Facility ID: 1431340131 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.

Facility ID: 1431340131 Emissions Unit ID: P012 Issuance type: Final State Permit To Operate

Go to the top of this document

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
isostatic refractory manufacturing process w/cyclone and thermal incinerator (in series)	OAC rule 3745-31-05 (PTI 14-2842)	0.18 lb/hr of particulate emissions (PE)* 0.79 TPY of PE 2.37 lbs/hr of organic compounds (OC)* 10.4 TPY of OC See A.2.
	OAC rule 3745-17-07(A)	Visible PE from any stack shall not exceed 20% percent opacity, as a six minute average, except as specified by rule.
	OAC rule 3745-17-11	The PE limitation specified by this rule is less stringent than the hourly PE limitation established pursuant to OAC rule 3745-31-05.
	OAC rule 3745-21-07(G)(2), (G)(6)	The overall control efficiency limitation specified by this rule is less stringent than the overall control efficiency limitation established pursuant to OAC rule 3745-31-05 (see A.2.a).

2. **Additional Terms and Conditions**

   (a) All of the OC emissions from the operation of this emissions unit shall be vented to a thermal incinerator with an overall control efficiency of 96.5%, by weight, for OC.
   All of the PE from this emissions unit shall be vented to a high efficiency cyclone with an overall control efficiency of 99.5%, by weight.
   * The hourly emission limitations specified above are based upon the emissions unit's potential to emit (PTE). Therefore, no hourly records are required to demonstrate compliance with these limits.

B. **Operational Restrictions**

1. The average combustion temperature within the thermal incinerator, for any 3-hour block of time when the emissions unit is in operation, shall not be more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.

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

1. The permittee shall operate and maintain a continuous temperature monitor and recorder that measures and records the combustion temperature within the thermal incinerator when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

   The permittee shall collect and record the following information for each day:

   a. All 3-hour blocks of time during which the average combustion temperature within the thermal incinerator, when the emissions unit was in operation, was more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.

   b. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.

2. 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. the cause of the visible emissions;

   c. the total duration of any visible emission incident; and

   d. any corrective actions taken to eliminate the visible emissions.

D. **Reporting Requirements**

1. The permittee shall submit quarterly deviation (excursion) reports that identify all 3-hour blocks of time (when the emissions unit was in operation) during which the average combustion temperature within the thermal incinerator did not comply with the temperature limitation specified above.

2. 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 eliminate the visible particulate emissions. These reports shall be submitted to the Hamilton County Department of Environmental Services by January 31 and July 31 of each year and shall cover the previous 6-month period.

3. The permittee shall submit quarterly summaries that include a log of the downtime for the capture (collection) system, control system, and monitoring equipment, when the associated emissions unit was in operation.

4. All quarterly deviation reports shall be submitted in accordance with paragraph 3 of the General Terms and Conditions of this permit.

E. **Testing Requirements**

1. Compliance with the emission and control efficiency limitations and the operational restriction in Sections A and B of these terms and conditions shall be determined in accordance with the following methods:
   Emission Limitations:
   2.37 lbs/hr of OC and 10.4 TPY of OC

   Applicable Compliance Method:
   The permittee shall determine compliance with the hourly OC emission limitation based upon the results of emission testing conducted in accordance with Methods 25 or 25A, whichever is applicable, of 40 CFR, Part 60, Appendix A.

   The permittee may also determine compliance the hourly allowable OC emission limitation as follows:

   i. OC (lbs/hr) from kiln = 0.04114 lb of OC/lb ware* x maximum lbs of ware/cycle x 1 cycle/4 hrs x (1 - 0.965**);

   ii. OC (lbs/hr) from oven = maximum lbs/oven cycle x 1 cycle/10 hrs x 0.25 lb of OC/lb product* x (1 - 0.965**); and

   iii. total OC (lbs/hr) = a.i + a.ii.

   Compliance with the annual OC emission limitation is ensured as long as compliance with the hourly OC emission limitation is maintained (the annual emission limitation was calculated by multiplying the hourly OC emission limitation by 8760 and dividing by 2000).

   * These are emission factors based on information supplied by the permittee (however, these emission factors shall be revised based on the results of the most recent emission testing that demonstrated the emissions unit was in compliance (see Section E.2).

   ** The overall control efficiency is estimated to be 96.5% (however, this control efficiency shall be revised based on the results of the most recent emission testing that demonstrated the emissions unit was in compliance (see Section E.2).
   Emission Limitations:
   0.18 lb/hr of PE and 0.79 TPY of PE

   Applicable Compliance Method:
   The permittee shall determine compliance with the hourly PE limitation based upon the results of emission testing conducted in accordance with Methods 1 - 5 of 40 CFR, Part 60, Appendix A.

   The permittee may also determine compliance with the hourly allowable PE limitation as follows:

   PE (lbs/hr) = 25 lbs of PE/ton of product* x maximum tons of product/hr x (1 - 0.995**)

   Compliance with the annual PE limitation is ensured as long as compliance with the hourly PE emission limitation is maintained (the annual emission limitation was calculated by multiplying the hourly emission limitation by 8760 and dividing by 2000).

   * This is an emission factor based on information supplied by the permittee (however, this emission factor shall be revised based on the results of the most recent emission testing that demonstrated the emissions unit was in compliance (see Section E.2).

   ** The overall control efficiency is estimated to be 99.5% (however, this control efficiency shall be revised based on the results of the most recent emission testing that demonstrated the emissions unit was in compliance (see Section E.2).
   Emission Limitation:
   Visible PE shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule.

Applicable Compliance Method:
Compliance with the visible PE limitation shall be determined pursuant to OAC rule 3745-17-03(B)(1).
Control Efficiency Limitations:
96.5% overall control efficiency, by weight, for OC and 99.5% overall control efficiency, by weight, for PE

Applicable Compliance Methods:
Compliance with the overall control efficiency limitations shall be determined in accordance with the methods identified in Section E.2 of this permit.
Compliance with the operational restriction for the thermal incinerator as outlined in Section B.1 shall be based on the record keeping requirements in Section C.1 of this permit.

2. 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 approximately 2.5 years after permit issuance and within 6 months prior to permit expiration.

b. The emission testing shall be conducted to demonstrate compliance with the control efficiency limitation of not less than 96.5% by weight for OC, the hourly OC emission limitation, the control efficiency limitation of not less than 99.5% by weight for PE, and the hourly PE limitation.
c. The following test methods shall be employed to demonstrate compliance with the allowable OC and PE mass emission rates:

Methods 25 or 25A, whichever is applicable, of 40 CFR, Part 60, Appendix A for OC; and
Methods 1 - 5 of 40 CFR, Part 60, Appendix A for PE

The control efficiency for OC (i.e., the percent reduction in mass emissions between the inlet and outlet of the thermal incinerator) shall be determined in accordance with the test methods and procedures specified in OAC rule 3745-21-10 or the approved alternative test protocol approved on October 25, 1995. The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases. The overall control system efficiency for OC shall be the product of the capture efficiency and the destruction efficiency of the thermal incinerator. The capture efficiency shall be determined using the test methods specified in 40 CFR, Part 51, Appendix M, Method 204 through 204F, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency as specified in the USEPA Guidelines for Determining Capture Efficiency, dated January 9, 1995. Ohio EPA will consider the request, including an evaluation of the applicability.
The control efficiency for PE (i.e., the percent reduction in mass emissions between the inlet and outlet of the cyclone) shall be determined in accordance with the test methods and procedures specified in 40 CFR, Part 60, Appendix A or the approved alternative test protocol approved on October 25, 1995. The overall control system efficiency for PE shall be the product of the capture efficiency and the removal efficiency of the cyclone. The capture efficiency shall be determined using the test methods specified in 40 CFR, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency as specified in the USEPA Guidelines for Determining Capture Efficiency, dated January 9, 1995. Ohio EPA will consider the request, including an evaluation of the applicability.
d. The tests 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.

3. 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 tests, and the person(s) who will be conducting the tests. Failure to submit such notification for review and approval prior to the tests may result in the Hamilton County Department of Environmental Services' refusal to accept the results of the emission tests.

Personnel from the Hamilton County Department of Environmental Services shall be permitted to witness the tests, 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 tests 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 tests. 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. None