Ohio Environmental Protection Agency

John R. Kasich, Governor
Mary Taylor, Lt. Governor
Craig W. Butler, Director

9/4/2015

Certified Mail

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

Mr. Bruce Bailey
Buckeye Biogas, LLC
5755 Granger Road, Suite 320
Cleveland, OH 44131

RE: FINALAIR POLLUTION PERMIT-TO-INSTALL AND OPERATE
Facility ID: 0285032003
Permit Number: P0119252
Permit Type: Administrative Modification
County: Wayne

Dear Permit Holder:

Enclosed please find a final Ohio Environmental Protection Agency (EPA) 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. In this letter you will find the information on the following topics:

- **How to appeal this permit**
- **How to save money, reduce pollution and reduce energy consumption**
- **How to give us feedback on your permitting experience**
- **How to get an electronic copy of your permit**

How to appeal this permit

The issuance of this PTIO 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 Josh Mandel," 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
77 South High Street, 17th Floor
Columbus, OH 43215

How to save money, reduce pollution and reduce energy consumption

The Ohio EPA is encouraging companies to investigate pollution prevention and energy conservation. Not only will this reduce pollution and energy consumption, but it can also save you money. If you would like to learn ways you can save money while protecting the environment, please contact our Office of Compliance Assistance and Pollution Prevention at (614) 644-3469. Additionally, all or a portion of the capital expenditures related to installing air pollution control equipment under this permit may be eligible for financing and State tax exemptions through the Ohio Air Quality Development Authority (OAQDA) under Ohio Revised Code Section 3706. For more information, see the OAQDA website: www.ohioairquality.org/clean_air

How to give us feedback on your permitting experience

Please complete a survey at www.epa.ohio.gov/survey.aspx and give us feedback on your permitting experience. We value your opinion.

How to get an electronic copy of your permit

This permit can be accessed electronically via the eBusiness Center: Air Services in Microsoft Word format or in Adobe PDF on the Division of Air Pollution Control (DAPC) Web page, www.epa.ohio.gov/dapc by clicking the "Search for Permits" link under the Permitting topic on the Programs tab.

If you have any questions, please contact Ohio EPA DAPC, Northeast District Office at (330)963-1200or the Office of Compliance Assistance and Pollution Prevention at (614) 644-3469.

Sincerely,

Michael E. Hopkins, P.E.
Assistant Chief, Permitting Section, DAPC

Cc: Ohio EPA-NEDO

FINAL

Division of Air Pollution Control
Permit-to-Install and Operate
for
Buckeye Biogas, LLC

Facility ID:	0285032003
Permit Number:	P0119252
Permit Type:	Administrative Modification
Issued:	9/4/2015
Effective:	9/4/2015
Expiration:	11/2/2020

Ohio Environmental Protection Agency

Division of Air Pollution Control
Permit-to-Install and Operate
for
Buckeye Biogas, LLC

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Authorization

Facility ID:	0285032003
Application Number(s):	M0003463, M0003508, M0003516
Permit Number:	P0119252
Permit Description:	Admin mod PTIO to add general permits (6.3, 13.1 and 13.2) for the roadways and digester units.
Permit Type:	Administrative Modification
Permit Fee:	$400.00
Issue Date:	9/4/2015
Effective Date:	9/4/2015
Expiration Date:	11/2/2020

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

This document constitutes issuance to:

Buckeye Biogas, LLC
2072 Secrest Road
Wooster, OH 44691

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

Ohio Environmental Protection Agency (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 44087
(330)963-1200

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

Craig W. Butler
Director

Authorization (continued)

Permit Number: P0119252
Permit Description: Admin mod PTIO to add general permits (6.3, 13.1 and 13.2) for the roadways and digester units.

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

Emissions Unit ID:	**F001**
Company Equipment ID:	Roadways and Parking
Superseded Permit Number:	P0107071
General Permit Category and Type:	Paved Roadways and Parking Areas - < 40,000 vehicle miles traveled/year and a silt content < 120 g/m2 (GP6.3)
Emissions Unit ID:	**P001**
Company Equipment ID:	CHPU Unit 1
Superseded Permit Number:	P0107071
General Permit Category and Type:	Digester Operations - Biomass Digester System with Flare (GP13.1)

Group Name: Boilers

Emissions Unit ID:	**B001**
Company Equipment ID:	Boiler unit 1
Superseded Permit Number:	P0107071
General Permit Category andType:	Digester Operations - Digester Gas-fired Boiler (GP13.2)
Emissions Unit ID:	**B002**
Company Equipment ID:	Boilers unit 2
Superseded Permit Number:	P0107071
General Permit Category andType:	Digester Operations - Digester Gas-fired Boiler (GP13.2)

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 of this permit 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 [DO/LAA] 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 beingpermanently shut down without first applying for and obtaining a permit pursuantto 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 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.

C. Emissions Unit Terms and Conditions

1. F001, Roadways and Parking

Operations, Property and/or Equipment Description:

Plant Roadways and Parking Area

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)	6.6 tons/year of fugitive particulate matter of 10 microns or less (PM10) 33.8 tons/year of fugitive particulate emissions (PE) no visible PE except for one minute during any 60-minute period best available control measures that are sufficient to minimize or eliminate visible PE of fugitive dust (See b)(2)a. through b)(2)f.)
b.	OAC rule 3745-17-07(B)(4) (applicable only if this emissions unit is located in an area identified in Appendix A of OAC rule 3745-17-08)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
c.	OAC rule 3745-17-08(B)	(See b)(2)a. through b)(2)f.)

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
	(applicable only if this emissions unit is located in an area identified in Appendix A of OAC rule 3745-17-08)	

(2) Additional Terms and Conditions

a. The permittee shall employ best available control measures on all paved roadways and parking areas for the purpose of ensuring compliance with the above-mentioned applicable requirements. In accordance with the permittee's application, the permittee has committed to treat the paved roadways and parking areas by application of chemical stabilization/dust suppressants and/or watering at sufficient treatment frequencies to ensure compliance. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.

b. The needed frequencies of implementation of the control measures shall be determined by the permittee's inspections pursuant to the monitoring section of this permit. Implementation of the control measures shall not be necessary for paved roadways and parking areas that are covered with snow and/or ice or if precipitation has occurred that is sufficient for that day to ensure compliance with the above-mentioned applicable requirements. Implementation of any control measure may be suspended if unsafe or hazardous driving conditions would be created by its use.

c. The permittee shall promptly remove, in such a manner as to minimize or prevent resuspension, earth and/or other material from paved streets onto which such material has been deposited by trucking or earth moving equipment or erosion by water or other means.

d. Open-bodied vehicles transporting materials likely to become airborne shall have such materials covered at all times if the control measure is necessary for the materials being transported.

e. Implementation of the above-mentioned control measures in accordance with the terms and conditions of this permit is appropriate and sufficient to satisfy the best available technology requirements of OAC rule 3745-31-05.

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) Except as otherwise provided in this section, the permittee shall perform inspections of each of the roadway segments and parking areas in accordance with the following frequencies:

paved roadways and parking areas	minimum inspection frequency
all roads and parking areas	daily

(2) The purpose of the inspections is to determine the need for implementing the above-mentioned control measures. The inspections shall be performed during representative, normal traffic conditions. No inspection shall be necessary for a roadway or parking area that is covered with snow and/or ice or if precipitation has occurred that is sufficient for that day to ensure compliance with the above-mentioned applicable requirements. Any required inspection that is not performed due to any of the above-identified events shall be performed as soon as such event(s) has (have) ended, except if the next required inspection is within one week.

(3) The permittee shall maintain records of the following information:

a. the date and reason any required inspection was not performed, including those inspections that were not performed due to snow and/or ice cover or precipitation;

b. the date of each inspection where it was determined by the permittee that it was necessary to implement the control measures;

c. the dates the control measures were implemented; and

d. on a calendar quarter basis, the total number of days the control measures were implemented and the total number of days where snow and/or ice cover or precipitation were sufficient to not require the control measures.

The information required in d)(3)d. shall be updated on a calendar quarter basis within 30 days after the end of each calendar quarter.

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.

f) Testing Requirements

(1) Compliance with the emission limitations in b)(1) shall be determined in accordance with the following methods:

a. Emission Limitations:

6.6 tons/year of fugitive PM10

33.8 tons/year of fugitive PE

Applicable Compliance Method:

Compliance with fugitive PE and PM10 limitations shall be determined by using the emission factor equations in Section 13.2.1, in Compilation of Air Pollutant Emission Factors, AP-42, Fifth Edition, Volume 1 (revised 12/03) for paved roadways. Should further updates in AP-42 occur, the most current equations for paved roads shall be used. These emission limits in the General Permit were based on a maximum of 40,000 vehicle miles traveled per year, and a 95% control efficiency for PE and PM10.

b. Emission Limitation:

No visible PE from paved roadways and parking areas except for a period of time not to exceed one minute during any 60-minute observation period.

Applicable Compliance Method:

If required, compliance with the visible PE limitation listed above shall be determined in accordance with Test Method 22 as set forth in "Appendix on Test Methods" in 40 CFR, Part 60 ("Standards of Performance for New Stationary Sources").

g) Miscellaneous Requirements

(1) None.

2. P001, CHPU Unit 1

Operations, Property and/or Equipment Description:

Anaerobic digestion controlled by a flare. Flare heat input rate ≤ 10 mmBtu/hr.

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)	Emissions of carbon monoxide (CO) shall not exceed 0.37 pounds per million BTU (lb/mmBtu). Emissions of sulfur dioxide (SO_2) shall not exceed 0.33 lb/mmBtu. See c)(1) and c)(2).
b.	OAC rule 3745-31-05(A)(3), as effective 11/30/2001	Emissions of nitrogen oxides (NO_x) shall not exceed 0.068lb/mmBtuand 3.0 tons per year. Emissions of volatile organic compounds (VOC) shall not exceed 0.14 lb/mmBtu and 6.2 tons per year. See b)(2)a and b)(2)g.
c.	OAC rule 3745-31-05(A)(3)(a)(ii), as effective 12/1/2006	See b)(2)b.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
d.	OAC rule 3745-31-05(E) [Voluntary restriction to control VOC emissions and State-only enforceable limitation to ensure compliance with OAC rule 3745-15-07]	Emissions of volatile organic compounds (VOC) shall not exceed 0.14 lb/mmBtu and 6.2 tons per year. See b)(2)c and b)(2)d.
e.	OAC rule 3745-17-11(B)	See b)(2)e.
f.	OAC rule 3745-17-07(B)(1)	See b)(2)f.
g.	OAC rule 3745-18-06(E)	The emission limitations of this rule are less stringent than the emission limitations established by ORC 3704.03(T).

(2) Additional Terms and Conditions

a. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to Ohio Administrative Code (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 the Ohio Revised Code (ORC) changes effective August 3, 2006 (Senate Bill 265 changes), such that BAT is no longer required by State regulations for National Ambient Air Quality Standards (NAAQS) pollutant(s) 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 OAC rule 3745-31-05, then these emission limitations/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 State Implementation Plan.

BAT is not required if the air contaminant source was installed or modified on or after August 3, 2006 and has the potential to emit, taking into account air pollution controls installed on the source, less than ten tons per year of emissions of an air contaminant or precursor of an air contaminant for which a national ambient air quality standard has been adopted under the Clean Air Act.

BAT requirements listed under OAC rule 3745-31-05(A)(3) do not apply to the NO_xemissions from this air contaminant source since the uncontrolled potential to emit is less than 10 tons per year.

c. This General Permit for this air contaminant source takes into account the following voluntary restriction (including the use of any applicable air pollution control equipment) as proposed by the permittee for the purpose of avoiding BAT requirements under OAC rule 3745-31-05(A)(3):

The emissions from the digestion process shall be vented to the flare during any instance when digester gas is present in the feedstock equilibrium tank, primary digester, or dual purpose tank and the combined heat and power unit is not firing digester gas.

d. Anaerobic digesters, including all associated equipment and grounds, shall be designed,operated, and maintained so as to prevent the emission of objectionable odors.

e. The uncontrolled mass rate of particulate emissions from this emissions unit is less than 10 pounds per hour. Pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. In addition, Table I of OAC rule 3745-17-11 does not apply because the process weight rate is equal to zero. Process weight is defined in OAC rule 3745-17-01(B)(17).

f. This emissions unit is exempt from the visible PE limitations specified in OAC rule 3745-17-07(A) pursuant to OAC rule 3745-17-07(A)(3)(h) because the emissions unit is not subject to the requirements of OAC rule 3745-17-11.

g. The lb / MMBtu and ton per year emissions limitations for NO_x and CO are based on the emissions unit's potentials to emit. No monitoring, recordkeeping, or reporting requirements are necessary to demonstrate compliance with these emissions limitations.

h. The permittee shall properly install, operate, and maintain a device to continuously monitor the flare pilot flame or electric arc ignition when the emissions unit is in operation. The monitoring device and any recorder shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals.

c) Operational Restrictions

(1) Digester gas combusted in this emissions unit shall not exceed 1000 parts per million on a volume basis (ppm_v) of hydrogen sulfide.

(2) Digester gas combusted in the flare serving this emissions unit shall not be less than 500 Btu/scf.

(3) A pilot flame shall be maintained at all times in the flare's pilot light burner or the arcing of the flare's electric arc ignition system shall pulse continually when the emissions unit is in operation.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall monitor and record hydrogen sulfide concentrations when operating the emissions unit with digester gas using one of the two following options:

<u>Option 1:</u> Weekly gas detector tube sampling. The accuracy of gas detector tubes is presumed to be ± 10%, unless the permittee is able to demonstrate better accuracy of the detector tubes compared to a certified gas standard. The permittee shall perform gas detector tube monitoring in accordance with the manufacturer's instructions for use

of the detector tubes and associated sampling system. Any deviations from the manufacturer's instructions should be recorded with the concentration results of the sampling.

Option 2: Continuous digester gas monitoring system. The permittee may install a sampling and analysis system to continuously monitor and record the H_2S content of the digester gas. The permittee shall properly install, operate, and maintain a continuous digester gas H_2S monitoring device and recorder that measures and records the H_2S concentrations in the digester gas when the emissions unit is in operation, including periods of startup and shutdown. The H_2S monitoring device and recorder shall be capable of satisfying the performance requirements specified in 40 CFR Part 60, Appendix B, Performance Specification 5 and shall be capable of accurately measuring the H_2S concentration. The H_2S monitoring device and recorder shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and the operating manuals, with any modifications deemed necessary by the permittee.

Whenever the monitored value for hydrogen sulfide exceeds the lower limit of the accuracy of the monitoring system as measured by either of the above monitoring options, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:

a. the date and time the deviation began;

b. the magnitude of the deviation at that time;

c. the date the investigation was conducted;

d. the name(s) of the personnel who conducted the investigation; and

e. the findings and recommendations.

In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the hydrogen sulfide concentration below the maximum limit specified in this permit, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken:

f. a description of the corrective action;

g. the date the corrective action was completed;

h. the date and time the deviation ended;

i. the total period of time (in minutes) during which there was a deviation;

j. hydrogen sulfide readings immediately after the corrective action was implemented; and

k. the name(s) of the personnel who performed the work.

Investigation and records required by this paragraph do not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

(2) The permittee shall maintain monthly records of the heat content of the digester gas, in Btu/scf.

(3) The permittee shall maintain daily records of all periods of time during which the electric arc system was inoperable or there was no flare pilot flame when digester gas was present in the feedstock equilibrium tank, primary digester, or dual purpose tank, and the combined heat and power unit was not firing digester gas.

(4) The permittee shall monitor and record the volume of digester gas flared in standard cubic feet per year, and shall calculate and record the annual heat input to the flare in million Btu.

e) Reporting Requirements

(1) The reports required by this permit may be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal; or they may be mailed as a hard copy to the appropriate district office or local air agency.

(2) 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.

(3) The permittee shall identify the following information in the annual permit evaluation report in accordance with the monitoring requirements in d)(1), d)(2) and d)(3):

a. all periods of time during which the flare's electric arc ignition system was not functioning properly or there was no flare pilot flame when digester gas was present in the feedstock equilibrium tank, primary digester, or dual purpose tank, and the combined heat and power unit was not firing digester gas;

b. each month during which digester gas with a minimum heat content of less than 500 Btu / scf was burned in this emissions unit;

c. each period during which digester gas containing an H_2S concentration greater than allowed by c)(1) was burned.

f) Testing Requirements

(1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:

a. <u>Emissions limitation:</u>

Emissions of carbon monoxide (CO) shall not exceed 0.37 lb/mmBtu.

Applicable compliance method:

Compliance shall be demonstrated using the emissions factor for CO from USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 13.5 Table 13.5-1 (9/91).

If required, the permittee shall demonstrate compliance with applicable emission limitations through emission testing performed in accordance with 40 CFR Part 60, Appendix A, Methods 1-4 and:

For CO, 40 CFR Part 60, Appendix A Method 10

b. Emissions Limitation:

Emissions of sulfur dioxide (SO_2) shall not exceed 0.33 lb/mmBtu.

Applicable Compliance Method:

The permittee shall demonstrate compliance with the emissions limitation through the required monitoring and recordkeeping in d)(1) and using the following equation:

E = (10^6 Btu / 1 mmBtu) * (1 / digester gas heat content) * (H_2S ppm_v / 1,000,000) * 0.088 lb H_2S/ft^3 H_2S * 1.88 lb SO_2/lb H_2S = SO_2lb/mmBtu

Where:

E = SO_2 emissions rate, lb/mmBtu

Digester gas heat content = average heat content of digester gas in Btu/scf from d)(2).

H_2S ppm_v = average concentration of H_2S in digester gas, from d)(1)

If required, sulfur dioxide emissions shall be determined according to test Methods 1 - 4, and 6 as set forth in 40 CFR, Part 60 Appendix A.

c. Emissions limitation:

Emissions of nitrogen oxides (NO_x) shall not exceed 3.0 tons per year. Emissions of volatile organic compounds (VOC) shall not exceed 6.2 tons per year.

Applicable compliance method:

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

If required, the permittee shall demonstrate compliance with applicable emission limitations through emission testing performed in accordance with 40 CFR Part 60, Appendix A, Methods 1-4 and:

For NOx, 40 CFR Part 60, Appendix A Method 7 or 7E

For VOC, 40 CFR Part 60, Appendix A Method 25A

If required, the permittee shall confirm, through the applicable methods and procedures specified in 40 CFR Part 60.18, that the flare's exit velocity and the net heating value of the digester gas conform to the maximum design values specified by the flare manufacturer.

g) Miscellaneous Requirements

(1) None.

3. Emissions Unit Group - Boilers: B001&B002

EU ID	Operations, Property and/or Equipment Description
B001	1.5 mmBtu/hr biogas-fired boiler with natural gas backup
B002	1.5 mmBtu/hr biogas-fired boiler with natural gas backup

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)	Emissions of sulfur dioxide (SO_2) shall not exceed 0.33 pounds per million Btu (lb/mmBtu). See c)(1) and c)(2).
b.	OAC rule 3745-31-05(A)(3), as effective 11/30/2001	Emissions of nitrogen oxides (NO_x) shall not exceed 0.42 pounds per hour and 1.71 tons per year when firing digester gas. See b)(2)a and b)(2)c.
c.	OAC rule 3745-31-05(A)(3)(a)(ii), as effective 12/1/2006	See b)(2)b.
d.	OAC rule 3745-17-07(B)(1)	Visible particulate emissions shall not exceed 20% opacity as a six-minute average, except as provided by rule.
e.	OAC rule 3745-17-10(B)(1)	Emissions shall not exceed 0.020 pound particulate emissions per million BTU

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		actual heat input.

(2) Additional Terms and Conditions

a. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to Ohio Administrative Code (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 the Ohio Revised Code (ORC) changes effective August 3, 2006 (Senate Bill 265 changes), such that BAT is no longer required by State regulations for National Ambient Air Quality Standards (NAAQS) pollutant(s) 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 OAC rule 3745-31-05, then these emission limitations/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 State Implementation Plan.

BAT is not required if the air contaminant source was installed or modified on or after August 3, 2006 and has the potential to emit, taking into account air pollution controls installed on the source, less than ten tons per year of emissions of an air contaminant or precursor of an air contaminant for which a national ambient air quality standard has been adopted under the Clean Air Act.

The Best Available Technology (BAT) requirements listed under OAC rule 3745-31-05(A)(3) do not apply to the NO_x emissions from this air contaminant source since the uncontrolled potential to emit is less than 10 tons per year.

c. The pounds per hour and ton per year emissions limitations for $NO_x$are based on the emissions unit's potentials to emit. No monitoring, recordkeeping, or reporting requirements are necessary to demonstrate compliance with these emissions limitations.

c) Operational Restrictions

(1) The permittee shall burn only natural gas, or digester gas with a minimum heat content of 500 Btu / scf, in this emissions unit.

(2) Digester gas combusted in this emissions unit shall not exceed 1000 parts per million on a volume basis (ppm_v) of hydrogen sulfide.

d) Monitoring and/or Recordkeeping Requirements

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

(2) The permittee shall monitor and record hydrogen sulfide concentrations when operating the emissions unit with digester gas using one of the two following options:

Option 1: Weekly gas detector tube sampling. The accuracy of gas detector tubes is presumed to be ± 10%, unless the permittee is able to demonstrate better accuracy of the detector tubes compared to a certified gas standard. The permittee shall perform gas detector tube monitoring in accordance with the manufacturer's instructions for use of the detector tubes and associated sampling system. Any deviations from the manufacturer's instructions should be recorded with the concentration results of the sampling.

Option 2: Continuous digester gas monitoring system. The permittee may install a sampling and analysis system to continuously monitor and record the H_2S content of the digester gas. The permittee shall properly install, operate, and maintain a continuous digester gas H_2S monitoring device and recorder that measures and records the H_2S concentrations in the digester gas when the emissions unit is in operation, including periods of startup and shutdown. The H_2S monitoring device and recorder shall be capable of satisfying the performance requirements specified in 40 CFR Part 60, Appendix B, Performance Specification 5 and shall be capable of accurately measuring the H_2S concentration. The H_2S monitoring device and recorder shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and the operating manuals, with any modifications deemed necessary by the permittee.

Whenever the monitored value for hydrogen sulfide exceeds the lower limit of the accuracy of the monitoring system as measured by either of the above monitoring options, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:

a. the date and time the deviation began;

b. the magnitude of the deviation at that time;

c. the date the investigation was conducted;

d. the name(s) of the personnel who conducted the investigation; and

e. the findings and recommendations.

In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the hydrogen sulfide concentration below the maximum limit specified in this permit, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and

the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken:

f. a description of the corrective action;

g. the date the corrective action was completed;

h. the date and time the deviation ended;

i. the total period of time (in minutes) during which there was a deviation;

j. hydrogen sulfide readings immediately after the corrective action was implemented; and

k. the name(s) of the personnel who performed the work.

Investigation and records required by this paragraph do not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

(3) The permittee shall maintain monthly records of the heat content of the digester gas, in Btu / scf.

(4) The permittee shall maintain monthly records of the natural gas and digester gas fuel usage in this unit in millions ofstandard cubic feet.

e) Reporting Requirements

(1) The reports required by this permit may be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal; or they may be mailed as a hard copy to the appropriate district office or local air agency.

(2) 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.

(3) The permittee shall identify the following information in the annual permit evaluation report in accordance with the monitoring requirements in d)(1), d)(2) and d)(3):

a. all periods of time during which the permittee burns a fuel other than natural gas or digester gas in this emissions unit and the type and quantity of fuel burned;

b. each month during which digester gas with a minimum heat content of less than 500 Btu / scf was burned in this emissions unit;

c. each period during which digester gas containing an H_2S concentration greater than allowed by c)(2) was burned.

f) Testing Requirements

(1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:

a. Emissions limitation:

Emissions of nitrogen oxides (NO_x) shall not exceed 0.42 pounds per hour and 1.71 tons per year when firing digester gas.

Applicable compliance method:

Compliance with the allowable mass emission rate for nitrogen oxides (NO_x) may be determined by multiplying the gross output of the boiler in mmBtu/hr by 1/average heat content of digester gas in Btu/scf (from d)(3))and multiplying by an emission factor of 33lbs / MM dscf methane and a methane/digester gas ratio of 65%. This emission factor is specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 2.4 Table 2.4-5 (11/98).

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

If required, the permittee shall demonstrate compliance with applicable emission limitations through emission testing performed in accordance with 40 CFR Part 60, Appendix A, Methods 1-4 and:

For NOx, 40 CFR Part 60, Appendix A Method 7 or 7E

b. Emissions limitation:

Emissions of sulfur dioxide (SO_2) shall not exceed 0.33 pounds per million Btu heat input.

Applicable compliance method:

The permittee shall demonstrate compliance with the short-term and annual emissions limitation through the required monitoring and recordkeeping in d)(2) and using the following equation:

$E = (10^6 \text{Btu} / 1 \text{ mmBtu}) * (1 / \text{digester gas heat content}) * (H_2S \text{ ppm}_v / 1{,}000{,}000) * 0.088 \text{ lb } H_2S/ft^3 \ H_2S * 1.88 \text{ lb } SO_2/\text{lb } H_2S = SO_2\text{lb/mmBtu}$

Where:

E = SO_2 emissions rate, lb/mmBtu

Digester gas heat content = average heat content of digester gas in Btu/scf from d)(3).

H_2S ppm_v = average concentration of H_2S in digester gas, from d)(2)

If required, sulfur dioxide emissions shall be determined according to test Methods 1 - 4, and 6 as set forth in 40 CFR, Part 60 Appendix A.

c. Emissions limitation:

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

Applicable compliance method:

Compliance with the stack visible particulate emissions limitation shall be determined through visible emissions observations performed in accordance with U.S. EPA Method 9.

d. Emissions limitation:

Emissions shall not exceed 0.020 pound particulate emissions per million BTU actual heat input.

Applicable compliance method:

If required, compliance with the particulate emissions limitation shall be determined through visible emissions performed in accordance with U.S. EPA Method 5.

g) Miscellaneous Requirements

(1) None.