Facility ID: 1431340131 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: 1431340131 Emissions Unit ID: P007 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
Eirich mixer, with catalytic incinerator	OAC rule 3745-31-05 (PTI 14-2467)	0.60 lb/hr of organic compounds (OC) 273 lbs/month of OC 1.64 TPY of OC See A.2.
	OAC rule 3745-21-07(G)(2), (G)(6)	The overall OC control efficiency limitation specified by this rule is less stringent than the emission 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 this emissions unit shall be vented to a catalytic incinerator with an overall control efficiency of 90%, by weight, for OC.

B. **Operational Restrictions**

1. The solvent portion of the refractory mixed in this emissions unit shall not exceed 10%, by weight.

2. The amount of refractory mixed in this emissions unit shall not exceed 120 pounds per hour, 27.3 tons per month and 327.6 tons per year.

3. The mixer shall be sealed during loading and mixing to prevent the escape of dry refractory.

4. The average temperature of the exhaust gases immediately before the catalyst bed, 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 that the emissions unit was in compliance. The average temperature difference across the catalyst bed, for any 3-hour block of time when the emissions unit is in operation, shall not be less than 80 percent of the average temperature difference 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 maintain daily records of the following information for this emissions unit:

   a. the date the emissions unit was operated;

   b. the company identification for each refractory mixed;

   c. the solvent portion of each refractory mixed, in percent by weight;

   d. the amount of each refractory mixed, in pounds;

   e. the total amount of refractory mixed, in pounds (summation of d);

   f. the number of hours the emissions unit was in operation;

   g. the hourly average amount of refractory mixed, in pounds per hour (e/f);

   h. the OC emissions, in pounds, calculated as follows:

OC emissions (lbs/day) = 0.05 lb of OC/lb of product* x amount of product (from e) x (1 - 0.90**); and

* 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 90% (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)).

i. the average hourly OC emissions (h/f), in lbs/hr.

2. The permittee shall calculate and record each month the following information for this emissions unit:

a. the amount of refractory mixed, in pounds (this is calculated by summing the daily totals of refractory mixed, from section C.1.e, for the calendar month); and

b. the total amount of controlled OC emissions, in tons (this is calculated by summing the daily OC emissions, from section C.1.h, for the calendar month, and then dividing by 2,000).

3. The permittee shall calculate and record each year the following information for this emissions unit:

a. the amount of refractory mixed, in tons (this is calculated by summing the monthly refractory usage rate, from section C.2.a, for the calendar year); and

b. the total amount of controlled OC emissions, in tons (this is calculated by summing the monthly OC emission rates, from section C.2.b, for the calendar year).

4. The permittee shall operate and maintain continuous temperature monitors and recorder(s) that measure and record the temperatures immediately upsteam and downstream of the incinerator's catalyst bed 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 monitors and recorder(s) 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 (when the emissions unit was in operation) during which the average temperature of the exhaust gases immediately before the catalyst bed was more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated that the emissions unit was in compliance.

b. All 3-hour blocks of time (when the emissions unit was in operation) during which the average temperature difference across the catalyst bed was less than 80 percent of the average temperature difference during the most recent emission test that demonstrated the emissions unit was in compliance.

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

D. **Reporting Requirements**

1. The permittee shall submit quarterly deviation (excursion) reports that identify each day during which the average hourly OC emissions from this emissions unit exceeded 0.60 pound per hour, and the actual average hourly OC emissions for each such day.

2. The permittee shall submit quarterly deviation (excursion) reports that identify the following:

a. all exceedances of the hourly and monthly refractory usage restrictions of 120 pounds and 27.3 tons, respectively; and

b. all exceedances of the percentage of solvent restriction (10%, by weight) in the refractory mixed.

3. 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 temperature of the exhaust gases immediately before the catalyst bed or the average temperature difference across the catalyst bed did not comply with the temperature limitations specified above.

4. 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.

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

6. The permittee shall submit annual reports that specify the total organic compound emissions from this emissions unit and the total tons of refractory mixed in this emissions unit for the previous calendar year. These reports shall be submitted by January 31 of each year.

E. **Testing Requirements**

1. Compliance with the emission and control efficiency limitations in Sections A and B of these terms and conditions shall be determined in accordance with the following methods:
Emission Limitations:
0.60 lb/hr of OC, 273 lbs/month of OC, and 1.64 TPY of OC

Applicable Compliance Method:
The permittee shall determine compliance with the hourly OC emission limitation based on the record keeping requirements in Section C.1 of this permit or, if required, on the results of emission testing conducted in accordance with Method 25 or 25A, whichever is appropriate, of 40 CFR, Part 60, Appendix A.

Compliance with the monthly OC emission limitation shall be based on the record keeping requirements in Section C.2 of this permit.

Compliance with the annual OC emission limitation shall be based on the record keeping requirements in Section C.3 of this permit.
Emission Limitation:
90% overall control efficiency, by weight, for OC

Applicable Compliance Method:
Compliance with the overall OC control efficiency limitation shall be determined using the test methods and procedures identified in section E.2.
Material Content and Usage Restrictions:
10% solvent (OC) content restriction, by weight, in the refractory mixed, and 120 lbs/hr, 27.3 tons /month and 327.6 TPY maximum refractory usage

Applicable Compliance Method:
Compliance with the percent by weight solvent content restriction for the refractory mixed shall be based upon the record keeping requirements in Section C.1 of these terms and conditions.

Compliance with the hourly refractory usage restriction shall be determined based on the record keeping requirements in Section C.1 of this permit.

Compliance with the monthly refractory usage restriction shall be determined based on the record keeping requirements in Section C.2 of this permit.

Compliance with the annual refractory usage restriction shall be determined based on the record keeping requirements in Section C.3 of this permit.
Compliance with the operational restrictions for the catalyst bed as outlined in Section B.4 shall be based on the record keeping requirements in Section C.3 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 within 2.5 years after issuance of this permit and within 6 months prior to expiration of this permit.

   b. The emission testing shall be conducted to demonstrate compliance with the control efficiency limitation of not less than 90%, by weight, for OC and the hourly OC emission limitation.
   c. The following test method shall be employed to demonstrate compliance with the allowable OC emission rate and control efficiency:

   Method 25 or 25A, whichever is appropriate, of 40 CFR, Part 60, Appendix A

   The control efficiency (i.e., the percent reduction in OC emissions between the inlet and outlet of the control system) 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 catalytic incinerator. The capture efficiency shall be determined using the test methods specified in 40 CFR, Part 51, Appendix M, Methods 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.

   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