



State of Ohio Environmental Protection Agency

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Columbus, OH 43216-1049

1/21/2010

Certified Mail

Mr. Rich DeLuca  
City of Struthers WWTP  
530 Lowelville Road  
Struthers, OH 44471

No	TOXIC REVIEW
No	PSD
No	SYNTHETIC MINOR
No	CEMS
Yes	MACT
Yes	NSPS
No	NESHAPS
No	NETTING
No	MAJOR NON-ATTAINMENT
No	MODELING SUBMITTED

RE: FINAL AIR POLLUTION PERMIT-TO-INSTALL AND OPERATE  
Facility ID: 0250092002  
Permit Number: P0105719  
Permit Type: Initial Installation  
County: Mahoning

Dear Permit Holder:

Enclosed please find a final Air Pollution Permit-to-Install and Operate ("PTIO") which will allow you to install, modify, and/or operate the described emissions unit(s) in the manner indicated in the permit. Because this permit contains conditions and restrictions, please read it very carefully. Please complete a survey at [www.epa.ohio.gov/dapc/permitsurvey.aspx](http://www.epa.ohio.gov/dapc/permitsurvey.aspx) and give us feedback on your permitting experience. We value your opinion.

Ohio EPA maintains a document entitled "Frequently Asked Questions about the PTIO". The document can be downloaded from the DAPC Web page, [www.epa.ohio.gov/dapc](http://www.epa.ohio.gov/dapc), from the "Permits" link. This document contains additional information related to your permit, such as what activities are covered under the PTIO, who has enforcement authority over the permit and Ohio EPA's authorization to inspect your facility and records. Please contact the Office of Compliance Assistance and Pollution Prevention at (614) 644-3469 if you need assistance.

The issuance of this PTIO is a final action of the Director and may be appealed to the Environmental Review Appeals Commission ("ERAC") under Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and describe the action complained of and the grounds for the appeal. The appeal must be filed with the ERAC within thirty (30) days after notice of the Director's action. A filing fee of \$70.00 must be submitted to the ERAC with the appeal, although the ERAC, has discretion to reduce the amount of the filing fee if you can demonstrate (by affidavit) that payment of the full amount of the fee would cause extreme hardship. If you file an appeal of this action, you must notify Ohio EPA of the filing of the appeal (by providing a copy to the Director) within three (3) days of filing your appeal with the ERAC. Ohio EPA requests that a copy of the appeal also be provided to the Ohio Attorney General's Office, Environmental Enforcement Section. An appeal may be filed with the ERAC at the following address:

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

If you have any questions regarding this permit, please contact the Ohio EPA DAPC, Northeast District Office. This permit has been posted to the Division of Air Pollution Control (DAPC) Web page [www.epa.ohio.gov/dapc](http://www.epa.ohio.gov/dapc).

Sincerely,

*Michael W. Ahern*  
Michael W. Ahern, Manager  
Permit Issuance and Data Management Section, DAPC

Cc: Ohio EPA-NEDO

Ted Strickland, Governor  
Lee Fisher, Lieutenant Governor  
Chris Korleski, Director





**State of Ohio Environmental Protection Agency  
Division of Air Pollution Control**

**FINAL**

**Air Pollution Permit-to-Install and Operate  
for  
City of Struthers WWTP**

Facility ID: 0250092002  
Permit Number: P0105719  
Permit Type: Initial Installation  
Issued: 1/21/2010  
Effective: 1/21/2010  
Expiration: 1/21/2020





**Air Pollution Permit-to-Install and Operate**  
for  
City of Struthers WWTP

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Division of Air Pollution Control

**Final Permit-to-Install and Operate**  
**Permit Number:** P0105719  
**Facility ID:** 0250092002  
**Effective Date:** 1/21/2010

# Authorization

Facility ID: 0250092002  
Application Number(s): A0038617, A0038885  
Permit Number: P0105719  
Permit Description: New installation of digester gas-fired generator and flare  
Permit Type: Initial Installation  
Permit Fee: \$600.00  
Issue Date: 1/21/2010  
Effective Date: 1/21/2010  
Expiration Date: 1/21/2020  
Permit Evaluation Report (PER) Annual Date: Jan 1 - Dec 31, Due Feb 15

This document constitutes issuance to:

City of Struthers WWTP  
530 Lowellville Road  
Struthers, OH 44471

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

Ohio EPA District Office or local air agency responsible for processing and administering your permit:

Ohio EPA DAPC, Northeast District Office  
2110 East Aurora Road  
Twinsburg, OH 43087  
(330)425-9171

The above named entity is hereby granted this Permit-to-Install and Operate for the air contaminant source(s) (emissions unit(s)) listed in this section pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this permit does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the described emissions unit(s) will operate in compliance with applicable State and federal laws and regulations.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Chris Korleski  
Director



## Authorization (continued)

Permit Number: P0105719  
Permit Description: New installation of digester gas-fired generator and flare

Permits for the following emissions unit(s) or groups of emissions units are in this document as indicated below:

<b>Emissions Unit ID:</b>	<b>P001</b>
Company Equipment ID:	Waukesha Engine
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P002</b>
Company Equipment ID:	Waukesha Engine
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P003</b>
Company Equipment ID:	Emergency flare
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable



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**Final Permit-to-Install and Operate**

**Permit Number:** P0105719

**Facility ID:** 0250092002

**Effective Date:** 1/21/2010

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



**1. What does this permit-to-install and operate ("PTIO") allow me to do?**

This permit allows you to install and operate the emissions unit(s) identified in this PTIO. You must install and operate the unit(s) in accordance with the application you submitted and all the terms and conditions contained in this PTIO, including emission limits and those terms that ensure compliance with the emission limits (for example, operating, recordkeeping and monitoring requirements).

**2. Who is responsible for complying with this permit?**

The person identified on the "Authorization" page, above, is responsible for complying with this permit until the permit is revoked, terminated, or transferred. "Person" means a person, firm, corporation, association, or partnership. The words "you," "your," or "permittee" refer to the "person" identified on the "Authorization" page above.

The permit applies only to the emissions unit(s) identified in the permit. If you install or modify any other equipment that requires an air permit, you must apply for an additional PTIO(s) for these sources.

**3. What records must I keep under this permit?**

You must keep all records required by this permit, including monitoring data, test results, strip-chart recordings, calibration data, maintenance records, and any other record required by this permit for five years from the date the record was created. You can keep these records electronically, provided they can be made available to Ohio EPA during an inspection at the facility. Failure to make requested records available to Ohio EPA upon request is a violation of this permit requirement.

**4. What are my permit fees and when do I pay them?**

There are two fees associated with permitted air contaminant sources in Ohio:

- PTIO fee. This one-time fee is based on a fee schedule in accordance with Ohio Revised Code (ORC) section 3745.11, or based on a time and materials charge for permit application review and permit processing if required by the Director.

You will be sent an invoice for this fee after you receive this PTIO and payment is due within 30 days of the invoice date. You are required to pay the fee for this PTIO even if you do not install or modify your operations as authorized by this permit.

- Annual emissions fee. Ohio EPA will assess a separate fee based on the total annual emissions from your facility. You self-report your emissions in accordance with Ohio Administrative Code (OAC) Chapter 3745-78. This fee assessed is based on a fee schedule in ORC section 3745.11 and funds Ohio EPA's permit compliance oversight activities. For facilities that are permitted as synthetic minor sources, the fee schedule is adjusted annually for inflation. Ohio EPA will notify you when it is time to report your emissions and to pay your annual emission fees.

**5. When does my PTIO expire, and when do I need to submit my renewal application?**

This permit expires on the date identified at the beginning of this permit document (see "Authorization" page above) and you must submit a renewal application to renew the permit. Ohio EPA will send a renewal notice to you approximately six months prior to the expiration date of this permit. However, it is very important that you submit a complete renewal permit application (postmarked prior to expiration of this permit) even if you do not receive the renewal notice.



If a complete renewal application is submitted before the expiration date, Ohio EPA considers this a timely application for purposes of ORC section 119.06, and you are authorized to continue operating the emissions unit(s) covered by this permit beyond the expiration date of this permit until final action is taken by Ohio EPA on the renewal application.

**6. What happens to this permit if my project is delayed or I do not install or modify my source?**

This PTIO expires 18 months after the issue date identified on the "Authorization" page above unless otherwise specified if you have not (1) started constructing the new or modified emission sources identified in this permit, or (2) entered into a binding contract to undertake such construction. This deadline can be extended by up to 12 months, provided you apply to Ohio EPA for this extension within a reasonable time before the 18-month period has ended and you can show good cause for any such extension.

**7. What reports must I submit under this permit?**

An annual permit evaluation report (PER) is required in addition to any malfunction reporting required by OAC rule 3745-15-06 or other specific rule-based reporting requirement identified in this permit. Your PER due date is identified in the Authorization section of this permit.

**8. If I am required to obtain a Title V operating permit in the future, what happens to the operating provisions and PER obligations under this permit?**

If you are required to obtain a Title V permit under OAC Chapter 3745-77 in the future, the permit-to-operate portion of this permit will be superseded by the issued Title V permit. From the effective date of the Title V permit forward, this PTIO will effectively become a PTI (permit-to-install) in accordance with OAC rule 3745-31-02(B). The following terms and conditions will no longer be applicable after issuance of the Title V permit: Section B, Term 1.b) and Section C, for each emissions unit, Term a)(2).

The PER requirements in this permit remain effective until the date the Title V permit is issued and is effective, and cease to apply after the effective date of the Title V permit. The final PER obligation will cover operations up to the effective date of the Title V permit and must be submitted on or before the submission deadline identified in this permit on the last day prior to the effective date of the Title V permit.

**9. What are my obligations when I perform scheduled maintenance on air pollution control equipment?**

You must perform scheduled maintenance of air pollution control equipment in accordance with OAC rule 3745-15-06(A). If scheduled maintenance requires shutting down or bypassing any air pollution control equipment, you must also shut down the emissions unit(s) served by the air pollution control equipment during maintenance, unless the conditions of OAC rule 3745-15-06(A)(3) are met. Any emissions that exceed permitted amount(s) under this permit (unless specifically exempted by rule) must be reported as deviations in the annual permit evaluation report (PER), including nonexempt excess emissions that occur during approved scheduled maintenance.



**10. Do I have to report malfunctions of emissions units or air pollution control equipment? If so, how must I report?**

If you have a reportable malfunction of any emissions unit(s) or any associated air pollution control system, you must report this to the Ohio EPA DAPC, Northeast District Office in accordance with OAC rule 3745-15-06(B). Malfunctions that must be reported are those that result in emissions that exceed permitted emission levels. It is your responsibility to evaluate control equipment breakdowns and operational upsets to determine if a reportable malfunction has occurred.

If you have a malfunction, but determine that it is not a reportable malfunction under OAC rule 3745-15-06(B), it is recommended that you maintain records associated with control equipment breakdown or process upsets. Although it is not a requirement of this permit, Ohio EPA recommends that you maintain records for non-reportable malfunctions.

**11. Can Ohio EPA or my local air agency inspect the facility where the emission unit(s) is/are located?**

Yes. Under Ohio law, the Director or his authorized representative may inspect the facility, conduct tests, examine records or reports to determine compliance with air pollution laws and regulations and the terms and conditions of this permit. You must provide, within a reasonable time, any information Ohio EPA requests either verbally or in writing.

**12. What happens if one or more emissions units operated under this permit is/are shut down permanently?**

Ohio EPA can terminate the permit terms associated with any permanently shut down emissions unit. "Shut down" means the emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31.

You should notify Ohio EPA of any emissions unit that is permanently shut down by submitting a certification that identifies the date on which the emissions unit was permanently shut down. The certification must be submitted by an authorized official from the facility. You cannot continue to operate an emission unit once the certification has been submitted to Ohio EPA by the authorized official.

You must comply with all recordkeeping and reporting for any permanently shut down emissions unit in accordance with the provisions of the permit, regulations or laws that were enforceable during the period of operation, such as the requirement to submit a PER, air fee emission report, or malfunction report. You must also keep all records relating to any permanently shutdown emissions unit, generated while the emissions unit was in operation, for at least five years from the date the record was generated.

Again, you cannot resume operation of any emissions unit certified by the authorized official as being permanently shut down without first applying for and obtaining a permit pursuant to OAC Chapter 3745-31.

**13. Can I transfer this permit to a new owner or operator?**

You can transfer this permit to a new owner or operator. If you transfer the permit, you must follow the procedures in OAC Chapter 3745-31, including notifying Ohio EPA or the local air agency of the



State of Ohio Environmental Protection Agency  
Division of Air Pollution Control

**Final Permit-to-Install and Operate**

**Permit Number:** P0105719

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change in ownership or operator. Any transferee of this permit must assume the responsibilities of the transferor permit holder.

**14. Does compliance with this permit constitute compliance with OAC rule 3745-15-07, "air pollution nuisance"?**

This permit and OAC rule 3745-15-07 prohibit operation of the air contaminant source(s) regulated under this permit in a manner that causes a nuisance. Ohio EPA can require additional controls or modification of the requirements of this permit through enforcement orders or judicial enforcement action if, upon investigation, Ohio EPA determines existing operations are causing a nuisance.

**15. What happens if a portion of this permit is determined to be invalid?**

If a portion of this permit is determined to be invalid, the remainder of the terms and conditions remain valid and enforceable. The exception is where the enforceability of terms and conditions are dependent on the term or condition that was declared invalid.



State of Ohio Environmental Protection Agency  
Division of Air Pollution Control

**Final Permit-to-Install and Operate**

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



1. This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).
  - a) For the purpose of a permit-to-install document, the facility-wide terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
    - (1) None.
  - b) For the purpose of a permit-to-operate document, the facility-wide terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
    - (1) None.
2. The following emissions units contained in this permit are subject to 40 CFR Part 60, Subpart JJJJ: P001 and P002. The complete NSPS requirements, including the NSPS General Provisions may be accessed via the internet from the Electronic Code of Federal Regulations (e-CFR) website <http://ecfr.gpoaccess.gov> or by contacting the Ohio EPA Northeast District Office.
3. The following emissions units contained in this permit are subject to 40 CFR Part 63, Subpart ZZZZ: P001 and P002. The complete MACT requirements, including the MACT General Provisions may be accessed via the internet from the Electronic Code of Federal Regulations (e-CFR) website <http://ecfr.gpoaccess.gov> or by contacting the Ohio EPA Northeast District Office.



State of Ohio Environmental Protection Agency  
Division of Air Pollution Control

**Final Permit-to-Install and Operate**

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



**1. P001, Waukesha Engine**

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

Digester gas-fired, 4-stroke, lean burn, reciprocating internal combustion engine (Waukesha H24GLD) rated at 585 HP, 4.11 mmBtu/hr, with natural gas back-up and hydrogen sulfide removal system.

a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

(1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

a. g)(1).

(2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.

a. None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3)(a)(ii)	See b)(2)a and b)(2)b.
b.	OAC rule 3745-31-05(A)(3)	The requirements of this rule are equivalent to the requirements of 40 CFR Part 60, Subpart JJJJ for CO when burning digester gas.
c.	OAC rule 3745-31-05(E) (State Synthetic Minor to avoid modeling for formaldehyde)	0.99 TPY of formaldehyde. See c)(2).
d.	OAC rule 3745-31-05(E) (Voluntary Restriction to Avoid BAT)	Nitrogen oxide (NOx) emissions shall not exceed 9.02 TPY. See b)(2)d.
e.	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.
f.	OAC rule 3745-17-10(B)(1)	Particulate emissions (PE) shall not exceed 0.020 lb/million Btu actual heat input.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
g.	40 CFR Part 60, Subpart JJJJ (40 CFR 60.4230-60.4248)	<p>When burning digester gas: NOx emissions shall not exceed 3.0 g/HP-hr.</p> <p>CO emissions shall not exceed 5.0 g/HP-hr.</p> <p>VOC emissions shall not exceed 1.0 g/HP-hr.</p> <p>NOx emissions shall not exceed 220 ppmvd at 15% O2.</p> <p>CO emissions shall not exceed 610 ppmvd at 15% O2.</p> <p>VOC emissions shall not exceed 80 ppmvd at 15% O2.</p> <p>When burning natural gas: NOx emissions shall not exceed 2.0 g/HP-hr.</p> <p>CO emissions shall not exceed 4.0 g/HP-hr.</p> <p>VOC emissions shall not exceed 1.0 g/HP-hr.</p> <p>NOx emissions shall not exceed 160 ppmvd at 15% O2.</p> <p>CO emissions shall not exceed 540 ppmvd at 15% O2.</p> <p>VOC emissions shall not exceed 86 ppmvd at 15% O2.</p> <p>[40 CFR Part 60.4233(e) &amp; 40 CFR Part 60, Subpart JJJJ, Table 1]</p>
h.	40 CFR Part 63, Subpart ZZZZ (40 CFR 63.6580 – 63.6675)	See b)(2)c.

(2) Additional Terms and Conditions

- a. The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the volatile organic compound (VOC), sulfur dioxide (SO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>) or particulate emissions (PE) from this air



contaminant source when burning digester gas since the uncontrolled potential to emit for VOC, SO<sub>2</sub>, NO<sub>x</sub> and PE is each less than ten tons per year. The hydrogen sulfide treatment system prior to the engine shall be operational at all times that the emissions unit is in operation, in accordance with manufacturer's instructions.

- b. The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the volatile organic compound (VOC), sulfur dioxide (SO<sub>2</sub>), carbon monoxide (CO) or particulate emissions (PE) from this air contaminant source when burning natural gas since the uncontrolled potential to emit for VOC, SO<sub>2</sub>, CO and PE is each less than ten tons per year.
- c. The permittee shall comply with the applicable requirements of 40 CFR Part 60 Subpart JJJJ, including the following sections:

60.4236(b)	Installation deadlines
60.4243(b)	Compliance requirements

- d. Permit to Install P0105719 for this air contaminant source takes into account the following voluntary restriction as proposed by the permittee for the purpose of avoiding Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3):

- i. Limiting the hours of operation for this emissions unit to 7,000 hours per year while burning natural gas.

c) Operational Restrictions

- (1) The permittee shall burn only digester gas and natural gas in this emissions unit.
- (2) The maximum operating hours for this emissions unit while burning natural gas shall not exceed 7,000 hours per year.
- (3) Emissions units P001 and P002 shall not be operated simultaneously.
- (4) The permittee shall comply with the applicable restrictions of 40 CFR Part 60 Subpart JJJJ, including the following sections:

60.4234	Duration of compliance with emissions standards
60.4243(b)	Maintenance requirements
60.4243(e)	Alternative fuel
60.4243(g)	AFR controllers



d) Monitoring and/or Recordkeeping Requirements

- (1) For each day during which the permittee burns a fuel other than digester gas or natural gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.
- (2) The permittee shall maintain weekly records of the operating hours for this emissions unit while burning natural gas.
- (3) The permittee shall comply with the applicable restrictions of 40 CFR Part 60 Subpart JJJJ, including the following sections:

60.4243(b)(2)(ii)	Keep a maintenance plan and records of conducted maintenance
60.4245(a)	Records required

e) Reporting Requirements

- (1) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the Director by the due date identified in the Authorization section of this permit. The PER shall cover a reporting period of no more than 12-months for each air contaminant source identified in this permit.
- (2) Pursuant to the NSPS, the source owner/operator is hereby advised of the requirement to report the following at the appropriate times:
  - a. Construction date (no later than 30 days after such date);
  - b. Actual start-up date (within 15 days after such date);
  - c. Date of performance testing (if required, at least 30 days prior to testing); and
  - d. Any physical or operational change which may increase the emission rate of any air pollutant to which a standard applies (no later than 60 days or as soon as practicable before the change is commenced).

Reports are to be sent to the Ohio EPA Northeast District Office, U.S. EPA and to:

Ohio Environmental Protection Agency  
 DAPC - Permit Management Unit  
 50 West Town Street, Suite 700  
 P.O. Box 1049  
 Columbus, Ohio 43216-1049

If the permittee chooses to submit these reports via the Ohio EPA's online eBusiness Center, then hard copies are not required to be sent to the Ohio EPA offices. A hard copy would still be required to be sent to the U.S. EPA.



- (3) The permittee shall comply with the applicable restrictions of 40 CFR Part 60 Subpart JJJJ, including the following sections:

60.4245(c)	Initial notification
60.4245(d)	Performance test report

f) Testing Requirements

- (1) To demonstrate compliance with the emission standards specified in §60.4233(e), you must demonstrate compliance according to one of the following methods:

- a. Purchasing an engine certified according to procedures specified in 40 CFR Subpart JJJJ, for the same model year and demonstrating compliance according to one of the methods specified in paragraph §60.4243(a).

- i. If the permittee operates and maintains the certified stationary SI internal combustion engine and control device according to the manufacturer's emission-related written instructions, the permittee must keep records of conducted maintenance to demonstrate compliance, but no performance testing is required.

- ii. If the permittee does not operate and maintain the certified stationary SI internal combustion engine and control device according to the manufacturer's emission-related written instructions, the engine will be considered a non-certified engine, and the permittee must keep a maintenance plan and records of conducted maintenance consistent with good air pollution control practice for minimizing emissions. In addition, the permittee must conduct an initial performance test within 1 year of engine startup and conduct subsequent performance testing every 8,760 hours or 3 years, whichever comes first, thereafter to demonstrate compliance.

- b. Purchasing a non-certified engine and demonstrating compliance with the emission standards specified in §60.4233(e) and according to the requirements specified in §60.4244, as applicable. The permittee must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, the permittee must conduct an initial performance test and conduct subsequent performance testing every 8,760 hours or 3 years, whichever comes first, thereafter to demonstrate compliance.

- (2) If the permittee chooses to demonstrate compliance with the emission standards specified in §60.4233(e) by performing a stack test, the permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the procedures specified in 40 CFR §60.4244, 40 CFR Part 60 Subpart JJJJ Table 2, and the following requirements.

- a. Conduct performance testing in the following manner:



- i. if the permittee is purchasing an engine certified according to procedures specified in 40 CFR Subpart JJJJ but does not operate and maintain the certified stationary SI internal combustion engine and control device according to the manufacturer's emission-related written instructions an initial performance test shall be performed to demonstrate compliance with the mass emissions limitations in §60.4233(e) for VOC, NO<sub>x</sub>, and CO, within 1 year of start up. In addition, subsequent performance testing will be conducted every 8,760 hours or 3 years, whichever comes first, thereafter to demonstrate compliance with the mass emissions limitations in §60.4233(e) for VOC, NO<sub>x</sub>, and CO; or
  - ii. if the permittee is purchasing a non-certified engine, an initial performance test shall be performed to demonstrate compliance with the mass emissions limitations in §60.4233(e) for VOC, NO<sub>x</sub>, and CO, within 60 days after achieving the maximum production rate at which the emissions unit will be operated, but not later than 180 days after initial startup of the emissions unit. In addition, subsequent performance testing will be conducted every 8,760 hours or 3 years, whichever comes first, thereafter to demonstrate compliance with the mass emissions limitations in §60.4233(e) for VOC, NO<sub>x</sub>, and CO.
- b. If the stationary internal combustion engine is rebuilt, or undergoes major repair or maintenance the permittee shall conduct subsequent performance testing.
- c. Each performance test must be conducted within 10 percent of 100 percent peak (or the highest achievable) load and according to the requirements in §60.8 and under the specific conditions that are specified by Table 2 of 40 CFR Part 60, Subpart JJJJ.
- d. 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 Northeast 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 Northeast District Office's refusal to accept the results of the emission test(s).
- e. Personnel from the Ohio EPA Northeast District Office shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.
- f. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA Northeast District Office within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Ohio EPA Northeast District Office.



(3) Compliance with the emission limitations in (b)(1) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitation:

Visible particulate emissions shall not exceed 20% opacity, as a 6-minute average, except as provided by the rule.

Applicable Compliance Method:

If required, compliance with the visible particulate emission limitation shall be demonstrated in accordance with the procedures specified in 40 CFR Part 60, Appendix A, Method 9.

b. Emission Limitation:

PE shall not exceed 0.020 lb/MMBtu of actual heat input.

Applicable Compliance Method:

Compliance shall be demonstrated based upon an emission factor of 0.00991 lb/MMBtu of heat input. This emission factor is specified in the U.S. EPA reference document AP-42, Compilation of Air Pollutant Emission Factors, Section 3.2, Table 3.2-2 (7/00).

If required, compliance with the PE limitation shall be demonstrated in accordance with the procedures specified in 40 CFR Part 60, Appendix A, Methods 1 through 5.

c. Emission Limitation:

0.99 TPY of formaldehyde

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the emission factor of 0.22 g formaldehyde/BHP-hr (from the engine manufacturer) by the maximum rating of the unit (585 HP) and the maximum hours of operation (7,000 hrs/yr). This value is then converted from grams into tons by dividing by 454 g/lb, then dividing by 2000 lbs/ton.

d. Emission Limitations:

NOx emissions shall not exceed 2.0 g/HP-hr, and 160 ppmvd at 15% O<sub>2</sub>, when burning natural gas.

NOx emissions shall not exceed 3.0 g/HP-hr, and 220 ppmvd at 15% O<sub>2</sub>, when burning digester gas.



Applicable Compliance Method:

If required, compliance with the NO<sub>x</sub> emission limitations shall be demonstrated in accordance with the procedures specified in the following test methods:

40 CFR Part 60, Appendix A, Method 1 or 1A

40 CFR Part 60, Appendix A, Method 2 or 19

40 CFR Part 60, Appendix A, Method 3, 3A, or 3B

40 CFR Part 60, Appendix A, Method 4 or 40 CFR Part 63, Appendix A, Method 320

40 CFR Part 60, Appendix A, Method 7E or 40 CFR Part 63, Appendix A, Method 320

See f)(1) and f)(2).

e. Emission Limitations:

CO emissions shall not exceed 4.0 g/HP-hr, and 540 ppmvd at 15% O<sub>2</sub>, when burning natural gas.

CO emissions shall not exceed 5.0 g/HP-hr, and 610 ppmvd at 15% O<sub>2</sub>, when burning methane gas.

Applicable Compliance Method:

If required, compliance with the CO emission limitations shall be demonstrated in accordance with the procedures specified in the following test methods:

40 CFR Part 60, Appendix A, Method 1 or 1A

40 CFR Part 60, Appendix A, Method 2 or 19

40 CFR Part 60, Appendix A, Method 3, 3A, or 3B

40 CFR Part 60, Appendix A, Method 4 or 40 CFR Part 63, Appendix A, Method 320

40 CFR Part 60, Appendix A, Method 10 or 40 CFR Part 63, Appendix A, Method 320

See f)(1) and f)(2)..

f. Emission Limitations:

VOC emissions shall not exceed 1.0 g/HP-hr, and 86 ppmvd at 15% O<sub>2</sub>, when burning natural gas.

VOC emissions shall not exceed 1.0 g/HP-hr, and 80 ppmvd at 15% O<sub>2</sub>, when burning digester gas.



Applicable Compliance Method:

If required, compliance with the VOC emission limitations shall be demonstrated in accordance with the procedures specified in the following test methods:

40 CFR Part 60, Appendix A, Method 1 or 1A

40 CFR Part 60, Appendix A, Method 2 or 19

40 CFR Part 60, Appendix A, Method 3, 3A, or 3B

40 CFR Part 60, Appendix A, Method 4 or 40 CFR Part 63, Appendix A, Method 320

40 CFR Part 60, Appendix A, Method 18, 25A or 40 CFR Part 63, Appendix A, Method 320

See f)(1) and f)(2).

g. Emission Limitation:

NOx emissions shall not exceed 9.02 TPY.

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the emission factor of 2 g NOx/BHP-hr (from the engine manufacturer) by the maximum rating of the unit (585 HP) and the maximum hours of operation (7,000 hrs/yr). This value is then converted from grams into tons by dividing by 454 g/lb, then dividing by 2000 lbs/ton.

g) Miscellaneous Requirements

- (1) Modeling to demonstrate compliance with, the "Toxic Air Contaminant Statute", ORC 3704.03(F)(4)(b), was not necessary because the emissions unit's maximum annual emissions for each toxic air contaminant, as defined in OAC rule 3745-114-01, will be less than 1.0 ton per year. OAC Chapter 3745-31 requires permittees to apply for and obtain a new or modified PTIO 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 cause the emissions of any toxic air contaminant to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new PTIO.



**2. P002, Waukesha Engine**

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

Digester gas-fired, 4-stroke, lean burn, reciprocating internal combustion engine (Waukesha H24GLD) rated at 585 HP, 4.11 mmBtu/hr, with natural gas back-up and hydrogen sulfide removal system.

a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

(1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

a. g)(1).

(2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.

a. None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3)(a)(ii)	See b)(2)a and b)(2)b.
b.	OAC rule 3745-31-05(A)(3)	The requirements of this rule are equivalent to the requirements of 40 CFR Part 60, Subpart JJJJ for CO when burning digester gas.
c.	OAC rule 3745-31-05(E) (State Synthetic Minor to avoid modeling for formaldehyde)	0.99 TPY of formaldehyde. See c)(2).
d.	OAC rule 3745-31-05(E) (Voluntary Restriction to Avoid BAT)	Nitrogen oxide (NOx) emissions shall not exceed 9.02 TPY. See b)(2)d.
e.	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.
f.	OAC rule 3745-17-10(B)(1)	Particulate emissions (PE) shall not exceed 0.020 lb/million Btu actual heat input.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
g.	40 CFR Part 60, Subpart JJJJ (40 CFR 60.4230-60.4248)	<p>When burning digester gas:            NOx emissions shall not exceed 3.0 g/HP-hr.             CO emissions shall not exceed 5.0 g/HP-hr.             VOC emissions shall not exceed 1.0 g/HP-hr.             NOx emissions shall not exceed 220 ppmvd at 15% O2.             CO emissions shall not exceed 610 ppmvd at 15% O2.             VOC emissions shall not exceed 80 ppmvd at 15% O2.</p> <p>When burning natural gas:            NOx emissions shall not exceed 2.0 g/HP-hr.             CO emissions shall not exceed 4.0 g/HP-hr.             VOC emissions shall not exceed 1.0 g/HP-hr.             NOx emissions shall not exceed 160 ppmvd at 15% O2.             CO emissions shall not exceed 540 ppmvd at 15% O2.             VOC emissions shall not exceed 86 ppmvd at 15% O2.</p> <p>[40 CFR Part 60.4233(e) &amp; 40 CFR Part 60, Subpart JJJJ, Table 1]</p>
h.	40 CFR Part 63, Subpart ZZZZ (40 CFR 63.6580 – 63.6675)	See b)(2)c.

(2) Additional Terms and Conditions

- a. The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the volatile organic compound (VOC), sulfur dioxide (SO<sub>2</sub>), nitrogen oxides (NOx) or particulate emissions (PE) from this air



contaminant source when burning digester gas since the uncontrolled potential to emit for VOC, SO<sub>2</sub>, NO<sub>x</sub> and PE is each less than ten tons per year. The hydrogen sulfide treatment system prior to the engine shall be operational at all times that the emissions unit is in operation, in accordance with manufacturer's instructions.

- b. The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the volatile organic compound (VOC), sulfur dioxide (SO<sub>2</sub>), carbon monoxide (CO) or particulate emissions (PE) from this air contaminant source when burning natural gas since the uncontrolled potential to emit for VOC, SO<sub>2</sub>, CO and PE is each less than ten tons per year.
- c. The permittee shall comply with the applicable requirements of 40 CFR Part 60 Subpart JJJJ, including the following sections:

60.4236(b)	Installation deadlines
60.4243(b)	Compliance requirements

- d. Permit to Install P0105719 for this air contaminant source takes into account the following voluntary restriction as proposed by the permittee for the purpose of avoiding Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3):
  - i. Limiting the hours of operation for this emissions unit to 7,000 hours per year while burning natural gas.

c) Operational Restrictions

- (1) The permittee shall burn only digester gas and natural gas in this emissions unit.
- (2) The maximum operating hours for this emissions unit while burning natural gas shall not exceed 7,000 hours per year.
- (3) Emissions units P001 and P002 shall not be operated simultaneously.
- (4) The permittee shall comply with the applicable restrictions of 40 CFR Part 60 Subpart JJJJ, including the following sections:

60.4234	Duration of compliance with emissions standards
60.4243(b)	Maintenance requirements
60.4243(e)	Alternative fuel
60.4243(g)	AFR controllers



d) Monitoring and/or Recordkeeping Requirements

- (1) For each day during which the permittee burns a fuel other than digester gas or natural gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.
- (2) The permittee shall maintain weekly records of the operating hours for this emissions unit while burning natural gas.
- (3) The permittee shall comply with the applicable restrictions of 40 CFR Part 60 Subpart JJJJ, including the following sections:

60.4243(b)(2)(ii)	Keep a maintenance plan and records of conducted maintenance
60.4245(a)	Records required

e) Reporting Requirements

- (1) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the Director by the due date identified in the Authorization section of this permit. The PER shall cover a reporting period of no more than 12-months for each air contaminant source identified in this permit.
- (2) Pursuant to the NSPS, the source owner/operator is hereby advised of the requirement to report the following at the appropriate times:
  - a. Construction date (no later than 30 days after such date);
  - b. Actual start-up date (within 15 days after such date);
  - c. Date of performance testing (if required, at least 30 days prior to testing); and
  - d. Any physical or operational change which may increase the emission rate of any air pollutant to which a standard applies (no later than 60 days or as soon as practicable before the change is commenced).

Reports are to be sent to the Ohio EPA Northeast District Office, U.S. EPA and to:

Ohio Environmental Protection Agency  
DAPC - Permit Management Unit  
50 West Town Street, Suite 700  
P.O. Box 1049  
Columbus, Ohio 43216-1049

If the permittee chooses to submit these reports via the Ohio EPA's online eBusiness Center, then hard copies are not required to be sent to the Ohio EPA offices. A hard copy would still be required to be sent to the U.S. EPA.



- (3) The permittee shall comply with the applicable restrictions of 40 CFR Part 60 Subpart JJJJ, including the following sections:

60.4245(c)	Initial notification
60.4245(d)	Performance test report

f) Testing Requirements

- (1) To demonstrate compliance with the emission standards specified in §60.4233(e), you must demonstrate compliance according to one of the following methods:

- a. Purchasing an engine certified according to procedures specified in 40 CFR Subpart JJJJ, for the same model year and demonstrating compliance according to one of the methods specified in paragraph §60.4243(a).

- i. If the permittee operates and maintains the certified stationary SI internal combustion engine and control device according to the manufacturer's emission-related written instructions, the permittee must keep records of conducted maintenance to demonstrate compliance, but no performance testing is required.

- ii. If the permittee does not operate and maintain the certified stationary SI internal combustion engine and control device according to the manufacturer's emission-related written instructions, the engine will be considered a non-certified engine, and the permittee must keep a maintenance plan and records of conducted maintenance consistent with good air pollution control practice for minimizing emissions. In addition, the permittee must conduct an initial performance test within 1 year of engine startup and conduct subsequent performance testing every 8,760 hours or 3 years, whichever comes first, thereafter to demonstrate compliance.

- b. Purchasing a non-certified engine and demonstrating compliance with the emission standards specified in §60.4233(e) and according to the requirements specified in §60.4244, as applicable. The permittee must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, the permittee must conduct an initial performance test and conduct subsequent performance testing every 8,760 hours or 3 years, whichever comes first, thereafter to demonstrate compliance.

- (2) If the permittee chooses to demonstrate compliance with the emission standards specified in §60.4233(e) by performing a stack test, the permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the procedures specified in 40 CFR §60.4244, 40 CFR Part 60 Subpart JJJJ Table 2, and the following requirements.

- a. Conduct performance testing in the following manner:



- i. if the permittee is purchasing an engine certified according to procedures specified in 40 CFR Subpart JJJJ but does not operate and maintain the certified stationary SI internal combustion engine and control device according to the manufacturer's emission-related written instructions an initial performance test shall be performed to demonstrate compliance with the mass emissions limitations in §60.4233(e) for VOC, NO<sub>x</sub>, and CO, within 1 year of start up. In addition, subsequent performance testing will be conducted every 8,760 hours or 3 years, whichever comes first, thereafter to demonstrate compliance with the mass emissions limitations in §60.4233(e) for VOC, NO<sub>x</sub>, and CO; or
  - ii. if the permittee is purchasing a non-certified engine, an initial performance test shall be performed to demonstrate compliance with the mass emissions limitations in §60.4233(e) for VOC, NO<sub>x</sub>, and CO, within 60 days after achieving the maximum production rate at which the emissions unit will be operated, but not later than 180 days after initial startup of the emissions unit. In addition, subsequent performance testing will be conducted every 8,760 hours or 3 years, whichever comes first, thereafter to demonstrate compliance with the mass emissions limitations in §60.4233(e) for VOC, NO<sub>x</sub>, and CO.
- b. If the stationary internal combustion engine is rebuilt, or undergoes major repair or maintenance the permittee shall conduct subsequent performance testing.
- c. Each performance test must be conducted within 10 percent of 100 percent peak (or the highest achievable) load and according to the requirements in §60.8 and under the specific conditions that are specified by Table 2 of 40 CFR Part 60, Subpart JJJJ.
- d. 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 Northeast 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 Northeast District Office's refusal to accept the results of the emission test(s).
- e. Personnel from the Ohio EPA Northeast District Office shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.
- f. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA Northeast District Office within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Ohio EPA Northeast District Office.



(3) Compliance with the emission limitations in (b)(1) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitation:

Visible particulate emissions shall not exceed 20% opacity, as a 6-minute average, except as provided by the rule.

Applicable Compliance Method:

If required, compliance with the visible particulate emission limitation shall be demonstrated in accordance with the procedures specified in 40 CFR Part 60, Appendix A, Method 9.

b. Emission Limitation:

PE shall not exceed 0.020 lb/MMBtu of actual heat input.

Applicable Compliance Method:

Compliance shall be demonstrated based upon an emission factor of 0.00991 lb/MMBtu of heat input. This emission factor is specified in the U.S. EPA reference document AP-42, Compilation of Air Pollutant Emission Factors, Section 3.2, Table 3.2-2 (7/00).

If required, compliance with the PE limitation shall be demonstrated in accordance with the procedures specified in 40 CFR Part 60, Appendix A, Methods 1 through 5.

c. Emission Limitation:

0.99 TPY of formaldehyde

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the emission factor of 0.22 g formaldehyde/BHP-hr (from the engine manufacturer) by the maximum rating of the unit (585 HP) and the maximum hours of operation (7,000 hrs/yr). This value is then converted from grams into tons by dividing by 454 g/lb, then dividing by 2000 lbs/ton.

d. Emission Limitations:

NOx emissions shall not exceed 2.0 g/HP-hr, and 160 ppmvd at 15% O<sub>2</sub>, when burning natural gas.

NOx emissions shall not exceed 3.0 g/HP-hr, and 220 ppmvd at 15% O<sub>2</sub>, when burning digester gas.



Applicable Compliance Method:

If required, compliance with the NO<sub>x</sub> emission limitations shall be demonstrated in accordance with the procedures specified in the following test methods:

40 CFR Part 60, Appendix A, Method 1 or 1A

40 CFR Part 60, Appendix A, Method 2 or 19

40 CFR Part 60, Appendix A, Method 3, 3A, or 3B

40 CFR Part 60, Appendix A, Method 4 or 40 CFR Part 63, Appendix A, Method 320

40 CFR Part 60, Appendix A, Method 7E or 40 CFR Part 63, Appendix A, Method 320

See f)(1) and f)(2).

e. Emission Limitations:

CO emissions shall not exceed 4.0 g/HP-hr, and 540 ppmvd at 15% O<sub>2</sub>, when burning natural gas.

CO emissions shall not exceed 5.0 g/HP-hr, and 610 ppmvd at 15% O<sub>2</sub>, when burning methane gas.

Applicable Compliance Method:

If required, compliance with the CO emission limitations shall be demonstrated in accordance with the procedures specified in the following test methods:

40 CFR Part 60, Appendix A, Method 1 or 1A

40 CFR Part 60, Appendix A, Method 2 or 19

40 CFR Part 60, Appendix A, Method 3, 3A, or 3B

40 CFR Part 60, Appendix A, Method 4 or 40 CFR Part 63, Appendix A, Method 320

40 CFR Part 60, Appendix A, Method 10 or 40 CFR Part 63, Appendix A, Method 320

See f)(1) and f)(2)..

f. Emission Limitations:

VOC emissions shall not exceed 1.0 g/HP-hr, and 86 ppmvd at 15% O<sub>2</sub>, when burning natural gas.

VOC emissions shall not exceed 1.0 g/HP-hr, and 80 ppmvd at 15% O<sub>2</sub>, when burning digester gas.



Applicable Compliance Method:

If required, compliance with the VOC emission limitations shall be demonstrated in accordance with the procedures specified in the following test methods:

40 CFR Part 60, Appendix A, Method 1 or 1A

40 CFR Part 60, Appendix A, Method 2 or 19

40 CFR Part 60, Appendix A, Method 3, 3A, or 3B

40 CFR Part 60, Appendix A, Method 4 or 40 CFR Part 63, Appendix A, Method 320

40 CFR Part 60, Appendix A, Method 18, 25A or 40 CFR Part 63, Appendix A, Method 320

See f)(1) and f)(2).

g. Emission Limitation:

NOx emissions shall not exceed 9.02 TPY.

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the emission factor of 2 g NOx/BHP-hr (from the engine manufacturer) by the maximum rating of the unit (585 HP) and the maximum hours of operation (7,000 hrs/yr). This value is then converted from grams into tons by dividing by 454 g/lb, then dividing by 2000 lbs/ton.

g) Miscellaneous Requirements

- (1) Modeling to demonstrate compliance with, the "Toxic Air Contaminant Statute", ORC 3704.03(F)(4)(b), was not necessary because the emissions unit's maximum annual emissions for each toxic air contaminant, as defined in OAC rule 3745-114-01, will be less than 1.0 ton per year. OAC Chapter 3745-31 requires permittees to apply for and obtain a new or modified PTIO 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 cause the emissions of any toxic air contaminant to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new PTIO.



**3. P003, Emergency flare**

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

Emergency digester gas flare

a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

(1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

a. None.

(2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.

a. None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3)(a)(ii)	See b)(2)a.
b.	OAC rule 3745-31-05(E) (Voluntary Restriction to Avoid BAT)	Carbon monoxide (CO) emissions shall not exceed 9.7 TPY.  Sulfur dioxide (SO <sub>2</sub> ) emissions shall not exceed 9.73 TPY.  See b)(2)b.

(2) Additional Terms and Conditions

a. The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the volatile organic compound (VOC), nitrogen oxides (NOx) or particulate emissions (PE) from this air contaminant source since the uncontrolled potential to emit for VOC, NOx and PE is each less than ten tons per year.

b. Permit to Install P0105719 for this air contaminant source takes into account the following voluntary restriction as proposed by the permittee for the purpose of



avoiding Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3):

- i. Limiting the hours of operation for this emissions unit to 7,000 hours per year.
- c) Operational Restrictions
- (1) The permittee shall burn only digester gas or natural gas in this emissions unit.
  - (2) The hydrogen sulfide content of the digester gas burned in this emissions unit shall not exceed 3,000 ppm.
- d) Monitoring and/or Recordkeeping Requirements
- (1) For each day during which the permittee burns a fuel other than digester gas or natural gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.
  - (2) The permittee shall monitor hydrogen sulfide weekly when operating the emissions unit with digester gas, by using the Draeger or Gastec tubes detection methods. The reliability rating of the Draeger or Gastec tubes is +/- 25%. Therefore, to ensure compliance with a hydrogen sulfide concentration of 3,000 ppm, hydrogen sulfide readings on the Draeger or Gastec tube shall not exceed 2,250 ppm.  
  
The permittee shall maintain records of the hydrogen sulfide concentration in ppm for each weekly test.
  - (3) The permittee shall maintain weekly records of the operating hours for this emissions unit.
- e) Reporting Requirements
- (1) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the Director by the due date identified in the Authorization section of this permit. The PER shall cover a reporting period of no more than 12-months for each air contaminant source identified in this permit.
- f) Testing Requirements
- (1) Compliance with the emission limitations in (b)(1) of these terms and conditions shall be determined in accordance with the following methods:
    - a. Emission Limitation:  
  
CO emissions shall not exceed 9.7 TPY.  
  
Applicable Compliance Method:  
  
Compliance with the annual emission limitation shall be determined by multiplying the emission factor, 0.37 lb/mmBtu (taken from AP-42, Compilation of



Air Pollution Emission Factors, Section 13.5, Table 13.5-1, 9/91), by 11,600 cu ft/hr (the maximum input rating of this unit) and 645.5 Btu/cu ft (the heat content of the fuel), then dividing by 1,000,000. This hourly value shall then be multiplied by the maximum hours of operation and divided by 2,000 lbs/ton.

b. Emission Limitation:

SO<sub>2</sub> emissions shall not exceed 9.73 TPY.

Applicable Compliance Method:

Compliance with the annual emission limitation shall be determined based on the following equation for determining the emission factor (EF), taken from OAC rule 3745-18-04(F)(3):

$$EF \text{ (lbs/mmBtu)} = 1,000,000 / H \times D \times S \times 1.998$$

Where:

- H = heat content of the fuel (645.5 Btu/cu ft for digester gas);
- D = density of the fuel (0.04 lb/cu ft for digester gas); and
- S = decimal fraction of sulfur (0.003 for digester gas).

This emission factor shall be multiplied by 11,600 cu ft/hr (the maximum input rating of this unit) and 645.5 Btu/cu ft (the heat content of the fuel), then dividing by 1,000,000. This hourly value shall then be multiplied by the maximum hours of operation and divided by 2,000 lbs/ton.

g) Miscellaneous Requirements

- (1) None.