

Facility ID: 0855100399 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: 0855100399 Emissions Unit ID: P004 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>  |
|---|--|---|
| Ink Manufacturing Room with Permanent Total Enclosure vented to Regenerative Thermal Oxidizer | OAC rule 3745-31-05 (A)(3)<br>PTI 08-04196 | 2.0 lbs/hr OC, 8.76 TPY OC;   |
|   | OAC rule 3745-21-07 (G)(2)                 | Reference the additional terms and conditions for the control requirements.   |
|   | OAC rule 3745-21-07 (G)(6)                 | The emission limitations specified by this rule are less stringent than the emission limitations established pursuant to OAC rule 3745-31-05 (A)(3).<br>The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05 (A)(3). |

**2. Additional Terms and Conditions**

- (a) When this emissions unit is in operation, the organic compound (OC) emissions from this emissions unit, shall be controlled through the application of a permanent total enclosure (PTE) for 100% capture and vented to a regenerative thermal oxidizer, operating at a minimum OC destruction efficiency of 95%.

**B. Operational Restrictions**

1. The permanent total enclosure (PTE)\* serving this emissions unit shall be installed and operated in accordance with 40 CFR Part 51, Appendix M, Method 204, whenever the emissions unit is in operation. The PTE shall meet the following criteria:
  - a. any "Natural Draft Opening" (NDO)\* shall be at least 4 equivalent diameters from each OC emission point;
  - b. the total area of all NDOs shall not exceed 5% of the surface area of the enclosure's four walls, floor and ceiling;
  - c. the average facial velocity (FV) of air through all NDOs shall be at least 3,600 m/hr (200 fpm) which corresponds to a pressure differential of 0.007 inch of water. The direction of air through all NDOs shall be into the enclosure;
  - d. all access doors and windows whose areas are not included in paragraph (b) and are not included in the calculation in paragraph (c) shall be closed during routine operation; and
  - e. all OC emissions must be captured and contained for discharge through the OC control device.

By satisfying the criteria above for establishing permanent total enclosure, the total organic capture efficiency shall be assumed to be 100%.

\* Definitions for PTE and NDO:

Permanent Total Enclosure (PTE) - a permanently installed enclosure that completely surrounds a source of emissions such that all OC emissions are captured and contained for discharge through a control device.

Natural Draft Opening (NDO) - any permanent opening in the enclosure that remains open during operation of the facility and is not connected to a duct to which a fan is installed.

2. The permanent total enclosure shall be maintained under negative pressure, at a minimum pressure differential

that is not less than 0.007 inch of water, as a 3-hour average, whenever the emissions unit is in operation.

3. The average temperature of the combustion chamber within the regenerative thermal oxidizer, for any 3-hour period while 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.
4. The permittee shall equip each ink mixing tank with a tight fitting cover. All of the mixing tanks are to be covered, at all times during which the regenerative thermal oxidizer is not in operation.

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

1. The permittee shall maintain and operate a monitoring device and a recorder that simultaneously measure and record the pressure inside and outside (i.e. the pressure differential) the permanent total enclosure. The monitoring and recording device shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall maintain records of all 3-hour blocks of time during operation which the permanent total enclosure was not maintained at or above the minimum pressure differential of 0.007 inch of water, as a 3-hour average.

2. The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the regenerative 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.

3. The permittee shall collect and record the following information for each day for the control equipment:
  - a. A log of the operating time for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.
  - b. All 3-hour blocks of time during which the average combustion temperature within the regenerative thermal oxidizer, 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 that the emissions unit was in compliance.

4. The permittee shall collect and record the following information monthly, for the purpose of determining annual organic compound emissions:
  - a. The company identification for each ink manufactured and cleanup material employed.
  - b. The total pounds of each organic compound used in the ink manufacturing process and clean-up materials employed.
  - c. The organic compound content of each ink manufactured and cleanup material employed, in pounds per gallon.
  - d. The total controlled organic compound emission rate for all inks manufactured and clean-up materials employed, in pounds or tons. The controlled emission rate will be calculated assuming a 3% loss factor regarding the total pounds of organic compounds used in the ink manufacturing process and clean-up materials employed, a 100% capture efficiency, and the organic compound destruction efficiency from the most recent performance test that demonstrated that the emissions unit was in compliance.

5. The permit to install for this emissions unit P004 was evaluated based on the actual materials (typically coatings and cleanup materials) and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic 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" pollutant(s):

Pollutant: Toluene  
 TLV (mg/m3): 188  
 Maximum Hourly Emission Rate (lbs/hr): 2.0  
 Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 77.47  
 MAGLC (ug/m3): 4476

Physical changes to or changes 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 Toxic 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 Toxic Policy" will still be satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic 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 Toxic Policy" will be satisfied for the above changes, the 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, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic 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 Toxic Policy"; and
- c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

**D. Reporting Requirements**

1. The permittee shall submit quarterly pressure differential deviation (excursion) reports that identify all 3-hour blocks of time during which the permanent total enclosure was not maintained at the minimum pressure differential of 0.007 inch of water, as a 3-hour average, when the emissions unit was in operation.
2. The permittee shall submit quarterly deviation (excursion) reports which identify all 3-hour blocks of time during which the average combustion temperature within the regenerative thermal oxidizer, when the emissions unit was in operation, was more than 50 degrees Fahrenheit below the average temperature during the most recent performance test that demonstrated the emissions unit was in compliance.
3. The permittee shall also submit annual reports which specify the total organic compound emissions from this emissions unit for the previous calendar year. These reports shall be submitted by January 31 of each year.
4. The deviation reports shall be submitted in accordance with the reporting requirements of the General Terms and Conditions of this permit.

**E. Testing Requirements**

1. Compliance with the emission limitations in Section A.I. of these terms and conditions shall be determined in accordance with the following methods:  
Emission Limitation-  
2.0 lbs/hr organic compounds

Applicable Compliance Method-

Compliance shall be based on the organic compound emission rate as determined during the March 28-31, 2000 emissions test of 40 lbs/hr OC, and assuming an overall control efficiency of 95%.

$$(40 \text{ lbs/hr})(1 - 0.95) = 2.0 \text{ lbs/hr OC}$$

Emission Limitation-

8.76 TPY organic compounds

Applicable Compliance Method-

Compliance shall be based upon the record keeping specified in C.4.

2. The permittee shall conduct, or have conducted, emission testing for this emissions unit within six months of permit expiration, in accordance with the following requirements:
  - a. The emission testing shall be conducted to demonstrate compliance with the overall control system efficiency for OCs which will be determined as the product of the capture efficiency and the overall control efficiency of the regenerative thermal oxidizer.

- b. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):

The capture efficiency will 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, necessity, and validity of the alternative, and may approve the use of the alternative if such approval does not contravene any other applicable requirement. The control efficiency (i.e., the percent reduction in mass 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 (e.g., "the mass balance protocol approved on 10/25/95"). 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."

- c. The test(s) shall be conducted while emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. 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 Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

Personnel from the appropriate Ohio EPA District Office or local air agency 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 appropriate Ohio EPA District Office or local air agency 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 appropriate Ohio EPA District Office or local air agency.

**F. Miscellaneous Requirements**

1. None