

Facility ID: 1431483249 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.

[Go to Part II for Emissions Unit R006](#)
[Go to Part II for Emissions Unit R007](#)
[Go to Part II for Emissions Unit R010](#)

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Facility ID: 1431483249 Emissions Unit ID: R006 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>
double head screen printing line with thermal oxidizer and adsorption/desorption system	OAC rule 3745-31-05(A)(3) (PTI 14-4563)	7.18 lbs of organic compounds (OC) emissions per hour*
		See A.2.
	OAC rule 3745-21-07(G)(2)	* The hourly OC emission limit is based on the emissions unit's potential to emit. Therefore, no hourly record keeping, deviation reporting, or compliance method calculations are required to demonstrate compliance with this limit.
	OAC rule 3745-21-07(G)(6)	The control requirements specified by this rule are less stringent than the control requirements established pursuant to OAC rule 3745-31-05(A)(3). The requirements specified by this rule are equivalent to the requirements established pursuant to OAC rule 3745-31-05(A)(3).

2. **Additional Terms and Conditions**
 - (a) The total combined OC emissions from emissions units K001, K002, K004, R006, R007, R009, R010, R011, and R012 shall not exceed 45.38 tons of OC per year as a rolling, 12-month summation. The OC emissions emitted from this emissions unit shall be vented to a control device with a minimum OC destruction efficiency of 90% by weight and an overall OC control efficiency of 85.5% by weight.

B. Operational Restrictions

1. The average combustion temperature within the thermal oxidizer, for any 3-hour block of time when this 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 emissions units K001, K002, K004, R006, R007, R009, R010, R011, and R012 were in compliance with the hourly OC emission limitations.
2. The temperature of the air flow leaving the oxidizer to begin the desorption cycle shall not be less than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated that emissions units K001, K002, K004, R006, R007, R009, R010, R011, and R012 were in compliance with the hourly OC emission limitations.
3. The time required for a complete adsorption/desorption (regeneration) cycle shall be within 5% of the average cycle time during the most recent emission test that demonstrated that emissions units K001, K002, K004, R006, R007, R009, R010, R011, and R012 were in compliance with the hourly OC emission limitations.
4. The dryers and hoods associated with this emissions unit shall be vented directly to the control device.
5. The room that houses this emissions unit shall be maintained at a negative pressure. All ventilation exhausts shall be vented through the control device.

C. Monitoring and/or Record Keeping Requirements

1. The permittee shall collect and record the following information each month for all organic compounds employed in this unit:
 - a. the name and identification of each liquid organic compound contained in coatings, adhesives, and cleanup materials employed;
 - b. the amount of each liquid organic compound employed in coatings, adhesives, and cleanup materials, in gallons;
 - c. the OC content, as applied, of each liquid organic compound employed in coatings, adhesives, and cleanup materials, in lbs of OC/gallon;
 - d. the total combined monthly OC emission (the summation of (b) multiplied by (c) for each organic compound employed in coatings, adhesives, and cleanup materials multiplied by one minus the overall fractional control efficiency established during the most recent emission test that demonstrated that emissions units K001, K002, K004, R006, R007, R009, R010, R011, and R012 were in compliance with the hourly OC emission limitations); and
 - e. the rolling, 12-month summation of OC emissions (the summation of the current month's emission total and the previous 11 months' emission total).
 2. The permittee shall operate and maintain a continuous temperature monitor and recorder that measures and records the combustion temperature within the thermal oxidizer and the temperature of the air flow leaving the oxidizer to begin the desorption cycle when the thermal oxidizer 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 and with any modifications deemed necessary by the permittee.
 3. The permittee shall collect and record the following information 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, is more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated that emissions units K001, K002, K004, R006, R007, R009, R010, R011, and R012 were in compliance with the hourly OC emission limitations;
 - b. a log of the downtimes for the capture (collection) system, control device, and monitoring equipment when emissions units K001, K002, K004, R006, R007, R009, R010, R011, and R012 were in operation;
 - c. any time during which the temperature of the air flow leaving the oxidizer does not comply with the requirement specified in B.2; and
 - d. the time period of the regeneration cycle of the control device.
 4. The permittee shall verify, on a daily basis, that the room that houses this emissions unit is maintained under negative pressure. This testing shall be performed by the use of a velocity meter. Both the air speed and direction shall be recorded.
 5. Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created, unless otherwise specified in this permit. Support information shall include, but not be limited to, all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation and copies of all reports required by this permit. Such records may be maintained in computerized form.
- D. Reporting Requirements**
1. The permittee shall submit deviation (excursion) reports that identify the following information:
 - a. all 3-hour blocks of time during which the average combustion temperature within the thermal incinerator did not comply with the temperature limitation specified in B.1 or anytime when the temperature of the air flow leaving the oxidizer to begin the desorption cycle did not comply with the temperature limitation specified in B.2;
 - b. all days in which the regeneration cycle does not comply with the requirement specified in B.3;
 - c. any monthly record that shows an exceedance of the rolling, 12-month summation limitation specified in A.2.a; and
 - d. any daily record that shows that the room that houses this unit is not maintained under negative pressure.
 2. The permittee shall submit annual reports that specify the total combined OC emissions for emissions units K001, K002, K004, R006, R007, R009, R010, R011, and R012 for the previous calendar year. These reports shall be submitted by January 30 of each year and cover the previous calendar year.
- E. Testing Requirements**
1. Compliance with the hourly OC emission limitation in A.1.a shall be determined, if required, by emission testing pursuant to Method 25 or 25A, whichever is appropriate.
 2. Compliance with the record keeping requirements in C.1.c (OC contents) for the coatings, adhesives, and cleanup materials used in this emissions unit, shall be determined by formulation data or USEPA Method 24A.
 3. Compliance with the total combined OC emission limitation in A.2.a shall be determined by the record keeping pursuant to C.1.
 4. Compliance with the minimum overall OC control efficiency limitation and the minimum OC destruction efficiency limitation for the control device shall be determined pursuant to the methods specified in E.5.
 5. 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 two and a half years after issuance and within six months prior to expiration of this permit.
- b. The emission testing shall be conducted to demonstrate compliance with the hourly OC emission limitation and the minimum 85.5% overall control efficiency limitation for OC emissions, and shall include determinations of the capture efficiency, the adsorption/desorption system removal efficiency, and the thermal oxidizer destruction efficiency.
- c. The following test methods shall be employed to demonstrate compliance with the allowable OC emission overall control efficiency:

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, 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 of the adsorption system and thermal oxidizer system shall be conducted in accordance with the test methods and procedures specified in OAC rule 3745-21-10 and shall measure the percent reduction in mass emissions of organic compounds or organic materials between the inlet and outlet of each vapor control system. For the purpose of this testing, the sampling shall be conducted at the inlet stream to the thermal oxidizer, at the inlet stream to the adsorption/desorption system, and in the exhaust stack.

Alternative USEPA-approved test methods may be used with prior approval from Ohio EPA.

- d. Tests shall be conducted while the emissions units are operating at or near their maximum capacities, unless otherwise specified or approved by the Hamilton County Department of Environmental Services. 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 emission unit's 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 a refusal to accept the results of the emission tests by the Hamilton County Department of Environmental Services.

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 emission tests shall be signed by the person(s) 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. The permit to install for emissions units K001, K002, K004, R006, R007, R009, R010, R011 and R012 was evaluated based on the actual materials (typically coatings and cleanup materials) and the design parameters of the emissions units' 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 these emissions units 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: Cyclohexanone

TLV (mg/m3): 100,000

Maximum Hourly Emission Rate (lbs/hr): 11.98

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 336

MAGLC (ug/m3): 2381

2. Physical changes to or changes in the method of operation of this 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, 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.

3. 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.

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Facility ID: 1431483249 Emissions Unit ID: R007 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>
screen printing line with thermal oxidizer and adsorption/desorption system	OAC rule 3745-31-05(A)(3) (PTI 14-4563)	7.18 lbs of organic compounds (OC) emissions per hour* See A.2. * The hourly OC emission limit is based on the emissions unit's potential to emit. Therefore, no hourly record keeping, deviation reporting, or compliance method calculations are required to demonstrate compliance with this limit.
	OAC rule 3745-21-07(G)(2)	The control requirements specified by this rule are less stringent than the control requirements established pursuant to OAC rule 3745-31-05(A)(3).
	OAC rule 3745-21-07(G)(6)	The requirements specified by this rule are equivalent to the requirements established pursuant to OAC rule 3745-31-05(A)(3).

2. **Additional Terms and Conditions**
 - (a) The total combined OC emissions from emissions units K001, K002, K004, R006, R007, R009, R010, R011, and R012 shall not exceed 45.38 tons of OC per year as a rolling, 12-month summation. The OC emissions emitted from this emissions unit shall be vented to a control device with a minimum OC destruction efficiency of 90% by weight and an overall OC control efficiency of 85.5% by weight.

B. Operational Restrictions

1. The average combustion temperature within the thermal oxidizer, for any 3-hour block of time when this 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 emissions units K001, K002, K004, R006, R007, R009, R010, R011, and R012 were in compliance with the hourly OC emission limitations.
2. The temperature of the air flow leaving the oxidizer to begin the desorption cycle shall not be less than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated that emissions units K001, K002, K004, R006, R007, R009, R010, R011, and R012 were in compliance with the hourly OC emission limitations.

3. The time required for a complete adsorption/desorption (regeneration) cycle shall be within 5% of the average cycle time during the most recent emission test that demonstrated that emissions units K001, K002, K004, R006, R007, R009, R010, R011, and R012 were in compliance with the hourly OC emission limitations.
 4. The dryers and hoods associated with this emissions unit shall be vented directly to the control device.
 5. The room that houses this emissions unit shall be maintained at a negative pressure. All ventilation exhausts shall be vented through the control device.
- C. Monitoring and/or Record Keeping Requirements**
1. The permittee shall collect and record the following information each month for all organic compounds employed in this unit:
 - a. the name and identification of each liquid organic compound contained in coatings, adhesives, and cleanup materials employed;
 - b. the amount of each liquid organic compound employed in coatings, adhesives, and cleanup materials, in gallons;
 - c. the OC content, as applied, of each liquid organic compound employed in coatings, adhesives, and cleanup materials, in lbs of OC/gallon;
 - d. the total combined monthly OC emission (the summation of (b) multiplied by (c) for each organic compound employed in coatings, adhesives, and cleanup materials multiplied by one minus the overall fractional control efficiency established during the most recent emission test that demonstrated that emissions units K001, K002, K004, R006, R007, R009, R010, R011, and R012 were in compliance with the hourly OC emission limitations); and
 - e. the rolling, 12-month summation of OC emissions (the summation of the current month's emission total and the previous 11 months' emission total).
 2. The permittee shall operate and maintain a continuous temperature monitor and recorder that measures and records the combustion temperature within the thermal oxidizer and the temperature of the air flow leaving the oxidizer to begin the desorption cycle when the thermal oxidizer 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 and with any modifications deemed necessary by the permittee.
 3. The permittee shall collect and record the following information 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, is more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated that emissions units K001, K002, K004, R006, R007, R009, R010, R011, and R012 were in compliance with the hourly OC emission limitations;
 - b. a log of the downtimes for the capture (collection) system, control device, and monitoring equipment when emissions units K001, K002, K004, R006, R007, R009, R010, R011, and R012 were in operation;
 - c. any time during which the temperature of the air flow leaving the oxidizer does not comply with the requirement specified in B.2; and
 - d. the time period of the regeneration cycle of the control device.
 4. The permittee shall verify, on a daily basis, that the room that houses this emissions unit is maintained under negative pressure. This testing shall be performed by the use of a velocity meter. Both the air speed and direction shall be recorded.
 5. Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created, unless otherwise specified in this permit. Support information shall include, but not be limited to, all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation and copies of all reports required by this permit. Such records may be maintained in computerized form.
- D. Reporting Requirements**
1. The permittee shall submit deviation (excursion) reports that identify the following information:
 - a. all 3-hour blocks of time during which the average combustion temperature within the thermal incinerator did not comply with the temperature limitation specified in B.1 or anytime when the temperature of the air flow leaving the oxidizer to begin the desorption cycle did not comply with the temperature limitation specified in B.2;
 - b. all days in which the regeneration cycle does not comply with the requirement specified in B.3;
 - c. any monthly record that shows an exceedance of the rolling, 12-month summation limitation specified in A.2.a; and
 - d. any daily record that shows that the room that houses this unit is not maintained under negative pressure.
 2. The permittee shall submit annual reports that specify the total combined OC emissions for emissions units K001, K002, K004, R006, R007, R009, R010, R011, and R012 for the previous calendar year. These reports shall be submitted by January 30 of each year and cover the previous calendar year.
- E. Testing Requirements**
1. Compliance with the hourly OC emission limitation in A.1.a shall be determined, if required, by emission testing pursuant to Method 25 or 25A, whichever is appropriate.

2. Compliance with the record keeping requirements in C.1.c (OC contents) for the coatings, adhesives, and cleanup materials used in this emissions unit, shall be determined by formulation data or USEPA Method 24A.
3. Compliance with the total combined OC emission limitation in A.2.a shall be determined by the record keeping pursuant to C.1.
4. Compliance with the minimum overall OC control efficiency limitation and the minimum OC destruction efficiency limitation for the control device shall be determined pursuant to the methods specified in E.5.
5. 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 two and a half years after issuance and within six months prior to expiration of this permit.
 - b. The emission testing shall be conducted to demonstrate compliance with the hourly OC emission limitation and the minimum 85.5% overall control efficiency limitation for OC emissions, and shall include determinations of the capture efficiency, the adsorption/desorption system removal efficiency, and the thermal oxidizer destruction efficiency.
 - c. The following test methods shall be employed to demonstrate compliance with the allowable OC emission overall control efficiency:

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, 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 of the adsorption system and thermal oxidizer system shall be conducted in accordance with the test methods and procedures specified in OAC rule 3745-21-10 and shall measure the percent reduction in mass emissions of organic compounds or organic materials between the inlet and outlet of each vapor control system. For the purpose of this testing, the sampling shall be conducted at the inlet stream to the thermal oxidizer, at the inlet stream to the adsorption/desorption system, and in the exhaust stack.

Alternative USEPA-approved test methods may be used with prior approval from Ohio EPA.

d. Tests shall be conducted while the emissions units are operating at or near their maximum capacities, unless otherwise specified or approved by the Hamilton County Department of Environmental Services. 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 emission unit's 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 a refusal to accept the results of the emission tests by the Hamilton County Department of Environmental Services.

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 emission tests shall be signed by the person(s) 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. The permit to install for emissions units K001, K002, K004, R006, R007, R009, R010, R011 and R012 was evaluated based on the actual materials (typically coatings and cleanup materials) and the design parameters of the emissions units' 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 these emissions units 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: Cyclohexanone

TLV (mg/m3): 100,000

Maximum Hourly Emission Rate (lbs/hr): 11.98

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 336

MAGLC (ug/m3): 2381

2. Physical changes to or changes in the method of operation of this 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, 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.

- 3. 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.

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Facility ID: 1431483249 Emissions Unit ID: R010 Issuance type: Final State Permit To Operate

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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>
screen printing line with thermal oxidizer and adsorption/desorption system	OAC rule 3745-31-05(A)(3) (PTI 14-4563)	7.18 lbs of organic compounds (OC) emissions per hour* See A.2.
	OAC rule 3745-21-07(G)(2)	* The hourly OC emission limit is based on the emissions unit's potential to emit. Therefore, no hourly record keeping, deviation reporting, or compliance method calculations are required to demonstrate compliance with this limit. The control requirements specified by this rule are less stringent than the control requirements established pursuant to OAC rule 3745-31-05(A)(3).
	OAC rule 3745-21-07(G)(6)	The requirements specified by this rule are equivalent to the requirements established pursuant to OAC rule 3745-31-05(A)(3).

- 2. **Additional Terms and Conditions**
 - (a) The total combined OC emissions from emissions units K001, K002, K004, R006, R007, R009, R010, R011, and R012 shall not exceed 45.38 tons of OC per year as a rolling, 12-month summation. The OC emissions emitted from this emissions unit shall be vented to a control device with a minimum OC destruction efficiency of 90% by weight and an overall OC control efficiency of 85.5% by weight.

B. Operational Restrictions

1. The average combustion temperature within the thermal oxidizer, for any 3-hour block of time when this 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 emissions units K001, K002, K004, R006, R007, R009, R010, R011, and R012 were in compliance with the hourly OC emission limitations.
 2. The temperature of the air flow leaving the oxidizer to begin the desorption cycle shall not be less than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated that emissions units K001, K002, K004, R006, R007, R009, R010, R011, and R012 were in compliance with the hourly OC emission limitations.
 3. The time required for a complete adsorption/desorption (regeneration) cycle shall be within 5% of the average cycle time during the most recent emission test that demonstrated that emissions units K001, K002, K004, R006, R007, R009, R010, R011, and R012 were in compliance with the hourly OC emission limitations.
 4. The dryers and hoods associated with this emissions unit shall be vented directly to the control device.
 5. The room that houses this emissions unit shall be maintained at a negative pressure. All ventilation exhausts shall be vented through the control device.
- C. Monitoring and/or Record Keeping Requirements**
1. The permittee shall collect and record the following information each month for all organic compounds employed in this unit:
 - a. the name and identification of each liquid organic compound contained in coatings, adhesives, and cleanup materials employed;
 - b. the amount of each liquid organic compound employed in coatings, adhesives, and cleanup materials, in gallons;
 - c. the OC content, as applied, of each liquid organic compound employed in coatings, adhesives, and cleanup materials, in lbs of OC/gallon;
 - d. the total combined monthly OC emission (the summation of (b) multiplied by (c) for each organic compound employed in coatings, adhesives, and cleanup materials multiplied by one minus the overall fractional control efficiency established during the most recent emission test that demonstrated that emissions units K001, K002, K004, R006, R007, R009, R010, R011, and R012 were in compliance with the hourly OC emission limitations); and
 - e. the rolling, 12-month summation of OC emissions (the summation of the current month's emission total and the previous 11 months' emission total).
 2. The permittee shall operate and maintain a continuous temperature monitor and recorder that measures and records the combustion temperature within the thermal oxidizer and the temperature of the air flow leaving the oxidizer to begin the desorption cycle when the thermal oxidizer 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 and with any modifications deemed necessary by the permittee.
 3. The permittee shall collect and record the following information 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, is more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated that emissions units K001, K002, K004, R006, R007, R009, R010, R011, and R012 were in compliance with the hourly OC emission limitations;
 - b. a log of the downtimes for the capture (collection) system, control device, and monitoring equipment when emissions units K001, K002, K004, R006, R007, R009, R010, R011, and R012 were in operation;
 - c. any time during which the temperature of the air flow leaving the oxidizer does not comply with the requirement specified in B.2; and
 - d. the time period of the regeneration cycle of the control device.
 4. The permittee shall verify, on a daily basis, that the room that houses this emissions unit is maintained under negative pressure. This testing shall be performed by the use of a velocity meter. Both the air speed and direction shall be recorded.
 5. Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created, unless otherwise specified in this permit. Support information shall include, but not be limited to, all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation and copies of all reports required by this permit. Such records may be maintained in computerized form.
- D. Reporting Requirements**
1. The permittee shall submit deviation (excursion) reports that identify the following information:
 - a. all 3-hour blocks of time during which the average combustion temperature within the thermal incinerator did not comply with the temperature limitation specified in B.1 or anytime when the temperature of the air flow leaving the oxidizer to begin the desorption cycle did not comply with the temperature limitation specified in B.2;
 - b. all days in which the regeneration cycle does not comply with the requirement specified in B.3;
 - c. any monthly record that shows an exceedance of the rolling, 12-month summation limitation specified in A.2.a; and

d. any daily record that shows that the room that houses this unit is not maintained under negative pressure.

2. The permittee shall submit annual reports that specify the total combined OC emissions for emissions units K001, K002, K004, R006, R007, R009, R010, R011, and R012 for the previous calendar year. These reports shall be submitted by January 30 of each year and cover the previous calendar year.

E. Testing Requirements

1. Compliance with the hourly OC emission limitation in A.1.a shall be determined, if required, by emission testing pursuant to Method 25 or 25A, whichever is appropriate.
2. Compliance with the record keeping requirements in C.1.c (OC contents) for the coatings, adhesives, and cleanup materials used in this emissions unit, shall be determined by formulation data or USEPA Method 24A.
3. Compliance with the total combined OC emission limitation in A.2.a shall be determined by the record keeping pursuant to C.1.
4. Compliance with the minimum overall OC control efficiency limitation and the minimum OC destruction efficiency limitation for the control device shall be determined pursuant to the methods specified in E.5.
5. 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 two and a half years after issuance and within six months prior to expiration of this permit.
 - b. The emission testing shall be conducted to demonstrate compliance with the hourly OC emission limitation and the minimum 85.5% overall control efficiency limitation for OC emissions, and shall include determinations of the capture efficiency, the adsorption/desorption system removal efficiency, and the thermal oxidizer destruction efficiency.
 - c. The following test methods shall be employed to demonstrate compliance with the allowable OC emission overall control efficiency:

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, 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 of the adsorption system and thermal oxidizer system shall be conducted in accordance with the test methods and procedures specified in OAC rule 3745-21-10 and shall measure the percent reduction in mass emissions of organic compounds or organic materials between the inlet and outlet of each vapor control system. For the purpose of this testing, the sampling shall be conducted at the inlet stream to the thermal oxidizer, at the inlet stream to the adsorption/desorption system, and in the exhaust stack.

Alternative USEPA-approved test methods may be used with prior approval from Ohio EPA.

d. Tests shall be conducted while the emissions units are operating at or near their maximum capacities, unless otherwise specified or approved by the Hamilton County Department of Environmental Services. 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 emission unit's 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 a refusal to accept the results of the emission tests by the Hamilton County Department of Environmental Services.

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 emission tests shall be signed by the person(s) 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. The permit to install for emissions units K001, K002, K004, R006, R007, R009, R010, R011 and R012 was evaluated based on the actual materials (typically coatings and cleanup materials) and the design parameters of the emissions units' 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 these emissions units 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: Cyclohexanone

TLV (mg/m3): 100,000

Maximum Hourly Emission Rate (lbs/hr): 11.98

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 336

MAGLC (ug/m3): 2381

2. Physical changes to or changes in the method of operation of this 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, 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.
3. 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.