Facility ID: 0819070134 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.

**Facility ID: 0819070134 Emissions Unit ID: B007 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.

| Operations, Property, and/or Equipment | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| B007 - 60.3 mmBtu/hr natural gas/fuel oil fired boiler, B-803A | OAC rule 3745-31-05(A)(3) PTI 08-04175 | The particulate emissions (PE) from emissions unit B007 shall not exceed 2.6 tons per year (TPY).<br><br>The sulfur dioxide (SO2) emissions from emissions unit B007 shall not exceed 0.05 pound per mmBtu (lb/mmBtu) and 4.40 TPY.<br><br>The carbon monoxide (CO) emissions from emissions unit B007 shall not exceed 0.08 lb/mmBtu and 10.42 TPY.<br><br>The oarganic compound (OC) emissions from emissions unit B007 shall not exceed 0.005 lb/mmBtu and 0.68 TPY.<br><br>The visible emissions opacity shall not exceed 5% opacity, as a 6-minute average, except during periods of startup and shutdown.<br><br>The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-10 (B)(1) and 3745-31-05 (D). |
| | OAC rule 3745-31-05(C) (synthetic minor to avoid Title V) | The nitrogen oxide (NOx) emissions from this emissions unit shall not exceed 0.14 lb/mmBtu and 12.40 TPY, as a rolling 12-month summation. |
| | OAC rule 3745-17-10(B)(1) | The PE emissions from emissions unit B007 shall not exceed 0.020 lb/mmBtu actual heat input. |
| | OAC rule 3745-17-07(A)(1) | The emission limitations specified by these rules are less stringent than the emission limitations established pursuant to OAC rule 3745-31-05 (A)(3). |
| | OAC rule 3745-18-06(D) | The emission limitations specified by these rules are less stringent than the emission limitations established pursuant to OAC rule 3745-31-05 (A)(3). |
| | 40 CFR Part 60 Subpart Dc | The emission limitations specified by these rules are less stringent than the emission limitations established pursuant to OAC rule 3745-31-05 (A)(3). |

2. **Additional Terms and Conditions**

   (a) The emissions unit B007 is identified as an alternative organic compound emission control device to the Resin Thermal Oxidizer II. When it is functioning as an organic compound emission control device, B007 shall be operated such that it meets a minimum destruction efficiency of 98%.

B. **Operational Restrictions**

1. The permittee shall burn only natural gas and/or No. 2 distillate fuel oil in this emissions unit. However, during

times when this emissions unit is functioning as an organic compound emission control device, as described in section A.I.2.a., these fuels may be supplemented with organic compound vapors.

2. When burning fuel oil in this emissions unit, the permittee shall only use distillate oil (fuel oil numbers 1 or 2, as defined by the American Society for Testing and Materials in ASTM D396-78, "Standard Specification for Fuel Oils"). The sulfur content of the distillate oil shall not exceed 0.05 percent sulfur by weight.

   If neither natural gas or distillate fuel oil with a 0.05 percent sulfur content are available, then the permittee shall shut down the emissions unit B007 until such time that one or the other fuel is available.

3. The maximum natural gas usage in this emissions unit shall not exceed 248 million cubic feet/year, as a rolling 12-month summation.

   In the event, the permittee substitutes the use of natural gas with fuel oil, then the following calculation shall be used to determine how much fuel oil can be substituted, in order to maintain compliance with the nitrogen oxide allowable emission limitation of 12.4 TPY, as a rolling 12-month summation:

   [(20 lbs NOx/1000 gals oil)(F) + 100 lbs NOx/mmscf)(G)] < 12.4 TPY NOx, as a rolling 12-month 2000 lbs/ton summation

   Where:

   F = amount of distillate fuel oil burned, in gallons per year
   G = amount of natural gas burned, in million cubic feet per year

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

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. 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. When a shipment of oil is received with a sulfur content higher than 0.05 percent by weight, the permittee shall maintain monthly records of the calculated sulfur content based upon a volume-weighted average of the calculated sulfur content for all shipments of oil, for only those months when oil is combusted in this emissions unit.

   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, D6010), or equivalent methods as approved by the Director.

2. The permittee shall maintain monthly records of the following information:

   a. The total amount of fuel burned in this emissions unit, in cubic feet of natural gas; and in gallons of distillate fuel oil.

   b. The rolling, 12-month summation of natural gas, in cubic feet and distillate fuel oil, in gallons.

   c. The calculated emission rate of nitrogen oxides, in tons.

   d. The rolling, 12-month summation of the nitrogen oxides emission rates, in tons.

3. For each day during which the permittee burns a fuel other than natural gas, No. 2 distillate fuel oil, and/or is supplemented with organic vapors (when this unit is operating as a control device), the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

D. **Reporting Requirements**

1. The permittee shall submit quarterly deviation (excursion) reports that identify all exceedances of:

   a. the 0.05 percent sulfur content limitation of the fuel;

   b. each day when a fuel other than natural gas, No. 2 distillate fuel oil and/or organic vapors (when this unit is operating as a control device) was burned in this emissions unit;

   c the rolling, 12-month natural gas usage limitation; and

   d. the rolling, 12-month NOx emission limitation.

2. The permittee shall submit annual reports which specify the total NOx emissions from this emissions unit for the previous calendar year. The reports shall be submitted by April 15 of each year. This reporting requirement may be satisfied by including the specific emission data from this facility in the Annual Fee Emission Report.

3. These quarterly deviation (excursion) reports shall be submitted to the Ohio EPA Central District Office or local air agency by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarter. If no deviations occurred during the calendar quarter, the permittee shall submit a report which states that no deviations occurred during the calendar quarter.

E. **Testing Requirements**

1. Compliance with the emission limitations in section A.I. of these terms and conditions shall be determined in accordance with the following methods:
   Emission Limitation-
   0.020 lb particulate emissions/mmBtu actual heat input

   Applicable Compliance Method-
   For the use of natural gas, compliance shall be based upon multiplying the hourly gas burning capacity of the emissions unit (57,428.6 cu.ft/hr) by the emission factor of 1.9 lbs filterable particulate emissions/mmscf given for natural gas in the AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4-1, 7/98, and dividing by the maximum hourly heat input capacity of the emissions unit (60.3 mmBtu/hr). For the use of

distillate fuel oil, compliance shall be based upon multiplying the maximum fuel oil capacity of the emissions unit (431 gals/hr) by the emission factor of 2.0 lbs filterable particulate emissions/1000 gals given for fuel oil in the AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.3, Table 1.3-1, 9/98, and dividing by the maximum hourly heat input capacity of the emissions unit (60.3 mmBtu/hr).
Emission Limitation-
2.6 TPY particulate emissions

Applicable Compliance Method-
Compliance with this limitation shall be determined by summing the particulate emissions from the burning of natural gas and fuel oil in this emissions unit. For natural gas, the particulate emissions shall be determined by multiplying the annual natural gas usage as determined in section A.III.2., by the emission factor of 1.9 lbs filterable particulate emissions/mmscf given in AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4-1, 7/98, and dividing by 2000 lbs/ton. For fuel oil, the particulate emissions shall be determined by multiplying the annual fuel oil usage as determined in section A.III.2., by the emission factor of 2.0 lbs filterable particulate emissions/1000 gal given in the AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.3-1, 9/98, and dividing by 2000 lbs/ton.
Emission Limitation-
0.05 lb/mmBtu SO2

Applicable Compliance Method-
The 0.05 lb/mmBtu SO2 limitation was developed by multiplying the emission factor for distillate fuel oil given in the AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.3-1, 9/98, (142 x % sulfur content of 0.05 = 7.1 lbs SO2/1000 gals) by the maximum hourly fuel oil usage (431 gals/hr), and dividing by the maximum hourly heat input capacity of the emissions unit (60.3 mmBtu/hr).
Emission Limitation-
4.40 TPY SO2

Applicable Compliance Method-
Compliance with this limitation shall be determined by summing the SO2 emissions from the burning of natural gas and fuel oil in this emissions unit. For natural gas, the SO2 emissions shall be determined by multiplying the annual natural gas usage as determined in section A.III.2., by the emission factor of 0.6 lb SO2/mmscf given in AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4-2, 7/98, and dividing by 2000 lbs/ton. For fuel oil, the SO2 emissions shall be determined by multiplying the annual fuel oil usage as determined in section A.III.2., by the emission factor for distillate fuel oil given in the AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.3-1, 9/98, (142 x % sulfur content of 0.05 = 7.1 lbs SO2/1000 gals), and dividing by 2000 lbs/ton.
Emission Limitation-
0.14 lb/mmBtu NOx

Applicable Compliance Method-
For the use of natural gas, compliance shall be based upon multiplying the hourly gas burning capacity of the emissions unit (57,428.6 cu.ft/hr) by the emission factor of 100 lbs NOx/mmscf given for natural gas in the AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4-1, 2/98, and dividing by the maximum hourly heat input capacity of the emissions unit (60.3 mmBtu/hr). For the use of distillate fuel oil, compliance shall be based upon multiplying the maximum fuel oil capacity of the emissions unit (431 gals/hr) by the emission factor of 20 lbs NOx/1000 gals given for fuel oil in the AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.3, Table 1.3-1, 9/98, and dividing by the maximum hourly heat input capacity of the emissions unit (60.3 mmBtu/hr). Additionally, compliance with this limitation shall be determined through the stack testing requirement in section V.2.
Emission Limitation-
12.40 TPY NOx, as a rolling 12-month summation

Applicable Compliance Method-
The 12.40 TPY NOx, as a rolling 12-month summation limitation was developed by multiplying the emission factor for natural gas given in the AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4-1, 2/98, (100 lbs NOx/mmscf) by the annual natural gas usage (248 million cubic foot/yr), and dividing by 2000 lbs/ton.

Compliance with the 12.40 TPY NOx, as a rolling 12-month summation shall be determined through the natural gas and fuel oil usage records in section A.III.2.and the following calculation:

[(20 lbs NOx/1000 gals oil)(F) + 100 lbs NOx/mmscf)(G)] < 12.4 TPY NOx, as a rolling 12- 2000 lbs/ton month summation

Where:

F = amount of distillate fuel oil burned, in gallons per year
G = amount of natural gas burned, in million cubic feet per year
Emission Limitation
0.08 lb/mmBtu CO

Applicable Compliance Method-
The 0.08 lb/mmBtu CO limitation was developed by multiplying the emission factor for natural gas given in the AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4-1, 2/98, (84 lbs CO/mmscf) by the maximum hourly natural gas usage (57,428.6 cubic foot/hr), and dividing by the maximum hourly heat input capacity of the emissions unit (60.3 mmBtu/hr).
Emission Limitation-
10.42 TPY CO

Applicable Compliance Method-
Compliance with this limitation shall be determined by summing the CO emissions from the burning of natural gas and fuel oil in this emissions unit. For natural gas, the CO emissions shall be determined by multiplying the annual natural gas usage as determined in section A.III.2., by the emission factor of 84 lbs CO/mmscf given in AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4-1, 2/98, and dividing by 2000 lbs/ton. For fuel oil, the CO emissions shall be determined by multiplying the annual fuel oil usage as determined in section A.III.2., by the emission factor of 5 lbs CO/1000 gals given in the AP-42, Fifth Edition,

Compilation of Air Pollution Emission Factors, Section 1.3-1, 9/98, and dividing by 2000 lbs/ton.

Emission Limitation-
0.005 lb/mmBtu OC

Applicable Compliance Method-
The 0.005 lb/mmBtu OC limitation was developed by multiplying the emission factor for natural gas given in the AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4-2, 7/98, (5.5 lbs OC/mmscf) by the maximum hourly natural gas usage (57,428.6 cubic foot/hr), and dividing by the maximum hourly heat input capacity of the emissions unit (60.3 mmBtu/hr).

Emission Limitation-
0.68 TPY OC

Applicable Compliance Method-
Compliance with this limitation shall be determined by summing the OC emissions from the burning of natural gas and fuel oil in this emissions unit. For natural gas, the OC emissions shall be determined by multiplying the annual natural gas usage as determined in section A.III.2., by the emission factor of 5.5 lbs OC/mmscf given in AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4-2, 7/98, and dividing by 2000 lbs/ton. For fuel oil, the OC emissions shall be determined by multiplying the annual fuel oil usage as determined in section A.III.2., by the emission factor of 0.2 lb OC/1000 gals given in the AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.3-3, 9/98, and dividing by 2000 lbs/ton.

Emission Limitation-
5% visible emission opacity limit, as a 6-minute average except during periods of startup and shutdown

Applicable Compliance Method-
Compliance with the visible emission limitations is presumed based upon the use of natural gas or No. 2 fuel oil, fuels considered inherently clean. If required, visible emission evaluations shall be performed in accordance with OAC rule 3745-17-03 (B)(1) using the methods and procedures specified in USEPA Reference Method 9.

F. **Miscellaneous Requirements**

1. None