

Facility ID: 1677010255 Issuance type: Final State Permit To Operate

This version of facility specific terms and conditions was converted from a database format to an HTML file during an upgrade of the Ohio EPA, Division of Air Pollution Control's permitting software. Every attempt has been made to convert the terms and conditions to look and substantively conform to the permit issued or being drafted in STARS. However, the format of the terms may vary slightly from the original. In addition, although it is not expected, there is a slight possibility that a term and condition may have been inadvertently "left out" of this reproduction during the conversion process. Therefore, if this version is to be used as a starting point in drafting a new version of a permit, it is imperative that the entire set of terms and conditions be reviewed to ensure they substantively mimic the issued permit. The official version of any permit issued final by Ohio EPA is kept in the Agency's Legal section. The Legal section may be contacted at (614) 644-3037.

In addition to the terms and conditions, hyperlinks have been inserted into the document so you may more readily access the section of the document you wish to review.

Finally, the term language under "Part II" and before "A. Applicable Emissions Limitations..." has been added to aid in document conversion, and was not part of the original issued permit.

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THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION

Facility ID: 1677010255 Emissions Unit ID: B001 Issuance type: Final State Permit To Operate

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Part II - Special Terms and Conditions

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.

A. Applicable Emissions Limitations and/or Control Requirements

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Combined heat and power unit (CHPU) burns biogas [rated energy value 650 Btu/cubic foot], which is primarily methane, from WWTP anaerobic sewage sludge digestion system -- stationary small internal combustion engine [GE Jenbacher, Model JMS 208 GS-B.L, 468 bhp rated power output, 3.156 mmBtu/hr rated heat input] driving a 335 kW electrical generator; particulate emissions (PE), and emissions of carbon monoxide (CO) and nitrogen oxides (NOx) uncontrolled; all other emissions uncontrolled and de minimis per OAC rule 3745-15-05.	OAC rule 3745-31-05(A)(3) (PTI 16-02431)	3.20 lbs/hr & 14.0 TPY CO; and 1.20 lbs/hr & 5.26 TPY NOx
		10% opacity from the stack, as a 6-minute average
		The requirements of OAC rule 3745-31-05(A)(3) also include compliance with the requirements of OAC rule 3745-21-08(B).
		See sections A.2 and B.1 below for other requirements of OAC rule 3745-31-05(A)(3).
	OAC rule 3745-17-11(B)(5)(a)	0.310 pound of PE per million Btu actual heat input for a stationary small internal combustion engine
	OAC rule 3745-21-08(B)	See A.2.b below.
	OAC rule 3745-17-07(A)	The emissions limitations and control requirements specified by these rules are less stringent than the emissions limitations and control requirements established pursuant to OAC rule 3745-31-05(A)(3).

2. Additional Terms and Conditions

- (a) The hourly NOx and CO emissions limitations established pursuant to OAC rule 3745-31-05(A)(3), and the PE limitation from OAC rule 3745-17-11(B)(5)(a) are greater than the potential to emit for this emissions unit. Therefore, no monitoring, record keeping, or reporting requirements are necessary to ensure ongoing compliance with these emissions limitations.

However, the permittee shall apply for and, if required, obtain a final permit to install prior to equipment replacement or any proposed change such as equipment modification or change in the fuels burned that would increase the potential to emit for any air pollutant. The permittee satisfies the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08, by complying with the best available technology requirements of OAC rule 3745-31-05(A)(3).

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

B. Operational Restrictions

1. The permittee shall burn only the fuel specified by the application in this emissions unit.

C. Monitoring and/or Record Keeping Requirements

1. For each day during which the permittee burns a fuel other than the type specified by the application, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

D. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports that identify each day, type and quantity of fuel when a fuel other than the type specified by the application was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

E. Testing Requirements

1. Compliance with the emission limitations in Section A.1 of these terms and conditions shall be determined in accordance with the following methods using applicable emission factors, as noted:
Emission Limitation: 10% opacity, as a 6-minute average

Applicable Compliance Method: If required, compliance shall be determined by visible particulate emissions evaluations performed using the procedures specified in USEPA Method 9.

Emission Limitation: 0.310 pound of PE per million Btu actual heat input

Applicable Compliance Method: The permittee may use the AP-42, 7/00, Table 3.2-3 emission factor of 0.00950 pound of particulates (filterable) per million Btu of actual heat input to demonstrate compliance. This assumes all particulates emitted are of aerodynamic diameter of 10 micrometers or under.

If required, compliance shall be determined in accordance with the requirements in 40 CFR Part 60, Appendix A, Method 5 and the methods and procedures specified in OAC rule 3745-17-03(B)(10).

Emission Limitation: 1.20 lbs/hr & 5.26 TPY NO_x

Applicable Compliance Method: The permittee may demonstrate compliance with the above limitations based upon the following calculations of the potential to emit:

$$H = PN(1 \text{ pound}/453.6 \text{ grams}) = 1.13 \text{ lbs/hr NO}_x$$

$$(1.13 \text{ lbs/hr NO}_x)(8760 \text{ hrs/yr})(1 \text{ ton}/2000 \text{ lbs}) = 4.95 \text{ TPY NO}_x$$

where:

H = hourly potential to emit;

P = 468 bhp [internal combustion engine maximum rated output power]; and

N = 1.1 grams/bhp-hr [manufacturer's NO_x emission factor].

If required, compliance with the hourly NO_x emissions limit shall be determined in accordance with the requirements in 40 CFR Part 60, Appendix A, Method 7E.

Emission Limitation: 3.20 lbs/hr & 14.0 TPY CO

Applicable Compliance Method: The permittee may demonstrate compliance with the above limitations based upon the following calculations of the potential to emit:

$$H = PC(1 \text{ pound}/453.6 \text{ grams}) = 3.10 \text{ lbs/hr CO}$$

$$(3.10 \text{ lbs/hr CO})(8760 \text{ hrs/yr})(1 \text{ ton}/2000 \text{ lbs}) = 13.6 \text{ TPY CO}$$

where:

H = hourly potential to emit;

P = 468 bhp [internal combustion engine maximum rated output power]; and

C = 3.0 grams/bhp-hr [manufacturer's CO emission factor].

If required, compliance with the hourly CO emissions limit shall be determined in accordance with the requirements in 40 CFR Part 60, Appendix A, Method 10.

F. Miscellaneous Requirements

1. Modeling to demonstrate compliance with the Ohio EPA's "Air Toxic Policy" was not necessary because the facility's maximum annual emissions for each toxic pollutant will be less than 1.0 ton. OAC Chapter 3745-31 requires a permittee to apply for and obtain a new or modified permit to install prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that a new permit to install application would be required for the facility if changes in the composition of the materials or use of new materials would cause the emissions of any pollutant that has a listed Threshold Limit Value (TLV), as documented in the most current version of the American Conference of Governmental Industrial Hygienists' (ACGIH's) handbook entitled "TLVs and BEIs" ("Threshold Limit Values for Chemical Substances and Physical Agents, Biological Exposure Indices"), to increase to above 1.0 ton per year.

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Facility ID: 1677010255 Emissions Unit ID: P001 Issuance type: Final State Permit To Operate

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Part II - Special Terms and Conditions

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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.

A. Applicable Emissions Limitations and/or Control Requirements

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Burns biogas [rated energy value 650 Btu/cubic foot], which is primarily methane, from WWTP anaerobic sewage sludge digestion system -- gas-burning flare [Varec Biogas] 11,600 cubic feet/hr rated input capacity, 7.54 mmBtu/hr rated heat input; particulate emissions (PE), and emissions of carbon monoxide (CO) and nitrogen oxides (NOx) uncontrolled; all other emissions uncontrolled and de minimis per OAC rule 3745-15-05.	OAC rule 3745-31-05(A)(3) (PTI 16-02431)	1.50 lbs/hr & 6.57 TPY CO; and 0.500 lb/hr & 2.19 TPY NOx
		10% opacity from the stack, as a 6-minute average
		The requirements of OAC rule 3745-31-05(A)(3) also include compliance with the requirements of OAC rule 3745-21-08(B).
		See sections A.2 and B.1 below for other requirements of OAC rule 3745-31-05(A)(3).
	OAC rule 3745-21-08(B)	See A.2.b below.

2. Additional Terms and Conditions

- (a) The hourly NOx and CO emissions limitations established pursuant to OAC rule 3745-31-05(A)(3) are greater than the potential to emit for this emissions unit. Therefore, no monitoring, record keeping, or reporting requirements are necessary to ensure ongoing compliance with these emissions limitations.

However, the permittee shall apply for and, if required, obtain a final permit to install prior to equipment replacement or any proposed change such as equipment modification or change in the fuels burned that would increase the potential to emit for any air pollutant.

The permittee satisfies the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08, by complying with the best available technology requirements of OAC rule 3745-31-05(A)(3).

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

B. Operational Restrictions

- 1. The permittee shall burn only the fuel specified by the application in this emissions unit.

C. Monitoring and/or Record Keeping Requirements

- 1. For each day during which the permittee burns a fuel other than the type specified by the application, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

D. Reporting Requirements

- 1. The permittee shall submit deviation (excursion) reports that identify each day, type and quantity of fuel when a fuel other than the type specified by the application was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

E. Testing Requirements

- 1. Compliance with the emission limitations in Section A.1 of these terms and conditions shall be determined in accordance with the following methods using applicable emission factors, as noted:
Emission Limitation: 10% opacity, as a 6-minute average

Applicable Compliance Method: If required, compliance shall be determined by visible particulate emissions evaluations performed using the procedures specified in USEPA Method 9.
Emission Limitation: 0.500 lb/hr & 2.19 TPY NOx

Applicable Compliance Method: The permittee may demonstrate compliance with the above limitations based upon the following calculations of the potential to emit:

$$H = PN = 0.452 \text{ lb/hr NOx} \\ (0.452 \text{ lb/hr NOx})(8760 \text{ hrs/yr})(1 \text{ ton}/2000 \text{ lbs}) = 1.98 \text{ TPY NOx} \\ \text{where:}$$

H = hourly potential to emit;
P = 7.54 mmBtu/hr [rated heat input]; and
N = 0.06 lb/mmBtu [manufacturer's NOx emission factor].

If required, compliance with the hourly NOx emissions limit shall be determined in accordance with the

requirements in 40 CFR Part 60, Appendix A, Method 7E or other appropriate USEPA-approved NOx emissions testing method.

Emission Limitation: 1.50 lbs/hr & 6.57 TPY CO

Applicable Compliance Method: The permittee may demonstrate compliance with the above limitations based upon the following calculations of the potential to emit:

$H = PC = 1.39 \text{ lbs/hr CO}$
 $(1.39 \text{ lbs/hr CO})(8760 \text{ hrs/yr})(1 \text{ ton}/2000 \text{ lbs}) = 6.01 \text{ TPY CO}$

where:

H = hourly potential to emit;
P = 7.54 mmBtu/hr [rated heat input]; and
C = 0.185 lb/mmBtu [manufacturer's CO emission factor].

If required, compliance with the hourly CO emissions limit shall be determined in accordance with the requirements in 40 CFR Part 60, Appendix A, Method 10 or other appropriate USEPA-approved CO emissions testing method.

F. Miscellaneous Requirements

1. Modeling to demonstrate compliance with the Ohio EPA's "Air Toxic Policy" was not necessary because the facility's maximum annual emissions for each toxic pollutant will be less than 1.0 ton. OAC Chapter 3745-31 requires a permittee to apply for and obtain a new or modified permit to install prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that a new permit to install application would be required for the facility if changes in the composition of the materials or use of new materials would cause the emissions of any pollutant that has a listed Threshold Limit Value (TLV), as documented in the most current version of the American Conference of Governmental Industrial Hygienists' (ACGIH's) handbook entitled "TLVs and BEIs" ("Threshold Limit Values for Chemical Substances and Physical Agents, Biological Exposure Indices"), to increase to above 1.0 ton per year.