

Facility ID: 1431374132 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: 1431374132 Emissions Unit ID: B001 Issuance type: Final State Permit To Operate

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**Part II - Special Terms and Conditions**

This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

1. For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
  - (a) None.
2. For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
  - (a) None.

**A. Applicable Emissions Limitations and/or Control Requirements**

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
B001-10.5 mmBtu / hr Natural Gas / No. 2 Fuel Oil Fired Boiler	OAC rule 3745-31-05(A)(3) PTI 14-05393	for the burning of natural gas:  Particulate emissions (PE) and emissions of particulate matter less than 10 microns in diameter (PM10) shall not exceed 0.0076 lb/mmBtu of actual heat input.  Sulfur dioxide (SO2) emissions shall not exceed 0.0006 lb/mmBtu actual heat input.  Nitrogen oxides (NOx) emissions shall not exceed 0.10 lb/mmBtu of actual heat input.  Carbon monoxide (CO) emissions shall not exceed 0.084 lb/mmBtu of actual heat input.  Organic compounds (OC) emissions shall not exceed 0.011 lb/mmBtu of actual heat input.  for the burning of no. 2 fuel oil:  Particulate emissions (PE) and emissions of particulate matter less than 10 microns in diameter (PM10) shall not exceed 0.015 lb/mmBtu of actual heat input.  Sulfur dioxide (SO2) emissions shall not exceed 0.42 lb/mmBtu of actual heat input.  Nitrogen oxides (NOx) emissions shall not exceed 0.15 lb/mmBtu of actual heat input.  Carbon monoxide (CO) emissions shall not exceed 0.036 lb/mmBtu of actual heat input.  Organic compounds (OC) emissions shall not exceed 0.004 lb/mmBtu of actual heat input  See term B.1. Nitrogen oxides (NOx) emissions shall not exceed 6.7 TPY.  Carbon monoxide (CO) emissions shall not exceed 3.9 TPY.  Sulfur dioxide (SO2) emissions shall not exceed 19.3

TPY.

Particulate emissions (PE) and emissions of particulate matter less than 10 microns in diameter (PM10) shall not exceed 0.67 TPY.

Organic compounds (OC) emissions shall not exceed 0.51 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) 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) 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 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.2

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

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

**2. Additional Terms and Conditions**

- (a) Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by the use of natural gas or No. 2 fuel oil, a sulfur content limitation for No. 2 fuel oil, and the emission limitations listed in term A.1 above. The application and enforcement of the provisions of the New Source Performance Standards (NSPS), as promulgated by the United States Environmental Protection Agency (U.S. EPA), 40 CFR Part 60, are delegated to the Ohio Environmental Protection Agency (Ohio EPA). The lb/mmBtu emission limitations outlined in term A.1 is based upon the emissions unit's potential to emit. Therefore, no monitoring, record keeping, and reporting requirements are necessary to ensure ongoing compliance with these emission 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 14-05393.

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 14-05393.

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 quality of the oil burned in this emissions unit shall meet a sulfur content that is sufficient to comply with the allowable sulfur dioxide emission limitation specified in this permit.
- 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 D240 Standard Test Method for Heat of Combustion of Liquid Hydrocarbon Fuels by Bomb Calorimeter and D4294, Standard Test Method for Sulfur in Petroleum and Petroleum Products by Energy-Dispersive X-Ray Fluorescence Spectrometry, 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, 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.

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 emissions 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).

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 Standard Test Method for Heat of Combustion of Liquid Hydrocarbon Fuels by Bomb Calorimeter and D4294, Standard Test Method for Sulfur in Petroleum and Petroleum Products by Energy-Dispersive X-Ray Fluorescence Spectrometry, or equivalent methods as approved by the director.

2. The permittee shall maintain monthly 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 emissions unit, in gallons.

D. **Reporting Requirements**

- 1. The permittee shall notify the director (the appropriate District Office or local air agency) in writing of any record which shows a deviation of the allowable sulfur dioxide emission limitation based upon the calculated sulfur dioxide emission rates from Section C of this permit. The notification shall include a copy of such record and shall be sent to the director (the appropriate District Office or local air agency) within 45 days after the deviation occurs.

E. **Testing Requirements**

1. Emission Limitation(s):

Particulate emissions (PE) and emissions of particulate matter less than 10 microns in diameter (PM10) shall not exceed 0.0076 lb/mmBtu of actual heat input when burning natural gas.

Applicable Compliance Method(s):

0.0105 mmft3/hr (Max hourly gas burning capacity of emissions unit) X 7.6 lbs PM/mmft3 (AP-42 Natural Gas Combustion EF) / 10.5 mmBTU/hr (Max hourly heat input capacity of emissions unit) = lb PM/mmBTU.

Emission Limitation(s):

0.0006 pound of SO2/mmBtu when burning natural gas.

Applicable Compliance Method(s):

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

0.0105 mmft3/hr (Max hourly gas burning capacity of emissions unit) X 0.6 lb SO2/mmft3 (AP-42 EF) / 10.5 mmBTU/hr (Max hourly heat input capacity of emissions unit) = lb SO2/mmBtu.

Emission Limitation(s):

Nitrogen oxides (NOx) emissions shall not exceed 0.10 lb/mmBtu of actual heat input when burning natural gas.

Applicable Compliance Method(s):

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

0.0105 mmft3/hr (Max hourly gas burning capacity of emissions unit) X 100 lb NOx/mmft3 (AP-42 EF) / 10.5 mmBTU/hr (Max hourly heat input capacity of emissions unit) = lb NOx/mmBtu.

Emission Limitation(s):

Carbon monoxide (CO) emissions shall not exceed 0.084 lb/mmBtu of actual heat input.

Applicable Compliance Method(s):

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

natural gas:

$0.0105 \text{ mmft}^3/\text{hr}$  (Max hourly gas burning capacity of emissions unit) X  $84 \text{ lb CO}/\text{mmft}^3$  (AP-42 EF) /  $10.5 \text{ mmBtu}/\text{hr}$  (Max hourly heat input capacity of emissions unit) =  $\text{lb CO}/\text{mmBtu}$ .  
Emission Limitation(s):

Organic compounds (OC) emissions shall not exceed  $0.011 \text{ lb}/\text{mmBtu}$  of actual heat input when burning natural gas.

Applicable Compliance Method(s):

Compliance with the  $\text{lb}/\text{mmBtu}$  emission limitation may be determined by the following equation when burning natural gas:

$0.0105 \text{ mmft}^3/\text{hr}$  (Max hourly gas burning capacity of emissions unit) X  $11 \text{ lb OC}/\text{mmft}^3$  (AP-42 EF) /  $10.5 \text{ mmBtu}/\text{hr}$  (Max hourly heat input capacity of emissions unit) =  $\text{lb OC}/\text{mmBtu}$ .

2. Compliance with the  $\text{lb}/\text{mmBtu}$  emission limitation may be determined by the following equation when burning No.2 fuel oil:

Emission Limitation(s):

Particulate emissions (PE) and emissions of particulate matter less than 10 microns in diameter (PM10) shall not exceed  $0.015 \text{ lb}/\text{mmBtu}$  of actual heat input when burning No.2 fuel oil.

Applicable Compliance Method(s)

Compliance with the  $\text{lb}/\text{mmBtu}$  emission limitation may be determined by converting the 2 lbs PE-PM10/1000 gal emission factor into  $\text{lb PE}/\text{mmBtu}$  by dividing by  $137 \text{ mmBtu}/1000 \text{ gal}$ .

Emission Limitation(s):

Sulfur dioxide (SO2) emissions shall not exceed  $0.42 \text{ lb}/\text{mmBtu}$  of actual heat input when burning No.2 fuel oil.

Applicable Compliance Method(s)

Compliance with the  $\text{lb}/\text{mmBtu}$  emission limitation may be determined by converting the 57.6 lbs SO2/1000 gal emission factor into  $\text{lb SO}_2/\text{mmBtu}$  by dividing by  $137 \text{ mmBtu}/1000 \text{ gal}$ .

Emission Limitation(s):

Nitrogen oxides (NOx) emissions shall not exceed  $0.15 \text{ lb}/\text{mmBtu}$  of actual heat input when burning No.2 fuel oil.

Applicable Compliance Method(s)

Compliance with the  $\text{lb}/\text{mmBtu}$  emission limitation may be determined by converting the 20 lbs NOx/1000 gal emission factor into  $\text{lb NO}_x/\text{mmBtu}$  by dividing by  $137 \text{ mmBtu}/1000 \text{ gal}$ .

Emission Limitation(s):

Carbon monoxide (CO) emissions shall not exceed  $0.036 \text{ lb}/\text{mmBtu}$  of actual heat input when burning No.2 fuel oil.

Applicable Compliance Method(s):

Compliance with the  $\text{lb}/\text{mmBtu}$  emission limitation may be determined by converting the 5 lbs CO/1000 gal emission factor into  $\text{lb CO}/\text{mmBtu}$  by dividing by  $137 \text{ mmBtu}/1000 \text{ gal}$ .

Emission Limitation(s):

Organic compounds (OC) emissions shall not exceed  $0.004 \text{ lb}/\text{mmBtu}$  of actual heat input when burning No.2 fuel oil.

Applicable Compliance Method(s):

Compliance with the  $\text{lb}/\text{mmBtu}$  emission limitation may be determined by converting the .556 lbs OC/1000 gal emission factor into  $\text{lb OC}/\text{mmBtu}$  by dividing by  $137 \text{ mmBtu}/1000 \text{ gal}$ .

3. Emission Limitation(s):

Nitrogen oxides (NOx) emissions shall not exceed 6.7 TPY.

Carbon monoxide (CO) emissions shall not exceed 3.9 TPY.

Sulfur dioxide (SO2) emissions shall not exceed 19.3 TPY.

Particulate emissions (PE) and emissions of particulate matter less than 10 microns in diameter (PM10) shall not exceed 0.67 TPY.

Organic compounds (OC) emissions shall not exceed 0.51 TPY.

Applicable Compliance Method(s):

Compliance with the annual emission limitations may be demonstrated by multiplying the  $\text{lb}/\text{mmBtu}$  emission factor from AP42 by the maximum heat input of  $10.5 \text{ mmBtu}/\text{hr}$  and then multiplying the result by 8760 hours/year and dividing by 2000.

See term E.4.

4. The emission limitations were based upon 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.
  5. Sulfur Content Limitation(s):  
  
The quality of the oil burned in this emissions unit shall meet a sulfur content that is sufficient to comply with the allowable sulfur dioxide emission limitation specified in this permit.  
  
Applicable Compliance Method:  
  
Compliance shall be demonstrated by the record keeping requirement described in term C.1.
  6. Emission Limitation:  
  
Visible particulate emissions from any stack shall not exceed 20 percent 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. None