

Facility ID: 1409010942 Issuance type: Final State Permit To Operate

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

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

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

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

Facility ID: 1409010942 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>
B001-16.34 mmBtu/hour natural gas/No. 2 oil fired boiler with low NOx burners and flue-gas recirculation	OAC rule 3745-31-05(A)(3) (PTI 14-05186)	Nitrogen Oxides (NOx) emissions shall not exceed 0.071 lb/mmBtu and 2.90 TPY. Carbon Monoxide (CO) emissions shall not exceed 0.084 lb/mmBtu and 6.01 TPY. Sulfur Dioxide (SO2) emissions shall not exceed 0.50 lb/mmBtu and 20.58 TPY. Particulate Emissions (PE) and emissions of Particulate Matter less than 10 microns in diameter (PM10)* shall not exceed 0.014 lb/mmBtu and 0.58 TPY. Organic Compound (OC) emissions shall not exceed 0.011 lb/mmBtu and 0.79 TPY. The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1) and 40 CFR Part 60 Subpart Dc.
	OAC rule 3745-17-07(A)(1)	* Assume all PM emissions are PM10 emissions. Visible particulate emissions shall not exceed twenty percent (20%) opacity, as a six-minute average, except as specified by rule.
	OAC rule 3745-17-10(B)(1)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
	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 Term C.1.
	OAC rule 3745-21-08(B)	See term A.2.c.
	OAC rule 3745-23-06(B)	See term A.2.d.

2. Additional Terms and Conditions

- (a) Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by the limited hours of operation when burning # 2 fuel oil, emissions limitations, low NOx burners and flue gas recirculation. 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 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 repealed 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 burn only natural gas and /or number two fuel oil in this emissions unit.
2. The quality of the oil burned in this emissions unit shall have a combination of heat and sulfur content which is sufficient to comply with the allowable sulfur dioxide emission limitation of 0.50 pound sulfur dioxide/mmBtu actual heat input.

Compliance with the above-mentioned specification shall be determined using the analytical results provided by the permittee or oil supplier for each shipment of oil.

3. The maximum annual operating hours when burning number two fuel oil in this emissions unit shall not exceed 5000 hours.

C. Monitoring and/or Record Keeping Requirements

1. The permittee shall maintain daily records of the quantity of natural gas and/or # 2 fuel oil burned in this emissions unit.
2. The permittee shall maintain monthly records of the operating hours when burning number two fuel oil for this emissions.
3. 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).]

D. Reporting Requirements

1. The permittee shall submit, on a quarterly basis, copies of the permittee's or oil supplier's analyses for each shipment of oil which is received for burning in this emissions unit. The permittee's or oil supplier's analyses shall document the sulfur content (percent) for each shipment of oil. The following information shall also be

included with the copies of the permittee's or oil supplier's analyses:

- a. the total quantity of oil received in each shipment (gallons);
- b. the weighted* average sulfur content (percent by weight) for the oil received during each calendar month;
- c. the weighted* average heat content (Btu/gallon) of the oil received during each calendar month; and
- d. the weighted* average SO₂ emission rate (lbs/mmBtu of actual heat input) of the oil combusted during each calendar month [the SO₂ emission rate shall be calculated as specified in OAC 3745-18-04(F)].

*In proportion to the quantity of oil received in each shipment during each calendar month.

These quarterly reports shall be submitted to the Hamilton County Department of Environmental Services by February 15, May 15, August 15, and November 15 of each year and shall cover the oil shipments received during the previous calendar quarters.

2. The permittee shall submit annual reports which identify the annual operating hours when burning number two fuel oil for this emissions unit. This report shall also include the SO₂ emissions for the previous calendar year. These report shall be submitted by January 31 of each year.

E. Testing Requirements

1. Compliance with the emissions limits in term A.1 shall be demonstrated by the emissions factors in AP-42, Tables 1.3-1 and 1.3-3 revised 9/98 and AP-42, Tables 1.4-1 and 1.4-2 revised 7/98 and stated emissions factors from US EPA Fire 6.22 for low NO_x burners with flue gas recirculation.

Emissions Limitation(s):

Nitrogen Oxides (NO_x) emissions shall not exceed 0.071 lb/mmBtu of actual heat input and 2.9 TPY

Applicable Compliance Method(s):

Compliance with the lb/mmBtu emission limitation may be determined by converting the 10 lbs NO_x/1000 gallon emission factor from US EPA Fire 6.22 for low NO_x burners with flue gas recirculation into lbs NO_x/mmBtu by dividing by 141 mmBtu/1000 gallons.

Compliance with the annual emission limitation may be demonstrated by multiplying the 0.071 lb/mmBtu emission limit from by the maximum hourly heat input of 16.34 mmBtu/hr and then multiplying the result by 5000 hours per year and dividing by 2000.

Emissions Limitation(s):

Carbon Monoxide (CO) emissions shall not exceed 0.084 lb/mmBtu and 6.01 TPY.

Applicable Compliance Method(s):

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

$$0.01634 \text{ mmft}^3/\text{hr} (\text{Max hourly gas burning capacity of emissions unit}) \times 84 \text{ lb CO/mmft}^3 (\text{AP42}) / 16.34 \text{ mmBtu/hr} (\text{Max hourly heat input}) = \text{lb CO/mmBtu.}$$

Compliance with the annual emission limitation may be demonstrated by multiplying the 0.084 lb/mmBtu emission limit by the maximum hourly heat input of 16.34 mmBtu/hour and then multiplying the result by 8760 hours per year and dividing by 2000.

Emissions Limitation(s):

Sulfur Dioxide (SO₂) emissions shall not exceed 0.50 lb/mmBtu and 20.58 TPY.

Applicable Compliance Method(s):

Compliance with the lb/mmBtu emission limitation may be determined by converting the 71 lbs PM/1000 gallon emission factor from AP-42 into lbs PM/mmBtu by dividing by 141 mmBtu/1000 gallons.

Compliance with the annual emission limitation may be demonstrated by multiplying the 0.50 lb PM/mmBtu emission limit by the maximum hourly heat input of 16.34 mmBtu/hr and then multiplying the result by 5000 hours per year and dividing by 2000.

Emissions Limitation(s):

Particulate Emissions (PE) and emissions of Particulate Matter less than 10 microns in diameter (PM₁₀)* shall not exceed 0.014 lb/mmBtu and 0.58 TPY.

* all PM emissions are assumed to be PM₁₀

Applicable Compliance Method(s):

Compliance with the lb/mmBtu emission limitation may be determined by converting the 2 lbs PM/1000 gallon emission factor from AP-42 into lbs PM/mmBtu by dividing by 141 mmBtu/1000 gallons.

Compliance with the annual emission limitation may be demonstrated by multiplying the 0.014 lb PM/mmBtu emission limit by the maximum hourly heat input of 16.34 mmBtu/hr and then multiplying the result by 5000 hours per year and dividing by 2000.

Emissions Limitation(s):

Organic Compound (OC) emissions shall not exceed 0.011 lb/mmBtu and 0.79 TPY.

Applicable Compliance Method(s):

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

$$0.01634 \text{ mmft}^3/\text{hr} (\text{Max hourly gas burning capacity of emissions unit}) \times 11 \text{ lb OC}/\text{mmft}^3 (\text{AP42}) / 16.34 \text{ mmBtu}/\text{hr} (\text{Max hourly heat input}) = \text{lb OC}/\text{mmBtu}.$$

Compliance with the annual emission limitation may be demonstrated by multiplying the 0.011 lb/mmBtu emission limit by the maximum hourly heat input of 16.34 mmBtu/hour and then multiplying the result by 8760 hours per year and dividing by 2000.

2. Emission Limitation(s):

Visible particulate emissions shall not exceed twenty percent (20%) opacity, as a six-minute average, except as specified by rule.

Applicable Compliance Method(s):

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).

3. Emissions Limitation(s):

The quality of the oil burned in this emissions unit shall have a combination of heat and sulfur content which is sufficient to comply with the allowable sulfur dioxide emission limitation of 0.50 pound sulfur dioxide/mmBtu actual heat input.

Applicable Compliance Method(s):

Compliance with the sulfur dioxide emission limitation in term B.2. shall be demonstrated by the recordkeeping in term C.2.

4. Operational Limitation(s):

The maximum annual operating hours when burning number two fuel oil in this emissions unit shall not exceed 5000 hours.

Applicable Compliance Method(s):

Compliance with the hours of operation limit in term B.3 shall be demonstrated by the record keeping in term C.3.

F. **Miscellaneous Requirements**

1. None