

Facility ID: 1431080082 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: 1431080082 Emissions Unit ID: P010 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>
soil vapor extraction system with thermal or catalytic oxidation	OAC rule 3745-31-05(A)(3) (PTI 14-4739) OAC rule 3745-21-07(G)(2)	6.25 lbs of organic compounds (OC)/hr; 27.38 tons per year (TPY) of OC The hourly OC emission limitation established by this rule is less stringent than the hourly OC emission limitation established pursuant to OAC rule 3745-31-05(A)(3). 40 lbs of OC/day (photochemically reactive materials are extracted)

2. **Additional Terms and Conditions**
 - (a) The hourly OC emission limitation specified above is based upon the emissions unit's potential to emit. Therefore, no hourly records are required to demonstrate compliance with this limit.

B. Operational Restrictions

1. The permittee shall maintain and operate a thermal oxidizer system to control all OC emissions from this emissions unit. If laboratory analyses of the samples (raw vapors extracted) taken at the SVE blower discharge for two consecutive months indicate that the vapor extraction rate from the well is reduced to less than 125 pounds per hour, a catalytic oxidizer system may be used in place of the thermal oxidizer system.
2. When the thermal oxidizer is used to control OC emissions, the average combustion temperature within the thermal oxidizer, for any 3-hour block of time when the emissions unit is in operation, shall not be less than 1400 degrees Fahrenheit.
3. If the catalytic oxidizer is used in place of the thermal oxidizer, 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 less than 500 degrees Fahrenheit or more than 50 degrees Fahrenheit below the temperature specified by the manufacturer. 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 320 degrees Fahrenheit or less than 80 percent of the average temperature difference specified by the manufacturer.

C. Monitoring and/or Record Keeping Requirements

1. The permittee shall measure and record, at least one day each month, the daily OC emissions at both the SVE blower discharge (uncontrolled emissions) and at the air discharge locations (controlled emissions) for this emissions unit, in pounds.
2. When the thermal oxidizer is used to control OC emissions, the permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal oxidizer 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 oxidizer, when the emissions unit was in operation, was less than 1400 degrees Fahrenheit; and

- b. a log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.
3. If the catalytic oxidizer is used in place of the thermal oxidizer, the permittee shall operate and maintain continuous temperature monitors and recorder(s) which measure and record(s) the temperature immediately upstream 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 the catalytic oxidizer is in operation:

- 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 less than 500 degrees Fahrenheit or more than 50 degrees Fahrenheit below the temperature specified by the manufacturer;
- 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 320 degrees Fahrenheit or less than 80 percent of the average temperature difference specified by the manufacturer; and
- c. a log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.
4. The permit to install for this emissions unit was evaluated based on the actual emissions and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. Ohio EPA's "Review of New Sources of Air Toxics Emissions" policy ("Air Toxics Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC).

The following summarizes the results of the modeling for the "worst case" pollutants:

Pollutant: benzene
 TLV (ug/m3): 1,600
 Maximum Hourly Emission Rate (lbs/hr): 0.75
 Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 16.8
 MAGLC (ug/m3): 38.1

Pollutant: xylene
 TLV (ug/m3): 43,400
 Maximum Hourly Emission Rate (lbs/hr): 0.91
 Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 20.4
 MAGLC (ug/m3): 10,333

6. Physical changes to or in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxics Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxics Policy" will still be satisfied. If, upon evaluation, the permittee determines that the "Air Toxics Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in the "Air Toxics Policy" include the following:
- a. changes in the composition of the materials used (typically for coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled;
- b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and
- c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Air Toxics Policy" will be satisfied with the above changes, Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01(VV)(1)(a)(ii), and a modification of the existing permit to install will not be required. If the change(s) is (are) defined as a modification under other provisions of the modification definition (other than (VV)(1)(a)(ii)), then the permittee shall obtain a final permit to install prior to the change.

The permittee shall collect and record the following information when it conducts evaluations to determine that the changed emissions unit will satisfy the Air Toxics Policy":

- a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);
- b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxics Policy"; and
- c. when the computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxics Policy" for the change.
- D. Reporting Requirements**
1. The permittee shall submit semi-annual reports to the Hamilton County Department of Environmental Services that identify the daily OC extraction and OC emission rates for each month of the reporting period (January

through June and July through December). These reports shall be submitted by January 31 and July 31 of each year. If the OC vapor extraction rate falls below 125 pounds per hour and the OC vapor treatment is transferred from thermal oxidation mode to catalytic oxidation mode, the permittee shall submit a written notification to the Hamilton County Department of Environmental Services within 30 days of the change.

2. The permittee shall submit quarterly reports of the following records:
 - a. a log of operating time for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit when the emissions unit was in operation and the thermal oxidizer is employed;
 - b. all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer did not comply with the temperature limitation specified in term and condition B.2;
 - c. all 3-hour blocks of time (when the emissions unit was in operation and the catalytic oxidizer is employed) during which the average temperature of the exhaust gases immediately before the catalyst bed was less than 500 degrees Fahrenheit or more than 50 degrees Fahrenheit below the temperature specified by the manufacturer;
 - d. all 3-hour blocks of time (when the emissions unit was in operation and the catalytic oxidizer is employed), during which the average temperature difference across the catalyst bed was less than 320 degrees Fahrenheit or less than 80 percent of the average temperature difference specified by the manufacturer; and
 - e. a log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation and the catalytic oxidizer is employed.

These quarterly reports shall be submitted by January 30, April 30, July 30, and October 30 of each year, and shall cover the records for the previous calendar quarters.

3. The permittee shall notify the Hamilton County Department of Environmental Services in writing of any record showing that the thermal oxidizer or catalytic oxidizer was not in service when the emissions unit was in operation. The notification shall include a copy of such record and shall be sent to the Hamilton County Department of Environmental Services within 30 days after the event occurs.

E. Testing Requirements

1. Compliance with the hourly, daily and annual OC emission limitations specified in Section A.1 and the operational restrictions in Section A. of this permit shall be determined as follows:

OC Emission Limitations: 6.25 lbs of OC/hr; 27.38 TPY of OC

Applicable Compliance Method: Compliance with the hourly OC emission limitation has been determined by considering the maximum OC emissions produced when employing one of the OC emission control devices. For this emissions unit, compliance has been determined by employing the catalytic oxidizer and multiplying the vapor extraction rate of 125 lbs/hour by one minus the fractional control efficiency (0.95) of the catalytic oxidizer. Compliance with the annual OC emission limitation is ensured as long as compliance with the hourly OC emission limitation is maintained.

Thermal Oxidizer Temperature Restriction: The average combustion temperature within the thermal oxidizer, for any 3-hour block of time when the emissions unit is in operation, shall not be less than 1400 degrees Fahrenheit.

Applicable Compliance Method: Compliance with the temperature restriction for the thermal oxidizer shall be determined by the record keeping performed pursuant to Section C.2.

Catalytic Oxidizer Temperature Restriction: 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 less than 500 degrees Fahrenheit or more than 50 degrees Fahrenheit below the temperature specified by the manufacturer. 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 320 degrees Fahrenheit or less than 80 percent of the average temperature difference specified by the manufacturer.

Applicable Compliance Method: Compliance with the temperature restriction for the catalytic oxidizer shall be determined by the record keeping performed pursuant to Section C.3.

OC Emission Limitation: 40 lbs/day of OC

Applicable Compliance Method: Compliance with the daily OC emission limitation shall be determined by the record keeping requirements performed pursuant to Section C.1.

F. Miscellaneous Requirements

1. None