

Facility ID: 0317030060 Issuance type: Title V Proposed Permit

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 III" and before "I. Applicable Emissions Limitations..." has been added to aid in document conversion, and was not part of the original issued permit.

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

Facility ID: 0317030060 Issuance type: Title V Proposed Permit

**Part II - Specific Facility Terms and Conditions**

**a State and Federally Enforceable Section**

1. None

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

Facility ID: 0317030060 Issuance type: Title V Proposed Permit

**b State Only Enforceable Section**

1. The following insignificant emissions unit located at this facility is exempt from permit requirements because it is not subject to any applicable requirements or because it meets the "de minimis" criteria established in OAC rule 3745-15-05:  
  
Z001 - Aqueous Ammonia Storage Tank.

[Go to Part III for Emissions Unit P001](#)

[Go to Part III for Emissions Unit P002](#)

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

Facility ID: 0317030060 Issuance type: Title V Proposed Permit

Part III - Terms and Conditions for Emissions Units

[Go to the top of this document](#)

Facility ID: 0317030060 Emissions Unit ID: P001 Issuance type: Title V Proposed Permit

A. State and Federally Enforceable Section

The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

1. None.

I. 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>
GE Frame 5LA natural gas-fired combustion turbine (with a nominal capacity of 16.5 MW), equipped with a selective catalytic reduction (SCR) system	OAC rule 3745-31-05(A)(3) (PTI #03-13390, issued 5/15/01)	Nitrogen oxides (NOx) emissions shall not exceed 14 ppmvd at 15% oxygen.
		13.12 lbs NOx/hr
		0.0140 lb particulate emissions (PE)/mmBtu of actual heat input
		3.56 lbs PE/hr & 4.0 tons PE/yr
		0.0057 lb sulfur dioxide (SO2)/mmBtu heat input
		1.45 lbs SO2/hr & 1.6 tons SO2/yr
		0.112 lb carbon monoxide (CO)/mmBtu of actual heat input
		28.47 lbs CO/hr
		2.29 lbs volatile organic compounds (VOC)/hr & 2.6 tons VOC/yr
		0.18 lb formaldehyde/hr & 0.2 ton formaldehyde/yr
		startup and shutdown emissions: 2.5 tons NOx/yr and 1.0 ton CO/yr
		Visible PE from any stack shall not exceed 10 percent opacity, as a six-minute average.
OAC rule 3745-31-05(C) (PTI #03-13390, issued 5/15/01)	14.8 tons NOx per rolling, 12-month period	
	32.0 tons CO per rolling, 12-month period	
OAC rule 3745-17-07(A)	See A.II.1. The visible PE limitation specified by this rule is less stringent than the visible PE limitation established pursuant to OAC rule 3745-31-05(A)(3).	
OAC rule 3745-17-11(B)(4)	See A.I.2.a.	
OAC rule 3745-18-06(F)	See A.I.2.a.	
40 CFR, Part 60, Subpart GG	See A.I.2.b.	
OAC rule 3745-21-08(B)	See A.I.2.c.	
OAC rule 3745-23-06(B)	See A.I.2.c.	

2. Additional Terms and Conditions

- a. The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

- b. The emission limitation and sulfur content restriction specified by this rule are less stringent than the emission limitation and sulfur content restriction established pursuant to OAC rule 3745-31-05(A)(3). Except as provided for in the terms and conditions of this permit, the permittee is not exempt from meeting any additional requirements of 40 CFR Part 60, Subpart GG.
- c. The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06 (B) and the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05 (A)(3) in Permit to Install 03-13390.  
  
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.
- d. Emission limitations established in this permit do not include emissions from startups/shutdowns unless specifically addressed.
- e. The 13.12 lbs NOx/hr, 3.56 lbs PE/hr, 1.45 lbs SO<sub>2</sub>/hr, 28.47 lbs CO/hr, 2.29 lbs VOC/hr and 0.18 lb formaldehyde/hr emission limitations were established for PTI purposes to reflect the potentials to emit for this emissions unit. Therefore, it is not necessary to develop any additional monitoring, record keeping or reporting requirements to ensure compliance with these emission limitations.

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

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

#### II. Operational Restrictions

1. The maximum annual number of hours of operation for this emissions unit shall not exceed 2,250 hours\* per rolling, 12-month period, based upon a summation of the monthly numbers of hours of operation.  
  
\* This annual restriction includes startup and shutdown periods as they are described in section A.II.3. The maximum annual hours for startups and shutdowns shall not exceed 125 hours.  
  
[OAC rule 3745-77-07(A)(1) and PTI #03-13390]
2. The permittee shall burn only natural gas in this emissions unit. The maximum sulfur content of the natural gas shall not exceed 0.0068 percent, by weight.  
  
[OAC rule 3745-77-07(A)(1) and PTI #03-13390]
3. As specified in the permittee's PTI application, the maximum heat input rating for this emissions unit is 254.2 mmBtu/hr. This value corresponds to a maximum natural gas flow rate of 254,216 cu. ft/hr with a heat content of 1000 Btu/cu. ft. The permittee shall operate this emissions unit within the parameters specified above, except for startup and shutdown periods. Startup periods shall be defined as the time necessary to bring the SCR unit to its minimum operating temperature (as recommended by the vendor), but under no circumstances shall it exceed 60 minutes in duration. Shutdown periods shall not exceed 30 minutes in duration.  
  
[OAC rule 3745-77-07(A)(1) and PTI #03-13390]
4. With the exception of startup and shutdown periods, this emissions unit shall be operated at 100% load. For environmental compliance purposes, 100% load is achieved when the ammonia vaporizer temperature is at least 300 degrees Fahrenheit. The permittee may petition the Ohio EPA to operate at a greater load range if it can demonstrate to the agency's satisfaction that the emissions unit will comply with all applicable emission limits in this permit.  
  
[OAC rule 3745-77-07(A)(1) and PTI #03-13390]

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

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

#### III. Monitoring and/or Record Keeping Requirements

1. The permittee shall maintain monthly records of the following information for this emissions unit:
  - a. the number of hours of operation;
  - b. the rolling, 12-month number of hours of operation;
  - c. the NOx and CO emission rates\*, in pounds;
  - d. the rolling, 12-month NOx and CO emissions rates, in tons;
  - e. the number of hours of operation for startup and shutdown periods;
  - f. the NOx and CO emission rates\*\* for the startup and shutdown periods, in tons; and

- g. the annual, year-to-date NO<sub>x</sub> and CO emission rates, in tons, associated with the startup and shutdown periods (summation of f for each pollutant).

\* determined from the most recent emission testing data and/or continuous emission monitoring data available for each pollutant

\*\* The permittee shall use 38.0 lbs NO<sub>x</sub>/hr and 13.0 lbs CO/hr as additional emissions associated with the startup and shutdown periods, or as determined by testing data or continuous monitoring data that maybe available for this emissions unit.

[OAC rule 3745-77-07(C)(1) and PTI #03-13390]

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

[OAC rule 3745-77-07(C)(1) and PTI #03-13390]

3. The permittee shall determine compliance with the sulfur content standard as follows: ASTM D 1072-80, D 3031-81, D 4084-82, or D 3246-81 shall be used for the sulfur content of gaseous fuels. The permittee shall determine the heat content of the fuels using ASTM method D240. The applicable ranges of some ASTM methods mentioned above are not adequate to measure the levels of sulfur in some fuel gases. Dilution of samples before analysis (with verification of the dilution ratio) may be used, subject to the approval of the Ohio EPA, Central Office. The newest or most recent revisions to the applicable test method shall be used for these analyses. Alternative, equivalent methods may be used if they comply with the requirements specified in 40 CFR, Part 60.13, or upon written approval by the Ohio EPA, Central Office. The frequency of the sampling shall be such that it complies with the requirements specified in 40 CFR, Part 60.334. A custom fuel monitoring schedule may be used if approved by the Ohio EPA, Northwest District Office.

[OAC rule 3745-77-07(C)(1) and PTI #03-13390]

4. This emissions unit shall have an information management system that shall be capable of monitoring and recording ammonia vaporizer temperature in degrees Fahrenheit.

[OAC rule 3745-77-07(C)(1) and PTI #03-13390]

5. The permittee shall operate and maintain equipment to continuously monitor and record NO<sub>x</sub> emissions from this emissions unit in units of the applicable standard(s). The continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Parts 60 and Part 75, if applicable.

The permittee shall maintain records of data obtained by the continuous NO<sub>x</sub> monitoring system including, but not limited to:

- a. emissions of NO<sub>x</sub>, in parts per million, on an instantaneous (one-minute) basis;
- b. emissions of NO<sub>x</sub>, in pounds per hour;
- c. results of quarterly cylinder gas audits or linearity checks, if applicable;
- d. results of daily zero/span calibration checks and the magnitude of manual calibration adjustments;
- e. results of required relative accuracy test audit(s), including results in units of the applicable standard(s);
- f. hours of operation of the emissions unit, continuous NO<sub>x</sub> monitoring system, and control equipment;
- g. the date, time, and hours of operation of the emissions unit without the control equipment and/or the continuous NO<sub>x</sub> monitoring system;
- h. the date, time, hours of operation of the emissions unit during any malfunction of the control equipment and/or the continuous NO<sub>x</sub> monitoring system; as well as,
- i. the reason (if known) and the corrective actions taken (if any) for each such event in (g) and (h).

[OAC rule 3745-77-07(C)(1) and PTI #03-13390]

6. The permittee shall operate and maintain equipment to continuously monitor and record the fuel flow rate in order to stoichiometrically calculate emissions of NO<sub>x</sub>, in pounds per hour. Fuel heat content values for each fuel burned, as applied in the stoichiometric calculations, shall also be recorded. The permittee shall maintain records of data obtained by the fuel flow monitor/meter, including the dates and results of each calibration check and the magnitude of calibration adjustments; periods of downtime and malfunction of the fuel flow monitor/meter; as well as, the reason (if known) and the corrective actions taken (if any) for each such event.

[OAC rule 3745-77-07(C)(1) and PTI #03-13390]

7. The permittee shall maintain on-site documentation from the U.S. EPA or the Ohio EPA's Central Office documenting that the continuous NO<sub>x</sub> monitoring system has been certified to meet the requirements of 40 CFR Part 60, Appendix B, Performance Specification 2; the accuracy requirements of Specification 6; and has been certified by U.S. EPA or recommended for certification by Ohio EPA to U.S. EPA under 40 CFR Part 75. The permittee shall document that the fuel flow monitor/meter meets 40 CFR 75 certification requirements prior to the performance specification test, and shall demonstrate how the pound per hour emissions of NO<sub>x</sub> is being calculated stoichiometrically. The letter(s)/document(s) of certification under Part 60 and certification or recommendation for certification under Part 75 shall be made available to the Director (the appropriate Ohio EPA District Office or local air agency) upon request.

Each continuous monitoring system consists of all the equipment used to acquire and record data in units of all applicable standard(s), and includes the sample extraction and transport hardware, sample conditioning

hardware, analyzers, and data processing hardware and software.

[OAC rule 3745-77-07(C)(1) and PTI #03-13390]

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

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

**IV. Reporting Requirements**

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

[OAC rule 3745-77-07(C)(1) and PTI #03-13390]

2. The permittee shall submit quarterly deviation (excursion) reports that identify the following:
  - a. all exceedances of the rolling, 12-month number of hours of operation restriction of 2250;
  - b. all exceedances of the rolling, 12-month NOx emission limitation of 14.8 tons; and
  - c. all exceedances of the rolling, 12-month CO emission limitation of 32.0 tons.

These reports shall be submitted in accordance with General Term and Condition A.1.c of this permit.

[OAC rule 3745-77-07(C)(1) and PTI #03-13390]

3. The permittee shall submit quarterly deviation (excursion) reports that identify any record which shows that the sulfur content of the natural gas exceeded 0.0068 percent, by weight. These reports shall be submitted in accordance with General Term and Condition A.1.c of this permit.

[OAC rule 3745-77-07(C)(1) and PTI #03-13390]

4. The permittee shall submit deviation (excursion) reports that identify all periods of time when this emissions unit was not in compliance with the requirements established in sections A.II.3 and A.II.4 above. These reports shall be submitted in accordance with General Term and Condition A.1.c of this permit.

[OAC rule 3745-77-07(C)(1) and PTI #03-13390]

5. The permittee shall comply with the following quarterly reporting requirements for the emissions unit and its continuous NOx monitoring system:

a. Pursuant to the monitoring, record keeping, and reporting requirements for continuous monitoring systems contained in 40 CFR 60.7 and 60.13(h) and the requirements established in this permit, the permittee shall submit reports within 30 days following the end of each calendar quarter to the appropriate Ohio EPA District Office or local air agency, documenting all instances of NOx emissions in excess of any applicable limit specified in this permit, 40 CFR Part 60, 40 CFR Part 76, OAC Chapters 3745-14 and 3745-23, and any other applicable rules or regulations. The report shall document the date, commencement and completion times, duration, and magnitude of each exceedance, as well as the reason (if known) and the corrective actions taken (if any) for each exceedance. Excess emissions shall be reported in units of the applicable standard(s). If there are no excess emissions during the calendar quarter, the permittee shall submit a statement to that effect.

b. These quarterly reports shall be submitted by January 30, April 30, July 30, and October 30 of each year and shall include the following:

- i. the facility name and address;
- ii. the manufacturer and model number of the continuous NOx and other associated monitors;
- iii. the location of the continuous NOx monitor;
- iv. the exceedance report as detailed in (a) above;
- v. the total NOx emissions for the calendar quarter (tons);
- vi. the total operating time (hours) of the emissions unit;
- vii. the total operating time of the continuous NOx monitoring system while the emissions unit was in operation;
- viii. results and date of quarterly cylinder gas audits or linearity checks, if applicable;
- ix. results and date of the relative accuracy test audit(s), including results in units of the applicable standard (s), (during appropriate quarter(s));
- x. the results of any relative accuracy test audit showing the continuous NOx monitor out-of-control and the compliant results following any corrective actions;
- xi. the date, time, and duration of any/each malfunction\* of the continuous NOx monitoring system, emissions unit, and/or control equipment;
- xii. the date, time, and duration of any downtime\* of the continuous NOx monitoring system and/or control equipment while the emissions unit was in operation; and
- xiii. the reason (if known) and the corrective actions taken (if any) for each event in (b)(11) and (12).

Each report shall address the operations conducted and data obtained during the previous calendar quarter. Data substitution procedures from 40 CFR 75 are not to be used for showing compliance with the short term OAC 3745-31-05(A)(3) rule-based or NSPS-based limitation(s) in this permit.

\* each downtime and malfunction event shall be reported regardless if there is an exceedance of any applicable limit

[OAC rule 3745-77-07(C)(1) and PTI #03-13390]

6. The permittee shall submit quarterly reports that document the date, time, and duration of each malfunction and/or period of downtime of the continuous fuel flow monitoring system, while the emissions unit was in operation, and the reason (if known) and the corrective actions taken (if any) for each such event. These quarterly reports shall be submitted by January 30, April 30, July 30, and October 30 of each year.

[OAC rule 3745-77-07(C)(1) and PTI #03-13390]

7. The permittee shall collect, record, and maintain measurements, data, records, and reports required per 40 CFR Part 75; and shall submit certification, recertification, notifications, applications, monitoring plans, petitions for alternative monitoring systems, electronic quarterly reports, and any other pertinent record and/or report to the Administrator (U.S. EPA), as required by this Part.

[OAC rule 3745-77-07(C)(1) and PTI #03-13390]

8. The permittee shall submit annual reports that summarize the following: (a) the actual annual number of hours of operation, (b) the actual annual number of hours for startups and shutdowns, (c) the actual annual NOx emissions (during startups and shutdowns and during normal operation) and (4) the actual annual CO emissions (during startups and shutdowns and during normal operation) for this emissions unit. These reports shall be submitted by January 31 of each year and shall cover the previous calendar year.

[OAC rule 3745-77-07(C)(1)]

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

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

#### V. Testing Requirements

1. The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:
  - a. The emission testing\* shall be conducted within 6 months after issuance of this permit and within 6 months prior to permit renewal.
  - b. The emission testing shall be conducted to demonstrate compliance with the NOx (in lbs/hr and in ppmv) and CO (in lbs/mmBtu and lbs/hr) emission limitations.
  - c. The following test method(s) shall be employed to demonstrate compliance with the above emission limitations: for NOx, Methods 1-4 and 7 of 40 CFR, Part 60, Appendix A; and for CO, Methods 1-4 and 10 of 40 CFR, Part 60, Appendix A. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.
  - d. The testing shall be performed at peak load (as defined by 40 CFR, Part 60.331), unless otherwise specified or approved by the Ohio EPA, Northwest District Office.
  - e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA, Northwest District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA, Northwest District Office refusal to accept the results of the emission test(s).
  - f. Personnel from the Ohio EPA, Northwest District Office shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.
  - g. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA, Northwest District Office within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Ohio EPA, Northwest District Office.

\* In lieu of the test methods and procedures required under 40 CFR, Part 60.335, the permittee shall follow the testing requirements in accordance with this permit.

[OAC rule 3745-77-07(C)(1) and PTI #03-13390]

2. Compliance with the emission limitations in Section A.I of the terms and conditions of this permit shall be determined according to the following methods:
  - a. Emission Limitations: NOx emissions shall not exceed 14 ppmvd at 15% Oxygen, 13.12 lbs NOx/hr and 14.8 tons NOx per rolling, 12-month period

Applicable Compliance Method: Compliance with the outlet concentration and lbs/hr NOx emission limitations shall be demonstrated based on the results of stack testing conducted in accordance with Methods 1-4 and 7 of 40 CFR, Part 60, Appendix A and on the monitoring and record keeping requirements established in section A.III of this permit.

Compliance with the annual allowable NO<sub>x</sub> emission limitation shall be based on the monitoring and record keeping requirements established in section A.III.1 of this permit.

[OAC rule 3745-77-07(C)(1) and PTI #03-13390]

- b. Emission Limitations: 0.0140 lb PE/mmBtu heat input, 3.56 lbs PE/hr and 4.0 tons PE/yr

Applicable Compliance Method: The hourly PE limitation was established by multiplying the maximum heat input of 254.2 mmBtu/hr by the vendor-supplied emission factor of 0.0140 lb PE/mmBtu.

As long as compliance with the hourly emission limitation and the restriction on the annual number of hours of operation is maintained, compliance with the annual emission limitation shall be ensured (the annual emission limitation was determined by multiplying the hourly emission limitation by the annual allowable number of hours of operation, and then dividing by 2000 lbs/ton).

If required, the permittee shall demonstrate compliance with the hourly and lbs PE/mmBtu limitations above through emission tests performed in accordance with 40 CFR, Part 60, Appendix A, Methods 1-5.

[OAC rule 3745-77-07(C)(1) and PTI #03-13390]

- c. Emission Limitations: 0.0057 lb SO<sub>2</sub>/mmBtu heat input, 1.45 lbs SO<sub>2</sub>/hr and 1.6 tons SO<sub>2</sub>/yr

Applicable Compliance Method: The lb/mmBtu SO<sub>2</sub> emission limitation was established based on the maximum natural gas sulfur content of 2 gr/100 cu. ft as follows:

i. multiply the maximum sulfur content (2 gr/100 cu. ft) by the maximum hourly natural gas flow rate (254,216 cu. ft/hr), and then divide by 7000 gr/lb; and

ii. divide the result from section A.V.2.c.i above by the maximum heat input rate (254.2 mmBtu/hr) and multiply by 2.\*

The hourly allowable SO<sub>2</sub> emission limitation was determined by multiplying the lb/mmBtu emission limitation by the maximum hourly heat input capacity (mmBtu/hr).

As long as compliance with the hourly emission limitation and the restriction on the annual number of hours of operation is maintained, compliance with the annual emission limitation shall be ensured (the annual emission limitation was determined by multiplying the hourly emission limitation by the annual allowable number of hours of operation, and then dividing by 2000 lbs/ton).

If required, the permittee shall demonstrate compliance with the lb/mmBtu and hourly SO<sub>2</sub> emission limitations through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 6.

\* S to SO<sub>2</sub> conversion factor

[OAC rule 3745-77-07(C)(1) and PTI #03-13390]

- d. Emission Limitations: 2.29 lbs VOC/hr and 2.6 tons VOC/yr

Applicable Compliance Method: The hourly allowable VOC emission limitation was established by multiplying the maximum heat input capacity of 254.2 mmBtu/hr by the vendor-supplied emission factor of 0.0090 lb VOC/mmBtu.

As long as compliance with the hourly emission limitation and the restriction on the annual number of hours of operation is maintained, compliance with the annual emission limitation shall be ensured (the annual emission limitation was determined by multiplying the hourly emission limitation by the annual allowable number of hours of operation and then dividing by 2000 lbs/ton).

If required, the permittee shall demonstrate compliance with the hourly allowable VOC emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 18, 25 or 25A, as appropriate.

[OAC rule 3745-77-07(C)(1) and PTI #03-13390]

- e. Emission Limitations: 0.1120 lb CO/mmBtu heat input, 28.47 lbs CO/hr and 32.0 tons CO per rolling, 12-month period

Applicable Compliance Method: Compliance with the lb/mmBtu and hourly allowable CO emission limitations shall be demonstrated based on the results of emission testing conducted in accordance with Methods 1-4 and 10 of 40 CFR, Part 60, Appendix A.

Compliance with the annual allowable CO emission limitation shall be determined based on the the record keeping established in section A.III.1 of this permit.

[OAC rule 3745-77-07(C)(1) and PTI #03-13390]

- f. Emission Limitations: Startup and shutdown emissions - 2.5 tons NO<sub>x</sub>/yr and 1.0 ton CO/yr

Applicable Compliance Method: Compliance with the annual allowable NO<sub>x</sub> and CO emission limitations shall be determined based on the record keeping requirements established in section A.III.1 of this

permit.

[OAC rule 3745-77-07(C)(1) and PTI #03-13390]

- g. Emission Limitations: 0.18 lb/hr formaldehyde and 0.2 ton formaldehyde/yr

Applicable Compliance Method: Compliance with the hourly allowable formaldehyde emission limitation may be demonstrated by multiplying the emission factor of 0.00071 pound of formaldehyde/mmBtu heat input (from AP-42, Table 3.1-3, revised 4/00) by the maximum heat input capacity of 254.2 mmBtu/hr.

As long as compliance with the hourly emission limitation and the restriction on the annual number of hours of operation is maintained, compliance with the annual emission limitation shall be ensured (the annual emission limitation was determined by multiplying the hourly emission limitation by the annual allowable number of hours of operation, and then dividing by 2000 lbs/ton).

If required, the permittee shall demonstrate compliance with the hourly allowable formaldehyde emission limitation through emission tests performed in accordance with 40 CFR, Part 60, Appendix A, Methods 1 through 4 and 320.

[OAC rule 3745-77-07(C)(1) and PTI #03-13390]

- h. Emission Limitation: Visible PE from any stack shall not exceed 10 percent opacity as a six-minute average.

Applicable Compliance Method: Compliance with the visible PE limitation shall be determined by Method 9, 40 CFR, Part 60, Appendix A.

[OAC rule 3745-77-07(C)(1) and PTI #03-13390]

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

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

VI. **Miscellaneous Requirements**

1. Should this emissions unit be converted from a simple cycle to a combined cycle turbine in the future, a new BAT determination shall be required.

[OAC rule 3745-77-07(C)(1) and PTI #03-13390]

2. Within 180 days of the effective date of this permit, the permittee shall develop and maintain a written quality assurance/quality control plan for the continuous NOx monitoring system and fuel flow monitor/meter, designed to ensure continuous valid and representative readings of NOx emissions in units of the applicable standard(s). Except as allowed below, the plan shall follow the requirements of 40 CFR Part 60, Appendix F and 40 CFR Part 75, Appendix B. The quality assurance/quality control plan and a logbook dedicated to the continuous NOx monitoring system must be kept on site and available for inspection during regular office hours.

The plan shall include the requirement to conduct relative accuracy test audits for the continuous NOx monitoring system in accordance with the frequencies required pursuant to 40 CFR Part 60 and 40 CFR Part 75; or may follow relative accuracy test audit frequency requirements for monitoring systems subject to 40 CFR 75, Appendix B, in lieu of frequencies required in 40 CFR Part 60. In either case, results shall be recorded and reported in units of the applicable standard(s) in accordance with 40 CFR Part 60.

The plan shall include the requirement to conduct quarterly cylinder gas audits or relative accuracy audits pursuant to 40 CFR Part 60, and linearity checks pursuant to 40 CFR Part 75; however, linearity checks completed pursuant to 40 CFR Part 75, Appendix B, may be substituted for the quarterly cylinder gas or relative accuracy audits required per 40 CFR Part 60. [OAC rule 3745-77-07(C)(1) and PTI #03-13390]

3. In accordance with good engineering practices, the SCR unit serving emissions unit P001 shall be installed, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee. The permittee shall maintain on site a copy of the operation & maintenance manual, as provided by the manufacturer.

[OAC rule 3745-77-07(C)(1) and PTI #03-13390]

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

Facility ID: 0317030060 Issuance type: Title V Proposed Permit

[Go to the top of this document](#)

Facility ID: 0317030060 Emissions Unit ID: P001 Issuance type: Title V Proposed Permit

**B. State Enforceable Section**

The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

1. None.

I. **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>
GE Frame 5LA natural gas-fired combustion turbine (with a nominal capacity of 16.5 MW), equipped with a selective catalytic reduction (SCR) system	none	none

2. **Additional Terms and Conditions**

1. None

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

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

II. **Operational Restrictions**

1. None

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

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

III. **Monitoring and/or Record Keeping Requirements**

1. The permit to install for this emissions unit was evaluated based on the actual materials and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Formaldehyde  
 TLV (ug/m3): 273 (Converted from the STEL)  
 Maximum Hourly Emission Rate (lbs/hr): 0.52\*  
 Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 1.38  
 MAGLC (ug/m3): 6.49

Pollutant: Sulfuric Acid  
 TLV (ug/m3): 1000  
 Maximum Hourly Emission Rate (lbs/hr): 1.43\*  
 Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 3.81  
 MAGLC (ug/m3): 23.8

Pollutant: Ammonia  
 TLV (ug/m3): 17000  
 Maximum Hourly Emission Rate (lbs/hr): 11.2\*  
 Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 29.7  
 MAGLC (ug/m3): 404.8

\* This was modeled for emissions units P001 & P002 combined.

2. Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

a. changes in the composition of the materials used (typically for coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled;

b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and

c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

3. If the permittee determines that the "Air Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01 solely due to the emissions of any type of toxic air contaminant not previously emitted, and a modification of the existing permit to install will not be required, even if the toxic air contaminant emissions are greater than the de minimis level in OAC rule 3745-15-05. If the change(s) is (are) defined as a modification under other provisions of the modification definition, then the permittee shall obtain a final permit to install prior to the

change.

The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy:"

- a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);
- b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and
- c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

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

IV. **Reporting Requirements**

- 1. None

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

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

V. **Testing Requirements**

- 1. None

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

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

VI. **Miscellaneous Requirements**

- 1. None

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

Facility ID: 0317030060 Issuance type: Title V Proposed Permit

**Part III - Terms and Conditions for Emissions Units**

[Go to the top of this document](#)

Facility ID: 0317030060 Emissions Unit ID: P002 Issuance type: Title V Proposed Permit

**A. State and Federally Enforceable Section**

The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

- 1. None.

**I. 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>
Mitsubishi 301 natural gas-fired combustion turbine with nominal generating capacity of 33.0 MW, equipped with a selective catalytic reduction (SCR) system	OAC rule 3745-31-05(A)(3) (PTI #03-13390, issued 5/15/01)	Nitrogen oxides (NOx) emissions shall not exceed 14 ppmvd at 15% oxygen.  24.37 lbs NOx/hr  0.0140 lb particulate emissions (PE)/mmBtu of actual heat input  6.61 lbs PE/hr & 7.4 tons PE/yr  0.0057 lb sulfur dioxide (SO2)/mmBtu of actual heat input  2.69 lbs SO2/hr & 3.0 tons SO2/yr  0.1120 lb carbon monoxide (CO)/mmBtu of actual

heat input  
 52.88 lbs carbon monoxide (CO)/hr  
 4.25 lbs volatile organic compounds (VOC)/hr & 4.8 tons VOC/yr  
 Startup and shutdown emissions: 12.6 tons NOx/yr and 4.3 tons CO/yr  
 Visible PE from any stack shall not exceed 10 percent opacity, as a six-minute average.  
 0.34 lb formaldehyde/hr & 0.3 ton formaldehyde/yr  
 27.4 tons NOx per rolling, 12-month period  
 59.5 tons CO per rolling, 12-month period  
 See A.II.1.  
 The visible PE limitation specified by this rule is less stringent than the visible PE limitation established pursuant to OAC rule 3745-31-05(A)(3).  
 See A.I.2.a.  
 See A.I.2.a.  
 See A.I.2.b.  
 See A.I.2.c.  
 See A.I.2.c.  
 See A.I.2.d.  
 See A.I.2.d.

OAC rule 3745-31-05(C)  
 (PTI #03-13390, issued 5/15/01)

OAC rule 3745-17-07(A)

OAC rule 3745-17-11(B)(4)  
 OAC rule 3745-18-06(F)  
 40 CFR Part 60, Subpart GG  
 40 CFR, Parts 72 and 75  
 OAC rule 3745-103  
 OAC rule 3745-21-08(B)  
 OAC rule 3745-23-06(B)

**2. Additional Terms and Conditions**

- a. The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
- b. The emission limitation and sulfur content restriction specified by this rule are less stringent than the emission limitation and sulfur content restriction established pursuant to OAC rule 3745-31-05(A)(3). Except as provided for in the terms and conditions of this permit, the permittee is not exempt from meeting any additional requirements of 40 CFR Part 60, Subpart GG.
- c. The permittee shall ensure that any affected emissions unit complies with the requirements established under 40 CFR Parts 72 and 75 concerning acid rain. Emissions exceeding any allowances that are lawfully held under Title IV of the Act, or any regulations adopted thereunder, are prohibited.
- d. The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06 (B) and the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05 (A)(3) in Permit to Install 03-13390.  
  
 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.
- e. The 24.37 lbs NOx/hr, 6.61 lbs PE/hr, 2.69 lbs SO2/hr, 52.88 lbs CO/hr, 4.28 lbs VOC/hr and 0.34 lb formaldehyde/hr emission limitations were established for PTI purposes to reflect the potentials to emit for this emissions unit. Therefore, it is not necessary to develop any additional monitoring, record keeping or reporting requirements to ensure compliance with these emission limitations.
- f. Emission limitations established in this permit do not include emissions from startups/shutdowns, unless specifically addressed.

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

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

**II. Operational Restrictions**

- 1. The maximum annual number of hours of operation for this emissions unit shall not exceed 2,250 hours\* per rolling, 12-month period, based upon a summation of the monthly number of hours of operation.

\* This annual restriction includes start-up and shutdown periods as they are described in section A.II.3. The maximum annual hours for startups and shutdowns shall not exceed 375 hours.

[OAC rule 3745-77-07(A)(1) and PTI #03-13390]

2. The permittee shall burn only natural gas in this emissions unit. The maximum sulfur content of the natural gas shall not exceed 0.0068 percent, by weight.

[OAC rule 3745-77-07(A)(1) and PTI #03-13390]

3. As specified in the permittee's PTI application, the maximum heat input rating for this emissions unit is 472.2 mmBtu/hr. This value corresponds to a maximum natural gas flow rate of 472,164 cu. ft./hr with a heat content of 1000 Btu/cu. ft. The permittee shall operate this emissions unit within the parameters specified above, except for startup and shutdown periods. Startup periods shall be defined as the time necessary to bring the SCR unit to its minimum operating temperature (as recommended by the vendor), but under no circumstances shall it exceed 60 minutes in duration. Shutdown periods shall not exceed 30 minutes in duration.

[OAC rule 3745-77-07(A)(1) and PTI #03-13390]

4. With the exception of startup and shutdown periods, this emissions unit shall be operated at 100% load. For environmental compliance purposes, 100% load is achieved when the ammonia vaporizer temperature is at least 300 degrees Fahrenheit. The permittee may petition the Ohio EPA to operate at a greater load range if it can demonstrate to the agency's satisfaction that the emissions unit will comply with all applicable emission limits in this permit.

[OAC rule 3745-77-07(A)(1) and PTI #03-13390]

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

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

**III. Monitoring and/or Record Keeping Requirements**

1. The permittee shall maintain monthly records of the following information for this emissions unit:

- a. the number of hours of operation;
- b. the rolling, 12-month number of hours of operation;
- c. the NOx and CO emission rates\*, in pounds;
- d. the rolling, 12-month NOx and CO emissions rates, in tons;
- e. the number of hours of operation for the startup and shutdown periods;
- f. the NOx and CO emission rates\*\* for the startup and shutdown periods, in tons; and
- g. the annual, year-to-date NOx and CO emission rates, in tons, associated with the startup and shutdown periods (summation of f for each pollutant).

\* determined from the most recent emission testing data and/or continuous emission monitoring data available for each pollutant.

\*\* The permittee shall use 67.0 lbs NOx/hr and 23.0 lbs CO/hr as additional emissions associated with the startup and shutdown periods, or as determined by testing data or continuous monitoring data that maybe available for this emissions unit.

[OAC rule 3745-77-07(C)(1) and PTI #03-13390]

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

[OAC rule 3745-77-07(C)(1) and PTI #03-13390]

3. Except as provided below, the permittee shall comply with the fuel monitoring and testing provisions specified in 40 CFR Part 60.334(b) and 40 CFR Part 60.335(d). In lieu of complying with the aforementioned fuel sulfur content monitoring and testing provisions, the permittee may elect to comply with the applicable monitoring and testing requirements specified in 40 CFR Part 75, Appendix D, Sections 2.2 and 2.3 for fuel oil and natural gas, respectively.

Where applicable, the permittee shall maintain records of the sulfur contents and heating values of the fuels fired in this emissions unit. ASTM D2880, D129, D1552, D2622, or D4294 shall be used to determine the sulfur content of the fuel oil and ASTM D1072, D3031, D4084, D4468, D5504, or D3246 shall be used to determine the sulfur content of the natural gas. ASTM D240 shall be used to determine the heat value of the fuel oil and ASTM D1826, D3588, or D4891 shall be used to determine the heat value of the natural gas. The most recent revisions to the applicable test method shall be used for these analyses. Alternative, equivalent methods may be used upon written approval by the Ohio EPA, NWDO.

[OAC rule 3745-77-07(C)(1) and PTI #03-13390]

4. This emissions unit shall have an information management system that shall be capable of monitoring and recording ammonia vaporizer temperature in degrees Fahrenheit.

[OAC rule 3745-77-07(C)(1) and PTI #03-13390]

5. The permittee shall operate and maintain equipment to continuously monitor and record NOx emissions from this emissions unit in units of the applicable standard(s). The continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Parts 60 and Part 75, if applicable.

The permittee shall maintain records of data obtained by the continuous NOx monitoring system including,

but not limited to:

- a. emissions of NOx in parts per million on an instantaneous (one-minute) basis;
- b. emissions of NOx in pounds per hour;
- c. results of quarterly cylinder gas audits or linearity checks, if applicable;
- d. results of daily zero/span calibration checks and the magnitude of manual calibration adjustments;
- e. results of required relative accuracy test audit(s), including results in units of the applicable standard(s);
- f. hours of operation of the emissions unit, continuous NOx monitoring system, and control equipment;
- g. the date, time, and hours of operation of the emissions unit without the control equipment and/or the continuous NOx monitoring system;
- h. the date, time, and hours of operation of the emissions unit during any malfunction of the control equipment and/or the continuous NOx monitoring system; as well as,
- i. the reason (if known) and the corrective actions taken (if any) for each such event in (g) and (h).

[OAC rule 3745-77-07(C)(1) and PTI #03-13390]

6. The permittee shall operate and maintain equipment to continuously monitor and record the fuel flow rate in order to stoichiometrically calculate emissions of NOx, in pounds per hour. Fuel heat content values for each fuel burned, as applied in the stoichiometric calculations, shall also be recorded. The permittee shall maintain records of data obtained by the fuel flow monitor/meter, including the dates and results of each calibration check and the magnitude of calibration adjustments; periods of downtime and malfunction of the fuel flow monitor/meter; as well as, the reason (if known) and the corrective actions taken (if any) for each such event.

[OAC rule 3745-77-07(C)(1) and PTI #03-13390]

7. The permittee shall maintain on-site documentation from the U.S. EPA or the Ohio EPA's Central Office documenting that the continuous NOx monitoring system has been certified to meet the requirements of 40 CFR Part 60, Appendix B, Performance Specification 2; the accuracy requirements of Specification 6; and has been certified by U.S. EPA or recommended for certification by Ohio EPA to U.S. EPA under 40 CFR Part 75. The permittee shall document that the fuel flow monitor/meter meets 40 CFR 75 certification requirements prior to the performance specification test, and shall demonstrate how the pound per hour emissions of NOx is being calculated stoichiometrically. The letter(s)/document(s) of certification under Part 60 and certification or recommendation for certification under Part 75 shall be made available to the Director (the appropriate Ohio EPA District Office or local air agency) upon request.

Each continuous monitoring system consists of all the equipment used to acquire and record data in units of all applicable standard(s), and includes the sample extraction and transport hardware, sample conditioning hardware, analyzers, and data processing hardware and software.

[OAC rule 3745-77-07(C)(1) and PTI #03-13390]

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

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

#### IV. Reporting Requirements

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

[OAC rule 3745-77-07(C)(1) and PTI #03-13390]

2. The permittee shall submit quarterly deviation (excursion) reports that identify the following:
  - a. all exceedances of the rolling, 12-month number of hours of operation restriction of 2250;
  - b. all exceedances of the rolling, 12-month NOx emission limitation of 27.4 tons; and
  - c. all exceedances of the rolling, 12-month CO emission limitation of 59.5 tons.

These reports shall be submitted in accordance with General Term and Condition A.1.c of this permit.

[OAC rule 3745-77-07(C)(1) and PTI #03-13390]

3. The permittee shall submit quarterly deviation (excursion) reports that identify any record which shows that the sulfur content of the natural gas exceeded 0.0068 percent, by weight. These reports shall be submitted in accordance with General Term and Condition A.1.c of this permit.

[OAC rule 3745-77-07(C)(1) and PTI #03-13390]

4. The permittee shall submit deviation (excursion) reports that identify all periods of time when this emissions unit was not in compliance with the requirements established in sections A.II.3 and A.II.4 above. These reports shall be submitted in accordance with General Term and Condition A.1.c of this permit.

[OAC rule 3745-77-07(C)(1) and PTI #03-13390]

5. The permittee shall comply with the following quarterly reporting requirements for the emissions unit and its continuous NOx monitoring system:
- a. Pursuant to the monitoring, record keeping, and reporting requirements for continuous monitoring systems contained in 40 CFR 60.7 and 60.13(h) and the requirements established in this permit, the permittee shall submit reports within 30 days following the end of each calendar quarter to the appropriate Ohio EPA District Office or local air agency, documenting all instances of NOx emissions in excess of any applicable limit specified in this permit, 40 CFR Part 60, 40 CFR Part 76, OAC Chapters 3745-14 and 3745-23, and any other applicable rules or regulations. The report shall document the date, commencement and completion times, duration, and magnitude of each exceedance, as well as the reason (if known) and the corrective actions taken (if any) for each exceedance. Excess emissions shall be reported in units of the applicable standard(s). If there are no excess emissions during the calendar quarter, the permittee shall submit a statement to that effect.
  - b. These quarterly reports shall be submitted by January 30, April 30, July 30, and October 30 of each year and shall include the following:
    - i. the facility name and address;
    - ii. the manufacturer and model number of the continuous NOx and other associated monitors;
    - iii. the location of the continuous NOx monitor;
    - iv. the exceedance report as detailed in (a) above;
    - v. the total NOx emissions for the calendar quarter (tons);
    - vi. the total operating time (hours) of the emissions unit;
    - vii. the total operating time of the continuous NOx monitoring system while the emissions unit was in operation;
    - viii. results and date of quarterly cylinder gas audits or linearity checks, if applicable;
    - ix. results and date of the relative accuracy test audit(s), including results in units of the applicable standard (s), (during appropriate quarter(s));
    - x. the results of any relative accuracy test audit showing the continuous NOx monitor out-of-control and the compliant results following any corrective actions;
    - xi. the date, time, and duration of any/each malfunction\* of the continuous NOx monitoring system, emissions unit, and/or control equipment;
    - xii. the date, time, and duration of any downtime\* of the continuous NOx monitoring system and/or control equipment while the emissions unit was in operation; and
    - xiii. the reason (if known) and the corrective actions taken (if any) for each event in (b)(11) and (12).

Each report shall address the operations conducted and data obtained during the previous calendar quarter. Data substitution procedures from 40 CFR 75 are not to be used for showing compliance with the short term OAC 3745-31-05(A)(3) rule-based or NSPS-based limitation(s) in this permit.

\* each downtime and malfunction event shall be reported regardless if there is an exceedance of any applicable limit

[OAC rule 3745-77-07(C)(1) and PTI #03-13390]

6. The permittee shall submit quarterly reports that document the date, time, and duration of each malfunction and/or period of downtime of the continuous fuel flow monitoring system, while the emissions unit was in operation, and the reason (if known) and the corrective actions taken (if any) for each such event. These quarterly reports shall be submitted by January 30, April 30, July 30, and October 30 of each year.
- [OAC rule 3745-77-07(C)(1) and PTI #03-13390]
7. The permittee shall collect, record, and maintain measurements, data, records, and reports required per 40 CFR Part 75; and shall submit certification, recertification, notifications, applications, monitoring plans, petitions for alternative monitoring systems, electronic quarterly reports, and any other pertinent record and/or report to the Administrator (U.S. EPA), as required by this Part.
- [OAC rule 3745-77-07(C)(1) and PTI #03-13390]
8. The permittee shall submit annual reports that summarize the following: (a) the actual annual number of hours of operation, (b) the actual annual number of hours for startups and shutdowns, (c) the actual annual NOx emissions (during startups and shutdowns and during normal operation) and (4) the actual annual CO emissions (during startups and shutdowns and during normal operation) for this emissions unit. These reports shall be submitted by January 31 of each year and shall cover the previous calendar year.
- [OAC rule 3745-77-07(C)(1)]

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

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

V. **Testing Requirements**

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

- a. The emission testing\* shall be conducted within 6 months after issuance of this permit and within 6 months prior to permit renewal.
- b. The emission testing shall be conducted to demonstrate compliance with the NO<sub>x</sub> (in lbs/hr and in ppmv) and CO (in lbs/mmBtu and lbs/hr) emission limitations.
- c. The following test method(s) shall be employed to demonstrate compliance with the above emission limitations: for NO<sub>x</sub>, Methods 1-4 and 7 of 40 CFR, Part 60, Appendix A; and for CO, Methods 1-4 and 10 of 40 CFR, Part 60, Appendix A. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.
- d. The testing shall be performed at peak load (as defined by 40 CFR, Part 60.331), unless otherwise specified or approved by the Ohio EPA, Northwest District Office.
- e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA, Northwest District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA, Northwest District Office refusal to accept the results of the emission test(s).
- f. Personnel from the Ohio EPA, Northwest District Office shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.
- g. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA, Northwest District Office within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Ohio EPA, Northwest District Office.

\* In lieu of the test methods and procedures required under 40 CFR, Part 60.335, the permittee shall follow the testing requirements in accordance with this permit.

[OAC rule 3745-77-07(C)(1) and PTI #03-13390]

2. Compliance with the emission limitations in Section A.I of the terms and conditions of this permit shall be determined according to the following methods:

- a. Emission Limitations: NO<sub>x</sub> emissions shall not exceed 14 ppmvd at 15% Oxygen, 24.37 lbs NO<sub>x</sub>/hr and 27.4 tons NO<sub>x</sub> per, rolling 12-month period

Applicable Compliance Method: Compliance with the outlet concentration and lbs/hr NO<sub>x</sub> emission limitations shall be demonstrated based on the results of stack testing conducted in accordance with Methods 1-4 and 7 of 40 CFR, Part 60, Appendix A and on the monitoring and record keeping requirements established in section A.III of this permit.

Compliance with the annual allowable NO<sub>x</sub> emission limitation shall be based on the monitoring and record keeping requirements established in section A.III.1 of this permit.

[OAC rule 3745-77-07(C)(1) and PTI #03-13390]

- b. Emission Limitation: 0.0140 lb PE/mmBtu heat input, 6.61 lbs PE/hr and 7.4 tons PE/yr

Applicable Compliance Method: The hourly PE limitation was established by multiplying the maximum heat input of 472.2 mmBtu/hr by the vendor-supplied emission factor of 0.0140 lb PE/mmBtu.

As long as compliance with the hourly emission limitation and the restriction on the annual number of hours of operation is maintained, compliance with the annual emission limitation shall be ensured (the annual emission limitation was determined by multiplying the hourly emission limitation by the annual allowable number of hours of operation, and then dividing by 2000 lbs/ton).

If required, the permittee shall demonstrate compliance with the hourly and lbs PE/mmBtu limitations above through emission tests performed in accordance with 40 CFR, Part 60, Appendix A, Methods 1-5.

[OAC rule 3745-77-07(C)(1) and PTI #03-13390]

- c. Emission Limitation: 0.0057 lb SO<sub>2</sub>/mmBtu heat input, 2.69 lbs SO<sub>2</sub>/hr and 3.0 tons SO<sub>2</sub>/yr

Applicable Compliance Method: The lb/mmBtu SO<sub>2</sub> emission limitation was established based on the maximum natural gas sulfur content of 2 gr/100 cu. ft. as follows:

- i. multiply the maximum sulfur content (2 gr/100 cu. ft.) by the maximum hourly natural gas flow rate (472,164 cu. ft./hr), and then divide by 7000 gr/lb; and
- ii. divide the result from section A.V.2.c.i above by the maximum heat input rate (472.2 mmBtu/hr) and multiply by 2.\*

The hourly allowable SO<sub>2</sub> emission limitation was determined by multiplying the lb/mmBtu emission limitation by the maximum hourly heat input capacity (mmBtu/hr).

As long as compliance with the hourly emission limitation and the restriction on the annual number of hours of operation is maintained, compliance with the annual emission limitation shall be ensured (the annual emission limitation was determined by multiplying the hourly emission limitation by the annual

allowable number of hours of operation and then dividing by 2000 lbs/ton).

If required, the permittee shall demonstrate compliance with the lb/mmBtu and hourly SO<sub>2</sub> emission limitations through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 6.

\*S to SO<sub>2</sub> conversion factor

[OAC rule 3745-77-07(C)(1) and PTI #03-13390]

- d. Emission Limitation: 4.25 lbs VOC/hr and 4.8 tons VOC/yr

Applicable Compliance Method: The hourly allowable VOC emission limitation was established by multiplying the maximum heat input of 472.2 mmBtu/hr by the vendor-supplied emission factor of 0.0090 lb VOC/mmBtu.

As long as compliance with the hourly emission limitation and the restriction on the annual number of hours of operation is maintained, compliance with the annual emission limitation shall be ensured (the annual emission limitation was determined by multiplying the hourly emission limitation by the annual allowable number of hours of operation, and then dividing by 2000 lbs/ton).

If required, the permittee shall demonstrate compliance with the hourly allowable VOC emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 18, 25 or 25A, as appropriate.

[OAC rule 3745-77-07(C)(1) and PTI #03-13390]

- e. Emission Limitation: 0.1120 lb CO/mmBtu heat input, 52.88 lbs CO/hr and 59.5 tons CO per rolling, 12 month period

Applicable Compliance Method: Compliance with the lb/mmBtu and hourly allowable CO emission limitations shall be demonstrated based on the results of emission testing conducted in accordance with Methods 1-4 and 10 of 40 CFR, Part 60, Appendix A.

Compliance with the annual allowable CO emission limitation shall be determined based on the the record keeping requirements established in section A.III.1 of this permit.

[OAC rule 3745-77-07(C)(1) and PTI #03-13390]

- f. Emission Limitation: Startup and shutdown emissions: 12.6 tons NO<sub>x</sub>/yr and 4.3 tons CO/yr

Applicable Compliance Method: Compliance with the annual allowable NO<sub>x</sub> and CO emission limitations shall be determined based on the record keeping requirements established in section A.III.1 of this permit.

[OAC rule 3745-77-07(C)(1) and PTI #03-13390]

- g. Emission Limitation: 0.34 lb/hr formaldehyde and 0.3 ton formaldehyde/yr

Applicable Compliance Method: Compliance with the hourly allowable formaldehyde emission limitation may be demonstrated by multiplying the emission factor of 0.00071 pound of formaldehyde/mmBtu heat input (from AP-42, Table 3.1-3, revised 4/00) by the maximum heat input capacity of 472.2 mmBtu/hr.

As long as compliance with the hourly emission limitation and the restriction on the annual number of hours of operation is maintained, compliance with the annual emission limitation shall be ensured (the annual emission limitation was determined by multiplying the hourly emission limitation by the annual allowable number of hours of operation, and then dividing by 2000 lbs/ton).

If required, the permittee shall demonstrate compliance with the hourly allowable formaldehyde emission limitation through emission tests performed in accordance with 40 CFR, Part 60, Appendix A, Methods 1 through 4 and 320.

[OAC rule 3745-77-07(C)(1) and PTI #03-13390]

- h. Emission Limitation: Visible PE from any stack shall not exceed 10 percent opacity, as a six-minute average.

Applicable Compliance Method: Compliance with the visible PE limitation shall be determined by Method 9, 40 CFR, Part 60, Appendix A.

[OAC rule 3745-77-07(C)(1) and PTI #03-13390]

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

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

VI. **Miscellaneous Requirements**

1. Should this emissions unit be converted from a simple cycle to a combined cycle turbine in the future, a new BAT determination shall be required.

[OAC rule 3745-77-07(C)(1) and PTI #03-13390]

2. Within 180 days of the effective date of this permit, the permittee shall develop and maintain a written quality assurance/quality control plan for the continuous NOx monitoring system and fuel flow monitor/meter, designed to ensure continuous valid and representative readings of NOx emissions in units of the applicable standard(s). Except as allowed below, the plan shall follow the requirements of 40 CFR Part 60, Appendix F and 40 CFR Part 75, Appendix B. The quality assurance/quality control plan and a logbook dedicated to the continuous NOx monitoring system must be kept on site and available for inspection during regular office hours.

The plan shall include the requirement to conduct relative accuracy test audits for the continuous NOx monitoring system in accordance with the frequencies required pursuant to 40 CFR Part 60 and 40 CFR Part 75; or may follow relative accuracy test audit frequency requirements for monitoring systems subject to 40 CFR 75, Appendix B, in lieu of frequencies required in 40 CFR Part 60. In either case, results shall be recorded and reported in units of the applicable standard(s) in accordance with 40 CFR Part 60.

The plan shall include the requirement to conduct quarterly cylinder gas audits or relative accuracy audits pursuant to 40 CFR Part 60, and linearity checks pursuant to 40 CFR Part 75; however, linearity checks completed pursuant to 40 CFR Part 75, Appendix B, may be substituted for the quarterly cylinder gas or relative accuracy audits required per 40 CFR Part 60.

[OAC rule 3745-77-07(C)(1) and PTI #03-13390]

3. In accordance with good engineering practices, the SCR unit serving emissions unit P002 shall be installed, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee. The permittee shall maintain on site a copy of the operation & maintenance manual, as provided by the manufacturer.

[OAC rule 3745-77-07(C)(1) and PTI #03-13390]

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

Facility ID: 0317030060 Issuance type: Title V Proposed Permit

[Go to the top of this document](#)

Facility ID: 0317030060 Emissions Unit ID: P002 Issuance type: Title V Proposed Permit

**B. State Enforceable Section**

The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

1. None.

**I. 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>
Mitsubishi 301 natural gas-fired combustion turbine with nominal generating capacity of 33.0 MW, equipped with a selective catalytic reduction (SCR) system	none	none

**2. Additional Terms and Conditions**

1. None

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

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

**II. Operational Restrictions**

1. None

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

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

**III. Monitoring and/or Record Keeping Requirements**

1. The permit to install for this emissions unit was evaluated based on the actual materials and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was

applied for each pollutant emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Formaldehyde  
 TLV (ug/m3): 273 (Converted from the STEL)  
 Maximum Hourly Emission Rate (lbs/hr): 0.52\*  
 Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 1.38  
 MAGLC (ug/m3): 6.49

Pollutant: Sulfuric Acid  
 TLV (ug/m3): 1000  
 Maximum Hourly Emission Rate (lbs/hr): 1.43\*  
 Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 3.81  
 MAGLC (ug/m3): 23.8

Pollutant: Ammonia  
 TLV (ug/m3): 17000  
 Maximum Hourly Emission Rate (lbs/hr): 11.2\*  
 Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 29.7  
 MAGLC (ug/m3): 404.8

\* This was modeled for emissions units P001 & P002 combined.

2. Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:
  - a. changes in the composition of the materials used (typically for coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled;
  - b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and
  - c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).
3. If the permittee determines that the "Air Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01 solely due to the emissions of any type of toxic air contaminant not previously emitted, and a modification of the existing permit to install will not be required, even if the toxic air contaminant emissions are greater than the de minimis level in OAC rule 3745-15-05. If the change(s) is (are) defined as a modification under other provisions of the modification definition, then the permittee shall obtain a final permit to install prior to the change.  
 The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy:"
  - a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);
  - b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and
  - c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

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

IV. **Reporting Requirements**

1. None

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

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

V. **Testing Requirements**

1. None

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

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

VI. **Miscellaneous Requirements**

1. None