

Facility ID: 1409030403 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: 1409030403 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 - 15 mmBtu/hr Konus Dutch Oven-type Wood-fired Heat Exchanger w/Multiclone	OAC rule 3745-31-05(A)(3) (PTI #14-05591)	Carbon monoxide (CO) emissions shall not exceed 0.60 pound per mmBtu of actual heat input.*
		Nitrogen oxides (NOx) emissions shall not exceed 0.22 pound per mmBtu of actual heat input.*
		Sulfur dioxide (SO2) emissions shall not exceed 0.025 pound per mmBtu of actual heat input.*
		Volatile organic compound (VOC) emissions shall not exceed 0.017 pound per mmBtu of actual heat input.*
		*The emission limitations outlined above are based on the emission unit's potential to emit (PTE). Therefore, no records are required to demonstrate compliance with these limits.
		The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1), OAC rule 3745-17-10(C)(1), OAC rule 3745-21-08(B), OAC rule 3745-23-06(B) and OAC rule 3745-35-07(B)(1).
	OAC rule 3745-35-07(B)(1)	See terms A.2.a, A.2.c, and B.1.
	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from any stack shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule.
	OAC rule 3745-17-10(C)(1)	Particulate emissions (PE) and particulate emissions less than 10 microns in diameter (PM10) shall not exceed 0.35 pound per mmBtu of actual heat input.
	OAC rule 3745-21-08(B)	See term A.2.d.
	OAC rule 3745-23-06(B)	See term A.2.e.

2. Additional Terms and Conditions

- (a) The maximum total annual emissions from this emissions unit shall not exceed the following emission limitations based upon a rolling, 12-month summation:
 - 20.6 tons per year PE/PM10;
 - 35.3 tons per year CO;
 - 12.9 tons per year NOx;
 - 1.5 tons per year SO2; and
 - 1.0 tons per year VOC.
 Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by the use of a multicyclone system, and compliance with the emission limits, opacity limitations, and annual wood usage restriction. The maximum total allowable emissions of carbon monoxide (CO) from emission units B001 (15

mmBtu/hr wood-fired heater exchanger), B002 (17.8 mmBtu/hr wood-fired heat exchanger), and B003 (13.7 mmBtu/hr wood-fired heat exchanger), shall not exceed 96 tons per year CO. Compliance with the above limitation shall be based on a rolling, 12-month summation of the CO emissions.

The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology (BAT) requirements established in PTI No. 14-05591, issued 9/28/2004. The design of the emissions unit and the technology associated with the current operating practices satisfy the BAT requirements.

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. This rule revision was submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Until the U.S. EPA approves the revision 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 has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06 by committing to comply with the best available technology (BAT) requirements established in PTI No. 14-05591, issued 9/28/2004. The design of the emissions unit and the technology associated with the current operating practices satisfy the BAT requirements.

On February 15, 2005, OAC rule 3745-23-06 was rescinded; therefore, this rule is no longer part of the State regulations. This rule revision was submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Until the U.S. EPA approves the revision to OAC rule 3745-23-06, the requirement to satisfy the "latest available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

B. Operational Restrictions

1. The maximum annual wood usage rate for this emissions unit shall not exceed 9100 tons, based upon a rolling, 12-month summation of the wood usage.

C. Monitoring and/or Record Keeping Requirements

1. The permittee shall maintain monthly records of the wood usage rate for each month and the updated, rolling, 12-month summation for wood usage, in tons, for emissions unit B001 (the total amount of wood burned for the current month plus the total amount of wood burned for the previous eleven calendar months).
2. The permittee shall maintain monthly records of the PE/PM10, CO, NOx, SO2 and VOC emissions for each month and the updated, rolling, 12-month summation for the PE/PM10, CO, NOx, SO2 and VOC emissions, in tons, for emissions unit B001 (the total amount of emissions for the current month plus the total amount of emissions for the previous eleven calendar months).
3. The permittee shall maintain monthly records of the updated, rolling, 12-month summation for CO emissions, in tons, for emissions units B001, B002, and B003 combined (the total amount of emissions for the current month plus the total amount of emissions for the previous eleven calendar months).
4. The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
 - a. the color of the emissions;
 - b. whether the emissions are representative of normal operations;
 - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
 - d. the total duration of any visible emission incident; and
 - e. any corrective actions taken to minimize or eliminate the visible emissions.

If visible emissions are present, a visible emission incident has occurred. The observer does not have to document the exact start and end times for the visible emission incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible emission incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

5. The permittee shall develop and maintain a written preventative maintenance plan designed to ensure the compliance status of this emissions unit. The preventative maintenance plan and related records must be kept onsite and available for inspection during regular office hours.
6. The permittee shall perform semi-annual combustion efficiency engineering assessments of this emissions unit. The results of the assessment shall be documented, including a record of any conditions found that are not representative of proper operating conditions and the corrective actions taken to ensure the emission unit is operating within manufacturer's recommendations for combustion efficiency.

D. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports which identify all exceedances of the following:
 - a. an identification of all exceedances of the rolling, 12-month wood usage restriction for this emissions unit; and
 - b. an identification of all exceedances of the rolling, 12-month emission limitations for PE/PM10, CO, NOx, SO2 and VOC for this emissions unit.

The reports shall be submitted to Hamilton County Department of Environmental Services by January 31, April 30, July 31, and October 31 of each year and shall cover the previous three calendar months.

2. The permittee shall submit quarterly reports which identify the updated rolling, 12-month summation of CO emissions for each calendar month for emissions units B001, B002, and B003 combined, as specified in term A.2.c. The reports shall be submitted to Hamilton County Department of Environmental Services by January 31, April 30, July 31, and October 31 of each year and shall cover the previous three calendar months.
3. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to minimize or eliminate the visible particulate emissions. These reports shall be submitted to Hamilton County Department of Environmental Services by January 31 and July 31 of each year and shall cover the previous 6-month period.
4. The permittee shall submit annual reports that specify the total PE/PM10, NOx, CO, SO2, and VOC emissions from this emissions unit for the calendar year. These reports shall be submitted by April 15 of each year. The reporting requirement may be satisfied by including and identifying the specific emission data for this emissions unit in the annual Fee Emission Report.
5. The permittee shall submit semi-annual written reports that (a) identify the most recent date the combustion efficiency engineering assessment was performed as specified in Section C.6 and (b) describe any corrective actions taken to ensure the emission unit is operating within manufacturer's recommendations for combustion efficiency. These reports shall be submitted to Hamilton County Department of Environmental Services by January 31 and July 31 of each year and shall cover the previous 6-month period.

E. Testing Requirements

1. Compliance with the emission limitations specified in Section A.1, A.2.a, and A.2.c of these terms and conditions shall be determined in accordance with the following methods:

Emission Limitations:

Carbon monoxide (CO) emissions shall not exceed 0.60 pound per mmBtu of actual heat input.
 Nitrogen oxides (NOx) emissions shall not exceed 0.22 pound per mmBtu of actual heat input.
 Sulfur dioxide (SO2) emissions shall not exceed 0.025 pound per mmBtu of actual heat input.
 Volatile organic compound (VOC) emissions shall not exceed 0.017 pound per mmBtu of actual heat input.

Applicable Compliance Method: These emission limitations are based upon the emissions unit's potential to emit and the emissions factors for bark and wet wood fuel found in USEPA AP-42, Fifth Edition, Section 1.6 Wood Residue Combustion in Boilers, Tables 1-6.2 and 1.6-3 (revised 9/2003).

The permittee shall demonstrate compliance with the CO emission limitation based upon the results of emission testing required in Section E.4 of this permit.

If required, the permittee shall demonstrate compliance with the NOx emission limitation through emission tests performed in accordance with Methods 1-4 and 7 of 40 CFR Part 60, Appendix A.

If required, the permittee shall demonstrate compliance with the SO2 emission limitation through emission tests performed in accordance with Methods 1-4 and 6 of 40 CFR Part 60, Appendix A.

If required, the permittee shall demonstrate compliance with the VOC emission limitation through emission tests performed in accordance with Methods 1-4 and 25 of 40 CFR Part 60, Appendix A.

Emissions Limitation:

Particulate emissions (PE) and particulate emissions less than 10 microns in diameter (PM10) shall not exceed 0.35 pound per mmBtu of actual heat input.

Applicable Compliance Method: The PE/PM10 emission limitation is based upon the rated heat input of the emissions unit (15 mmBtu/hr) and the equation specified in OAC rule 3745-17-10(C)(1).

The permittee shall demonstrate compliance with the PE/PM10 emission limitation based upon the results of emission testing required in Section E.3 of this permit.

Emissions Limitation:

20.6 tons per year PE/PM10, as a rolling, 12-month summation.

Applicable Compliance Method: Compliance with the emission limitation specified above shall be determined by the wood usage record keeping requirements specified in Section C.1 and the permittee-supplied emission factor calculated pursuant to USEPA AP-42, Fifth Edition, Section 1.6 Wood Residue Combustion in Boilers, Tables 1.6-2 and 1.6-3 (revised 9/2003) of 4.53 pounds of PE/PM10 per ton of wood, divided by 2,000 pounds per ton.

Emission Limitation:

35.3 tons per year CO, as a rolling, 12-month summation.

Applicable Compliance Method: Compliance with the emission limitation specified above shall be determined by the wood usage record keeping requirements specified in Section C.1 and the permittee-supplied emission factor calculated pursuant to USEPA AP-42, Fifth Edition, Section 1.6 Wood Residue Combustion in Boilers, Tables 1.6-2 and 1.6-3 (revised 9/2003) of 7.76 pounds of CO per ton of wood, divided by 2,000 pounds per ton.

Emission Limitation:

12.9 tons per year NOx, as a rolling, 12-month summation.

Applicable Compliance Method: Compliance with the above emission limitations may be demonstrated by the wood usage record keeping requirements specified in Section C.1 and the permittee-supplied emission factor calculated pursuant to USEPA AP-42, Fifth Edition, Section 1.6 Wood Residue Combustion in Boilers, Tables 1.6-2 and 1.6-3 (revised 9/2003) of 2.84 pounds of NOx per ton of wood, divided by 2,000 pounds per ton.

Emission Limitation:

1.5 tons per year SO2, as a rolling, 12-month summation.

Applicable Compliance Method: Compliance with the above emission limitations may be demonstrated by the wood usage record keeping requirements specified in Section C.1 and the permittee-supplied emission factor calculated pursuant to USEPA AP-42, Fifth Edition, Section 1.6 Wood Residue Combustion in Boilers, Tables 1.6-2 and 1.6-3 (revised 9/2003) of 0.32 pound pf SO2 per ton of wood, divided by 2,000 pounds per ton.

Emission Limitation:

1.0 tons per year VOC, as a rolling, 12-month summation.

Applicable Compliance Method: Compliance with the above emission limitations may be demonstrated by the wood usage record keeping requirements specified in Section C.1 and the permittee-supplied emission factor calculated pursuant to USEPA AP-42, Fifth Edition, Section 1.6 Wood Residue Combustion in Boilers, Tables 1.6-2 and 1.6-3 (revised 9/2003) of 0.22 pounds of VOC per ton of wood, divided by 2,000 pounds per ton.

Emissions 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: If required, compliance shall be determined through visible emission observations performed in accordance with 40 CFR 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

Emissions limitation:

96 tons per year CO for B001, B002, and B003 combined, as a rolling 12-month summation.

Applicable Compliance Method: Compliance with the above CO emission limitation specified in term A.2.c shall be demonstrated by the record keeping requirements in Section C.3.

2. Compliance with the operational restrictions in Section B for wood usage shall be determined by the record keeping requirements specified in Section C.1.
3. The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:
 - a. The emission testing shall be conducted within 12 months of permit issuance and within 6 months prior to permit renewal. If the result of the emission test performed within 12 months of permit issuance indicates the emission unit is not in compliance with the specified PE limitation, subsequent emission testing shall be conducted on an annual basis, by December 31st of each year.
 - b. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission limit for particulate of 0.35 lb PE/mmBtu.
 - c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):

Methods 1-4 and Method 5 of 40 CFR Part 60, Appendix A for particulate

Alternative U.S. EPA approved test methods may be used with prior approval from the Hamilton County Department of Environmental Services.
 - d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Hamilton County Department of Environmental Services.
 - e. Test results shall also be reported in pounds of PE per ton of wood combusted.
 - f. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Hamilton County Department of Environmental Services. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Hamilton County Department of Environmental Services refusal to accept the results of the emission test(s).

Personnel from the Hamilton County Department of Environmental Services shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Hamilton County Department of Environmental Services within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Hamilton County Department of Environmental Services.
4. The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:
 - a. The emission testing shall be conducted within 12 months of permit issuance and within 6 months prior to permit renewal. If the result of the emission test performed within 12 months of permit issuance indicates the emission unit is not in compliance with the specified CO limitation, subsequent emission testing shall be conducted on an annual basis, by December 31st of each year.
 - b. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission limit for carbon monoxide of 0.60 lb CO/mmBtu.
 - c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):

Methods 1-4 and Method 10 of 40 CFR Part 60, Appendix A for carbon monoxide

Alternative U.S. EPA approved test methods may be used with prior approval from the Hamilton County Department of Environmental Services.
 - d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Hamilton County Department of Environmental Services.
 - e. Test results shall also be reported in pounds of CO per ton of wood combusted.

- f. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Hamilton County Department of Environmental Services. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Hamilton County Department of Environmental Services refusal to accept the results of the emission test(s).

Personnel from the Hamilton County Department of Environmental Services shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Hamilton County Department of Environmental Services within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Hamilton County Department of Environmental Services.

F. Miscellaneous Requirements

1. The following terms and conditions of this permit are federally enforceable: Section A through Section E.