Facility ID: 0247090726 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: 0247090726 Emissions Unit ID: B002 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
Kewanee, Coal-Fired, Underfeed Stoker/Boiler (1.96 mmBtu/Hr.) (B002)	OAC Rule 3745-17-07(A) OAC Rule 3745-17-10(C) OAC Rule 3745-18-04	a. Per OAC Rule 3745-17-10(C)(1), Figure I, the particulate emissions from this emissions unit shall not exceed 0.40 pound per million Btu (mmBtu) of heat input. Annual particulate emissions shall not exceed 3.43 tons per year. b. Sulfur dioxide (SO2) emissions from this facility shall not exceed 99.50 tons per year. SO2 emissions from this single coal-fired emissions unit (B002) shall not exceed 5.87 pounds per million Btu of heat input or 37.02 tons per year. (See "Federally Enforceable Emission Requirements for Sulfur Dioxide" below.)

2. **Additional Terms and Conditions**

   (a) VISIBLE EMISSION RESTRICTIONS:
   This source shall comply with OAC Rule 3745-17-07(A), which limits visible particulate emissions as follows:

   i. Except as provided below, visible particulate emissions from the stack shall not exceed an opacity of twenty (20) percent as a six-minute average.

   ii. Visible particulate emissions from the stack may exceed twenty (20) percent as a six-minute average for not more than six (6) consecutive minutes in any sixty- minute period, but shall not exceed sixty (60) percent opacity at any time.
   The visible particulate emission limitations specified above shall not apply to the following operations, provided the operations are documented in a boiler operations log kept at the facility:

   i. The start-up of the source for a period of time required to achieve stable combustion conditions, but no more than three (3) hours from the moment of start-up. "Start-up" means the commencement of firing of fuel from a cold non- fired condition.

   ii. The shutdown of the source for a period of not more than three (3) hours.

   iii. The malfunction of the source or associated equipment, if the owner of the source or operator of the equipment complies with the requirements of OAC Rule 3745- 15-06.

   iv. Intermittent soot-blowing operations (the cleaning of heat transfer surfaces with pressurized air or steam).

   v. Intermittent ash removal operations (the dumping or pulling of ash).

   vi. The commencement of increased coal firing from a banked condition for a period not to exceed thirty (30) minutes. "Banked condition" means the condition where the fuel is burned on the grates at rates which are sufficient to maintain ignition only.

   This boiler operations log shall clearly document the date, beginning time, and ending time of the exempted operations listed above.

(b) FEDERALLY ENFORCEABLE EMISSION REQUIREMENTS FOR SULFUR DIOXIDE:
The total annual emissions of sulfur dioxide (SO2) from all sources at this facility shall be limited to 99.50 tons. Since the maximum potential annual sulfur dioxide emissions from four (4) other combustion sources at this facility have a combined total of 62.48 tons (this includes emissions from two coal fired boilers, sources B001 and B003, which are limited by separate FESOPs to a total of 49.08 TPY SO2 and two gas/oil fired boilers, sources B004 and B005, each with maximum heat input rates of 5.2 mmBtu/hour and having a combined maximum annual PTE of 13.4 TPY), the annual allowable emissions from this coal fired source (B002) shall not exceed 37.02 tons.
This annual sulfur dioxide emissions limitation shall be achieved by restricting both the sulfur content in the coal supply and the maximum number of operating hours of this source in the following manner.

i. The quality of coal burned in this source shall meet the following specifications on a dry basis:

(a) a sulfur content which is sufficient to comply with an allowable SO2 emission limitation of 5.87 pounds of SO2 per mmBtu actual heat input;

(b) less than 8.0 percent ash; and

(c) greater than 13,000 Btu per pound of coal.

Compliance with the above-mentioned specifications for sulfur, ash, and heat content shall be determined by using the analytical results provided by the coal supplier for each shipment of coal. The analytical methods for sulfur content, ash content, and heat content in coal shall be: ASTM Method D3177, Total Sulfur in the Analysis Sample of Coal and Coke or ASTM Method D4239, Sulfur in the Analysis Sample of Coal and Coke Using High Temperature Tube Furnace Combustion Methods; ASTM Method D3174, Ash in the Analysis Sample of Coal and Coke; ASTM Method D2015, Gross Calorific Value of Solid Fuel by the Adiabatic Bomb Calorimeter, ASTM Method D3286, Gross Calorific Value of Coal and Coke by the Isothemal Bomb Calorimeter, or ASTM Method D1989, Standard Test Method for Gross Calorific Value of Coal and Coke by Microprocessor Controlled Isoperibol Calorimeter, respectively.

ii. The maximum number of hours this source may operate during any rolling 365 day period is 6432 hours.

During the first twelve (12) months of operation under this permit, this source shall not exceed the total number of hours of operation specified for each month in the following table:

CALENDAR MONTH(S) [After permit issuance] CUMULATIVE ALLOWABLE TOTAL HOURS

1 720
2 1464
3 2184
4 2928
5 3672
6 4368
7 5112
8 5832
9 6432
10 6432
11 6432
12 6432

B. **Operational Restrictions**

1. The maximum heat input to this source shall not exceed 1.96mmBtu per hour, the maximum rated capacity of this boiler.

2. The steam injection system shall be used at all times during operation of this source.

3. The use of flyash reinjection in this source is prohibited.

4. This source shall employ an overfire air system which is designed, maintained, and operated in accordance with good engineering practices and which minimizes visible emissions.

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

1. This facility shall maintain the following records for this source, in addition to those records referred to in A.2.1.b. above:
Daily records of the total hours of operation, including the hours in a banked condition, and the cumulative total of the hours of operation on a rolling 365-day basis. These records shall be signed daily by the owner/operator, attesting to the accuracy of the data.
For each shipment of coal, the quantity of coal received and the results of the coal supplier's analyses on both an as-received and dry basis. Data recorded shall include:

i. the total quantity of coal received (tons),

ii. the sulfur content (percent) of the coal,

iii. the ash content (percent) of the coal,

iv. the heat content (Btu per pound) of the coal, and

v. the SO2 emission rate (pounds SO2 per mmBtu actual heat input) for the coal.

Compliance with the applicable SO2 emission limit, as well as the ash and Btu limitations, shall be determined

based on the weighted arithmetic average of all fuel analyses for each calendar month.

[NOTE: A weighted average fuel quality value is determined by multiplying each fuel analysis value (Btu/pound, percent ash, or SO2 emission rate) by the weight of the shipment of fuel for which the quality value is representative, adding up all the value- weighted products, and dividing the sum of the value-weighted products by the sum of all the shipment weights.]
Monthly calculations of the weighted average SO2 emission rate, ash content, and heat content for the coal received each calendar month.

D. **Reporting Requirements**

1. The owner/operator of this source shall notify the Ohio EPA immediately if any of the restrictions in the "Federally Enforceable Requirements for Sulfur Dioxide" are exceeded.

2. This facility shall submit semi-annual reports to the Ohio EPA, Northeast District Office, which provide the following information for this source:
The total quantity of coal received during each calendar month;
The weighted average ash content (percent) of the coal received during each calendar month;
The weighted average heat content (Btu per pound) of the coal received during each calendar month;
The weighted average SO2 emission rate (pounds SO2 per mmBtu actual heat input) for the coal received during each calendar month;
The number of hours of boiler operation for each day during the reporting period and during each calendar month;
The rolling 365-day cumulative total of the hours of operation for each day during the reporting period (after the first 12 months of operation under this permit); and
A copy of the coal supplier's analyses for each coal shipment received during the reporting period.

All fuel analyses data shall be reported on both an as received and a dry basis.

These reports shall be submitted by February 15 and August 15 of each year and shall cover operations for the previous six calendar months (July through December and January through June).

E. **Testing Requirements**

1. None

F. **Miscellaneous Requirements**

1. FEDERAL ENFORCEABILITY:

Sections A.1.b., A.2.2.a., A.2.2.b., C, and D of these Special Terms and Conditions constitute the federally enforceable portions of this Permit to Operate.

2. An Ohio EPA form, entitled "Auxiliary Boiler Operations Log", or an approved equivalent, shall be used to record the daily boiler operating hours and rolling 365-day cumulative total operating hours as required to demonstrate compliance with this permit.