



Environmental
Protection Agency

Ted Strickland, Governor
Lee Fisher, Lt. Governor
Chris Korleski, Director

9/23/2010

Bruce Bailey
Zanesville Energy, LLC
7624 Riverview Road
Cleveland, OH 44141

RE: FINAL AIR POLLUTION PERMIT-TO-INSTALL AND OPERATE

Facility ID: 0660015007
Permit Number: P0106273
Permit Type: Initial Installation
County: Muskingum

Certified Mail

No	TOXIC REVIEW
No	PSD
No	SYNTHETIC MINOR TO AVOID MAJOR NSR
No	CEMS
No	MACT/GACT
No	NSPS
No	NESHAPS
No	NETTING
No	MAJOR NON-ATTAINMENT
No	MODELING SUBMITTED
No	SYNTHETIC MINOR TO AVOID TITLE V
No	FEDERALLY ENFORCABLE PTIO (FEPTIO)

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 and give us feedback on your permitting experience. We value your opinion.

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

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

If you have any questions, please contact Ohio EPA DAPC, Southeast District Office at (740)385-8501 or the Office of Compliance Assistance and Pollution Prevention at (614) 644-3469. This permit can be accessed electronically on the DAPC Web page, www.epa.ohio.gov/dapc, by clicking the "Issued Air Pollution Control Permits" link.

Sincerely,

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

Cc: Ohio EPA-SEDO



FINAL

**Division of Air Pollution Control
Permit-to-Install and Operate
for
Zanesville Energy, LLC**

Facility ID: 0660015007
Permit Number: P0106273
Permit Type: Initial Installation
Issued: 9/23/2010
Effective: 9/23/2010
Expiration: 10/13/2019



Division of Air Pollution Control
Permit-to-Install and Operate
for
Zanesville Energy, LLC

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Authorization

Facility ID: 0660015007

Application Number(s): A0039401

Permit Number: P0106273

Permit Description: This permit is to install a 1,475 hp generator. It will be burning digester gas for the generation of electricity.

Permit Type: Initial Installation

Permit Fee: \$400.00

Issue Date: 9/23/2010

Effective Date: 9/23/2010

Expiration Date: 10/13/2019

Permit Evaluation Report (PER) Annual Date: Jan 1 - Dec 31, Due Feb 15

This document constitutes issuance to:

Zanesville Energy, LLC
6400 Maysville Pike
Zanesville, OH 43701

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, Southeast District Office
2195 Front Street
Logan, OH 43138
(740)385-8501

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: P0106273

Permit Description: This permit is to install a 1,475 hp generator. It will be burning digester gas for the generation of electricity.

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

Emissions Unit ID:	P003
Company Equipment ID:	Cogeneration unit
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable

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. Unless otherwise specified, facilities subject to one or more synthetic minor restrictions must use Ohio EPA's "Air Services" to submit annual emissions associated with this permit requirement. 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, Southeast 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 submitting¹ 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 emissions 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 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

¹ Permittees that use Ohio EPA's "Air Services" can mark the affected emissions unit(s) as "permanently shutdown" in the facility profile along with the date the emissions unit(s) was permanently removed and/or disabled. Submitting the facility profile update will constitute notifying of the permanent shutdown of the affected emissions unit(s).

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.

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 emission unit contained in this permit is subject o 40 CFR part 60, Subpart JJJJ: P003. The complete NSPS requirements may be accessed via the internet from the Electronic Code of Federal Regulations (e-CFR) website <http://ecfr.gpoaccess.gov> or by contacting the appropriate Ohio EPA District Office or local air agency.

C. Emissions Unit Terms and Conditions



1. P003, Cogeneration unit

Operations, Property and/or Equipment Description:

1,475 bhp (10 mmBtu/hr) spark ignition combustion engine burning natural gas or digester gas (Guascor model No. SFGM 560).

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	ORC 3704.03(T)	<p>When burning digester gas:</p> <p>Carbon monoxide (CO) emissions shall not exceed 0.74 lb/mmBtu.</p> <p>Nitrogen Oxides (NOx) emissions shall not exceed 0.33 lb/mmBtu.</p> <p>When burning natural gas:</p> <p>CO emissions shall not exceed 0.67 lb/mmBtu.</p> <p>NOx emissions shall not exceed 0.33 lb/mmBtu.</p>
b.	OAC rule 3745-31-05(A)(3), As effective 11/30/2001	<p>When burning digester gas:</p> <p>Volatile Organic Compounds (VOC)</p>



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>emissions shall not exceed 2.27 lbs/hr and 9.95 tons/yr.</p> <p>Sulfur Dioxide (SO₂) emissions shall not exceed 1.46 lb/hr and 6.39 tons/yr.</p> <p>Particulate Matter-10 (PM10) emissions shall not exceed 0.06 lb/hr and 0.26 ton/yr.</p> <p>When burning natural gas:</p> <p>VOC emissions shall not exceed 2.27 lbs/hr and 9.95 tons/yr.</p> <p>SO₂ emissions shall not exceed 0.03 lb/hr and 0.0059 tons/yr.</p> <p>PM10 emissions shall not exceed 0.00077 lb/hr and 0.003 ton/yr.</p> <p>See b)(2)a. below</p> <p>The requirements of this rule include compliance with the requirements of 40 CFR Part 60, Subpart JJJJ and OAC rule 3745-17-07(A)(1).</p>
c.	OAC Rule 3745-31-05(A)(3)(a)(ii), As effective 12/1/2006	See b)(2)b. below
d.	OAC rule 3745-17-11(B)(5)(b)	<p>Particulate emissions (PE) shall not exceed 0.062 pound/million Btu actual heat input.</p> <p>This emission limitation is less stringent than the limitation listed under OAC rule 3745-31-05(A)(3), until such time as U.S. EPA approves the December 1, 2006, version of OAC rule 3745-31-05 as part of the State Implementation Plan.</p>
e.	OAC rule 3745-17-07(A)(1)	Visible PE from any stack serving this emissions unit shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.
f.	OAC rule 3745-18-06(G)	<p>SO₂ emissions shall not exceed 0.5 pounds of sulfur dioxide per MM Btu actual heat input.</p> <p>This emission limitation is less stringent</p>

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		than the limitation listed under OAC rule 3745-31-05(A)(3), until such time as U.S. EPA approves the December 1, 2006, version of OAC rule 3745-31-05 as part of the State Implementation Plan.
g.	OAC rule 3745-110-03(F)(2)	This emissions unit is exempt from the requirements of OAC rule 3745-110-03(F)(2) pursuant to OAC rule 3745-110-03(J)(3).
h.	<p>40 CFR Part 60, Subpart JJJJ (40 CFR 60.4230-60.4248)</p> <p>[In accordance with 40 CFR Part 60.4233(e) and 40 CFR 60, Subpart JJJJ, Table 1., this emissions unit is a 1475 HP, lean burn, digester gas stationary spark internal combustion engine using natural gas as a backup fuel and is subject to the emissions limitations/controls measures specified in this section.]</p>	<p>When burning digester gas:</p> <p>NOx emissions shall not exceed 2.0 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 150 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:</p> <p>NOx emissions shall not exceed 1.0 g/HP-hr,</p> <p>CO emissions shall not exceed 2.0 g/HP-hr,</p> <p>VOC emissions shall not exceed 0.7 g/HP-hr.</p> <p>NOx emissions shall not exceed 82 ppmvd at 15% O₂,</p> <p>CO emissions shall not exceed 270 ppmvd at 15% O₂,</p> <p>VOC emissions shall not exceed 60 ppmvd at 15% O₂.</p>



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		[40 CFR Part 60.4233(e), & 40 CFR 60, Subpart JJJJ, Table 1]
i.	40 CFR 60.1-19 (40 CFR 60.4246)	Table 3 to Subpart JJJJ of 40 CFR Part 60 - Applicability of Subpart A to Subpart JJJJ shows which parts of the General Provisions in 40 CFR 60.1-19 apply.

(2) Additional Terms and Conditions

a. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to OAC paragraph 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to ORC changes effective August 3, 2006 (S.B. 265 changes), such that BAT is no longer required by State regulations for NAAQS pollutant less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of 3745-31-05, then these emission limits/control measures no longer apply.

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

The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the PE, SO₂, and VOC emissions from this air contaminant source since the uncontrolled potential to emit for PE, SO₂, and VOC is less than 10 tons/yr.

c. The permittee shall comply with the applicable requirements under 40 CFR Part 60, Subpart JJJJ, including the following sections.

60.4233(e)	Emission standards
60.4243(b)	Compliance demonstration options
60.4234	Length of emission standards

c) Operational Restrictions

(1) The permittee shall burn only natural gas and/or digester gas fuel in this emissions unit.



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

60.4243(g)	Air to fuel ratio
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d) Monitoring and/or Recordkeeping Requirements

- (1) For each day during which the permittee burns a fuel other than natural gas and/or digester gas fuel, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.
- (2) The permittee shall comply with the applicable monitoring and record keeping requirements under 40 CFR Part 60, Subpart JJJJ, including the following sections.

60.4236	Installation deadlines
60.4243(e)	Propane use and record keeping
60.4245(a)	Record keeping requirements

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 permit evaluation report shall cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit.
- (2) The permittee shall submit reports and such other notifications and reports to the appropriate Ohio EPA District office or local air agency as are required pursuant to 40 CFR Part 60, Subpart JJJJ, per the following sections:

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

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 and must 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 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_x, 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_x, 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_x, 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_x, and CO.
 - b. If the stationary internal combustion engine is rebuilt, or undergoes major repair or maintenance the permittee shall conduct subsequent performance test.
 - 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 appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).
 - e. Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.
 - 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 appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.
- (3) Compliance with the emission limitations in (b)(1) of these terms and conditions shall be determined in accordance with the following methods:
 - a. Emissions Limitations:

When burning digester gas, CO emissions shall not exceed 0.74 lb/mmBtu.

When burning natural gas, CO emissions shall not exceed 0.67 lb/mmBtu.

Applicable Compliance Methods:

The annual CO emission limitation was established by multiplying the emission factor (2.2 g/bhp - hr for digester gas provided by Guascor Power and 2.0 g/bhp - hr for natural gas, required by NSPS JJJJ) by the brake horse power of the engine (1,475) and the conversion factor to convert grams to pounds (0.0022 lb/g) and divided by the maximum heat input of the generator (9.7 mmBtu/hr).

If required, carbon monoxide emissions shall be determined according to USEPA test Methods 1 - 4, 10, and 320. See f)(1) and f)(2).

b. Emissions Limitations:

NO_x emissions shall not exceed 0.33 lb/mmBtu, when burning digester gas or natural gas.

Applicable Compliance Methods:

The annual NO_x emission limitation was established by multiplying the emission factor (1 g/bhp-hr provided by Guascor Power for digester gas and 1g/bhp-hr from NSPS JJJJ for natural gas) by the brake horse power of the engine (1,475) and the conversion factor to convert grams to pounds (0.0022 lb/g) and divided by the maximum heat input of the generator (9.7 mmBtu/hr).

If required, nitrogen oxides emissions shall be determined according to USEPA test Methods 1 - 4, and 7E.

c. Emissions Limitations:

VOC emissions shall not exceed 2.27 lbs/hr and 9.95 tons/yr, when burning digester gas or natural gas.

Applicable Compliance Methods:

The hourly emissions limit was established by multiplying 0.7 g/BHP-hr, the emission limit specified in NSPS JJJJ, by 1,475 BHP, the power output rating of this unit, and by 0.0022 lb/g, to convert from grams to pounds.

The annual emission limitation was established by multiplying the hourly emission rate above by the maximum hours of operation, 8,760 hours/year, and dividing by 2,000 pounds/ton.

If required, VOC emissions shall be determined according to test Methods 1 - 4, and 18, 25, or 25A as set forth in the "Appendix on Test Methods" in 40 CFR, Part 60 "Standards of Performance for New Stationary Sources". Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA, Southeast District Office.

d. Emissions Limitations:

When burning digester gas, SO₂ emissions shall not exceed 1.46 lb/hr and 6.39 tons/yr.

When burning natural gas, SO₂ emissions shall not exceed 0.03 lb/hr and 0.0059 tons/yr.

Applicable Compliance Methods:

The emission factor for SO₂, when burning digester gas, was calculated based on the following equation from Michigan DEQ factsheet #9844 (Emission Calculation Fact Sheet: Municipal Solid Waste Landfills). Sulfur concentration input of 500 ppm was provided by the permittee, and is considered to be the maximum potential concentration, based on tests at similar facilities.

$$\frac{500e-6 \text{ lb mol S}}{1 \text{ lb mol LFG}} \times \frac{1 \text{ lb mol LFG}}{386 \text{ scf}} \times \frac{32 \text{ lbs S}}{1 \text{ lb mol S}} \times \frac{2 \text{ lbs SO}_x}{\text{lb S}} \times \frac{1e6 \text{ scf}}{\text{MMSCF}} = \frac{82.9 \text{ lbs}}{\text{MMSCF}}$$

The hourly SO₂ emissions limit when burning digester gas was determined by multiplying the emission factor of 82.9 lbs/MMSCF by the maximum fuel usage of 0.01762 MMSCF/hr.

The hourly SO₂ emissions limit when burning natural gas was determined by multiplying the emission factor of 0.000588 lbs/MMBtu (AP-42 section 3.2, table 3.2-2, 8/2000) by the maximum heat input of 10 MMBtu/hr.

The annual SO₂ emissions limitations were determined by multiplying the hourly emissions rate by the maximum hours operated, 8,760 hours/year, and dividing by 2,000 pounds/ton.

If required, sulfur dioxide emissions shall be determined according to test Methods 1 - 4, and 6 as set forth in the "Appendix on Test Methods" in 40 CFR, Part 60 "Standards of Performance for New Stationary Sources". Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA, Southeast District Office.

e. Emissions Limitations:

When burning digester gas, PM₁₀ emissions shall not exceed 0.06 lb/hr and 0.26 ton/yr.

When burning natural gas, PM₁₀ emissions shall not exceed 0.00077 lb/hr and 0.003 ton/yr.

Applicable Compliance Methods:

The hourly PM₁₀ emissions limitation was determined by multiplying the emissions factor (0.006 lb/MMbtu when using digester gas, provided by the permittee in their application and 0.0000771 lb/MMbtu from AP-42 section 3.2, table 3.2-2, 8/2000), by maximum input capacity of 10 MMbtu/hr.

The annual PM₁₀ emission limitation was determined by multiplying the hourly emission rate above by the maximum hours of operation, 8,760 hours/year, and dividing by 2,000 pounds/ton.

If required, PM₁₀ emissions shall be determined according to test Methods 201/201A, and 202 as set forth in 40 CFR Part 51, Appendix M. Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA, Southeast District Office.

f. Emissions Limitation:

PE shall not exceed 0.062 pound/million Btu actual heat input.

Applicable Compliance Method:

If required, particulate emissions shall be determined according to test Methods 1 - 5, as set forth in the "Appendix on Test Methods" in 40 CFR, Part 60 "Standards of Performance for New Stationary Sources", and the procedures specified in OAC rule 3745-17-03(B)(10). Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA, Southeast District Office.

g. Emissions Limitation:

Visible PE from any stack serving this emissions unit shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.

Applicable Compliance Method:

If required, visible particulate emissions shall be determined according to USEPA Method 9.

h. Emissions Limitation:

SO₂ emissions shall not exceed 0.5 pounds of sulfur dioxide per MM Btu actual heat input.

Applicable Compliance Method:

If required, sulfur dioxide emissions shall be determined according to test Methods 1 - 4, and 6 as set forth in the "Appendix on Test Methods" in 40 CFR, Part 60 "Standards of Performance for New Stationary Sources". Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA, Southeast District Office.

i. Emissions Limitations:

When burning digester gas, NO_x emissions shall not exceed 2.0 g/HP-hr, and 150 ppmvd at 15% O₂.

When burning natural gas, NO_x emissions shall not exceed 1.0 g/HP-hr, and 82 ppmvd at 15% O₂.



Applicable Compliance Method:

If required, NO_x emissions shall be determined according to USEPA test Methods 1 - 4, 7E and 320. See f)(1) and f)(2).

j. Emissions Limitations:

When burning digester gas, CO emissions shall not exceed 5.0 g/HP-hr, and 610 ppmvd at 15% O₂.

When burning natural gas, CO emissions shall not exceed 2.0 g/HP-hr, and 270 ppmvd at 15% O₂.

Applicable Compliance Method:

If required, CO emissions shall be determined according to USEPA test Methods 1 - 4, 10, and 320. See f)(1) and f)(2).

k. Emissions Limitations:

When burning digester gas, VOC emissions shall not exceed 1.0 g/HP-hr, and 80 ppmvd at 15% O₂.

When burning natural gas, VOC emissions shall not exceed 0.7 g/HP-hr, and 60 ppmvd at 15% O₂.

Applicable Compliance Method:

If required, VOC emissions shall be determined according to USEPA test Methods 1 or 1A, 2 or 19, 3, 3A or 3B, 4, 18, 25A and 320. See f)(1) and f)(2).

g) Miscellaneous Requirements

(1) None.