. The permittee shall submit annual PE, NO<sub>x</sub>, SO<sub>2</sub>, CO, and VOC emission reports. These reports shall be submitted by February 1 of each year.

#### V. Testing Requirements

1. Compliance with the emission limitations contained in this permit shall be determined in accordance with the following methods:
  - a. Emission Limitation - Carbon monoxide (CO) emissions shall not exceed 14.78 lbs/hr.

Applicable Compliance Method - Compliance with the allowable mass emission rate for carbon monoxide may be determined by multiplying an emission factor of 147.84 lbs of carbon monoxide per million cubic feet of digester gas by the maximum hourly gas production of 100,000 standard cubic feet of digester gas per hour. This emission factor is provided by Varec, the manufacturer of the Westech EB244 Enclosed burner and represents an engineering safety factor adjustment of 1.5.

- b. Emission Limitation - Nitrogen Oxide (NO<sub>x</sub>) emissions shall not exceed 7.2 lbs/hr.

Applicable Compliance Method - Compliance with the allowable mass emission rate for NO<sub>x</sub> may be determined by multiplying an emission factor of 72.0 lbs of NO<sub>x</sub> per million cubic feet of digester gas by the maximum hourly gas production of 100,000 standard cubic feet of digester gas per hour. This emission factor is provided by Varec, the manufacturer of the Westech EB244 Enclosed burner and represents an engineering safety factor adjustment of 1.5.

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- c. Emission Limitation - Sulfur Dioxide (SO<sub>2</sub>) emissions shall not exceed 12.5 lbs/hr.

Applicable Compliance Method - Compliance with the allowable mass emission rate for sulfur dioxide may be determined by multiplying an emission factor of 125 lbs of sulfur dioxide per million cubic feet of digester gas by the maximum hourly gas production of 100,000 standard cubic feet of digester gas per hour. The emission factor is based on 100% stoichiometric conversion of H<sub>2</sub>S in the digester gas stream to SO<sub>2</sub>. The digester gas H<sub>2</sub>S content of 750 ppmv is based on data from a comparable facility.

- d. Emission Limitation - Volatile Organic Compound (VOC) emissions shall not exceed 0.38 lb/hr.

Applicable Compliance Method - Compliance with the allowable mass emission rate for VOC may be determined by multiplying an emission factor of 3.84 lbs of VOC per million cubic feet of digester gas by the maximum hourly gas production of 100,000 standard cubic feet of digester gas per hour. This emission factor is provided by Varec, the manufacturer of the Westech EB244 Enclosed burner and represents an engineering safety factor adjustment of 1.5.

- e. Emission Limitation - Particulate emissions shall not exceed 1.7 lbs/hr.

Applicable Compliance Method - Compliance with the allowable mass emission rate for particulate emissions may be determined by multiplying an emission factor of 17 lbs of particulate emissions per million cubic feet of digester gas by the maximum hourly gas production of 100,000 standard cubic feet of digester gas per hour. This emission factor is specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 2.4, Table 2.4-5(11/98).

2. Emission Limitation - CO emissions from emissions units B027-B035 shall not exceed 51.74 tons per rolling 12-month period.

Applicable Compliance Method - Compliance with the annual limitations shall be based upon the records maintained in A.III.1 and the emission calculation methodology referenced in V.1.a.

3. Emission Limitation - VOC emissions from emissions units B027-B035 shall not exceed 1.34 tons per rolling 12-month period.

Applicable Compliance Method - Compliance with the annual limitations shall be based upon the records maintained in A.III.1 and the emission calculation methodology referenced in V.1.d.

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Emissions Unit ID: B029

Issued: 1/12/2006

4. Emission Limitation - SO<sub>2</sub> emissions from emissions units B027-B035 shall not exceed 43.75 tons per rolling 12-month period.

Applicable Compliance Method - Compliance with the annual limitations shall be based upon the records maintained in A.III.1 and the emission calculation methodology referenced in V.1.c.

5. Emission Limitation - NO<sub>x</sub> emissions from emissions units B027-B035 shall not exceed 25.2 tons per rolling 12-month period.

Applicable Compliance Method - Compliance with the annual limitations shall be based upon the records maintained in A.III.1 and the emission calculation methodology referenced in V.1.b.

6. Emission Limitation - Particulate emissions from emissions units B027-B035 shall not exceed 5.95 tons per rolling 12-month period.

Applicable Compliance Method - Compliance with the annual limitations shall be based upon the records maintained in A.III.1 and the emission calculation methodology referenced in V.1.e.

7. Emission Limitation -  
Visible particulate emissions from any stack shall not exceed twenty percent opacity as a six-minute average, except as provided by rule.

Applicable Compliance Method -

If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

## VI. Miscellaneous Requirements

1. Modeling to demonstrate compliance with the Ohio EPA's Air Toxic Policy was not necessary since the emissions unit's maximum annual emissions for each toxic compound will be less than 1.0 ton. OAC Chapter 3745-31 requires permittees to apply for and obtain a new or modified permit to install prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant that has a listed TLV to above 1.0 ton per year may require the permittee to apply for and obtain a new permit to install.

**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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
B029 - acid phase sewage sludge digester 3 controlled by a flare	None	None

**2. Additional Terms and Conditions**

2.a None

**II. Operational Restrictions**

None

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

None

**IV. Reporting Requirements**

None

**V. Testing Requirements**

None

**VI. Miscellaneous Requirements**

None

City of

PTI A

Issued: 1/12/2006

Emissions Unit ID: B030

**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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>
B030 - sewage sludge digester number 1 controlled by a flare	OAC rule 3745-31-05(A)(3)
	OAC rule 3745-17-07(A)
	OAC rule 3745-17-11
	OAC rule 3745-31-05(C) (Synthetic Minor to avoid NSR)
	OAC rule 3745-18-06
	OAC rule 3745-21-08(B)

OAC rule 3745-23-06(B)	Applicable Emissions Limitations/Control Measures	43.75 tons per rolling 12-month period.
	Carbon monoxide (CO) emissions shall not exceed 14.78 lbs/hr.	NO <sub>x</sub> emissions from emissions units B027-B035 shall not exceed 25.2 tons per rolling 12-month period.
	Nitrogen Oxide (NO <sub>x</sub> ) emissions shall not exceed 7.2 lbs/hr.	Particulate emissions from emissions units B027-B035 shall not exceed 5.95 tons per rolling 12-month period.
	Sulfur Dioxide (SO <sub>2</sub> ) emissions shall not exceed 12.5 lbs/hr.	Visible particulate emissions from any stack shall not exceed twenty percent opacity, as a six-minute average, except as provided by rule.
	Volatile Organic Compound (VOC) emissions shall not exceed 0.38 lb/hr.	None, see A.I.2.a below.
	Particulate emissions shall not exceed 1.7 lbs/hr.	None, see A.I.2.b below.
	See A.I.2.e below.	None, see A.I.2.c below.
	The requirements of this rule also include compliance with the requirements of OAC rules 3745-31-05(C), 3745-17-07(A), 3745-21-08(B), and 3745-23-06(B).	None, see A.I.2.d below.
	CO emissions from emissions units B027-B035 shall not exceed 51.74 tons per rolling 12-month period.	
	VOC emissions from emissions units B027-B035 shall not exceed 1.34 tons per rolling 12-month period.	
	SO <sub>2</sub> emissions from emissions units B027-B035 shall not exceed	

**2. Additional Terms and Conditions**

- 2.a** The uncontrolled mass rate of particulate emissions (PE) from this emissions unit is less than 10 pounds/hour. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. In addition, pursuant to OAC rule 3745-17-11(A)(2)(b)(i), Table I of OAC rule 3745-17-11 does not apply because the process weight rate can not be ascertained "Process weight" is defined in OAC rule 3745-17-01(B)(14).
- 2.b** The requirements of OAC rule 3745-18-06 do not apply to this emissions unit pursuant to OAC rule 3745-18-06(C).
- 2.c** The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this Permit to Install.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

- 2.d** The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this Permit to Install.

On February 15, 2005, OAC rule 3745-23-06 was rescinded and therefore no longer a part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-23-06, the requirement to satisfy "latest available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

- 2.e** The hourly allowable emission limitations for this emissions unit were established to reflect the hourly potential to emit. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance

with these limits.

## II. Operational Restrictions

1. The maximum annual digester gas production rate from emissions units B027-B035 shall not exceed 700,000,000 standard cubic feet (SCF) per year, based upon a rolling, 12-month summation of the production rates.

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

<u>Month(s)</u>	<u>Maximum Allowable Cumulative digester gas Production(MMSCF)</u>
1	60
1-2	120
1-3	180
1-4	240
1-5	300
1-6	360
1-7	420
1-8	480
1-9	540
1-10	600
1-11	640
1-12	700

After the first 12 calendar months of operation following the issuance of this permit, compliance with the annual digester gas production limitation shall be based upon a rolling, 12-month summation of the digester gas production.

## III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall maintain monthly records of the following information:
  - a. The digester gas production for each month;
  - b. PE, NO<sub>x</sub>, SO<sub>2</sub>, CO, and VOC emissions;
  - c. The rolling, 12-month summation of the NO<sub>x</sub> emissions;
  - d. Beginning after the first 12 calendar months of operation following the issuance of this permit, the rolling, 12-month summation of the digester gas production ;and

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Also, during the first 12 calendar months of operation following the issuance of this permit, the permittee shall record the cumulative digester gas production for each calendar month.

#### **IV. Reporting Requirements**

1. The permittee shall submit quarterly deviation (excursion) reports which identify all exceedances of the rolling 12-month digester gas production and/or the rolling 12-month NO<sub>x</sub> emission limitations. These reports are due by the date described in Part 1- General Terms and Conditions of this permit under section (A)(1).
2. The permittee shall submit annual PE, NO<sub>x</sub>, SO<sub>2</sub>, CO, and VOC emission reports. These reports shall be submitted by February 1 of each year.

#### **V. Testing Requirements**

1. Compliance with the emission limitations contained in this permit shall be determined in accordance with the following methods:
  - a. Emission Limitation - Carbon monoxide (CO) emissions shall not exceed 14.78 lbs/hr.

Applicable Compliance Method -Compliance with the allowable mass emission rate for carbon monoxide may be determined by multiplying an emission factor of 147.84 lbs of carbon monoxide per million cubic feet of digester gas by the maximum hourly gas production of 100,000 standard cubic feet of digester gas per hour. This emission factor is provided by Varec, the manufacturer of the Westech EB244 Enclosed burner and represents an engineering safety factor adjustment of 1.5.

Emissions Unit ID: B030

- b. Emission Limitation - Nitrogen Oxide (NO<sub>x</sub>) emissions shall not exceed 7.2 lbs/hr.

Applicable Compliance Method - Compliance with the allowable mass emission rate for NO<sub>x</sub> may be determined by multiplying an emission factor of 72.0 lbs of NO<sub>x</sub> per million cubic feet of digester gas by the maximum hourly gas production of 100,000 standard cubic feet of digester gas per hour. This emission factor is provided by Varec, the manufacturer of the Westech EB244 Enclosed burner and represents an engineering safety factor adjustment of 1.5.

- c. Emission Limitation - Sulfur Dioxide (SO<sub>2</sub>) emissions shall not exceed 12.5 lbs/hr.

Applicable Compliance Method - Compliance with the allowable mass emission rate for sulfur dioxide may be determined by multiplying an emission factor of 125 lbs of sulfur dioxide per million cubic feet of digester gas by the maximum hourly gas production of 100,000 standard cubic feet of digester gas per hour. The emission factor is based on 100% stoichiometric conversion of H<sub>2</sub>S in the digester gas stream to SO<sub>2</sub>. The digester gas H<sub>2</sub>S content of 750 ppmv is based on data from a comparable facility.

- d. Emission Limitation - Volatile Organic Compound (VOC) emissions shall not exceed 0.38 lb/hr.

Applicable Compliance Method - Compliance with the allowable mass emission rate for VOC may be determined by multiplying an emission factor of 3.84 lbs of VOC per million cubic feet of digester gas by the maximum hourly gas production of 100,000 standard cubic feet of digester gas per hour. This emission factor is provided by Varec, the manufacturer of the Westech EB244 Enclosed burner and represents an engineering safety factor adjustment of 1.5.

- e. Emission Limitation - Particulate emissions shall not exceed 1.7 lbs/hr.

Applicable Compliance Method - Compliance with the allowable mass emission rate for particulate emissions may be determined by multiplying an emission factor of 17 lbs of particulate emissions per million cubic feet of digester gas by the maximum hourly gas production of 100,000 standard cubic feet of digester gas per hour. This emission factor is specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 2.4, Table 2.4-5(11/98).

2. Emission Limitation - CO emissions from emissions units B027-B035 shall not exceed 51.74 tons per rolling 12-month period.

Applicable Compliance Method - Compliance with the annual limitations shall be based

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upon the records maintained in A.III.1 and the emission calculation methodology referenced in V.1.a

3. Emission Limitation - VOC emissions from emissions units B027-B035 shall not exceed 1.34 tons per rolling 12-month period.

Applicable Compliance Method - Compliance with the annual limitations shall be based upon the records maintained in A.III.1 and the emission calculation methodology referenced in V.1.d

4. Emission Limitation - SO<sub>2</sub> emissions from emissions units B027-B035 shall not exceed 43.75 tons per rolling 12-month period.

Applicable Compliance Method - Compliance with the annual limitations shall be based upon the records maintained in A.III.1 and the emission calculation methodology referenced in V.1.c

5. Emission Limitation - NO<sub>x</sub> emissions from emissions units B027-B035 shall not exceed 25.2 tons per rolling 12-month period.

Applicable Compliance Method - Compliance with the annual limitations shall be based upon the records maintained in A.III.1 and the emission calculation methodology referenced in V.1.b

6. Emission Limitation - Particulate emissions from emissions units B027-B035 shall not exceed 5.95 tons per rolling 12-month period.

Applicable Compliance Method - Compliance with the annual limitations shall be based upon the records maintained in A.III.1 and the emission calculation methodology referenced in V.1.e

7. Emission Limitation - Visible particulate emissions from any stack shall not exceed twenty percent opacity as a six-minute average, except as provided by rule.

Applicable Compliance Method -

If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

## **VI. Miscellaneous Requirements**

**City of Cols Southerly Wastewater Treatment**

**PTI Application: 01-01205**

**Issue:**

**Facility ID: 0125040420**

Emissions Unit ID: B030

1. Modeling to demonstrate compliance with the Ohio EPA's Air Toxic Policy was not necessary since the emissions unit's maximum annual emissions for each toxic compound will be less than 1.0 ton. OAC Chapter 3745-31 requires permittees to apply for and obtain a new or modified permit to install prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant that has a listed TLV to above 1.0 ton per year may require the permittee to apply for and obtain a new permit to install.

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**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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
B030 - sewage sludge digester number 1 controlled by a flare	None	None

**2. Additional Terms and Conditions**

2.a None

**II. Operational Restrictions**

None

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

None

**IV. Reporting Requirements**

None

**V. Testing Requirements**

None

**VI. Miscellaneous Requirements**

None

City of

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Emissions Unit ID: B031

Issued: 1/12/2006

**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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>
B031 - sewage sludge digester number 2 controlled by a flare	OAC rule 3745-31-05(A)(3)
	OAC rule 3745-17-07(A)
	OAC rule 3745-17-11
	OAC rule 3745-31-05(C) (Synthetic Minor to avoid NSR)
	OAC rule 3745-18-06
	OAC rule 3745-21-08(B)

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OAC rule 3745-23-06(B)	<u>Applicable Emissions Limitations/Control Measures</u>	
		43.75 tons per rolling 12-month period.
	Carbon monoxide (CO) emissions shall not exceed 14.78 lbs/hr.	NO <sub>x</sub> emissions from emissions units B027-B035 shall not exceed 25.2 tons per rolling 12-month period.
	Nitrogen Oxide (NO <sub>x</sub> ) emissions shall not exceed 7.2 lbs/hr.	Particulate emissions from emissions units B027-B035 shall not exceed 5.95 tons per rolling 12-month period.
	Sulfur Dioxide (SO <sub>2</sub> ) emissions shall not exceed 12.5 lbs/hr.	Visible particulate emissions from any stack shall not exceed twenty percent opacity, as a six-minute average, except as provided by rule.
	Volatile Organic Compound (VOC) emissions shall not exceed 0.38 lb/hr.	None, see A.I.2.a below.
	Particulate emissions shall not exceed 1.7 lbs/hr.	None, see A.I.2.b below.
	See A.I.2.e below.	None, see A.I.2.c below.
	The requirements of this rule also include compliance with the requirements of OAC rules 3745-31-05(C), 3745-17-07(A), 3745-21-08(B), and 3745-23-06(B).	None, see A.I.2.d below.
	CO emissions from emissions units B027-B035 shall not exceed 51.74 tons per rolling 12-month period.	
	VOC emissions from emissions units B027-B035 shall not exceed 1.34 tons per rolling 12-month period.	
	SO <sub>2</sub> emissions from emissions units B027-B035 shall not exceed	

Emissions Unit ID: B031

## 2. Additional Terms and Conditions

- 2.a** The uncontrolled mass rate of particulate emissions (PE) from this emissions unit is less than 10 pounds/hour. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. In addition, pursuant to OAC rule 3745-17-11(A)(2)(b)(i), Table I of OAC rule 3745-17-11 does not apply because the process weight rate can not be ascertained "Process weight" is defined in OAC rule 3745-17-01(B)(14).
- 2.b** The requirements of OAC rule 3745-18-06 do not apply to this emissions unit pursuant to OAC rule 3745-18-06(C).
- 2.c** The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this Permit to Install.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

- 2.d** The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this Permit to Install.

On February 15, 2005, OAC rule 3745-23-06 was rescinded and therefore no longer a part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-23-06, the requirement to satisfy "latest available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

- 2.e** The hourly allowable emission limitations for this emissions unit were established to reflect the hourly potential to emit. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with these limits.

## II. Operational Restrictions

1. The maximum annual digester gas production rate from emissions units B027-B035

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shall not exceed 700,000,000 standard cubic feet (SCF) per year, based upon a rolling, 12-month summation of the production rates.

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

<u>Month(s)</u>	<u>Maximum Allowable Cumulative digester gas Production(MMSCF)</u>
1	60
1-2	120
1-3	180
1-4	240
1-5	300
1-6	360
1-7	420
1-8	480
1-9	540
1-10	600
1-11	640
1-12	700

After the first 12 calendar months of operation following the issuance of this permit, compliance with the annual digester gas production limitation shall be based upon a rolling, 12-month summation of the digester gas production.

### III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall maintain monthly records of the following information:
  - a. The digester gas production for each month;
  - b. PE, NO<sub>x</sub>, SO<sub>2</sub>, CO, and VOC emissions;
  - c. The rolling, 12-month summation of the NO<sub>x</sub> emissions;
  - d. Beginning after the first 12 calendar months of operation following the issuance of this permit, the rolling, 12-month summation of the digester gas production ;and

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Also, during the first 12 calendar months of operation following the issuance of this permit, the permittee shall record the cumulative digester gas production for each calendar month.

#### **IV. Reporting Requirements**

1. The permittee shall submit quarterly deviation (excursion) reports which identify all exceedances of the rolling 12-month digester gas production and/or the rolling 12-month NO<sub>x</sub> emission limitations. These reports are due by the date described in Part 1- General Terms and Conditions of this permit under section (A)(1).
2. The permittee shall submit annual PE, NO<sub>x</sub>, SO<sub>2</sub>, CO, and VOC emission reports. These reports shall be submitted by February 1 of each year.

#### **V. Testing Requirements**

1. Compliance with the emission limitations contained in this permit shall be determined in accordance with the following methods:
  - a. Emission Limitation - Carbon monoxide (CO) emissions shall not exceed 14.78 lbs/hr.

Applicable Compliance Method -Compliance with the allowable mass emission rate for carbon monoxide may be determined by multiplying an emission factor of 147.84 lbs of carbon monoxide per million cubic feet of digester gas by the maximum hourly gas production of 100,000 standard cubic feet of digester gas per hour. This emission factor is provided by Varec, the manufacturer of the Westech EB244 Enclosed burner and represents an engineering safety factor adjustment of 1.5.

- b. Emission Limitation - Nitrogen Oxide (NO<sub>x</sub>) emissions shall not exceed 7.2 lbs/hr.

Applicable Compliance Method - Compliance with the allowable mass emission rate for NO<sub>x</sub> may be determined by multiplying an emission factor of 72.0 lbs of NO<sub>x</sub> per million cubic feet of digester gas by the maximum hourly gas production of 100,000 standard cubic feet of digester gas per hour. This emission factor is provided by Varec, the manufacturer of the Westech EB244 Enclosed burner and represents an engineering safety factor adjustment of 1.5.

- c. Emission Limitation - Sulfur Dioxide (SO<sub>2</sub>) emissions shall not exceed 12.5 lbs/hr.

Applicable Compliance Method - Compliance with the allowable mass emission rate for sulfur dioxide may be determined by multiplying an emission factor of 125 lbs of sulfur dioxide per million cubic feet of digester gas by the maximum hourly gas production of 100,000 standard cubic feet of digester gas per hour. The emission factor is based on 100% stoichiometric conversion of H<sub>2</sub>S in the digester gas stream to SO<sub>2</sub>. The digester gas H<sub>2</sub>S content of 750 ppmv is based on data from a comparable facility.

- d. Emission Limitation - Volatile Organic Compound (VOC) emissions shall not exceed 0.38 lb/hr.

Applicable Compliance Method - Compliance with the allowable mass emission rate for VOC may be determined by multiplying an emission factor of 3.84 lbs of VOC per million cubic feet of digester gas by the maximum hourly gas production of 100,000 standard cubic feet of digester gas per hour. This emission factor is provided by Varec, the manufacturer of the Westech EB244 Enclosed burner and represents an engineering safety factor adjustment of 1.5.

- e. Emission Limitation - Particulate emissions shall not exceed 1.7 lbs/hr.

Applicable Compliance Method - Compliance with the allowable mass emission rate for particulate emissions may be determined by multiplying an emission factor of 17 lbs of particulate emissions per million cubic feet of digester gas by the maximum hourly gas production of 100,000 standard cubic feet of digester gas per hour. This emission factor is specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 2.4, Table 2.4-5(11/98).

2. Emission Limitation - CO emissions from emissions units B027-B035 shall not exceed 51.74 tons per rolling 12-month period.

Applicable Compliance Method - Compliance with the annual limitations shall be based upon the records maintained in A.III.1 and the emission calculation methodology referenced in V.1.a

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3. Emission Limitation - VOC emissions from emissions units B027-B035 shall not exceed 1.34 tons per rolling 12-month period.

Applicable Compliance Method - Compliance with the annual limitations shall be based upon the records maintained in A.III.1 and the emission calculation methodology referenced in V.1.d

4. Emission Limitation - SO<sub>2</sub> emissions from emissions units B027-B035 shall not exceed 43.75 tons per rolling 12-month period.

Applicable Compliance Method - Compliance with the annual limitations shall be based upon the records maintained in A.III.1 and the emission calculation methodology referenced in V.1.c

5. Emission Limitation - NO<sub>x</sub> emissions from emissions units B027-B035 shall not exceed 25.2 tons per rolling 12-month period.

Applicable Compliance Method - Compliance with the annual limitations shall be based upon the records maintained in A.III.1 and the emission calculation methodology referenced in V.1.b

6. Emission Limitation - Particulate emissions from emissions units B027-B035 shall not exceed 5.95 tons per rolling 12-month period.

Applicable Compliance Method - Compliance with the annual limitations shall be based upon the records maintained in A.III.1 and the emission calculation methodology referenced in V.1.e

7. Emission Limitation - Visible particulate emissions from any stack shall not exceed twenty percent opacity as a six-minute average, except as provided by rule.

Applicable Compliance Method - If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

## **VI. Miscellaneous Requirements**

1. Modeling to demonstrate compliance with the Ohio EPA's Air Toxic Policy was not necessary since the emissions unit's maximum annual emissions for each toxic

**City of Coles Southerly Wastewater Treatment**  
**PTI Application: 01-01205**  
**Issue:**

**Facility ID: 0125040420**

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compound will be less than 1.0 ton. OAC Chapter 3745-31 requires permittees to apply for and obtain a new or modified permit to install prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant that has a listed TLV to above 1.0 ton per year may require the permittee to apply for and obtain a new permit to install.

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**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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
B031 - sewage sludge digester number 2 controlled by a flare	None	None

**2. Additional Terms and Conditions**

2.a None

**II. Operational Restrictions**

None

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

None

**IV. Reporting Requirements**

None

**V. Testing Requirements**

None

**VI. Miscellaneous Requirements**

None

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Emissions Unit ID: B032

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**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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>
B032 - sewage sludge digester number 3 controlled by a flare	OAC rule 3745-31-05(A)(3)
	OAC rule 3745-17-07(A)
	OAC rule 3745-17-11
	OAC rule 3745-31-05(C) (Synthetic Minor to avoid NSR)
	OAC rule 3745-18-06
	OAC rule 3745-21-08(B)

Emissions Unit ID: B032

OAC rule 3745-23-06(B)	Applicable Emissions Limitations/Control Measures	25.2 tons per rolling 12-month period.
	Carbon monoxide (CO) emissions shall not exceed 14.78 lbs/hr.	Particulate emissions from emissions units B027-B035 shall not exceed 5.95 tons per rolling 12-month period.
	Nitrogen Oxide (NO <sub>x</sub> ) emissions shall not exceed 7.2 lbs/hr.	Visible particulate emissions from any stack shall not exceed twenty percent opacity, as a six-minute average, except as provided by rule.
	Sulfur Dioxide (SO <sub>2</sub> ) emissions shall not exceed 12.5 lbs/hr.	None, see A.1.2.a below.
	Volatile Organic Compound (VOC) emissions shall not exceed 0.38 lb/hr.	None, see A.1.2.b below. None, see A.1.2.c below.
	Particulate emissions shall not exceed 1.7 lbs/hr.	None, see A.1.2.d below.
	See A.1.2.e below.	
	The requirements of this rule also include compliance with the requirements of OAC rules 3745-31-05(C), 3745-17-07(A), 3745-21-08(B), and 3745-23-06(B).	
	CO emissions from emissions units B027-B035 shall not exceed 51.74 tons per rolling 12-month period.	
	VOC emissions from emissions units B027-B035 shall not exceed 1.34 tons per rolling 12-month period.	
	SO <sub>2</sub> emissions from emissions units B027-B035 shall not exceed 43.75 tons per rolling 12-month period.	
	NO <sub>x</sub> emissions from emissions units B027-B035 shall not exceed	

**2. Additional Terms and Conditions**

- 2.a** The uncontrolled mass rate of particulate emissions (PE) from this emissions unit is less than 10 pounds/hour. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. In addition, pursuant to OAC rule 3745-17-11(A)(2)(b)(i), Table I of OAC rule 3745-17-11 does not apply because the process weight rate can not be ascertained "Process weight" is defined in OAC rule 3745-17-01(B)(14).
- 2.b** The requirements of OAC rule 3745-18-06 do not apply to this emissions unit pursuant to OAC rule 3745-18-06(C).
- 2.c** The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this Permit to Install.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

- 2.d** The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this Permit to Install.

On February 15, 2005, OAC rule 3745-23-06 was rescinded and therefore no longer a part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-23-06, the requirement to satisfy "latest available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

- 2.e** The hourly allowable emission limitations for this emissions unit were established to reflect the hourly potential to emit. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance

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Issued: 1/12/2006

Emissions Unit ID: B032

with these limits.

## II. Operational Restrictions

1. The maximum annual digester gas production rate from emissions units B027-B035 shall not exceed 700,000,000 standard cubic feet (SCF) per year, based upon a rolling, 12-month summation of the production rates.

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

<u>Month(s)</u>	<u>Maximum Allowable Cumulative digester gas Production(MMSCF)</u>
1	60
1-2	120
1-3	180
1-4	240
1-5	300
1-6	360
1-7	420
1-8	480
1-9	540
1-10	600
1-11	640
1-12	700

After the first 12 calendar months of operation following the issuance of this permit, compliance with the annual digester gas production limitation shall be based upon a rolling, 12-month summation of the digester gas production.

## III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall maintain monthly records of the following information:
  - a. The digester gas production for each month;
  - b. PE, NO<sub>x</sub>, SO<sub>2</sub>, CO, and VOC emissions;
  - c. The rolling, 12-month summation of the NO<sub>x</sub> emissions;

- d. Beginning after the first 12 calendar months of operation following the issuance of this permit, the rolling, 12-month summation of the digester gas production ;and

Also, during the first 12 calendar months of operation following the issuance of this permit, the permittee shall record the cumulative digester gas production for each calendar month.

#### **IV. Reporting Requirements**

1. The permittee shall submit quarterly deviation (excursion) reports which identify all exceedances of the rolling 12-month digester gas production and/or the rolling 12-month NO<sub>x</sub> emission limitations. These reports are due by the date described in Part 1- General Terms and Conditions of this permit under section (A)(1).
2. The permittee shall submit annual PE, NO<sub>x</sub>, SO<sub>2</sub>, CO, and VOC emission reports. These reports shall be submitted by February 1 of each year.

#### **V. Testing Requirements**

1. Compliance with the emission limitations contained in this permit shall be determined in accordance with the following methods:
  - a. Emission Limitation - Carbon monoxide (CO) emissions shall not exceed 14.78 lbs/hr.

Applicable Compliance Method -Compliance with the allowable mass emission rate for carbon monoxide may be determined by multiplying an emission factor of 147.84 lbs of carbon monoxide per million cubic feet of digester gas by the maximum hourly gas production of 100,000 standard cubic feet of digester gas per hour. This emission factor is provided by Varec, the manufacturer of the Westech EB244 Enclosed burner and represents an engineering safety factor adjustment of 1.5.

- b. Emission Limitation - Nitrogen Oxide (NO<sub>x</sub>) emissions shall not exceed 7.2 lbs/hr.

Applicable Compliance Method - Compliance with the allowable mass emission rate for NO<sub>x</sub> may be determined by multiplying an emission factor of 72.0 lbs of NO<sub>x</sub> per million cubic feet of digester gas by the maximum hourly gas production of 100,000 standard cubic feet of digester gas per hour. This emission factor is provided by Varec, the manufacturer of the Westech EB244 Enclosed burner and represents an engineering safety factor adjustment of 1.5.

- c. Emission Limitation - Sulfur Dioxide (SO<sub>2</sub>) emissions shall not exceed 12.5 lbs/hr.

Applicable Compliance Method - Compliance with the allowable mass emission rate for sulfur dioxide may be determined by multiplying an emission factor of 125 lbs of sulfur dioxide per million cubic feet of digester gas by the maximum hourly gas production of 100,000 standard cubic feet of digester gas per hour. The emission factor is based on 100% stoichiometric conversion of H<sub>2</sub>S in the digester gas stream to SO<sub>2</sub>. The digester gas H<sub>2</sub>S content of 750 ppmv is based on data from a comparable facility.

- d. Emission Limitation - Volatile Organic Compound (VOC) emissions shall not exceed 0.38 lb/hr.

Applicable Compliance Method - Compliance with the allowable mass emission rate for VOC may be determined by multiplying an emission factor of 3.84 lbs of VOC per million cubic feet of digester gas by the maximum hourly gas production of 100,000 standard cubic feet of digester gas per hour. This emission factor is provided by Varec, the manufacturer of the Westech EB244 Enclosed burner and represents an engineering safety factor adjustment of 1.5.

- e. Emission Limitation - Particulate emissions shall not exceed 1.7 lbs/hr.

Applicable Compliance Method - Compliance with the allowable mass emission rate for particulate emissions may be determined by multiplying an emission factor of 17 lbs of particulate emissions per million cubic feet of digester gas by the maximum hourly gas production of 100,000 standard cubic feet of digester gas per hour. This emission factor is specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 2.4, Table 2.4-5(11/98) .

Emissions Unit ID: B032

2. Emission Limitation - CO emissions from emissions units B027-B035 shall not exceed 51.74 tons per rolling 12-month period.

Applicable Compliance Method - Compliance with the annual limitations shall be based upon the records maintained in A.III.1 and the emission calculation methodology referenced in V.1.a.

3. Emission Limitation - VOC emissions from emissions units B027-B035 shall not exceed 1.34 tons per rolling 12-month period.

Applicable Compliance Method - Compliance with the annual limitations shall be based upon the records maintained in A.III.1 and the emission calculation methodology referenced in V.1.d.

4. Emission Limitation - SO<sub>2</sub> emissions from emissions units B027-B035 shall not exceed 43.75 tons per rolling 12-month period.

Applicable Compliance Method - Compliance with the annual limitations shall be based upon the records maintained in A.III.1 and the emission calculation methodology referenced in V.1.c.

5. Emission Limitation - NO<sub>x</sub> emissions from emissions units B027-B035 shall not exceed 25.2 tons per rolling 12-month period.

Applicable Compliance Method - Compliance with the annual limitations shall be based upon the records maintained in A.III.1 and the emission calculation methodology referenced in V.1.b.

6. Emission Limitation - Particulate emissions from emissions units B027-B035 shall not exceed 5.95 tons per rolling 12-month period.

Applicable Compliance Method - Compliance with the annual limitations shall be based upon the records maintained in A.III.1 and the emission calculation methodology referenced in V.1.e.

7. Emission Limitation - Visible particulate emissions from any stack shall not exceed twenty percent opacity as a six-minute average, except as provided by rule.

Applicable Compliance Method - If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

## **VI. Miscellaneous Requirements**

**City of Cols Southerly Wastewater Treatment**  
**PTI Application: 01 01205**  
**Issue**

**Facility ID: 0125040420**

Emissions Unit ID: B032

1. Modeling to demonstrate compliance with the Ohio EPA's Air Toxic Policy was not necessary since the emissions unit's maximum annual emissions for each toxic compound will be less than 1.0 ton. OAC Chapter 3745-31 requires permittees to apply for and obtain a new or modified permit to install prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant that has a listed TLV to above 1.0 ton per year may require the permittee to apply for and obtain a new permit to install.

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**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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
B032 - sewage sludge digester number 3 controlled by a flare	None	None

**2. Additional Terms and Conditions**

2.a None

**II. Operational Restrictions**

None

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

None

**IV. Reporting Requirements**

None

**V. Testing Requirements**

None

**VI. Miscellaneous Requirements**

None

City of

PTI A

Issued: 1/12/2006

Emissions Unit ID: B033

**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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>
B033 - sewage sludge digester number 4 controlled by a flare	OAC rule 3745-31-05(A)(3)
	OAC rule 3745-17-07(A)
	OAC rule 3745-17-11
	OAC rule 3745-31-05(C) (Synthetic Minor to avoid NSR)
	OAC rule 3745-18-06
	OAC rule 3745-21-08(B)

Emissions Unit ID: B033

OAC rule 3745-23-06(B)	<p style="text-align: center;">Applicable Emissions <u>Limitations/Control Measures</u></p>	25.2 tons per rolling 12-month period.
	Carbon monoxide (CO) emissions shall not exceed 14.78 lbs/hr.	Particulate emissions from emissions units B027-B035 shall not exceed 5.95 tons per rolling 12-month period.
	Nitrogen Oxide (NO <sub>x</sub> ) emissions shall not exceed 7.2 lbs/hr.	Visible particulate emissions from any stack shall not exceed twenty percent opacity, as a six-minute average, except as provided by rule.
	Sulfur Dioxide (SO <sub>2</sub> ) emissions shall not exceed 12.5 lbs/hr.	None, see A.1.2.a below.
	Volatile Organic Compound (VOC) emissions shall not exceed 0.38 lb/hr.	None, see A.1.2.b below. None, see A.1.2.c below.
	Particulate emissions shall not exceed 1.7 lbs/hr.	None, see A.1.2.d below.
	See A.1.2.e below.	
	The requirements of this rule also include compliance with the requirements of OAC rules 3745-31-05(C), 3745-17-07(A), 3745-21-08(B), and 3745-23-06(B).	
	CO emissions from emissions units B027-B035 shall not exceed 51.74 tons per rolling 12-month period.	
	VOC emissions from emissions units B027-B035 shall not exceed 1.34 tons per rolling 12-month period.	
	SO <sub>2</sub> emissions from emissions units B027-B035 shall not exceed 43.75 tons per rolling 12-month period.	
	NO <sub>x</sub> emissions from emissions units B027-B035 shall not exceed	

**2. Additional Terms and Conditions**

- 2.a** The uncontrolled mass rate of particulate emissions (PE) from this emissions unit is less than 10 pounds/hour. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. In addition, pursuant to OAC rule 3745-17-11(A)(2)(b)(i), Table I of OAC rule 3745-17-11 does not apply because the process weight rate can not be ascertained "Process weight" is defined in OAC rule 3745-17-01(B)(14).
- 2.b** The requirements of OAC rule 3745-18-06 do not apply to this emissions unit pursuant to OAC rule 3745-18-06(C).
- 2.c** The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this Permit to Install.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

- 2.d** The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this Permit to Install.

On February 15, 2005, OAC rule 3745-23-06 was rescinded and therefore no longer a part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-23-06, the requirement to satisfy "latest available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

- 2.e** The hourly allowable emission limitations for this emissions unit were established to reflect the hourly potential to emit. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance

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Emissions Unit ID: B033

with these limits.

## II. Operational Restrictions

1. The maximum annual digester gas production rate from emissions units B027-B035 shall not exceed 700,000,000 standard cubic feet (SCF) per year, based upon a rolling, 12-month summation of the production rates.

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

<u>Month(s)</u>	<u>Maximum Allowable Cumulative digester gas Production(MMSCF)</u>
1	60
1-2	120
1-3	180
1-4	240
1-5	300
1-6	360
1-7	420
1-8	480
1-9	540
1-10	600
1-11	640
1-12	700

After the first 12 calendar months of operation following the issuance of this permit, compliance with the annual digester gas production limitation shall be based upon a rolling, 12-month summation of the digester gas production.

## III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall maintain monthly records of the following information:
  - a. The digester gas production for each month;
  - b. PE, NO<sub>x</sub>, SO<sub>2</sub>, CO, and VOC emissions;
  - c. The rolling, 12-month summation of the NO<sub>x</sub> emissions;

- d. Beginning after the first 12 calendar months of operation following the issuance of this permit, the rolling, 12-month summation of the digester gas production ;and

Also, during the first 12 calendar months of operation following the issuance of this permit, the permittee shall record the cumulative digester gas production for each calendar month.

#### **IV. Reporting Requirements**

1. The permittee shall submit quarterly deviation (excursion) reports which identify all exceedances of the rolling 12-month digester gas production and/or the rolling 12-month NO<sub>x</sub> emission limitations. These reports are due by the date described in Part 1- General Terms and Conditions of this permit under section (A)(1).
2. The permittee shall submit annual PE, NO<sub>x</sub>, SO<sub>2</sub>, CO, and VOC emission reports. These reports shall be submitted by February 1 of each year.

#### **V. Testing Requirements**

1. Compliance with the emission limitations contained in this permit shall be determined in accordance with the following methods:
  - a. Emission Limitation - Carbon monoxide (CO) emissions shall not exceed 14.78 lbs/hr.

Applicable Compliance Method - Compliance with the allowable mass emission rate for carbon monoxide may be determined by multiplying an emission factor of 147.84 lbs of carbon monoxide per million cubic feet of digester gas by the maximum hourly gas production of 100,000 standard cubic feet of digester gas per hour. This emission factor is provided by Varec, the manufacturer of the Westech EB244 Enclosed burner and represents an engineering safety factor adjustment of 1.5.

- b. Emission Limitation - Nitrogen Oxide (NO<sub>x</sub>) emissions shall not exceed 7.2 lbs/hr.

Applicable Compliance Method - Compliance with the allowable mass emission rate for NO<sub>x</sub> may be determined by multiplying an emission factor of 72.0 lbs of NO<sub>x</sub> per million cubic feet of digester gas by the maximum hourly gas production of 100,000 standard cubic feet of digester gas per hour. This emission factor is provided by Varec, the manufacturer of the Westech EB244 Enclosed burner and represents an engineering safety factor adjustment of 1.5.

- c. Emission Limitation - Sulfur Dioxide (SO<sub>2</sub>) emissions shall not exceed 12.5 lbs/hr.

Applicable Compliance Method - Compliance with the allowable mass emission rate for sulfur dioxide may be determined by multiplying an emission factor of 125 lbs of sulfur dioxide per million cubic feet of digester gas by the maximum hourly gas production of 100,000 standard cubic feet of digester gas per hour. The emission factor is based on 100% stoichiometric conversion of H<sub>2</sub>S in the digester gas stream to SO<sub>2</sub>. The digester gas H<sub>2</sub>S content of 750 ppmv is based on data from a comparable facility.

- d. Emission Limitation - Volatile Organic Compound (VOC) emissions shall not exceed 0.38 lb/hr.

Applicable Compliance Method - Compliance with the allowable mass emission rate for VOC may be determined by multiplying an emission factor of 3.84 lbs of VOC per million cubic feet of digester gas by the maximum hourly gas production of 100,000 standard cubic feet of digester gas per hour. This emission factor is provided by Varec, the manufacturer of the Westech EB244 Enclosed burner and represents an engineering safety factor adjustment of 1.5.

- e. Emission Limitation - Particulate emissions shall not exceed 1.7 lbs/hr.

Applicable Compliance Method - Compliance with the allowable mass emission rate for particulate emissions may be determined by multiplying an emission factor of 17 lbs of particulate emissions per million cubic feet of digester gas by the maximum hourly gas production of 100,000 standard cubic feet of digester gas per hour. This emission factor is specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 2.4, Table 2.4-5(11/98) .

Emissions Unit ID: B033

2. Emission Limitation - CO emissions from emissions units B027-B035 shall not exceed 51.74 tons per rolling 12-month period.

Applicable Compliance Method - Compliance with the annual limitations shall be based upon the records maintained in A.III.1 and the emission calculation methodology referenced in V.1.a.

3. Emission Limitation - VOC emissions from emissions units B027-B035 shall not exceed 1.34 tons per rolling 12-month period.

Applicable Compliance Method - Compliance with the annual limitations shall be based upon the records maintained in A.III.1 and the emission calculation methodology referenced in V.1.d.

4. Emission Limitation - SO<sub>2</sub> emissions from emissions units B027-B035 shall not exceed 43.75 tons per rolling 12-month period.

Applicable Compliance Method - Compliance with the annual limitations shall be based upon the records maintained in A.III.1 and the emission calculation methodology referenced in V.1.c.

5. Emission Limitation - NO<sub>x</sub> emissions from emissions units B027-B035 shall not exceed 25.2 tons per rolling 12-month period.

Applicable Compliance Method - Compliance with the annual limitations shall be based upon the records maintained in A.III.1 and the emission calculation methodology referenced in V.1.b.

6. Emission Limitation - Particulate emissions from emissions units B027-B035 shall not exceed 5.95 tons per rolling 12-month period.

Applicable Compliance Method - Compliance with the annual limitations shall be based upon the records maintained in A.III.1 and the emission calculation methodology referenced in V.1.e.

7. Emission Limitation - Visible particulate emissions from any stack shall not exceed twenty percent opacity as a six-minute average, except as provided by rule.

Applicable Compliance Method - If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

## **VI. Miscellaneous Requirements**

1. Modeling to demonstrate compliance with the Ohio EPA's Air Toxic Policy was not necessary since the emissions unit's maximum annual emissions for each toxic compound will be less than 1.0 ton. OAC Chapter 3745-31 requires permittees to apply for and obtain a new or modified permit to install prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant that has a listed TLV to above 1.0 ton per year may require the permittee to apply for and obtain a new permit to install.

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**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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
B033 - sewage sludge digester number 4 controlled by a flare	None	None

**2. Additional Terms and Conditions**

2.a None

**II. Operational Restrictions**

None

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

None

**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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>
B034 - sewage sludge digester number 5 controlled by a flare	OAC rule 3745-31-05(A)(3)
	OAC rule 3745-17-07(A)
	OAC rule 3745-17-11
	OAC rule 3745-18-06
	OAC rule 3745-21-08(B)
	OAC rule 3745-23-06(B)
	OAC rule 3745-31-05(C) (Synthetic Minor to avoid NSR)

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Applicable Emissions <u>Limitations/Control</u> <u>Measures</u>	
Carbon monoxide (CO) emissions shall not exceed 14.78 lbs/hr.	VOC emissions from emissions units B027-B035 shall not exceed 1.34 tons per rolling 12-month period.
Nitrogen Oxide (NO <sub>x</sub> ) emissions shall not exceed 7.2 lbs/hr.	SO <sub>2</sub> emissions from emissions units B027-B035 shall not exceed 43.75 tons per rolling 12-month period.
Sulfur Dioxide (SO <sub>2</sub> ) emissions shall not exceed 12.5 lbs/hr.	NO <sub>x</sub> emissions from emissions units B027-B035 shall not exceed 25.2 tons per rolling 12-month period.
Volatile Organic Compound (VOC) emissions shall not exceed 0.38 lb/hr.	Particulate emissions from emissions units B027-B035 shall not exceed 5.95 tons per rolling 12-month period.
Particulate emissions shall not exceed 1.7 lbs/hr.	Visible particulate emissions from any stack shall not exceed twenty percent opacity, as a six-minute average, except as provided by rule.
See A.I.2.e below.	
The requirements of this rule also include compliance with the requirements of OAC rules 3745-31-05(C), 3745-17-07(A), 3745-21-08(B), and 3745-23-06(B).	None, see A.I.2.a below. None, see A.I.2.b below. None, see A.I.2.c below. None, see A.I.2.d below.
CO emissions from emissions units B027-B035 shall not exceed 51.74 tons per rolling 12-month period.	

**2. Additional Terms and Conditions**

- 2.a** The uncontrolled mass rate of particulate emissions (PE) from this emissions unit is less than 10 pounds/hour. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. In addition, pursuant to OAC rule 3745-17-11(A)(2)(b)(i), Table I of OAC rule 3745-17-11 does not apply because the process weight rate can not be ascertained "Process weight" is defined in OAC rule 3745-17-01(B)(14).
- 2.b** The requirements of OAC rule 3745-18-06 do not apply to this emissions unit pursuant to OAC rule 3745-18-06(C).
- 2.c** The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this Permit to Install.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

- 2.d** The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this Permit to Install.

On February 15, 2005, OAC rule 3745-23-06 was rescinded and therefore no longer a part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-23-06, the requirement to satisfy "latest available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

- 2.e** The hourly allowable emission limitations for this emissions unit were established to reflect the hourly potential to emit. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance

with these limits.

## II. Operational Restrictions

1. The maximum annual digester gas production rate from emissions units B027-B035 shall not exceed 700,000,000 standard cubic feet (SCF) per year, based upon a rolling, 12-month summation of the production rates.

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

<u>Month(s)</u>	<u>Maximum Allowable Cumulative digester gas Production(MMSCF)</u>
1	60
1-2	120
1-3	180
1-4	240
1-5	300
1-6	360
1-7	420
1-8	480
1-9	540
1-10	600
1-11	640
1-12	700

After the first 12 calendar months of operation following the issuance of this permit, compliance with the annual digester gas production limitation shall be based upon a rolling, 12-month summation of the digester gas production.

## III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall maintain monthly records of the following information:
  - a. The digester gas production for each month;
  - b. PE, NO<sub>x</sub>, SO<sub>2</sub>, CO, and VOC emissions;
  - c. The rolling, 12-month summation of the NO<sub>x</sub> emissions;
  - d. Beginning after the first 12 calendar months of operation following the issuance of this permit, the rolling, 12-month summation of the digester gas production ;and

Also, during the first 12 calendar months of operation following the issuance of this permit, the permittee shall record the cumulative digester gas production for each calendar month.

#### **IV. Reporting Requirements**

1. The permittee shall submit quarterly deviation (excursion) reports which identify all exceedances of the rolling 12-month digester gas production and/or the rolling 12-month NO<sub>x</sub> emission limitations. These reports are due by the date described in Part 1- General Terms and Conditions of this permit under section (A)(1).
2. The permittee shall submit annual PE, NO<sub>x</sub>, SO<sub>2</sub>, CO, and VOC emission reports. These reports shall be submitted by February 1 of each year.

#### **V. Testing Requirements**

1. Compliance with the emission limitations contained in this permit shall be determined in accordance with the following methods:
  - a. Emission Limitation - Carbon monoxide (CO) emissions shall not exceed 14.78 lbs/hr.

Applicable Compliance Method -Compliance with the allowable mass emission rate for carbon monoxide may be determined by multiplying an emission factor of 147.84 lbs of carbon monoxide per million cubic feet of digester gas by the maximum hourly gas production of 100,000 standard cubic feet of digester gas per hour. This emission factor is provided by Varec, the manufacturer of the Westech EB244 Enclosed burner and represents an engineering safety factor adjustment of 1.5.

- b. Emission Limitation - Nitrogen Oxide (NO<sub>x</sub>) emissions shall not exceed 7.2 lbs/hr.

Applicable Compliance Method - Compliance with the allowable mass emission rate for NO<sub>x</sub> may be determined by multiplying an emission factor of 72.0 lbs of NO<sub>x</sub> per million cubic feet of digester gas by the maximum hourly gas production of 100,000 standard cubic feet of digester gas per hour. This emission factor is provided by Varec, the manufacturer of the Westech EB244 Enclosed burner and represents an engineering safety factor adjustment of 1.5.

- c. Emission Limitation - Sulfur Dioxide (SO<sub>2</sub>) emissions shall not exceed 12.5 lbs/hr.

Applicable Compliance Method - Compliance with the allowable mass emission rate for sulfur dioxide may be determined by multiplying an emission factor of 125 lbs of sulfur dioxide per million cubic feet of digester gas by the maximum hourly gas production of 100,000 standard cubic feet of digester gas per hour. The emission factor is based on 100% stoichiometric conversion of H<sub>2</sub>S in the digester gas stream to SO<sub>2</sub>. The digester gas H<sub>2</sub>S content of 750 ppmv is based on data from a comparable facility.

- d. Emission Limitation - Volatile Organic Compound (VOC) emissions shall not exceed 0.38 lb/hr.

Applicable Compliance Method - Compliance with the allowable mass emission rate for VOC may be determined by multiplying an emission factor of 3.84 lbs of VOC per million cubic feet of digester gas by the maximum hourly gas production of 100,000 standard cubic feet of digester gas per hour. This emission factor is provided by Varec, the manufacturer of the Westech EB244 Enclosed burner and represents an engineering safety factor adjustment of 1.5.

- e. Emission Limitation - Particulate emissions shall not exceed 1.7 lbs/hr.

Applicable Compliance Method - Compliance with the allowable mass emission rate for particulate emissions may be determined by multiplying an emission factor of 17 lbs of particulate emissions per million cubic feet of digester gas by the maximum hourly gas production of 100,000 standard cubic feet of digester gas per hour. This emission factor is specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 2.4, Table 2.4-5(11/98).

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2. Emission Limitation - CO emissions from emissions units B027-B035 shall not exceed 51.74 tons per rolling 12-month period.

Applicable Compliance Method - Compliance with the annual limitations shall be based upon the records maintained in A.III.1 and the emission calculation methodology referenced in V.1.a.

3. Emission Limitation - VOC emissions from emissions units B027-B035 shall not exceed 1.34 tons per rolling 12-month period.

Applicable Compliance Method - Compliance with the annual limitations shall be based upon the records maintained in A.III.1 and the emission calculation methodology referenced in V.1.d.

4. Emission Limitation - SO<sub>2</sub> emissions from emissions units B027-B035 shall not exceed 43.75 tons per rolling 12-month period.

Applicable Compliance Method - Compliance with the annual limitations shall be based upon the records maintained in A.III.1 and the emission calculation methodology referenced in V.1.c.

5. Emission Limitation - NO<sub>x</sub> emissions from emissions units B027-B035 shall not exceed 25.2 tons per rolling 12-month period.

Applicable Compliance Method - Compliance with the annual limitations shall be based upon the records maintained in A.III.1 and the emission calculation methodology referenced in V.1.b.

6. Emission Limitation - Particulate emissions from emissions units B027-B035 shall not exceed 5.95 tons per rolling 12-month period.

Applicable Compliance Method - Compliance with the annual limitations shall be based upon the records maintained in A.III.1 and the emission calculation methodology referenced in V.1.e.

7. Emission Limitation -  
Visible particulate emissions from any stack shall not exceed twenty percent opacity as a six-minute average, except as provided by rule.

Applicable Compliance Method -  
If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

## **VI. Miscellaneous Requirements**

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Emissions Unit ID: B034

**Issued: 1/12/2006**

1. Modeling to demonstrate compliance with the Ohio EPA's Air Toxic Policy was not necessary since the emissions unit's maximum annual emissions for each toxic compound will be less than 1.0 ton. OAC Chapter 3745-31 requires permittees to apply for and obtain a new or modified permit to install prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant that has a listed TLV to above 1.0 ton per year may require the permittee to apply for and obtain a new permit to install.

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Issued: 1/12/2006

Emissions Unit ID: B034

**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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
B034 - sewage sludge digester number 5 controlled by a flare	None	None

**2. Additional Terms and Conditions**

2.a None

**II. Operational Restrictions**

None

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

None

**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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>
B035 - sewage sludge digester number 6 controlled by a flare	OAC rule 3745-31-05(A)(3)
	OAC rule 3745-17-07(A)
	OAC rule 3745-17-11
	OAC rule 3745-18-06
	OAC rule 3745-21-08(B)
	OAC rule 3745-23-06(B)
	OAC rule 3745-31-05(C) (Synthetic Minor to avoid NSR)

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Issued: 1/12/2006

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Applicable Emissions Limitations/Control Measures	
Carbon monoxide (CO) emissions shall not exceed 14.78 lbs/hr.	VOC emissions from emissions units B027-B035 shall not exceed 1.34 tons per rolling 12-month period.
Nitrogen Oxide (NO <sub>x</sub> ) emissions shall not exceed 7.2 lbs/hr.	SO <sub>2</sub> emissions from emissions units B027-B035 shall not exceed 43.75 tons per rolling 12-month period.
Sulfur Dioxide (SO <sub>2</sub> ) emissions shall not exceed 12.5 lbs/hr.	NO <sub>x</sub> emissions from emissions units B027-B035 shall not exceed 25.2 tons per rolling 12-month period.
Volatile Organic Compound (VOC) emissions shall not exceed 0.38 lb/hr.	Particulate emissions from emissions units B027-B035 shall not exceed 5.95 tons per rolling 12-month period.
Particulate emissions shall not exceed 1.7 lbs/hr.	Visible particulate emissions from any stack shall not exceed twenty percent opacity, as a six-minute average, except as provided by rule.
See A.I.2.e below.	
The requirements of this rule also include compliance with the requirements of OAC rules 3745-31-05(C), 3745-17-07(A), 3745-21-08(B), and 3745-23-06(B).	None, see A.I.2.a below. None, see A.I.2.b below. None, see A.I.2.c below. None, see A.I.2.d below.
CO emissions from emissions units B027-B035 shall not exceed 51.74 tons per rolling 12-month period.	

**2. Additional Terms and Conditions**

- 2.a** The uncontrolled mass rate of particulate emissions (PE) from this emissions unit is less than 10 pounds/hour. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. In addition, pursuant to OAC rule 3745-17-11(A)(2)(b)(i), Table I of OAC rule 3745-17-11 does not apply because the process weight rate can not be ascertained "Process weight" is defined in OAC rule 3745-17-01(B)(14).
- 2.b** The requirements of OAC rule 3745-18-06 do not apply to this emissions unit pursuant to OAC rule 3745-18-06(C).
- 2.c** The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this Permit to Install.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

- 2.d** The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this Permit to Install.

On February 15, 2005, OAC rule 3745-23-06 was rescinded and therefore no longer a part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-23-06, the requirement to satisfy "latest available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

- 2.e** The hourly allowable emission limitations for this emissions unit were established to reflect the hourly potential to emit. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance

with these limits.

## II. Operational Restrictions

1. The maximum annual digester gas production rate from emissions units B027-B035 shall not exceed 700,000,000 standard cubic feet (SCF) per year, based upon a rolling, 12-month summation of the production rates.

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

<u>Month(s)</u>	<u>Maximum Allowable Cumulative digester gas Production(MMSCF)</u>
1	60
1-2	120
1-3	180
1-4	240
1-5	300
1-6	360
1-7	420
1-8	480
1-9	540
1-10	600
1-11	640
1-12	700

After the first 12 calendar months of operation following the issuance of this permit, compliance with the annual digester gas production limitation shall be based upon a rolling, 12-month summation of the digester gas production.

## III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall maintain monthly records of the following information:
  - a. The digester gas production for each month;
  - b. PE, NO<sub>x</sub>, SO<sub>2</sub>, CO, and VOC emissions;
  - c. The rolling, 12-month summation of the NO<sub>x</sub> emissions;
  - d. Beginning after the first 12 calendar months of operation following the issuance of this permit, the rolling, 12-month summation of the digester gas production ;and

Also, during the first 12 calendar months of operation following the issuance of this permit, the permittee shall record the cumulative digester gas production for each calendar month.

#### **IV. Reporting Requirements**

1. The permittee shall submit quarterly deviation (excursion) reports which identify all exceedances of the rolling 12-month digester gas production and/or the rolling 12-month NO<sub>x</sub> emission limitations. These reports are due by the date described in Part 1- General Terms and Conditions of this permit under section (A)(1).
2. The permittee shall submit annual PE, NO<sub>x</sub>, SO<sub>2</sub>, CO, and VOC emission reports. These reports shall be submitted by February 1 of each year.

#### **V. Testing Requirements**

1. Compliance with the emission limitations contained in this permit shall be determined in accordance with the following methods:
  - a. Emission Limitation - Carbon monoxide (CO) emissions shall not exceed 14.78 lbs/hr.

Applicable Compliance Method - Compliance with the allowable mass emission rate for carbon monoxide may be determined by multiplying an emission factor of 147.84 lbs of carbon monoxide per million cubic feet of digester gas by the maximum hourly gas production of 100,000 standard cubic feet of digester gas per hour. This emission factor is provided by Varec, the manufacturer of the Westech EB244 Enclosed burner and represents an engineering safety factor adjustment of 1.5.

- b. Emission Limitation - Nitrogen Oxide (NO<sub>x</sub>) emissions shall not exceed 7.2 lbs/hr.

Applicable Compliance Method - Compliance with the allowable mass emission rate for NO<sub>x</sub> may be determined by multiplying an emission factor of 72.0 lbs of NO<sub>x</sub> per million cubic feet of digester gas by the maximum hourly gas production of 100,000 standard cubic feet of digester gas per hour. This emission factor is provided by Varec, the manufacturer of the Westech EB244 Enclosed burner and represents an engineering safety factor adjustment of 1.5.

- c. Emission Limitation - Sulfur Dioxide (SO<sub>2</sub>) emissions shall not exceed 12.5 lbs/hr.

Applicable Compliance Method - Compliance with the allowable mass emission rate for sulfur dioxide may be determined by multiplying an emission factor of 125 lbs of sulfur dioxide per million cubic feet of digester gas by the maximum hourly gas production of 100,000 standard cubic feet of digester gas per hour. The emission factor is based on 100% stoichiometric conversion of H<sub>2</sub>S in the digester gas stream to SO<sub>2</sub>. The digester gas H<sub>2</sub>S content of 750 ppmv is based on data from a comparable facility.

- d. Emission Limitation - Volatile Organic Compound (VOC) emissions shall not exceed 0.38 lb/hr.

Applicable Compliance Method - Compliance with the allowable mass emission rate for VOC may be determined by multiplying an emission factor of 3.84 lbs of VOC per million cubic feet of digester gas by the maximum hourly gas production of 100,000 standard cubic feet of digester gas per hour. This emission factor is provided by Varec, the manufacturer of the Westech EB244 Enclosed burner and represents an engineering safety factor adjustment of 1.5.

- e. Emission Limitation - Particulate emissions shall not exceed 1.7 lbs/hr.

Applicable Compliance Method - Compliance with the allowable mass emission rate for particulate emissions may be determined by multiplying an emission factor of 17 lbs of particulate emissions per million cubic feet of digester gas by the maximum hourly gas production of 100,000 standard cubic feet of digester gas per hour. This emission factor is specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 2.4, Table 2.4-5(11/98).

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2. Emission Limitation - CO emissions from emissions units B027-B035 shall not exceed 51.74 tons per rolling 12-month period.

Applicable Compliance Method - Compliance with the annual limitations shall be based upon the records maintained in A.III.1 and the emission calculation methodology referenced in V.1.a.

3. Emission Limitation - VOC emissions from emissions units B027-B035 shall not exceed 1.34 tons per rolling 12-month period.

Applicable Compliance Method - Compliance with the annual limitations shall be based upon the records maintained in A.III.1 and the emission calculation methodology referenced in V.1.d.

4. Emission Limitation - SO<sub>2</sub> emissions from emissions units B027-B035 shall not exceed 43.75 tons per rolling 12-month period.

Applicable Compliance Method - Compliance with the annual limitations shall be based upon the records maintained in A.III.1 and the emission calculation methodology referenced in V.1.c.

5. Emission Limitation - NO<sub>x</sub> emissions from emissions units B027-B035 shall not exceed 25.2 tons per rolling 12-month period.

Applicable Compliance Method - Compliance with the annual limitations shall be based upon the records maintained in A.III.1 and the emission calculation methodology referenced in V.1.b.

6. Emission Limitation - Particulate emissions from emissions units B027-B035 shall not exceed 5.95 tons per rolling 12-month period.

Applicable Compliance Method - Compliance with the annual limitations shall be based upon the records maintained in A.III.1 and the emission calculation methodology referenced in V.1.e.

7. Emission Limitation -  
Visible particulate emissions from any stack shall not exceed twenty percent opacity as a six-minute average, except as provided by rule.

Applicable Compliance Method -

If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

## VI. Miscellaneous Requirements

1. Modeling to demonstrate compliance with the Ohio EPA's Air Toxic Policy was not

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necessary since the emissions unit's maximum annual emissions for each toxic compound will be less than 1.0 ton. OAC Chapter 3745-31 requires permittees to apply for and obtain a new or modified permit to install prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant that has a listed TLV to above 1.0 ton per year may require the permittee to apply for and obtain a new permit to install.

**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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
B035 - sewage sludge digester number 6 controlled by a flare	None	None

**2. Additional Terms and Conditions**

2.a None

**II. Operational Restrictions**

None

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

None

**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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>
B036 - Sludge Control Building boiler number 1	OAC rule 3745-31-05(A)(3)
	OAC rule 3745-17-07(A)

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	<u>Applicable Emissions Limitations/Control Measures</u>	
OAC rule 3745-17-10(B)(1)		Particulate emissions from burning natural gas shall not exceed 0.07 lb/hr.
	Carbon monoxide (CO) emissions from burning digester gas shall not exceed 0.06 lb/hr.	Particulate emissions shall not exceed 0.38 ton per year.
OAC rule 3745-18-06	Carbon monoxide (CO) emissions from burning natural gas shall not exceed 0.79 lb/hr.	NOx emissions shall not exceed 4.12 tons per year.
OAC rule 3745-21-08(B)		CO emissions shall not exceed 3.46 tons per year.
OAC rule 3745-23-06(B)	Nitrogen Oxide (NO <sub>x</sub> ) emissions from burning digester gas shall not exceed 0.35 lb/hr.	VOC emissions shall not exceed 0.45 ton per year.
	Nitrogen Oxide (NO <sub>x</sub> ) emissions from burning natural gas shall not exceed 0.94 lb/hr.	SO <sub>2</sub> emissions shall not exceed 8.22 tons per year.
	Sulfur Dioxide (SO <sub>2</sub> ) emissions from burning natural gas shall not exceed 0.01 lb/hr.	See A.I.2.c below.
	Sulfur Dioxide (SO <sub>2</sub> ) emissions from burning digester gas shall not exceed 1.88 lbs/hr.	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A), 3745-21-08(B), and 3745-23-06(B).
	Volatile Organic Compound (VOC) emissions from burning digester gas shall not exceed 0.05 lb/hr.	Visible particulate emissions from any stack shall not exceed twenty percent opacity, as a six-minute average, except as provided by rule.
	Volatile Organic Compound (VOC) emissions from burning natural gas shall not exceed 0.1 lb/hr.	The emission limitation specified in this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
	Particulate emissions from burning digester gas shall not exceed 0.09 lb/hr.	Exempt pursuant to OAC rule 3745-18-06(B)
		None, see A.I.2.a below.

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None, see A.I.2.b below.

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## 2. Additional Terms and Conditions

- 2.a** The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this Permit to Install.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

- 2.b** The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this Permit to Install.

On February 15, 2005, OAC rule 3745-23-06 was rescinded and therefore no longer a part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-23-06, the requirement to satisfy "latest available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

- 2.c** The hourly and annual allowable emission limitations for this emissions unit were established to reflect their potential to emit. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with these limitations.

## II. Operational Restrictions

1. The permittee shall burn only natural gas and/or digester gas in this emissions unit.
2. The permittee shall install an interlock on emissions units B036-B039 that prevent more than 3 of these emissions units from operating at the same time.

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**Issue:**

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

1. For each day during which the permittee burns a fuel other than natural gas and/or digester gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

#### IV. Reporting Requirements

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

#### V. Testing Requirements

1. Compliance with the emission limitations in section A.1 of these terms and conditions shall be determined in accordance with the following methods:
  - a. Emission Limitations: Carbon monoxide (CO) emissions from burning natural gas shall not exceed 0.79 lb/hr; Nitrogen Oxide (NO<sub>x</sub>) emissions from burning natural gas shall not exceed 0.94 lb/hr; Sulfur Dioxide (SO<sub>2</sub>) emissions from burning digester gas shall not exceed 1.88 lbs/hr; Carbon monoxide (CO) emissions from burning digester gas shall not exceed 0.06 lb/hr; and Nitrogen Oxide (NO<sub>x</sub>) emissions from burning digester gas shall not exceed 0.35 lb/hr.

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

- i. The emission testing shall be conducted within 60 days after achieving the maximum production rate but no later than 180 days after initial startup of the emissions unit.
- ii. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rates for CO, NO<sub>x</sub> and SO<sub>2</sub> while burning digester gas and CO and NO<sub>x</sub> while burning natural gas
- iii. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s) for:

For NO<sub>x</sub>, Methods 1-4 and 7 or 7E of 40 CFR Part 60, Appendix A.

For SO<sub>2</sub>, Methods 1-4 and 6 or 6C of 40 CFR Part 60, Appendix A

For CO, Methods 1-4 and 10 of 40 CFR Part 60, Appendix A

Alternative U.S. EPA approved test methods may be used with prior

approval from the Ohio EPA.

- iv. The test(s) shall be conducted while this emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, Central District Office.

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

Personnel from the Ohio EPA, Central 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, Central 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, Central District Office.

- b. Emissions Limitation: Particulate emissions shall not exceed 0.38 ton per year.

Applicable Compliance Method: Compliance with the annual limitations shall be assumed as long as compliance with the hourly limitations is maintained (each annual limitation was calculated by multiplying the hourly limitation by 8760, and then dividing by 2000).

- c. Emissions Limitation: CO emissions shall not exceed 3.46 tons per year.

Applicable Compliance Method: Compliance with the annual limitations shall be assumed as long as compliance with the hourly limitations is maintained (each

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**Issue**

**Facility ID: 0125040420**

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annual limitation was calculated by multiplying the hourly limitation by 8760, and then dividing by 2000).

- d. Emissions Limitation: NO<sub>x</sub> emissions shall not exceed 4.12 tons per year.

Applicable Compliance Method: Compliance with the annual limitations shall be assumed as long as compliance with the hourly limitations is maintained (each annual limitation was calculated by multiplying the hourly limitation by 8760, and then dividing by 2000).

- e. Emissions Limitation: SO<sub>2</sub> emissions shall not exceed 8.22 tons per year.

Applicable Compliance Method: Compliance with the annual limitations shall be assumed as long as compliance with the hourly limitations is maintained (each annual limitation was calculated by multiplying the hourly limitation by 8760, and then dividing by 2000).

- f. Emissions Limitation: VOC emissions shall not exceed 0.45 ton per year.

Applicable Compliance Method: Compliance with the annual limitations shall be assumed as long as compliance with the hourly limitations is maintained (each annual limitation was calculated by multiplying the hourly limitation by 8760, and then dividing by 2000).

- g. Emissions Limitation: Sulfur Dioxide (SO<sub>2</sub>) emissions from burning natural gas shall not exceed 0.01 lb/hr.

Applicable Compliance Method: Compliance with the allowable mass emission rate for SO<sub>2</sub> emissions may be determined by multiplying the maximum gas usage of 9,415 scf/hr by an emission factor of 0.6 lb per million scf. This emission factor is specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4 Tables 1.4-1 and 1.4-2(7/98). If required, the permittee shall demonstrate compliance with the emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1-4 and 6C.

- h. Emissions Limitation: Volatile Organic Compound (VOC) emissions from burning digester gas shall not exceed 0.05 lb/hr.

Applicable Compliance Method: Compliance with the allowable mass emission rate for VOC emissions may be determined by multiplying the maximum digester gas usage 15,005 scf/hr by an emission factor of 3 lbs per million scf. This emission factor is specified in ) USEPA's FIRE 6.32 database ( 1990) for external combustion of POTW gas in a boiler. If required, the permittee shall demonstrate compliance with the emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1-4 and 25A.

- i. Emissions Limitation: Volatile Organic Compound (VOC) emissions from burning natural gas shall not exceed 0.1 lb/hr

Applicable Compliance Method: Compliance with the allowable mass emission rate for VOC emissions may be determined by multiplying the maximum gas usage of 9,415 scf/hr by an emission factor of 11 lbs per million scf. This emission factor is specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4 Tables 1.4-1 and 1.4-2(7/98). If required, the permittee shall demonstrate compliance with the emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1-4 and 25A.

- j. Emissions Limitation: Particulate emissions from burning digester gas shall not exceed 0.09 lb/hr.

Applicable Compliance Method: Compliance with the allowable mass emission rate for particulate emissions may be determined by multiplying the maximum digester gas usage of 15,005 scf/hr by an emission factor of 8.2 lbs per million scf and a 0.7 methane/digester gas ratio. This emission factor is specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 2.4 Table 2.4-5(11/98). If required, the permittee shall demonstrate compliance with the emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1-5.

- k. Emissions Limitation: Particulate emissions from burning natural gas shall not exceed 0.07 lb/hr.

Applicable Compliance Method: Compliance with the allowable mass emission rate for particulate emissions may be determined by multiplying the maximum natural gas usage of 9,415 scf/hr by an emission factor of 7.6 lbs per million scf. This emission factor is specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4 Table 1.4-1 and Table 1.4-2(7/98). If required, the permittee shall demonstrate compliance with the emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1-5

2. Emission Limitation -  
Visible particulate emissions from any stack shall not exceed twenty percent opacity as a six-minute average, except as provided by rule.

Applicable Compliance Method -

If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the

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**Issue**

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procedures specified in OAC rule 3745-17-03(B)(1).

## **VI. Miscellaneous Requirements**

1. Modeling to demonstrate compliance with the Ohio EPA's Air Toxic Policy was not necessary since the emissions unit's maximum annual emissions for each toxic compound will be less than 1.0 ton. OAC Chapter 3745-31 requires permittees to apply for and obtain a new or modified permit to install prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant that has a listed TLV to above 1.0 ton per year may require the permittee to apply for and obtain a new permit to install.

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Emissions Unit ID: B036

**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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
B036 - Sludge Control Building boiler number 1	None	None

**2. Additional Terms and Conditions**

2.a None

**II. Operational Restrictions**

None

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

None

**IV. Reporting Requirements**

None

**V. Testing Requirements**

None

**VI. Miscellaneous Requirements**

None

City of

PTI A

Emissions Unit ID: B037

Issued: 1/12/2006

**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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>
B037 - Sludge Control Building boiler number 2	OAC rule 3745-31-05(A)(3)

Emissions Unit ID: B037

	<u>Applicable Emissions Limitations/Control Measures</u>	
OAC rule 3745-17-07(A)	Carbon monoxide (CO) emissions from burning digester gas shall not exceed 0.06 lb/hr.	exceed 0.38 ton per year. NOx emissions shall not exceed 4.12 tons per year.
OAC rule 3745-17-10(B)(1)	Carbon monoxide (CO) emissions from burning natural gas shall not exceed 0.79 lb/hr.	CO emissions shall not exceed 3.46 tons per year. VOC emissions shall not exceed 0.45 tons per year.
OAC rule 3745-17-10(B)(1)	Nitrogen Oxide (NO <sub>x</sub> ) emissions from burning digester gas shall not exceed 0.35 lb/hr.	SO <sub>2</sub> emissions shall not exceed 8.22 tons per year. See A.1.2.c below.
OAC rule 3745-18-06	Nitrogen Oxide (NO <sub>x</sub> ) emissions from burning natural gas shall not exceed 0.94 lb/hr.	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A), 3745-21-08(B), and 3745-23-06(B).
OAC rule 3745-21-08(B)	Sulfur Dioxide (SO <sub>2</sub> ) emissions from burning natural gas shall not exceed 0.01 lb/hr.	
OAC rule 3745-23-06(B)	Sulfur Dioxide (SO <sub>2</sub> ) emissions from burning digester gas shall not exceed 1.88 lb/hr.	Visible particulate emissions from any stack shall not exceed twenty percent opacity, as a six-minute average, except as provided by rule.
	Volatile Organic Compound (VOC) emissions from burning digester gas shall not exceed 0.05 lb/hr.	The emission limitation specified in this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
	Volatile Organic Compound (VOC) emissions from burning natural gas shall not exceed 0.1 lb/hr.	Exempt pursuant to OAC rule 3745-18-06(B). None, see A.1.2.a below.
	Particulate emissions from burning digester gas shall not exceed 0.09 lb/hr.	None, see A.1.2.b below.
	Particulate emissions from burning natural gas shall not exceed 0.07 lb/hr.	
	Particulate emissions shall not	

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## 2. Additional Terms and Conditions

- 2.a** The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this Permit to Install.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

- 2.b** The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this Permit to Install.

On February 15, 2005, OAC rule 3745-23-06 was rescinded and therefore no longer a part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-23-06, the requirement to satisfy "latest available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

- 2.c** The hourly and annual allowable emission limitations for this emissions unit were established to reflect their potential to emit. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with these limitations.

## II. Operational Restrictions

1. The permittee shall burn only natural gas and/or digester gas in this emissions unit.
2. The permittee shall install an interlock on emissions units B036-B039 that prevent more than 3 of these emissions units from operating at the same time.

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**Issue:**

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

1. For each day during which the permittee burns a fuel other than natural gas and/or digester gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

#### IV. Reporting Requirements

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

#### V. Testing Requirements

1. Compliance with the emission limitations in section A.1 of these terms and conditions shall be determined in accordance with the following methods:
  - a. Emission Limitations: Carbon monoxide (CO) emissions from burning natural gas shall not exceed 0.79 lb/hr; Nitrogen Oxide (NO<sub>x</sub>) emissions from burning natural gas shall not exceed 0.94 lb/hr; Sulfur Dioxide (SO<sub>2</sub>) emissions from burning digester gas shall not exceed 1.88 lbs/hr; Carbon monoxide (CO) emissions from burning digester gas shall not exceed 0.06 lb/hr; and Nitrogen Oxide (NO<sub>x</sub>) emissions from burning digester gas shall not exceed 0.35 lb/hr.

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

- i. The emission testing shall be conducted within 60 days after achieving the maximum production rate but no later than 180 days after initial startup of the emissions unit.
- ii. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rates for CO, NO<sub>x</sub> and SO<sub>2</sub> while burning digester gas and CO and NO<sub>x</sub> while burning natural gas
- iii. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s) for:

For NO<sub>x</sub>, Methods 1-4 and 7 or 7E of 40 CFR Part 60, Appendix A.

For SO<sub>2</sub>, Methods 1-4 and 6 or 6C of 40 CFR Part 60, Appendix A

For CO, Methods 1-4 and 10 of 40 CFR Part 60, Appendix A

Alternative U.S. EPA approved test methods may be used with prior

approval from the Ohio EPA.

- iv. The test(s) shall be conducted while this emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, Central District Office.

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

Personnel from the Ohio EPA, Central 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, Central 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, Central District Office.

- b. Emissions Limitation: Particulate emissions shall not exceed 0.38 ton per year.

Applicable Compliance Method: Compliance with the annual limitations shall be assumed as long as compliance with the hourly limitations is maintained (each annual limitation was calculated by multiplying the hourly limitation by 8760, and then dividing by 2000).

- c. Emissions Limitation: CO emissions shall not exceed 3.46 tons per year.

Applicable Compliance Method: Compliance with the annual limitations shall be assumed as long as compliance with the hourly limitations is maintained (each

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annual limitation was calculated by multiplying the hourly limitation by 8760, and then dividing by 2000).

- d. Emissions Limitation: NO<sub>x</sub> emissions shall not exceed 4.12 tons per year.

Applicable Compliance Method: Compliance with the annual limitations shall be assumed as long as compliance with the hourly limitations is maintained (each annual limitation was calculated by multiplying the hourly limitation by 8760, and then dividing by 2000).

- e. Emissions Limitation: SO<sub>2</sub> emissions shall not exceed 8.22 tons per year.

Applicable Compliance Method: Compliance with the annual limitations shall be assumed as long as compliance with the hourly limitations is maintained (each annual limitation was calculated by multiplying the hourly limitation by 8760, and then dividing by 2000).

- f. Emissions Limitation: VOC emissions shall not exceed 0.45 ton per year.

Applicable Compliance Method: Compliance with the annual limitations shall be assumed as long as compliance with the hourly limitations is maintained (each annual limitation was calculated by multiplying the hourly limitation by 8760, and then dividing by 2000).

- g. Emissions Limitation: Sulfur Dioxide (SO<sub>2</sub>) emissions from burning natural gas shall not exceed 0.01 lb/hr.

Applicable Compliance Method: Compliance with the allowable mass emission rate for SO<sub>2</sub> emissions may be determined by multiplying the maximum gas usage of 9,415 scf/hr by an emission factor of 0.6 lb per million scf. This emission factor is specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4 Tables 1.4-1 and 1.4-2(7/98). If required, the permittee shall demonstrate compliance with the emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1-4 and 6C.

- h. Emissions Limitation: Volatile Organic Compound (VOC) emissions from burning digester gas shall not exceed 0.05 lb/hr.

Applicable Compliance Method: Compliance with the allowable mass emission rate for VOC emissions may be determined by multiplying the maximum digester gas usage 15,005 scf/hr by an emission factor of 3 lbs per million scf. This emission factor is specified in ) USEPA's FIRE 6.32 database ( 1990) for external combustion of POTW gas in a boiler. If required, the permittee shall demonstrate compliance with the emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1-4 and 25A.

- i. Emissions Limitation: Volatile Organic Compound (VOC) emissions from burning natural gas shall not exceed 0.1 lb/hr

Applicable Compliance Method: Compliance with the allowable mass emission rate for VOC emissions may be determined by multiplying the maximum gas usage of 9,415 scf/hr by an emission factor of 11 lbs per million scf. This emission factor is specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4 Tables 1.4-1 and 1.4-2(7/98). If required, the permittee shall demonstrate compliance with the emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1-4 and 25A.

- j. Emissions Limitation: Particulate emissions from burning digester gas shall not exceed 0.09 lb/hr.

Applicable Compliance Method: Compliance with the allowable mass emission rate for particulate emissions may be determined by multiplying the maximum digester gas usage of 15,005 scf/hr by an emission factor of 8.2 lbs per million scf and a 0.7 methane/digester gas ratio. This emission factor is specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 2.4 Table 2.4-5(11/98). If required, the permittee shall demonstrate compliance with the emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1-5.

- k. Emissions Limitation: Particulate emissions from burning natural gas shall not exceed 0.07 lb/hr.

Applicable Compliance Method: Compliance with the allowable mass emission rate for particulate emissions may be determined by multiplying the maximum natural gas usage of 9,415 scf/hr by an emission factor of 7.6 lbs per million scf. This emission factor is specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4 Table 1.4-1 and Table 1.4-2(7/98). If required, the permittee shall demonstrate compliance with the emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1-5

2. Emission Limitation -  
Visible particulate emissions from any stack shall not exceed twenty percent opacity as a six-minute average, except as provided by rule.

Applicable Compliance Method -

If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the

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procedures specified in OAC rule 3745-17-03(B)(1).

## **VI. Miscellaneous Requirements**

1. Modeling to demonstrate compliance with the Ohio EPA's Air Toxic Policy was not necessary since the emissions unit's maximum annual emissions for each toxic compound will be less than 1.0 ton. OAC Chapter 3745-31 requires permittees to apply for and obtain a new or modified permit to install prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant that has a listed TLV to above 1.0 ton per year may require the permittee to apply for and obtain a new permit to install.

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**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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
B037 - Sludge Control Building boiler number 2	None	None

**2. Additional Terms and Conditions**

2.a None

**II. Operational Restrictions**

None

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

None

**IV. Reporting Requirements**

None

**V. Testing Requirements**

None

**VI. Miscellaneous Requirements**

None

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Emissions Unit ID: B038

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**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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>
B038 - Sludge Control Building boiler number 3	OAC rule 3745-31-05(A)(3)

	Applicable Emissions Limitations/Control Measures	Particulate emissions from burning natural gas shall not exceed 0.07 lb/hr.
OAC rule 3745-17-07(A)	Carbon monoxide (CO) emissions from burning digester gas shall not exceed 0.06 lb/hr.	Particulate emissions shall not exceed 0.38 ton per year.
OAC rule 3745-17-10(B)(1)	Carbon monoxide (CO) emissions from burning natural gas shall not exceed 0.79 lb/hr.	NOx emissions shall not exceed 4.12 tons per year. CO emissions shall not exceed 3.46 tons per year.
OAC rule 3745-18-06	Nitrogen Oxide (NO <sub>x</sub> ) emissions from burning digester gas shall not exceed 0.35 lbs/hr.	VOC emissions shall not exceed 0.45 ton per year.
OAC rule 3745-21-08(B)	Nitrogen Oxide (NO <sub>x</sub> ) emissions from burning natural gas shall not exceed 0.94 lb/hr.	SO2 emissions shall not exceed 8.22 tons per year. See A.I.2.c below.
OAC rule 3745-23-06(B)	Sulfur Dioxide (SO <sub>2</sub> ) emissions from burning natural gas shall not exceed 0.01 lb/hr.	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A), 3745-21-08(B), and 3745-23-06(B).
	Sulfur Dioxide (SO <sub>2</sub> ) emissions from burning digester gas shall not exceed 1.88 lbs/hr.	Visible particulate emissions from any stack shall not exceed twenty percent opacity, as a six-minute average, except as provided by rule.
	Volatile Organic Compound (VOC) emissions from burning digester gas shall not exceed 0.05 lb/hr.	The emission limitation specified in this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
	Volatile Organic Compound (VOC) emissions from burning natural gas shall not exceed 0.1 lb/hr.	Exempt pursuant to OAC rule 3745-18-06(B).
	Particulate emissions from burning digester gas shall not exceed 0.09 lb/hr.	None, see A.I.2.a below.

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None, see A.I.2.b below.

## 2. Additional Terms and Conditions

- 2.a** The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this Permit to Install.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

- 2.b** The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this Permit to Install.

On February 15, 2005, OAC rule 3745-23-06 was rescinded and therefore no longer a part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-23-06, the requirement to satisfy "latest available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

- 2.c** The hourly and annual allowable emission limitations for this emissions unit were established to reflect their potential to emit. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with these limitations.

## II. Operational Restrictions

1. The permittee shall burn only natural gas and/or digester gas in this emissions unit.
2. The permittee shall install an interlock on emissions units B036-B039 that prevent more than 3 of these emissions units from operating at the same time.

### III. Monitoring and/or Recordkeeping Requirements

1. For each day during which the permittee burns a fuel other than natural gas and/or digester gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

### IV. Reporting Requirements

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

### V. Testing Requirements

1. Compliance with the emission limitations in section A.1 of these terms and conditions shall be determined in accordance with the following methods:
  - a. Emission Limitations: Carbon monoxide (CO) emissions from burning natural gas shall not exceed 0.79 lb/hr; Nitrogen Oxide (NO<sub>x</sub>) emissions from burning natural gas shall not exceed 0.94 lb/hr; Sulfur Dioxide (SO<sub>2</sub>) emissions from burning digester gas shall not exceed 1.88 lbs/hr; Carbon monoxide (CO) emissions from burning digester gas shall not exceed 0.06 lb/hr; and Nitrogen Oxide (NO<sub>x</sub>) emissions from burning digester gas shall not exceed 0.35 lb/hr.

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

- i. The emission testing shall be conducted within 60 days after achieving the maximum production rate but no later than 180 days after initial startup of the emissions unit.
- ii. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rates for CO, NO<sub>x</sub> and SO<sub>2</sub> while burning digester gas and CO and NO<sub>x</sub> while burning natural gas
- iii. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s) for:

For NO<sub>x</sub>, Methods 1-4 and 7 or 7E of 40 CFR Part 60, Appendix A.

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For SO<sub>2</sub>, Methods 1-4 and 6 or 6C of 40 CFR Part 60, Appendix A

For CO, Methods 1-4 and 10 of 40 CFR Part 60, Appendix A

Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

- iv. The test(s) shall be conducted while this emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, Central District Office.

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

Personnel from the Ohio EPA, Central 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, Central 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, Central District Office.

- b. Emissions Limitation: Particulate emissions shall not exceed 0.38 ton per year.

Applicable Compliance Method: Compliance with the annual limitations shall be assumed as long as compliance with the hourly limitations is maintained (each annual limitation was calculated by multiplying the hourly limitation by 8760, and then dividing by 2000).

- c. Emissions Limitation: CO emissions shall not exceed 3.46 tons per year.

Applicable Compliance Method: Compliance with the annual limitations shall be

assumed as long as compliance with the hourly limitations is maintained (each annual limitation was calculated by multiplying the hourly limitation by 8760, and then dividing by 2000).

- d. Emissions Limitation: NO<sub>x</sub> emissions shall not exceed 4.12 tons per year.

Applicable Compliance Method: Compliance with the annual limitations shall be assumed as long as compliance with the hourly limitations is maintained (each annual limitation was calculated by multiplying the hourly limitation by 8760, and then dividing by 2000).

- e. Emissions Limitation: SO<sub>2</sub> emissions shall not exceed 8.22 tons per year.

Applicable Compliance Method: Compliance with the annual limitations shall be assumed as long as compliance with the hourly limitations is maintained (each annual limitation was calculated by multiplying the hourly limitation by 8760, and then dividing by 2000).

- f. Emissions Limitation: VOC emissions shall not exceed 0.45 ton per year.

Applicable Compliance Method: Compliance with the annual limitations shall be assumed as long as compliance with the hourly limitations is maintained (each annual limitation was calculated by multiplying the hourly limitation by 8760, and then dividing by 2000).

- g. Emissions Limitation: Sulfur Dioxide (SO<sub>2</sub>) emissions from burning natural gas shall not exceed 0.01 lb/hr.

Applicable Compliance Method: Compliance with the allowable mass emission rate for SO<sub>2</sub> emissions may be determined by multiplying the maximum gas usage of 9,415 scf/hr by an emission factor of 0.6 lb per million scf. This emission factor is specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4 Tables 1.4-1 and 1.4-2(7/98). If required, the permittee shall demonstrate compliance with the emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1-4 and 6C.

- h. Emissions Limitation: Volatile Organic Compound (VOC) emissions from burning digester gas shall not exceed 0.05 lb/hr.

Applicable Compliance Method: Compliance with the allowable mass emission

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rate for VOC emissions may be determined by multiplying the maximum digester gas usage 15,005 scf/hr by an emission factor of 3 lbs per million scf. This emission factor is specified in ) USEPA's FIRE 6.32 database ( 1990) for external combustion of POTW gas in a boiler. If required, the permittee shall demonstrate compliance with the emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1-4 and 25A.

- i. Emissions Limitation: Volatile Organic Compound (VOC) emissions from burning natural gas shall not exceed 0.1 lb/hr

Applicable Compliance Method: Compliance with the allowable mass emission rate for VOC emissions may be determined by multiplying the maximum gas usage of 9,415 scf/hr by an emission factor of 11 lbs per million scf . This emission factor is specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4 Tables 1.4-1 and 1.4-2(7/98). If required, the permittee shall demonstrate compliance with the emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1-4 and 25A.

- j. Emissions Limitation: Particulate emissions from burning digester gas shall not exceed 0.09 lb/hr.

Applicable Compliance Method: Compliance with the allowable mass emission rate for particulate emissions may be determined by multiplying the maximum digester gas usage of 15,005 scf/hr by an emission factor of 8.2 lbs per million scf and a 0.7 methane/digester gas ratio. This emission factor is specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 2.4 Table 2.4-5(11/98). If required, the permittee shall demonstrate compliance with the emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1-5.

- k. Emissions Limitation: Particulate emissions from burning natural gas shall not exceed 0.07 lb/hr.

Applicable Compliance Method: Compliance with the allowable mass emission rate for particulate emissions may be determined by multiplying the maximum natural gas usage of 9,415 scf/hr by an emission factor of 7.6 lbs per million scf. This emission factor is specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4 Table 1.4-1 and Table 1.4-2(7/98). If required, the permittee shall demonstrate compliance with the emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1-5

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Visible particulate emissions from any stack shall not exceed twenty percent opacity as a six-minute average, except as provided by rule.

Applicable Compliance Method -

If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

## **VI. Miscellaneous Requirements**

1. Modeling to demonstrate compliance with the Ohio EPA's Air Toxic Policy was not necessary since the emissions unit's maximum annual emissions for each toxic compound will be less than 1.0 ton. OAC Chapter 3745-31 requires permittees to apply for and obtain a new or modified permit to install prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant that has a listed TLV to above 1.0 ton per year may require the permittee to apply for and obtain a new permit to install.

**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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
B038 - Sludge Control Building boiler number 3	None	None

**2. Additional Terms and Conditions**

2.a None

**II. Operational Restrictions**

None

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

None

**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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>
B039 - Sludge Control Building boiler number 4	OAC rule 3745-31-05(A)(3)
	OAC rule 3745-17-07(A)

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	<u>Applicable Emissions Limitations/Control Measures</u>	
OAC rule 3745-17-10(B)(1)		Particulate emissions from burning natural gas shall not exceed 0.07 lb/hr.
	Carbon monoxide (CO) emissions from burning digester gas shall not exceed 0.06 lb/hr.	Particulate emissions shall not exceed 0.38 ton per year.
OAC rule 3745-18-06	Carbon monoxide (CO) emissions from burning natural gas shall not exceed 0.79 lb/hr.	NOx emissions shall not exceed 4.12 tons per year.
OAC rule 3745-21-08(B)		CO emissions shall not exceed 3.46 tons per year.
OAC rule 3745-23-06(B)	Nitrogen Oxide (NO <sub>x</sub> ) emissions from burning digester gas shall not exceed 0.35 lb/hr.	VOC emissions shall not exceed 0.45 ton per year.
	Nitrogen Oxide (NO <sub>x</sub> ) emissions from burning natural gas shall not exceed 0.94 lb/hr.	SO <sub>2</sub> emissions shall not exceed 8.22 tons per year.
	Sulfur Dioxide (SO <sub>2</sub> ) emissions from burning natural gas shall not exceed 0.01 lb/hr.	See A.I.2.c below.
	Sulfur Dioxide (SO <sub>2</sub> ) emissions from burning digester gas shall not exceed 1.88 lbs/hr.	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A), 3745-21-08(B), and 3745-23-06(B).
	Volatile Organic Compound (VOC) emissions from burning digester gas shall not exceed 0.05 lb/hr.	Visible particulate emissions from any stack shall not exceed twenty percent opacity, as a six-minute average, except as provided by rule.
	Volatile Organic Compound (VOC) emissions from burning natural gas shall not exceed 0.1 lb/hr.	The emission limitation specified in this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
	Particulate emissions from burning digester gas shall not exceed 0.09 lb/hr.	Exempt pursuant to OAC rule 3745-18-06(B).
		None, see A.I.2.a below.

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None, see A.I.2.b below.

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## 2. Additional Terms and Conditions

- 2.a** The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this Permit to Install.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

- 2.b** The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this Permit to Install.

On February 15, 2005, OAC rule 3745-23-06 was rescinded and therefore no longer a part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-23-06, the requirement to satisfy "latest available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

- 2.c** The hourly and annual allowable emission limitations for this emissions unit were established to reflect their potential to emit. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with these limitations.

## II. Operational Restrictions

1. The permittee shall burn only natural gas and/or digester gas in this emissions unit.
2. The permittee shall install an interlock on emissions units B036-B039 that prevent more than 3 of these emissions units from operating at the same time.

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

1. For each day during which the permittee burns a fuel other than natural gas and/or digester gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

### **IV. Reporting Requirements**

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

### **V. Testing Requirements**

1. Compliance with the emission limitations in section A.1 of these terms and conditions shall be determined in accordance with the following methods:
  - a. Emission Limitations: Carbon monoxide (CO) emissions from burning natural gas shall not exceed 0.79 lb/hr; Nitrogen Oxide (NO<sub>x</sub>) emissions from burning natural gas shall not exceed 0.94 lb/hr; Sulfur Dioxide (SO<sub>2</sub>) emissions from burning digester gas shall not exceed 1.88 lbs/hr; Carbon monoxide (CO) emissions from burning digester gas shall not exceed 0.06 lb/hr; and Nitrogen Oxide (NO<sub>x</sub>) emissions from burning digester gas shall not exceed 0.35 lb/hr.

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

- i. The emission testing shall be conducted within 60 days after achieving the maximum production rate but no later than 180 days after initial startup of the emissions unit.
- ii. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rates for CO, NO<sub>x</sub> and SO<sub>2</sub> while burning digester gas and CO and NO<sub>x</sub> while burning natural gas
- iii. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s) for:

For NO<sub>x</sub>, Methods 1-4 and 7 or 7E of 40 CFR Part 60, Appendix A.

For SO<sub>2</sub>, Methods 1-4 and 6 or 6C of 40 CFR Part 60, Appendix A

For CO, Methods 1-4 and 10 of 40 CFR Part 60, Appendix A

Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

- iv. The test(s) shall be conducted while this emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, Central District Office.

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

Personnel from the Ohio EPA, Central 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, Central 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, Central District Office.

- b. Emissions Limitation: Particulate emissions shall not exceed 0.38 ton per year.

Applicable Compliance Method: Compliance with the annual limitations shall be assumed as long as compliance with the hourly limitations is maintained (each annual limitation was calculated by multiplying the hourly limitation by 8760, and then dividing by 2000).

- c. Emissions Limitation: CO emissions shall not exceed 3.46 tons per year.

Applicable Compliance Method: Compliance with the annual limitations shall be

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assumed as long as compliance with the hourly limitations is maintained (each annual limitation was calculated by multiplying the hourly limitation by 8760, and then dividing by 2000).

- d. Emissions Limitation: NO<sub>x</sub> emissions shall not exceed 4.12 tons per year.

Applicable Compliance Method: Compliance with the annual limitations shall be assumed as long as compliance with the hourly limitations is maintained (each annual limitation was calculated by multiplying the hourly limitation by 8760, and then dividing by 2000).

- e. Emissions Limitation: SO<sub>2</sub> emissions shall not exceed 8.22 tons per year.

Applicable Compliance Method: Compliance with the annual limitations shall be assumed as long as compliance with the hourly limitations is maintained (each annual limitation was calculated by multiplying the hourly limitation by 8760, and then dividing by 2000).

- f. Emissions Limitation: VOC emissions shall not exceed 0.45 ton per year.

Applicable Compliance Method: Compliance with the annual limitations shall be assumed as long as compliance with the hourly limitations is maintained (each annual limitation was calculated by multiplying the hourly limitation by 8760, and then dividing by 2000).

- g. Emissions Limitation: Sulfur Dioxide (SO<sub>2</sub>) emissions from burning natural gas shall not exceed 0.01 lb/hr.

Applicable Compliance Method: Compliance with the allowable mass emission rate for SO<sub>2</sub> emissions may be determined by multiplying the maximum gas usage of 9,415 scf/hr by an emission factor of 0.6 lb per million scf. This emission factor is specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4 Tables 1.4-1 and 1.4-2(7/98). If required, the permittee shall demonstrate compliance with the emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1-4 and 6C.

- h. Emissions Limitation: Volatile Organic Compound (VOC) emissions from burning digester gas shall not exceed 0.05 lb/hr.

Applicable Compliance Method: Compliance with the allowable mass emission rate for VOC emissions may be determined by multiplying the maximum digester gas usage 15,005 scf/hr by an emission factor of 3 lbs per million scf. This emission factor is specified in ) USEPA's FIRE 6.32 database ( 1990) for external combustion of POTW gas in a boiler. If required, the permittee shall demonstrate compliance with the emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1-4 and 25A.

- i. Emissions Limitation: Volatile Organic Compound (VOC) emissions from burning natural gas shall not exceed 0.1 lb/hr.

Applicable Compliance Method: Compliance with the allowable mass emission rate for VOC emissions may be determined by multiplying the maximum gas usage of 9,415 scf/hr by an emission factor of 11 lbs per million scf. This emission factor is specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4 Tables 1.4-1 and 1.4-2(7/98). If required, the permittee shall demonstrate compliance with the emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1-4 and 25A.

- j. Emissions Limitation: Particulate emissions from burning digester gas shall not exceed 0.09 lb/hr.

Applicable Compliance Method: Compliance with the allowable mass emission rate for particulate emissions may be determined by multiplying the maximum digester gas usage of 15,005 scf/hr by an emission factor of 8.2 lbs per million scf and a 0.7 methane/digester gas ratio. This emission factor is specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 2.4 Table 2.4-5(11/98). If required, the permittee shall demonstrate compliance with the emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1-5.

- k. Emissions Limitation: Particulate emissions from burning natural gas shall not exceed 0.07 lb/hr.

Applicable Compliance Method: Compliance with the allowable mass emission rate for particulate emissions may be determined by multiplying the maximum natural gas usage of 9,415 scf/hr by an emission factor of 7.6 lbs per million scf. This emission factor is specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4 Table 1.4-1 and Table 1.4-2(7/98). If required, the permittee shall demonstrate compliance with the emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1-5

2. Emission Limitation -  
Visible particulate emissions from any stack shall not exceed twenty percent opacity as a six-minute average, except as provided by rule.

Applicable Compliance Method -

If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the

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procedures specified in OAC rule 3745-17-03(B)(1).

## **VI. Miscellaneous Requirements**

1. Modeling to demonstrate compliance with the Ohio EPA's Air Toxic Policy was not necessary since the emissions unit's maximum annual emissions for each toxic compound will be less than 1.0 ton. OAC Chapter 3745-31 requires permittees to apply for and obtain a new or modified permit to install prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant that has a listed TLV to above 1.0 ton per year may require the permittee to apply for and obtain a new permit to install.

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**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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
B039 - Sludge Control Building boiler number 4	None	None

**2. Additional Terms and Conditions**

2.a None

**II. Operational Restrictions**

None

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

None

**IV. Reporting Requirements**

None

**V. Testing Requirements**

None

**VI. Miscellaneous Requirements**

None