

Facility ID: 1483040446 Issuance type: Final State Permit To Operate

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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.

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

Facility ID: 1483040446 Emissions Unit ID: B001 Issuance type: Final State Permit To Operate

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

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>
B001 - 21.5 mmBtu/hr Vapor Power natural gas and No. 2 fuel oil boiler	OAC rule 3745-31-05(A)(3) (PTI 14-05444)	<p>Sulfur Dioxide (SO2) emissions shall not exceed 19.10 tons per year.</p> <p>Particulate Emissions (PE) and emissions of Particulate Matter less than 10 microns in diameter (PM10) shall not exceed 1.88 tons per year.</p> <p>Nitrogen Oxides (NOx) emissions shall not exceed 28.78 tons per year.</p> <p>Carbon Monoxide (CO) emissions shall not exceed 13.1 tons per year.</p> <p>Volatile Organic Compound (VOC) emissions shall not exceed 1.01 tons per year.</p> <p>from the combustion of natural gas:</p> <p>Sulfur Dioxide (SO2) emissions shall not exceed 0.0006 lb/mmBtu of actual heat input.</p> <p>Particulate Emissions (PE) and emissions of Particulate Matter less than 10 microns in diameter (PM10) shall not exceed 0.0075 lb/mmBtu of actual heat input.</p> <p>Nitrogen Oxide (NOx) emissions shall not exceed 0.183 lb/mmBtu of actual heat input.</p> <p>Carbon Monoxide (CO) emissions shall not exceed 0.139 lb/mmBtu of actual heat input.</p> <p>Volatile Organic Compounds (VOC) emissions shall not exceed 0.011 lb/mmBtu of actual heat input.</p> <p>from the combustion of No. 2 fuel oil:</p> <p>Sulfur Dioxide (SO2) emissions shall not exceed 0.203 lb/mmBtu of actual heat input.</p> <p>Particulate Emissions (PE) and emissions of Particulate Matter less than 10 microns in diameter (PM10) shall not exceed 0.020 lb/mmBtu of actual heat input.</p>

Nitrogen Oxide (NOx) emissions shall not exceed 0.31 lb/mmBtu of actual heat input.

Carbon Monoxide (CO) emissions shall not exceed 0.139 lb/mmBtu of actual heat input.

Volatile Organic Compounds (VOC) emissions shall not exceed 0.004 lb/mmBtu of actual heat input. See terms A.2.c and B.1.

The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1), OAC rule 3745-17-10(B)(1) and 40 CFR 60 Subpart Dc.

OAC rule 3745-17-07(A)(1) Visible particulate emissions from any stack shall not exceed twenty percent (20%) opacity, as a six-minute average, except as specified by rule.

OAC rule 3745-17-10(B)(1) Particulate Emissions (PE) shall not exceed 0.020 lb/mmBtu actual heat input.

OAC rule 3745-18-06(D) The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

40 CFR Part 60 Subpart Dc See terms C.1. and C.2.

40 CFR Part 60.43c(c) Exempt from standard based on maximum heat input capacity less than 30 mmBtu/hr.

OAC rule 3745-21-08(B) See term and condition A.2.e.

OAC rule 3745-23-06(B) See term and condition A.2.f.

2. Additional Terms and Conditions

- (a) The application and enforcement of the provisions of the New Source Performance Standards (NSPS), as promulgated by the United States Environmental Protection Agency, 40 CFR Part 60, are delegated to the Ohio Environmental Protection Agency. The requirements of 40 CFR Part 60 are also federally enforceable.

The lb/mmBtu emissions limitations outlined in term A.1. are based upon the emissions unit's potential to emit. Therefore, no hourly records are required to demonstrate compliance with these limits.

In order to maintain compliance with the Ohio Acceptable Incremental Impact concentration for new sources of NOx emissions which exceed the Ohio Significant Emission rate, the permittee shall maintain the exhaust stack of this emissions unit such that the release height is not less than 52 feet above the base elevation of the emissions unit.

Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by the exclusive use of natural gas and No.2 fuel oil for combustion, compliance with the No. 2 fuel oil sulfur content limit, compliance with the visible particulate emissions limitation and compliance with the lb/mmBtu and TPY emissions limitations.

The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08 by committing to comply with the best available technology requirements established in Permit to Install 14-05444.

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.

The permittee shall satisfy the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06(B) by committing to comply with the best available technology requirements established in Permit to Install 14-05444.

On February 15, 2005, OAC rule 3745-23-06 was reinserted and therefore no longer a part of 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 3745-23-06, the requirement to satisfy "latest available control techniques and operational practices" still exists as part of the federally-approved SIP for Ohio.

B. Operational Restrictions

- 1. The permittee shall not combust No. 2 fuel oil in emissions unit B001 which contains greater than 0.2 percent sulfur by weight. The fuel oil sulfur limitation applies at all times, including periods of startup, shutdown and malfunction.
- 2. The permittee shall burn only natural gas and/or No. 2 fuel oil in this emissions unit.

C. Monitoring and/or Record Keeping Requirements

- 1. There are two options of compliance for monitoring and record keeping of oil quality. The permittee can choose either of the options to demonstrate compliance.
Option #1

For each shipment of oil received for burning in this emissions unit, the permittee shall maintain records of the total quantity of oil received, the permittee's or oil supplier's analyses for sulfur content and heat content, and the calculated sulfur dioxide emission rate (in lbs/mmBtu). [The sulfur dioxide emission rate shall be calculated in accordance with the formula specified in OAC rule 3745-18-04(F).] A shipment may be comprised of multiple tank truck loads from the same supplier's batch, or may be represented by single or multiple pipeline deliveries from the same supplier's batch, and the quality of the oil for those loads or pipeline deliveries may be

represented by a single batch analysis from the supplier.

The permittee shall perform or require the supplier to perform the analyses for sulfur content and heat content in accordance with 40 CFR Part 60, Appendix A, Method 19, or the appropriate ASTM methods (such as, ASTM methods D240, D4294,) or equivalent methods as approved by the Director.

Option #2

The permittee shall maintain records of the oil burned in this emissions unit in accordance with either Alternative 1 or Alternative 2 described below:

a. Alternative 1:

For each shipment of oil received for burning in this emissions unit, the permittee shall collect or require the oil supplier to collect a representative grab sample of oil and maintain records of the total quantity of oil received, the permittee's or oil supplier's analyses for sulfur content and heat content, and the calculated sulfur dioxide emission rate (in lbs/mmBtu). [The sulfur dioxide emission rate shall be calculated in accordance with the formula specified in OAC rule 3745-18-04(F).] A shipment may be comprised of multiple tank truck loads from the same supplier's batch, and the quality of the oil for those loads may be represented by a single batch analysis from the supplier.

b. Alternative 2:

The permittee shall collect a representative grab sample of oil that is burned in this emissions unit for each day when the emission unit is in operation. If additional fuel oil is added to the tank serving this emissions unit on a day when the emissions unit is in operation, the permittee shall collect a sufficient number of grab samples to develop a composite sample representative of the fuel oil burned in this emissions unit.

A representative grab sample of oil does not need to be collected on days when this emissions unit is only operated for the purpose of "test-firing". The permittee shall maintain records of the total quantity of oil burned each day, except for the purpose of test-firing, the permittee's analyses for sulfur content and heat content, and the calculated sulfur dioxide emission rate (in lbs/mmBtu). [The sulfur dioxide emission rate shall be calculated in accordance with the formula specified in OAC rule 3745-18-04(F).]

2. The permittee shall record and maintain daily records of the following information:

- a. the total amount of natural gas burned in this emissions unit, in cubic feet; and
- b. the total amount of No. 2 fuel oil burned in this emission unit, in gallons.

D. Reporting Requirements

1. The permittee shall notify the Hamilton County Department of Environmental Services in writing of any record which shows a deviation of the No. 2 fuel oil sulfur content limitation and/or sulfur dioxide emissions limitation based upon the calculated sulfur dioxide emission rate from term C.1 above. The notification shall include a copy of such record and shall be sent to the Hamilton County Department of Environmental Services within 45 days after the deviation occurs.
2. The permittee shall also submit annual reports to the Hamilton County Department of Environmental Services which specify the total NOx emissions from this emissions unit for the previous calendar year. These reports shall be submitted by January 31 of each year.

E. Testing Requirements

1. Emissions Limitation(s):

0.2 percent sulfur by weight; 0.203 lb of SO₂/mmBtu of actual heat input from the combustion of No. 2 fuel oil.

Applicable Compliance Method(s):

Compliance with the fuel oil sulfur limit and the lb of SO₂/mmBtu limitation shall consist of the analyses and certification from the permittee or the fuel supplier and the calculation of the actual sulfur dioxide emissions rate as described in term C.1.

2. Compliance with the lb/mmBtu emission limitation may be determined by the following equation when burning natural gas:

Emissions Limitation(s):

Sulfur Dioxide (SO₂) emissions shall not exceed 0.0006 lb/mmBtu of actual heat input.

Applicable Compliance Method(s):

Compliance with the lb/mmBtu emission limitation may be determined by the following equation:

$0.0211 \text{ mmft}^3/\text{hr} (\text{Max hourly gas burning capacity of emissions unit}) \times 0.6 \text{ lb SO}_2/\text{mmft}^3 (\text{AP-42 EF})/21.5 \text{ mmBtu/hr} (\text{Max hourly heat input capacity of emissions unit}) = \text{lb SO}_2/\text{mmBtu}.$

Emission Limitation(s):

Particulate Emissions (PE) and emissions of Particulate Matter less than 10 microns in diameter (PM₁₀) shall not exceed 0.0075 lb/mmBtu of actual heat input.

Applicable Compliance Method(s):

Compliance with the lb/mmBtu emission limitation may be determined by the following equation:

$0.0211 \text{ mmft}^3/\text{hr} (\text{Max hourly gas burning capacity of emissions unit}) \times 7.6 \text{ lbs PM-PM}_{10}/\text{mmft}^3 (\text{AP-42 Natural Gas Combustion EF}) / 21.5 \text{ mmBTU/hr} (\text{Max hourly heat input capacity of emissions unit}) = \text{lb PM-}$

PM10/mmBtu.

Emission Limitation(s):

Nitrogen Oxide (NOx) emissions shall not exceed 0.183 lb/mmBtu of actual heat input.

Applicable Compliance Method(s):

Compliance with the lb/mmBtu emission limitation may be determined by the following equation:

$0.0211 \text{ mmft}^3/\text{hr}$ (Max hourly gas burning capacity of emissions unit) X 187 lb NOx/mmft³ (facility supplied) / 21.5 mmBtu/hr (Max hourly heat input) = lb NOx/mmBtu.

Emission Limitation(s):

Carbon Monoxide (CO) emissions shall not exceed 0.139 lb/mmBtu of actual heat input.

Applicable Compliance Method(s):

Compliance with the lb/mmBtu emission limitation may be determined by the following equation:

$0.0211 \text{ mmft}^3/\text{hr}$ (Max hourly gas burning capacity of emissions unit) X 142 lb CO/mmft³ (facility supplied) / 21.5 mmBtu/hr (Max hourly heat input) = lb CO/mmBtu.

Emission Limitation(s):

Volatile Organic Compounds (VOC) emissions shall not exceed 0.011 lb/mmBtu of actual heat input.

Applicable Compliance Method(s):

Compliance with the lb/mmBtu emission limitation may be determined by the following equation:

$0.0211 \text{ mmft}^3/\text{hr}$ (Max hourly gas burning capacity of emissions unit) X 11 lbs VOC/mmft³ (AP-42 Natural Gas Combustion EF) / 21.5 mmBTU/hr (Max hourly heat input capacity of emissions unit) = lb VOC/mmBTU.

3. Compliance with the lb/mmBtu emission limitation may be determined by the following equation when burning No. 2 fuel oil:

Emission Limitation(s):

Sulfur Dioxide (SO₂) emissions shall not exceed 0.203 lb/mmBtu of actual heat input.

Applicable Compliance Methods:

Compliance with the lb/mmBtu emission limitation may be determined by converting the 28.4 lbs SO₂/1000 gallon emission factor into lbs SO₂/mmBtu by dividing by 140 mmBtu/1000 gallons.

Emission Limitation(s):

Particulate Emissions (PE) and emissions of Particulate Matter less than 10 microns in diameter (PM10) shall not exceed 0.020 lb/mmBtu of actual heat input.

Applicable Compliance Methods:

Compliance with the lb/mmBtu emission limitation may be determined by converting the 2.8 lbs PM-PM10/1000 gallon emission factor into lbs PM-PM10/mmBtu by dividing by 140 mmBtu/1000 gallons.

Emission Limitation(s):

Nitrogen Oxide (NOx) emissions shall not exceed 0.31 lb/mmBtu of actual heat input.

Applicable Compliance Methods:

Compliance with the lb/mmBtu emission limitation may be determined by converting the 42.8 lbs NOx/1000 gallon facility supplied emission factor into lbs NOx/mmBtu by dividing by 140 mmBtu/1000 gallons.

Emission Limitation(s):

Carbon Monoxide (CO) emissions shall not exceed 0.139 lb/mmBtu of actual heat input.

Applicable Compliance Methods:

Compliance with the lb/mmBtu emission limitation may be determined by converting the 19.5 lbsCO/1000 gallon facility supplied emission factor into lbs CO/mmBtu by dividing by 140 mmBtu/1000 gallons.

Emission Limitation(s):

Volatile Organic Compounds (VOC) emissions shall not exceed 0.004 lb/mmBtu of actual heat input.

Applicable Compliance Methods:

Compliance with the lb/mmBtu emission limitation may be determined by converting the 0.556 lbs VOC/1000 gallon emission factor into lbs VOC/mmBtu by dividing by 140 mmBtu/1000 gallons.

4. Emissions Limitation(s):

Sulfur Dioxide (SO₂) emissions shall not exceed 19.10 tons per year.

Particulate Emissions (PE) and emissions of Particulate Matter less than 10 microns in diameter (PM10) shall not exceed 1.88 tons per year.

Nitrogen Oxides (NOx) emissions shall not exceed 28.78 tons per year.

Carbon Monoxide (CO) emissions shall not exceed 13.1 tons per year.

Volatile Organic Compound (VOC) emissions shall not exceed 1.01 tons per year.

Applicable Compliance Method(s):

Compliance with the annual emission limitations may be demonstrated by multiplying the lb/mmBtu emission factor from AP42 by the maximum heat input of 21.5 mmBtu/hour and then multiplying the result by 8760 hours per year and dividing by 2000.

5. The emission limitations were based upon emission factors supplied by the permittee and emission factors from AP-42" Compilation of Air Pollution Emission Factors", 5th Edition, Section 1.3(9/98) for fuel oil and Section 1.4 (7/98) for natural gas.

6. Emissions Limitation

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

Applicable Compliance Method

Compliance shall be determined through visible emission observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

- F. **Miscellaneous Requirements**

1. The following terms and conditions of this permit are federally enforceable: A, B, C, D and E.