Facility ID: 1483060000 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: 1483060000 Emissions Unit ID: P002 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
P002 - 5600 KW Cooper Bessemer Dual Fuel Engine for Electric Generation (Unit # 8)	OAC rule 3745-31-05(A)(3) PTI 14-04966	Nitrogen Oxide (NOx) emissions shall not exceed 144.4 pounds per hour. Carbon Monoxide (CO) emissions shall not exceed 62.0 pounds per hour. Sulfur Dioxide (SO2) emissions shall not exceed 0.3 pounds per hour. Organic Compound (OC) emissions shall not exceed 42.8 pounds per hour. See term A.2.a The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1), OAC rule 3745-17-11(B)(5)(b) and OAC rule 3745-31-05(C).
	OAC rule 3745-31-05(C) Synthetic Minor to avoid PSD	Nitrogen Oxide (NOx) emissions shall not exceed 14.44 TPY, based on a rolling, 12-month summation. Carbon Monoxide (CO) emissions shall not exceed 6.2 TPY, based on a rolling, 12-month summation. Sulfur Dioxide (SO2) emissions shall not exceed 0.03 TPY, based on a rolling, 12-month summation. Organic Compound (OC) emissions shall not exceed 4.28 TPY, based on a rolling, 12-month summation. Particulate Emissions and Particulate Emissions 10 microns and less in diameter (PE/PM10) shall not exceed 0.33 TPY, based on a rolling, 12-month summation.
	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from this emissions unit shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule.
	OAC rule 3745-17-11(B)(5)(b)	Particulate emissions from this emissions unit shall not exceed 0.062 pound per million Btu of actual heat input.
	OAC rule 3745-18-06(G)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

2. **Additional Terms and Conditions**

(a) The SO_2 emissions from this emissions unit shall not exceed 0.13 pound per million Btu of actual heat input.
The hourly emission limitations outlined above are based upon the emission unit's potential to emit. Therefore, no hourly records are required to demonstrate compliance with these limits.
Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by the fuel usage limitations, the sulfur content limit, and compliance with the applicable emissions limits.

B. **Operational Restrictions**

1. The maximum annual "dual fuel" (natural gas and diesel fuel) usage for this emissions unit shall not exceed 10.2 million cubic feet (mmcf) of natural gas per year and 3904 gallons of diesel fuel per year, based upon rolling, 12-month summations of the fuel usage rates.

   Compliance with the annual natural gas and diesel fuel usage rate limitations shall be based upon rolling, 12-month summations of the fuel usage rates.

2. The quality of the fuel 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 0.13 pound sulfur dioxide/MMBtu of actual heat input.

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

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

   a. the cubic feet of natural gas and/or the gallons of diesel fuel used for each month;

   b. the updated rolling, 12-month summation of the amount natural gas used, in millions of cubic feet, for the current month and the preceding eleven calendar months;

   c. the updated rolling, 12-month summation of the amount of diesel fuel used, in gallons, for the current month and the preceding eleven calendar months;

   d. the NOx, CO, SO_2, PM and OC emissions for each month; and

   e. the updated rolling, 12-month summation of the NOx, CO, SO_2, PM and OC emissions for the current month and the preceding eleven calendar months.

2. 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 permittee shall collect or require the oil supplier to collect a representative grab sample for each shipment of oil that is received for burning 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 the following ASTM methods: ASTM method D4294, ASTM method D240, or ASTM method 6010 for sulfur content; and ASTM method D240 for heat content. Alternative, equivalent methods may be used upon written approval by the Hamilton County Department of Environmental Services.

3. Modeling to demonstrate compliance with the "Toxic Air Contaminant Statute" in ORC 3704.03(F)(4)(b) was not necessary because the emissions unit's maximum annual emissions for each toxic air contaminant, as defined in OAC rule 3745-114-01, will be less than 1.0 ton per year. OAC Chapter 3745-31 requires permittees to apply for and obtain a new or modified permit to install prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would cause the emissions of any toxic air contaminant to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new permit to install.

D. **Reporting Requirements**

1. The permittee shall submit quartlery deviation (excursion) reports which identify all exceedances of the rolling, 12-month natural gas and diesel fuel limitation and/or all exceedances of the rolling, 12-month emissions limitations. The report shall include a copy of such records which contain the exceedance(s) and any corrective actions taken. If no exceedances occurred during the reporting period, the permittee shall state so in the report. The permittee shall submit the reports to the Hamilton County Department of Environmental Services. The reports shall be submitted by January 31, April 30, July 31 and October 31 of each year and shall cover the previous calendar quarter (October through December, January through March, April through June and July through September, respectively).

2. The permittee shall submit quarterly deviation (excursion) reports which identify all shipments of oil which exceed the lbs/MMBtu SO_2 emission limitation. The report shall include a copy of the analytical results which contain the actual sulfur content and actual heat content of the oil and any corrective actions taken. If no exceedances occurred during the reporting period, the permittee shall state so in the report. The permittee shall submit the reports to the Hamilton County Department of Environmental Services. The reports shall be submitted by January 31, April 30, July 31 and October 31 of each year and shall cover the previous calendar quarter (October through December, January through March, April through June and July through September, respectively).

E. **Testing Requirements**

1. Emissions Limitations:

   Nitrogen Oxide (NOx) emissions shall not exceed 144.4 pounds per hour.

   Nitrogen Oxide (NOx) emissions shall not exceed 14.44 TPY, based on a rolling, 12-month summation.

   Applicable Compliance Method:

   Compliance with the NOx emissions limitations shall be demonstrated by applying the emission factor (E.F.) from AP-42, Section 3.4, published October, 1996 in the following equations:

a. actual fuel input (53.48 mmBtu/hr) x AP-42 E.F. (2.7 lbs NOx/mmBtu) = lbs/hr NOx; and

b. actual fuel input (53.48 mmBtu/hr) x actual annual operating hours (200 hours/year) x AP-42 E.F. (2.7 lbs NOx/mmBtu) x ton/2000 lbs = TPY NOx.

2. Emissions Limitations:

Carbon Monoxide (CO) emissions shall not exceed 62.0 pounds per hour.

Carbon Monoxide (CO) emissions shall not exceed 6.2 TPY, based on a rolling, 12-month summation.

Applicable Compliance Method:

Compliance with the CO emissions limitations shall be demonstrated by applying the emission factor (E.F.) from AP-42, Section 3.4, published October, 1996 in the following equations:

a. actual fuel input (53.48 mmBtu/hr) x AP-42 E.F. (1.16 lb CO/mmBtu) = lbs/hr CO; and

b. actual fuel input (53.48 mmBtu/hr) x actual annual operating hours (200 hours/year) x AP-42 E.F. (1.16 lbs CO/mmBtu) x ton/2000 lbs = TPY CO.

3. Emissions Limitations:

Sulfur Dioxide (SO2) emissions shall not exceed 0.13 lb SO2/mmBtu.

Sulfur Dioxide (SO2) emissions shall not exceed 0.3 pounds per hour.

Sulfur Dioxide (SO2) emissions shall not exceed 0.03 TPY, based on a rolling, 12-month summation.

Applicable Compliance Method:

Compliance with the SO2 emissions limitations shall be demonstrated by applying the emission factor (E.F.) from AP-42, Section 3.4, published October, 1996 in the following equations, where s = % sulfur in fuel oil (for example, if sulfur content is 1.5%, then s = 1.5):

a. AP-42 E.F. [1.01(s) lb SO2/mmBtu] = actual lbs SO2/mmBtu

b. actual fuel input (53.48 mmBtu/hr) x AP-42 E.F. [1.01(s) lb SO2/mmBtu] = lbs/hr SO2; and

c. actual fuel input (53.48 mmBtu/hr) x actual annual operating hours (200 hours/year) x AP-42 E.F. (1.01(s) lb SO2/mmBtu) x ton/2000 lbs = TPY SO2.

4. Emissions Limitations:

Particulate emissions from this emissions unit shall not exceed 0.062 pound per million Btu of actual heat input.

0.33 TPY PM/PM10Particulate Emissions and Particulate Emissions 10 microns and less in diameter (PE/PM10) shall not exceed 0.33 TPY, based on a rolling, 12-month summation.

Applicable Compliance Method:

Compliance with the PM/PM10 emissions limitations shall be demonstrated by applying the allowable PM emission limitation from OAC rule 3745-17-11(B)(5) in the following equations:

a. actual fuel input (53.48 mmBtu/hr) x OAC allowable (0.062 lb PM/PM10/mmBtu) = lbs/hr PM/PM10; and

b. actual fuel input (53.48 mmBtu/hr) x actual annual operating hours (200 hours/year) x OAC allowable (0.062 lb PM/PM10/mmBtu) x ton/2000 lbs = TPY PM/PM10.

5. Emissions Limitations:

Organic Compound (OC) emissions shall not exceed 42.8 pounds per hour.

Organic Compound (OC) emissions shall not exceed 4.28 TPY, based on a rolling, 12-month summation.

Applicable Compliance Method:

Compliance with the OC emissions limitations shall be demonstrated by applying the emission factor (E.F.) from AP-42, Section 3.4, published October, 1996 in the following equations:

a. actual fuel input (53.48 mmBtu/hr) x AP-42 E.F. (0.8 lb OC/mmBtu) = lbs/hr OC; and

b. actual fuel input (53.48 mmBtu/hr) x actual annual operating hours (200 hours/year) x AP-42 E.F. (0.8 lb OC/mmBtu) x ton/2000 lbs = TPY OC.

6. Emissions Limitation:

Visible particulate emissions shall not exceed 20 percent opacity as a six-minute average.

Applicable Compliance Method:

Compliance shall be determined through visible emission observations performed in accordance with 40 CFR Part 60 ("Standards of Performance for New Stationary Sources"), Appendix A, U.S. EPA Reference Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

7. Compliance with the rolling, 12-month emissions limitations and rolling, 12-month natural gas and diesel fuel

limitation shall be demonstrated by the recordkeeping requirements in section C.1.

F. **Miscellaneous Requirements**

1. The following terms and conditions of this permit are federally enforceable: A, B, C.1, C.2, D and E.