Facility ID: 0238000119 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: 0238000119 Emissions Unit ID: B003 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 Underfeed Coal-Fired Stoker (1.6 mmBtu/Hr.) (B003)	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)(2), Figure I, the particulate emissions from this emission unit shall not exceed 0.60 pound per million Btu (mmBtu) of heat input. Annual particulate emissions shall not exceed 4.20 tons per year. b. Sulfur dioxide (SO2) emissions from this facility shall not exceed 99.62 tons per year. SO2 emissions from this single coal fired emissions unit (B003) shall not exceed 3.49 pounds per million Btu of heat input or 24.46 tons per year. (See "Federally Enforceable Emission Requirements for Sulfur Dioxide" below.)

2. **Additional Terms and Conditions**

   (a) VISIBLE PARTICULATE EMISSION RESTRICTIONS:

   This emissions unit 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 SO2 from all sources at this facility shall be limited to 99.62 tons. Since four (4) other emissions units at this facility (a second coal fired boiler, source B001, a gas fired boiler, source B004, a gas/#2 oil fired boiler, source B007, and a waste wood fired boiler, source B008, with maximum heat input rates of 4.3, 1.68, 8.5, and 8.92 million Btu/hour respectively) collectively have maximum annual potential SO2 emissions of 75.16 tons per year, the annual allowable emissions from this coal fired boiler (B003) shall not exceed 24.46 tons.
This annual sulfur dioxide emissions limitation on source B003 shall be achieved by restricting the sulfur content in the coal supply of this emissions unit during the entire year (8760 hours) in the following manner.

The quality of coal burned in this stoker/boiler shall meet the following specifications on a dry basis:

i. a sulfur content which is sufficient to comply with an allowable sulfur dioxide emission limitation of 3.49 pounds of sulfur dioxide per million Btu actual heat input;

ii. ash content less than 8.0 percent; and

iii. heat content greater than 13,000 Btu per pound 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.

B. **Operational Restrictions**

1. The maximum heat input to this source shall not exceed 1.6 mmBtu 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 records of the results of the coal supplier's analyses of each coal shipment received for burning in this source on both an "as received" and "dry basis". Data recorded shall include;

a. the total quantity of coal received in each shipment (tons),

b. the sulfur content (percent) of the coal received in each shipment,

c. the ash content (percent) of the coal received in each shipment,

d. the heat content (Btu per pound) of coal received in each shipment,

e. the sulfur dioxide emission rate (pounds SO2 per million Btu actual heat input) from coal received in each shipment.

f. monthly calculations of the weighted average SO2 emission rate, ash content, and heat content for the coal received each calendar month.

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.]

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 Emission 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:

a. The total quantity of coal received during each calendar month;

b. The weighted average ash content (percent) of the coal received during each calendar month;

c. The weighted average heat content (Btu per pound) of the coal received during each calendar month;

d. The weighted average SO2 emission rate (pounds SO2 per mmBtu actual heat input) for the coal received during each calendar month;

e. The level of SO2 emissions (in Tons) for each month as calculated from the monthly amount of coal burned (received) and the weighted average heat content and weighted average SO2 emissions rate for the coal received.

f. 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.