State of Ohio Environmental Protection Agency

Street Address:
Lazarus Gov. Center
122 S. Front Street
Columbus, OH 43215

TELE: (614) 644-3020 **FAX:** (614) 644-2329

Mailing Address:
Lazarus Gov. Center
P.O. Box 1049
Columbus, OH 43216-1049

03/27/02

CERTIFIED MAIL

RE: Final Title V Chapter 3745-77 permit

02-85-03-0295
Metromedia Technologies, Inc.
Ralph A Gillota
1061 Venture Boulevard
Wooster, OH 44691

Dear Ralph A Gillota:

Enclosed is the Title V permit that allows you to operate the facility in the manner indicated in the permit. Because this permit may contain several conditions and restrictions, we urge you to read it carefully.

The Ohio EPA is encouraging companies to investigate pollution prevention and energy conservation. Not only will this reduce pollution and energy consumption, but it can also save you money. If you would like to learn ways you can save money while protecting the environment, please contact our Office of Pollution Prevention at (614) 644-3469.

You are hereby notified that this action of the Director is final and may be appealed to the Environmental Review Appeals Commission pursuant to Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. It must be filed with the Environmental Review Appeals Commission within thirty (30) days after notice of the Director's action. A copy of the appeal must be served on the Director of the Ohio Environmental Protection Agency within three (3) days of filing with the Commission. It is also requested by the Director that a copy of the appeal be served upon the Environmental Enforcement Section of the Office of the Attorney General. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission
236 East Town Street
Room 300
Columbus, Ohio 43215

If you have any questions, please contact Northeast District Office.

Very truly yours,

Thomas G. Rigo

Thomas G. Rigo, Manager
Field Operations and Permit Section
Division of Air Pollution Control

cc: Northeast District Office
File, DAPC PMU

State of Ohio Environmental Protection Agency

FINAL TITLE V PERMIT

Issue Date: **03/27/02**	Effective Date: **03/27/02**	Expiration Date: **03/27/07**

This document constitutes issuance of a Title V permit for Facility ID: 02-85-03-0295 to:
Metromedia Technologies, Inc.
2110 East Aurora Road
Twinsburg, OH 44087

Emissions Unit ID (Company ID)/Emissions Unit Activity Description

R001 (R001)
R001 - Ink Jet Printing Machine

R002 (R002)
R002 - Ink Jet Printing Machine

R003 (R003)
R003 - Ink Jet Printing Machine

R004 (R004)
R004 - Ink Jet Printing Machine

R005 (R005)
R005 - Ink Jet Printing Machine

R006 (R006)
R006 - Ink Jet Printing Machine

R007 (R007)
R007 - Ink Jet Printing Machine

R008 (R008)
R008 - Ink Jet Printing Machine

R009 (R009)
R009 - Ink Jet Printing Machine

R010 (R010)
R010 - Ink Jet Printing Machine

R011 (R011)
R011 - Ink Jet Printing Machine

R012 (R012)
R012 - Ink Jet Printing Machine

R013 (R013)
R013 - Ink Jet Printing Machine

R014 (R014)
R014 - Ink Jet Printing Machine

R015 (R015)
R015 - Ink Jet Printing Machine

R016 (R016)
R016 - Ink Jet Printing Machine

R017 (R017)
R017 - Ink Jet Printing Machine

R018 (R018)
R018 - Ink Jet Printing Machine

R019 (R019)
R019 - Ink Jet Printing Machine

R020 (R020)
R020 - Ink Jet Printing Machine

R021 (R021)
R021 - Ink Jet Printing Machine

R022 (R022)
R022 - Ink Jet Printing Machine

R023 (R023)
R023 - Ink Jet Printing Machine

R024 (R024)
R024 - Ink Jet Printing Machine

You will be contacted approximately eighteen (18) months prior to the expiration date regarding the renewal of this permit. If you are not contacted, please contact the appropriate Ohio EPA District Office or local air agency listed below. This permit and the authorization to operate the air contaminant sources (emissions units) at this facility shall expire at midnight on the expiration date shown above. If a renewal permit is not issued prior to the expiration date, the permittee may continue to operate pursuant to OAC rule 3745-77-08(E) and in accordance with the terms of this permit beyond the expiration date, provided that a complete renewal application is submitted no earlier than eighteen (18) months and no later than one-hundred eighty (180) days prior to the expiration date.

Described below is the current Ohio EPA District Office or local air agency that is responsible for processing and administering your Title V permit:

Northeast District Office
(330) 425-9171

OHIO ENVIRONMENTAL PROTECTION AGENCY

Christopher Jones
Director

PART I - GENERAL TERMS AND CONDITIONS

A. State and Federally Enforceable Section

1. Monitoring and Related Record Keeping and Reporting Requirements

a. Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall maintain records that include the following, where applicable, for any required monitoring under this permit:

i. The date, place (as defined in the permit), and time of sampling or measurements.
ii. The date(s) analyses were performed.
iii. The company or entity that performed the analyses.
iv. The analytical techniques or methods used.
v. The results of such analyses.
vi. The operating conditions existing at the time of sampling or measurement.
(Authority for term: OAC rule 3745-77-07(A)(3)(b)(i))

b. 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. Support information shall include 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.
(Authority for term: OAC rule 3745-77-07(A)(3)(b)(ii))

c. Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall submit required reports in the following manner:

i. Reports of any required monitoring and/or record keeping information shall be submitted to the appropriate Ohio EPA District Office or local air agency.
(Authority for term: OAC rule 3745-77-07(A)(3)(c))
ii. Quarterly written reports of (i) any deviations from federally enforceable <u>emission limitations</u>, <u>operational restrictions</u>, <u>and control device operating parameter limitations</u>, excluding deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06, that have been detected by the testing, monitoring and record keeping requirements specified in this permit, (ii) the probable cause of such deviations, and (iii) any corrective actions or preventive measures taken, shall be promptly made to the appropriate Ohio EPA District Office or local air agency. These quarterly written reports shall satisfy the requirements (in part) of OAC rule 3745-77-07(A)(3)(c)(i) and (ii) pertaining to the submission of monitoring reports every six months and the requirements of OAC rule 3745-77-07(A)(3)(c)(iii) pertaining to the prompt reporting of all deviations except malfunctions, which shall be reported in accordance with OAC rule 3745-15-06. The written reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.) See B.6 below if no deviations occurred during the quarter.

(Authority for term: OAC rules 3745-77-07(A)(3)(c)(i) and (ii))

iii. Written reports, which identify any deviations from the federally enforceable monitoring, record keeping, and reporting requirements contained in this permit shall be submitted to the appropriate Ohio EPA District Office or local air agency every six months, i.e., by January 31 and July 31 of each year for the previous six calendar months. These semi-annual written reports shall satisfy the requirements of OAC rule 3745-77-07(A)(3)(c)(i) and (ii) pertaining to the reporting of any deviations related to the monitoring, record keeping, and reporting requirements. If no deviations occurred during a six-month period, the permittee shall submit a semi-annual report, which states that no deviations occurred during that period.
(Authority for term: OAC rules 3745-77-07(A)(3)(c)(i) and (ii))

iv. Each written report shall be signed by a responsible official certifying that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.
(Authority for term: OAC rule 3745-77-07(A)(3)(c)(iv))

2. Scheduled Maintenance/Malfunction Reporting

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction, i.e., upset condition, of any emissions unit(s) or any associated air pollution control system(s) shall be reported to the appropriate Ohio EPA District Office or local air agency in accordance with paragraph (B) of OAC rule 3745-15-06. (The definition of an upset condition shall be the same as that used in OAC rule 3745-15-06(B)(1) for a malfunction.) The verbal and written reports submitted pursuant to OAC rule 3745-15-06 shall satisfy the requirements of OAC rule 3745-77-07(A)(3)(c)(iii) pertaining to the prompt reporting of deviations caused by malfunctions or upset conditions.

Except as provided in OAC rule 3745-15-06, any scheduled maintenance or malfunction necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emissions unit(s) that is (are) served by such control system(s).
(Authority for term: OAC rule 3745-77-07(A)(3)(c)(iii))

3. Risk Management Plans

If the permittee is required to develop and register a risk management plan pursuant to section 112(r) of the Clean Air Act, as amended, 42 U.S.C. 7401 et seq. ("Act"), the permittee shall comply with the requirement to register such a plan.
(Authority for term: OAC rule 3745-77-07(A)(4))

4. Title IV Provisions

If the permittee is subject to the requirements of 40 CFR Part 72 concerning acid rain, the permittee shall ensure that any affected emissions unit complies with those requirements. Emissions exceeding any allowances that are lawfully held under Title IV of the Act, or any regulations adopted thereunder, are prohibited.
(Authority for term: OAC rule 3745-77-07(A)(5))

5. Severability Clause

A determination that any term or condition of this permit is invalid shall not invalidate the force or effect of any other term or condition thereof, except to the extent that any other term or condition depends in whole or in part for its operation or implementation upon the term or condition declared invalid.
(Authority for term: OAC rule 3745-77-07(A)(6))

6. General Requirements

a. The permittee must comply with all terms and conditions of this permit. Any noncompliance with the federally enforceable terms and conditions of this permit constitutes a violation of the Act, and is grounds for enforcement action or for permit revocation, revocation and reissuance, or modification, or for denial of a permit renewal application.

b. It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the federally enforceable terms and conditions of this permit.

c. This permit may be modified, reopened, revoked, or revoked and reissued, for cause, in accordance with A.10 below. The filing of a request by the permittee for a permit modification, revocation and reissuance, or revocation, or of a notification of planned changes or anticipated noncompliance does not stay any term and condition of this permit.

d. This permit does not convey any property rights of any sort, or any exclusive privilege.

e. The permittee shall furnish to the Director of the Ohio EPA, or an authorized representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying, reopening or revoking this permit or to determine compliance with this permit. Upon request, the permittee shall also furnish to the Director or an authorized representative of the Director, copies of records required to be kept by this permit. For information claimed to be confidential in the submittal to the Director, if the Administrator of the U.S. EPA requests such information, the permittee may furnish such records directly to the Administrator along with a claim of confidentiality.

(Authority for term: OAC rule 3745-77-07(A)(7))

7. Fees

The permittee shall pay fees to the Director of the Ohio EPA in accordance with ORC section 3745.11 and OAC Chapter 3745-78.
(Authority for term: OAC rule 3745-77-07(A)(8))

8. Marketable Permit Programs

No revision of this permit is required under any approved economic incentive, marketable permits, emissions trading, and other similar programs or processes for changes that are provided for in this permit.
(Authority for term: OAC rule 3745-77-07(A)(9))

9. Reasonably Anticipated Operating Scenarios

The permittee is hereby authorized to make changes among operating scenarios authorized in this permit without notice to the Ohio EPA, but, contemporaneous with making a change from one operating scenario to another, the permittee must record in a log at the permitted facility the scenario under which the permittee is operating. The permit shield provided in these general terms and conditions shall apply to all operating scenarios authorized in this permit.
(Authority for term: OAC rule 3745-77-07(A)(10))

10. Reopening for Cause

This Title V permit will be reopened prior to its expiration date under the following conditions:

a. Additional applicable requirements under the Act become applicable to one or more emissions units covered by this permit, and this permit has a remaining term of three or more years. Such a reopening shall be completed not later than eighteen (18) months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to paragraph (E)(1) of OAC rule 3745-77-08.

b. This permit is issued to an affected source under the acid rain program and additional requirements (including excess emissions requirements) become applicable. Upon approval by the Administrator, excess emissions offset plans shall be deemed to be incorporated into the permit, and shall not require a reopening of this permit.

c. The Director of the Ohio EPA or the Administrator of the U.S. EPA determines that the federally applicable requirements in this permit are based on a material mistake, or that inaccurate statements were made in establishing the emissions standards or other terms and conditions of this permit related to such federally applicable requirements.

d. The Administrator of the U.S. EPA or the Director of the Ohio EPA determines that this permit must be revised or revoked to assure compliance with the applicable requirements.

(Authority for term: OAC rules 3745-77-07(A)(12) and 3745-77-08(D))

11. Federal and State Enforceability

Only those terms and conditions designated in this permit as federally enforceable, that are required under the Act, or any of its applicable requirements, including relevant provisions designed to limit the potential to emit of a source, are enforceable by the Administrator of the U.S. EPA, the State, and citizens under the Act. All other terms and conditions of this permit shall not be federally enforceable and shall be enforceable under State law only.
(Authority for term: OAC rule 3745-77-07(B))

12. Compliance Requirements

a. Any document (including reports) required to be submitted and required by a federally applicable requirement in this Title V permit shall include a certification by a responsible official that, based

on information and belief formed after reasonable inquiry, the statements in the document are true, accurate, and complete.

b. Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Director of the Ohio EPA or an authorized representative of the Director to:

   i. At reasonable times, enter upon the permittee's premises where a source is located or the emissions-related activity is conducted, or where records must be kept under the conditions of this permit.
   ii. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit, subject to the protection from disclosure to the public of confidential information consistent with paragraph (E) of OAC rule 3745-77-03.
   iii. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.
   iv. As authorized by the Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit and applicable requirements.

c. The permittee shall submit progress reports to the appropriate Ohio EPA District Office or local air agency concerning any schedule of compliance for meeting an applicable requirement. Progress reports shall be submitted semiannually, or more frequently if specified in the applicable requirement or by the Director of the Ohio EPA. Progress reports shall contain the following:

   i. Dates for achieving the activities, milestones, or compliance required in any schedule of compliance, and dates when such activities, milestones, or compliance were achieved.
   ii. An explanation of why any dates in any schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.

d. Compliance certifications concerning the terms and conditions contained in this permit that are federally enforceable emission limitations, standards, or work practices, shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) and the Administrator of the U.S. EPA in the following manner and with the following content:

   i. Compliance certifications shall be submitted annually on a calendar year basis. The annual certification shall be submitted on or before April 30th of each year during the permit term.
   ii. Compliance certifications shall include the following:
      (a) An identification of each term or condition of this permit that is the basis of the certification.
      (b) The permittee's current compliance status.
      (c) Whether compliance was continuous or intermittent.
      (d) The method(s) used for determining the compliance status of the source currently and over the required reporting period.

(e) Such other facts as the Director of the Ohio EPA may require in the permit to determine the compliance status of the source.

iii. Compliance certifications shall contain such additional requirements as may be specified pursuant to sections 114(a)(3) and 504(b) of the Act.

(Authority for term: OAC rules 3745-77-07(C)(1),(2),(4) and (5) and ORC section 3704.03(L))

13. Permit Shield

a. Compliance with the terms and conditions of this permit (including terms and conditions established for alternate operating scenarios, emissions trading, and emissions averaging, but excluding terms and conditions for which the permit shield is expressly prohibited under OAC rule 3745-77-07) shall be deemed compliance with the applicable requirements identified and addressed in this permit as of the date of permit issuance.

b. This permit shield provision shall apply to any requirement identified in this permit pursuant to OAC rule 3745-77-07(F)(2), as a requirement that does not apply to the source or to one or more emissions units within the source.

(Authority for term: OAC rule 3745-77-07(F))

14. Operational Flexibility

The permittee is authorized to make the changes identified in OAC rule 3745-77-07(H)(1)(a) to (H)(1)(c) within the permitted stationary source without obtaining a permit revision, if such change is not a modification under any provision of Title I of the Act [as defined in OAC rule 3745-77-01(JJ)], and does not result in an exceedance of the emissions allowed under this permit (whether expressed therein as a rate of emissions or in terms of total emissions), and the permittee provides the Administrator of the U.S. EPA and the appropriate Ohio EPA District Office or local air agency with written notification within a minimum of seven days in advance of the proposed changes, unless the change is associated with, or in response to, emergency conditions. If less than seven days notice is provided because of a need to respond more quickly to such emergency conditions, the permittee shall provide notice to the Administrator of the U.S. EPA and the appropriate District Office of the Ohio EPA or local air agency as soon as possible after learning of the need to make the change. The notification shall contain the items required under OAC rule 3745-77-07(H)(2)(d).

(Authority for term: OAC rules 3745-77-07(H)(1) and (2))

15. Emergencies

The permittee shall have an affirmative defense of emergency to an action brought for noncompliance with technology-based emission limitations if the conditions of OAC rule 3745-77-07(G)(3) are met. This emergency defense provision is in addition to any emergency or upset provision contained in any applicable requirement.

(Authority for term: OAC rule 3745-77-07(G))

16. Off-Permit Changes

The owner or operator of a Title V source may make any change in its operations or emissions at the source that is not specifically addressed or prohibited in the Title V permit, without obtaining an amendment or modification of the permit, provided that the following conditions are met:

a. The change does not result in conditions that violate any applicable requirements or that violate any existing federally enforceable permit term or condition;

b. The permittee provides contemporaneous written notice of the change to the Director and the Administrator of the U.S. EPA, except that no such notice shall be required for changes that qualify as insignificant emission levels or activities as defined in OAC rule 3745-77-01(U). Such written notice shall describe each such change, the date of such change, any change in emissions or pollutants emitted, and any federally applicable requirement that would apply as a result of the change;

c. The change shall not qualify for the permit shield under OAC rule 3745-77-07(F);

d. The permittee shall keep a record describing all changes made at the source that result in emissions of a regulated air pollutant subject to an applicable requirement, but not otherwise regulated under the permit, and the emissions resulting from those changes; and

e. The change is not subject to any applicable requirement under Title IV of the Act or is not a modification under any provision of Title I of the Act.

Paragraph (I) of rule 3745-77-07 of the Administrative Code applies only to modification or amendment of the permittee's Title V permit. The change made may require a permit to install under Chapter 3745-31 of the Administrative Code if the change constitutes a modification as defined in that Chapter. Nothing in paragraph (I) of rule 3745-77-07 of the Administrative Code shall affect any applicable obligation under Chapter 3745-31 of the Administrative Code.

(For purposes of clarification, the permittee can refer to Engineering Guide #63 that is available in the STARSHIP software package.)
(Authority for term: OAC rule 3745-77-07(I))

17. Compliance Method Requirements

Nothing in this permit shall alter or affect the ability of any person to establish compliance with, or a violation of, any applicable requirement through the use of credible evidence to the extent authorized by law. Nothing in this permit shall be construed to waive any defenses otherwise available to the permittee, including but not limited to, any challenge to the Credible Evidence Rule (see 62 Fed. Reg. 8314, Feb. 24, 1997), in the context of any future proceeding.
(This term is provided for informational purposes only.)

18. Insignificant Activities

Each insignificant activity that has one or more applicable requirements shall comply with those applicable requirements.
(Authority for term: OAC rule 3745-77-07(A)(1))

19. Permit to Install Requirement

Prior to the "installation" or "modification" of any "air contaminant source," as those terms are defined in OAC rule 3745-31-01, a permit to install must be obtained from the Ohio EPA pursuant to OAC Chapter 3745-31.
(Authority for term: OAC rule 3745-77-07(A)(1))

20. Air Pollution Nuisance
The air contaminants emitted by the emissions units covered by this permit shall not cause a public nuisance, in violation of OAC rule 3745-15-07.
(Authority for term: OAC rule 3745-77-07(A)(1))

B. *State Only Enforceable Section*

1. Reporting Requirements Related to Monitoring and Record Keeping Requirements

The permittee shall submit required reports in the following manner:

a. Reports of any required monitoring and/or record keeping information shall be submitted to the appropriate Ohio EPA District Office or local air agency.

b. Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursions) from emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and record keeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the appropriate Ohio EPA District Office or local air agency. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

2. Records Retention Requirements
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. 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.

3. Inspections and Information Requests
The Director of the Ohio EPA, or an authorized representative of the Director, may, subject to the safety requirements of the permittee and without undue delay, enter upon the premises of this source at any reasonable time for purposes of making inspections, conducting tests, examining records or reports pertaining to any emission of air contaminants, and determining compliance with any applicable State air pollution laws and regulations and the terms and conditions of this permit. The permittee shall furnish to the Director of the Ohio EPA, or an authorized representative of the Director, upon receipt of a

written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying, reopening or revoking this permit or to determine compliance with this permit. Upon verbal or written request, the permittee shall also furnish to the Director of the Ohio EPA, or an authorized representative of the Director, copies of records required to be kept by this permit.

4. Scheduled Maintenance/Malfunction Reporting

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction of any emissions units or any associated air pollution control system(s) shall be reported to the appropriate Ohio EPA District Office or local air agency in accordance with paragraph (B) of OAC rule 3745-15-06. Except as provided in that rule, any scheduled maintenance or malfunction necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emissions unit(s) that is (are) served by such control system(s).

5. Permit Transfers

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The appropriate Ohio EPA District Office or local air agency must be notified in writing of any transfer of this permit.

6. Additional Reporting Requirements When There Are No Deviations of <u>Federally Enforceable</u> Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations (See Section A of This Permit)

If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters.

Part II - Specific Facility Terms and Conditions

A. State and Federally Enforcable Section

None

B. State Only Enforceable Section

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: R001 (R001)

Activity Description: R001 - Ink Jet Printing Machine

A. State and Federally Enforceable Section

I. 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
R001 - Ink Jet Printer (53.1 feet long by 17.3 feet wide) and corresponding mixing operations, controlled by a 38,000 scfm Regensorb system	OAC rule 3745-21-07(G)	The requirements of this rule are less stringent than the requirements established pursuant to OAC rule 3745-31-05(A)(3).
	OAC rule 3745-31-05(A)(3) (PTI # 02-2791)	See A.I.2.a and A.I.2.b.

2. Additional Terms and Conditions

2.a. The organic compounds emitted from this emissions unit shall be vented to a control device (a VOC concentrator and a thermal oxidizer) with a minimum capture efficiency of 90%, by weight, and a minimum destruction efficiency of 95%, by weight.

2.b The emissions from emissions units R001 - R024, combined, shall not exceed 28.8 pounds OC per hour and 126 tons OC per year. The hourly limitation is based on the emissions units' potential to emit after applying an 85.5% overall control efficiency. Therefore, no hourly record keeping and deviation reporting are required to demonstrate compliance with this limitation.

II. Operational Restrictions

1. 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 more than 50 degrees Fahrenheit below the average temperature during the most recent emissions test that demonstrated the emissions unit was in compliance.

2. The set point for the desorption air stream temperature shall be maintained at or above the temperature established during the most recent emissions test that demonstrated the emissions unit was in compliance. The temperature of the desorption air stream during the regeneration cycle shall not be more than 50 degrees Fahrenheit below this set point. An audible alarm shall be activated whenever the temperature of the desorption air stream is more than 50 degrees Fahrenheit below the set point.

3. The set point for the regeneration cycle time shall be maintained at the value established during the most recent emissions test that demonstrated the emissions unit was in compliance. The permittee shall maintain the duration of each regeneration cycle within 5 percent of the set point. An audible alarm shall be activated whenever the duration of each regeneration cycle is not within 5 percent of the set point.

II. Operational Restrictions (continued)

4. The operation of the control equipment outside of the restrictions established above may or may not indicate a mass emission violation. If required by the Ohio EPA, compliance with the mass emission limitations shall be determined by performing concurrent mass emission tests and parameter readings, using US EPA-approved methods and procedures. The results of any required emission tests and parameter readings shall be used in determining whether or not the operation of the control equipment outside of the restrictions specified above is indicative of a possible violation of the mass emission limitations.

5. Any malfunction, as defined in OAC rule 3745-15-06(B)(1), shall be reported to the Northeast District Office in accordance with OAC rule 3745-15-06(B). Parameter deviations due to such malfunctions, that comply with the requirements of OAC rule 3745-15-06(B), do not constitute violations of the operational restrictions for this emissions unit.

III. Monitoring and/or Record Keeping Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.III.2 and A.III.3. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

2. The permittee shall operate and maintain continuous temperature and time monitors that measure the following when the emissions unit is in operation:

a. the temperature of the exhaust gases in the combustion zone of the thermal oxidizer;

b. the temperature of the desorption air stream entering the concentrator; and

c. the duration of each regeneration cycle for the concentrator.

The permittee shall operate a continuous temperature recorder for the temperature of the exhaust gases in the combustion zone of the thermal oxidizer, and record the temperature when the emissions unit is in operation.

Units shall be in degrees Fahrenheit and minutes. The accuracy for each thermocouple, monitor, clock, and recorder shall be guaranteed by the manufacturer to be within 1 percent of the temperature/time being measured or 5 degrees Fahrenheit/ 0.5 minute, whichever is greater. The temperature monitors and recorders shall be calibrated, operated, and maintained in accordance with the manufacturers' recommendations, instructions and operating manuals.

3. Within 60 days from the effective date of this permit, the permittee shall install and thereafter operate and maintain audible alarms for deviations in the temperature of the desorption air stream entering the concentrator and the duration of each regeneration cycle for the concentrator. The set points and alarm activation levels shall be set at the values specified in A.II.2 and A.II.3 above.

The permittee shall maintain a log of each instance when an audible alarm is activated, the cause of the alarm, the time interval of the deviation, the magnitude of the deviation (in degrees Fahrenheit and/or in minutes, as applicable), and the corrective action taken to restore the correct operational parameters.

4. The permittee shall maintain a log or record of operating time for the capture (collection) system control devices, monitoring equipment, and the associated emissions unit.

5. On each day of operation of the control system for this emissions unit, the permittee shall record the set points and alarm activation levels, and the corresponding values of temperature and time duration. At least once per calendar month, the permittee shall calibrate the set points and alarm activations levels and maintain records of the results of each calibration.

III. Monitoring and/or Record Keeping Requirements (continued)

6. The permittee shall collect and record the following information each month for all the coatings, inks, and cleanup materials employed in emissions units R001-R024:

a. the name and identification of each coating, ink, and cleanup material employed;

b. the amount of each coating, ink, and cleanup material employed, in gallons;

c. the OC content of each coating, ink, and cleanup material employed, in lbs OC/gallon;

d. the OC emissions from each coating, ink, and cleanup material employed (i.e., (b) x (c) x (1 - the retention factor determined in the BAT study (factor varies from 0 - 5% max for non-vinyl substrate)) x (1 - the overall control efficiency established during the most recent emission test that demonstrated the emissions unit was in compliance); and

e. the total monthly OC emissions from all coatings, inks, and cleanup materials (the summation of all the emissions determined in (d)).

This information does not have to be kept on a line-by-line basis.

IV. Reporting Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.IV.2., A.IV.3., and A.IV.4. The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

2. The permittee shall submit quarterly temperature/time deviation (excursion) reports that identify:

a. all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer was more than 50 degrees Fahrenheit below the average temperature during the most recent emissions test that demonstrated the emissions unit was in compliance;

b. all instances when the set points and alarm activation levels for the temperature of the desorption air stream prior to the concentrator did not comply with the limitations specified in section A.II.2, based on the records maintained pursuant to section A.III.5 of these terms and conditions, and the magnitude of each deviation;

c. all instances when the set points and alarm activation levels for the duration of the regeneration cycle did not comply with the limitations specified in section A.II.3, based on the records maintained pursuant to section A.III.5 of these terms and conditions, and the magnitude of each deviation; and

d. all instances when an audible alarm was activated, the cause of each alarm (if known), the time interval of the deviation, the magnitude of the deviation (in degrees Fahrenheit and/or in minutes, as applicable), and the corrective action taken to restore the correct operating parameters

The reporting requirements for 2.b, 2.c and 2.d shall begin not later than 60 days following the effective date of this permit.

3. If no deviations occurred during a reporting period, then a quarterly report shall be submitted by the permittee stating so. The permittee shall submit the reports to the Director (Ohio EPA, Northeast District Office). Refer to General Term and Condition A.1.c for the deviation report due dates.

4. The permittee shall submit annual reports that specify the total OC emissions for emissions units R001-R024, combined, for the previous calendar year. These reports shall be submitted to the Director (Ohio Environmental Protection Agency, Northeast District Office) by January 30 of each year and shall cover the previous calendar year.

V. Testing Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.V.2., A.V.3., and A.V.4. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

2. Compliance with the emission limitation(s) in Section A.I. of these terms and conditions shall be determined in accordance with the following method(s):

Emission Limitation:
Minimum 90% (by weight) Capture Efficiency & 95% (by weight) Destruction Efficiency

Applicable Compliance Method:
OAC rule 3745-21-10(B). See A.V.3. USEPA Method 24A (for coatings, inks and cleanup materials) shall be used to determine the organic compound contents of the coatings, inks, and cleanup materials.

3. The permittee shall conduct, or have conducted, emissions testing for this emissions unit in accordance with the following requirements.

a. The emissions testing shall be conducted to demonstrate compliance with the capture and destruction efficiency requirements specified in Section A.I.2.a., to establish the average combustion temperature within the thermal oxidizer, to establish the temperature of the air flow entering the concentrator for the desorption cycle, and to establish the time period for the regeneration cycle.

b. The emission testing shall be conducted after 2.5 years from the effective date of this permit and 6 months prior to permit renewal. The permittee has demonstrated initial compliance during emission testing conducted on June 30, 1999.

c. The capture efficiency shall be determined using Method 204, as specified in 40 CFR Part 51, Appendix M, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency in accordance with the USEPA's "Guidelines for Determining Capture Efficiency", dated January 9, 1995. Written approval from USEPA must be obtained prior to 30 days before the scheduled test date if an alternative method is to be used. Alternative USEPA approved test methods may be used with prior approval from the Ohio EPA.

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 an approved alternative test protocol. 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. Alternative USEPA approved test methods may be used with prior approval from the Ohio EPA.

d. The test(s) shall be conducted while emissions units R001 - R024 are operating at or near their maximum capacities, unless otherwise specified or approved by the Ohio EPA, Northeast District Office.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test' notification to the Ohio EPA, Northeast District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions units 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 Northeast District Office's refusal to accept the results of the emissions test(s).

Personnel from the Ohio EPA Northeast District Office 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.

V. Testing Requirements (continued)

f. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the test and submitted to the Ohio EPA Northeast District Office 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 Ohio EPA Northeast District Office.

g. The VOC content of each coating, ink, and cleanup material used shall be based upon the use of USEPA Method 24.

4. Emission Limitation:
28.8 pounds OC per hour and 126 tons per year for emission units R001-R024, combined

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be based upon emission tests performed in accordance with the methods and procedures specified in A.V.3. Compliance with the annual emission limitation shall be based upon the record keeping in A.III.6.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. 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
R001 - Ink Jet Printer (53.1 feet long by 17.3 feet wide) and corresponding mixing operations, controlled by a 38,000 scfm Regensorb system		

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

1. The permit to install for emission units R001 - R024, combined, 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 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: MIBK

TLV (mg/m3): 205,00

Maximum Hourly Emission Rate (lbs/hr): 28.8

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 11.17

MAGLC (ug/m3): 4880

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 still 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:

III. Monitoring and/or Record Keeping Requirements (continued)

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.

2. 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.

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: R002 (R002)

Activity Description: R002 - Ink Jet Printing Machine

A. State and Federally Enforceable Section

I. 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
R002 - Ink Jet Printer (53.1 feet long by 17.3 feet wide) and corresponding mixing operations, controlled by a 38,000 scfm Regensorb system	OAC rule 3745-21-07(G)	The requirements of this rule are less stringent than the requirements established pursuant to OAC rule 3745-31-05(A)(3).
	OAC rule 3745-31-05(A)(3) (PTI # 02-2791)	See A.I.2.a and A.I.2.b.

2. Additional Terms and Conditions

2.a. The organic compounds emitted from this emissions unit shall be vented to a control device (a VOC concentrator and a thermal oxidizer) with a minimum capture efficiency of 90%, by weight, and a minimum destruction efficiency of 95%, by weight.

2.b The emissions from emissions units R001 - R024, combined, shall not exceed 28.8 pounds OC per hour and 126 tons OC per year. The hourly limitation is based on the emissions units' potential to emit after applying an 85.5% overall control efficiency. Therefore, no hourly record keeping and deviation reporting are required to demonstrate compliance with this limitation.

II. Operational Restrictions

1. 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 more than 50 degrees Fahrenheit below the average temperature during the most recent emissions test that demonstrated the emissions unit was in compliance.

2. The set point for the desorption air stream temperature shall be maintained at or above the temperature established during the most recent emissions test that demonstrated the emissions unit was in compliance. The temperature of the desorption air stream during the regeneration cycle shall not be more than 50 degrees Fahrenheit below this set point. An audible alarm shall be activated whenever the temperature of the desorption air stream is more than 50 degrees Fahrenheit below the set point.

3. The set point for the regeneration cycle time shall be maintained at the value established during the most recent emissions test that demonstrated the emissions unit was in compliance. The permittee shall maintain the duration of each regeneration cycle within 5 percent of the set point. An audible alarm shall be activated whenever the duration of each regeneration cycle is not within 5 percent of the set point.

II. Operational Restrictions (continued)

4. The operation of the control equipment outside of the restrictions established above may or may not indicate a mass emission violation. If required by the Ohio EPA, compliance with the mass emission limitations shall be determined by performing concurrent mass emission tests and parameter readings, using US EPA-approved methods and procedures. The results of any required emission tests and parameter readings shall be used in determining whether or not the operation of the control equipment outside of the restrictions specified above is indicative of a possible violation of the mass emission limitations.

5. Any malfunction, as defined in OAC rule 3745-15-06(B)(1), shall be reported to the Northeast District Office in accordance with OAC rule 3745-15-06(B). Parameter deviations due to such malfunctions, that comply with the requirements of OAC rule 3745-15-06(B), do not constitute violations of the operational restrictions for this emissions unit.

III. Monitoring and/or Record Keeping Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.III.2 and A.III.3. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

2. The permittee shall operate and maintain continuous temperature and time monitors that measure the following when the emissions unit is in operation:

a. the temperature of the exhaust gases in the combustion zone of the thermal oxidizer;

b. the temperature of the desorption air stream entering the concentrator; and

c. the duration of each regeneration cycle for the concentrator.

The permittee shall operate a continuous temperature recorder for the temperature of the exhaust gases in the combustion zone of the thermal oxidizer, and record the temperature when the emissions unit is in operation.

Units shall be in degrees Fahrenheit and minutes. The accuracy for each thermocouple, monitor, clock, and recorder shall be guaranteed by the manufacturer to be within 1 percent of the temperature/time being measured or 5 degrees Fahrenheit/ 0.5 minute, whichever is greater. The temperature monitors and recorders shall be calibrated, operated, and maintained in accordance with the manufacturers' recommendations, instructions and operating manuals.

3. Within 60 days from the effective date of this permit, the permittee shall install and thereafter operate and maintain audible alarms for deviations in the temperature of the desorption air stream entering the concentrator and the duration of each regeneration cycle for the concentrator. The set points and alarm activation levels shall be set at the values specified in A.II.2 and A.II.3 above.

The permittee shall maintain a log of each instance when an audible alarm is activated, the cause of the alarm, the time interval of the deviation, the magnitude of the deviation (in degrees Fahrenheit and/or in minutes, as applicable), and the corrective action taken to restore the correct operational parameters.

4. The permittee shall maintain a log or record of operating time for the capture (collection) system control devices, monitoring equipment, and the associated emissions unit.

5. On each day of operation of the control system for this emissions unit, the permittee shall record the set points and alarm activation levels, and the corresponding values of temperature and time duration. At least once per calendar month, the permittee shall calibrate the set points and alarm activations levels and maintain records of the results of each calibration.

III. Monitoring and/or Record Keeping Requirements (continued)

6. The permittee shall collect and record the following information each month for all the coatings, inks, and cleanup materials employed in emissions units R001-R024:

a. the name and identification of each coating, ink, and cleanup material employed;

b. the amount of each coating, ink, and cleanup material employed, in gallons;

c. the OC content of each coating, ink, and cleanup material employed, in lbs OC/gallon;

d. the OC emissions from each coating, ink, and cleanup material employed (i.e., (b) x (c) x (1 - the retention factor determined in the BAT study (factor varies from 0 - 5% max for non-vinyl substrate)) x (1 - the overall control efficiency established during the most recent emission test that demonstrated the emissions unit was in compliance); and

e. the total monthly OC emissions from all coatings, inks, and cleanup materials (the summation of all the emissions determined in (d)).

This information does not have to be kept on a line-by-line basis.

IV. Reporting Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.IV.2., A.IV.3., and A.IV.4. The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

2. The permittee shall submit quarterly temperature/time deviation (excursion) reports that identify:

a. all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer was more than 50 degrees Fahrenheit below the average temperature during the most recent emissions test that demonstrated the emissions unit was in compliance;

b. all instances when the set points and alarm activation levels for the temperature of the desorption air stream prior to the concentrator did not comply with the limitations specified in section A.II.2, based on the records maintained pursuant to section A.III.5 of these terms and conditions, and the magnitude of each deviation;

c. all instances when the set points and alarm activation levels for the duration of the regeneration cycle did not comply with the limitations specified in section A.II.3, based on the records maintained pursuant to section A.III.5 of these terms and conditions, and the magnitude of each deviation; and

d. all instances when an audible alarm was activated, the cause of each alarm (if known), the time interval of the deviation, the magnitude of the deviation (in degrees Fahrenheit and/or in minutes, as applicable), and the corrective action taken to restore the correct operating parameters

The reporting requirements for 2.b, 2.c and 2.d shall begin not later than 60 days following the effective date of this permit.

3. If no deviations occurred during a reporting period, then a quarterly report shall be submitted by the permittee stating so. The permittee shall submit the reports to the Director (Ohio EPA, Northeast District Office). Refer to General Term and Condition A.1.c for the deviation report due dates.

4. The permittee shall submit annual reports that specify the total OC emissions for emissions units R001-R024, combined, for the previous calendar year. These reports shall be submitted to the Director (Ohio Environmental Protection Agency, Northeast District Office) by January 30 of each year and shall cover the previous calendar year.

V. Testing Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.V.2., A.V.3., and A.V.4. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

2. Compliance with the emission limitation(s) in Section A.I. of these terms and conditions shall be determined in accordance with the following method(s):

Emission Limitation:
Minimum 90% (by weight) Capture Efficiency & 95% (by weight) Destruction Efficiency

Applicable Compliance Method:
OAC rule 3745-21-10(B). See A.V.3. USEPA Method 24A (for coatings, inks and cleanup materials) shall be used to determine the organic compound contents of the coatings, inks, and cleanup materials.

3. The permittee shall conduct, or have conducted, emissions testing for this emissions unit in accordance with the following requirements.

a. The emissions testing shall be conducted to demonstrate compliance with the capture and destruction efficiency requirements specified in Section A.I.2.a., to establish the average combustion temperature within the thermal oxidizer, to establish the temperature of the air flow entering the concentrator for the desorption cycle, and to establish the time period for the regeneration cycle.

b. The emission testing shall be conducted after 2.5 years from the effective date of this permit and 6 months prior to permit renewal. The permittee has demonstrated initial compliance during emission testing conducted on June 30, 1999.

c. The capture efficiency shall be determined using Method 204, as specified in 40 CFR Part 51, Appendix M, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency in accordance with the USEPA's "Guidelines for Determining Capture Efficiency", dated January 9, 1995. Written approval from USEPA must be obtained prior to 30 days before the scheduled test date if an alternative method is to be used. Alternative USEPA approved test methods may be used with prior approval from the Ohio EPA.

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 an approved alternative test protocol. 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. Alternative USEPA approved test methods may be used with prior approval from the Ohio EPA.

d. The test(s) shall be conducted while emissions units R001 - R024 are operating at or near their maximum capacities, unless otherwise specified or approved by the Ohio EPA, Northeast District Office.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test' notification to the Ohio EPA, Northeast District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions units 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 Northeast District Office's refusal to accept the results of the emissions test(s).

Personnel from the Ohio EPA Northeast District Office 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.

V. Testing Requirements (continued)

f. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the test and submitted to the Ohio EPA Northeast District Office 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 Ohio EPA Northeast District Office.

g. The VOC content of each coating, ink, and cleanup material used shall be based upon the use of USEPA Method 24.

4. Emission Limitation:
28.8 pounds OC per hour and 126 tons per year for emission units R001-R024, combined

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be based upon emission tests performed in accordance with the methods and procedures specified in A.V.3. Compliance with the annual emission limitation shall be based upon the record keeping in A.III.6.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. 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
R002 - Ink Jet Printer (53.1 feet long by 17.3 feet wide) and corresponding mixing operations, controlled by a 38,000 scfm Regensorb system		

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

1. The permit to install for emission units R001 - R024, combined, 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 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: MIBK

TLV (mg/m3): 205,00

Maximum Hourly Emission Rate (lbs/hr): 28.8

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 11.17

MAGLC (ug/m3): 4880

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 still 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:

III. Monitoring and/or Record Keeping Requirements (continued)

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.

2. 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.

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: R003 (R003)

Activity Description: R003 - Ink Jet Printing Machine

A. State and Federally Enforceable Section

I. 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
R003 - Ink Jet Printer (53.1 feet long by 17.3 feet wide) and corresponding mixing operations, controlled by a 38,000 scfm Regensorb system	OAC rule 3745-21-07(G)	The requirements of this rule are less stringent than the requirements established pursuant to OAC rule 3745-31-05(A)(3).
	OAC rule 3745-31-05(A)(3) (PTI # 02-2791)	See A.I.2.a and A.I.2.b.

2. Additional Terms and Conditions

2.a. The organic compounds emitted from this emissions unit shall be vented to a control device (a VOC concentrator and a thermal oxidizer) with a minimum capture efficiency of 90%, by weight, and a minimum destruction efficiency of 95%, by weight.

2.b The emissions from emissions units R001 - R024, combined, shall not exceed 28.8 pounds OC per hour and 126 tons OC per year. The hourly limitation is based on the emissions units' potential to emit after applying an 85.5% overall control efficiency. Therefore, no hourly record keeping and deviation reporting are required to demonstrate compliance with this limitation.

II. Operational Restrictions

1. 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 more than 50 degrees Fahrenheit below the average temperature during the most recent emissions test that demonstrated the emissions unit was in compliance.

2. The set point for the desorption air stream temperature shall be maintained at or above the temperature established during the most recent emissions test that demonstrated the emissions unit was in compliance. The temperature of the desorption air stream during the regeneration cycle shall not be more than 50 degrees Fahrenheit below this set point. An audible alarm shall be activated whenever the temperature of the desorption air stream is more than 50 degrees Fahrenheit below the set point.

3. The set point for the regeneration cycle time shall be maintained at the value established during the most recent emissions test that demonstrated the emissions unit was in compliance. The permittee shall maintain the duration of each regeneration cycle within 5 percent of the set point. An audible alarm shall be activated whenever the duration of each regeneration cycle is not within 5 percent of the set point.

II. Operational Restrictions (continued)

4. The operation of the control equipment outside of the restrictions established above may or may not indicate a mass emission violation. If required by the Ohio EPA, compliance with the mass emission limitations shall be determined by performing concurrent mass emission tests and parameter readings, using US EPA-approved methods and procedures. The results of any required emission tests and parameter readings shall be used in determining whether or not the operation of the control equipment outside of the restrictions specified above is indicative of a possible violation of the mass emission limitations.

5. Any malfunction, as defined in OAC rule 3745-15-06(B)(1), shall be reported to the Northeast District Office in accordance with OAC rule 3745-15-06(B). Parameter deviations due to such malfunctions, that comply with the requirements of OAC rule 3745-15-06(B), do not constitute violations of the operational restrictions for this emissions unit.

III. Monitoring and/or Record Keeping Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.III.2 and A.III.3. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

2. The permittee shall operate and maintain continuous temperature and time monitors that measure the following when the emissions unit is in operation:

a. the temperature of the exhaust gases in the combustion zone of the thermal oxidizer;

b. the temperature of the desorption air stream entering the concentrator; and

c. the duration of each regeneration cycle for the concentrator.

The permittee shall operate a continuous temperature recorder for the temperature of the exhaust gases in the combustion zone of the thermal oxidizer, and record the temperature when the emissions unit is in operation.

Units shall be in degrees Fahrenheit and minutes. The accuracy for each thermocouple, monitor, clock, and recorder shall be guaranteed by the manufacturer to be within 1 percent of the temperature/time being measured or 5 degrees Fahrenheit/ 0.5 minute, whichever is greater. The temperature monitors and recorders shall be calibrated, operated, and maintained in accordance with the manufacturers' recommendations, instructions and operating manuals.

3. Within 60 days from the effective date of this permit, the permittee shall install and thereafter operate and maintain audible alarms for deviations in the temperature of the desorption air stream entering the concentrator and the duration of each regeneration cycle for the concentrator. The set points and alarm activation levels shall be set at the values specified in A.II.2 and A.II.3 above.

The permittee shall maintain a log of each instance when an audible alarm is activated, the cause of the alarm, the time interval of the deviation, the magnitude of the deviation (in degrees Fahrenheit and/or in minutes, as applicable), and the corrective action taken to restore the correct operational parameters.

4. The permittee shall maintain a log or record of operating time for the capture (collection) system control devices, monitoring equipment, and the associated emissions unit.

5. On each day of operation of the control system for this emissions unit, the permittee shall record the set points and alarm activation levels, and the corresponding values of temperature and time duration. At least once per calendar month, the permittee shall calibrate the set points and alarm activations levels and maintain records of the results of each calibration.

III. Monitoring and/or Record Keeping Requirements (continued)

6. The permittee shall collect and record the following information each month for all the coatings, inks, and cleanup materials employed in emissions units R001-R024:

a. the name and identification of each coating, ink, and cleanup material employed;

b. the amount of each coating, ink, and cleanup material employed, in gallons;

c. the OC content of each coating, ink, and cleanup material employed, in lbs OC/gallon;

d. the OC emissions from each coating, ink, and cleanup material employed (i.e., (b) x (c) x (1 - the retention factor determined in the BAT study (factor varies from 0 - 5% max for non-vinyl substrate)) x (1 - the overall control efficiency established during the most recent emission test that demonstrated the emissions unit was in compliance); and

e. the total monthly OC emissions from all coatings, inks, and cleanup materials (the summation of all the emissions determined in (d)).

This information does not have to be kept on a line-by-line basis.

IV. Reporting Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.IV.2., A.IV.3., and A.IV.4. The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

2. The permittee shall submit quarterly temperature/time deviation (excursion) reports that identify:

a. all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer was more than 50 degrees Fahrenheit below the average temperature during the most recent emissions test that demonstrated the emissions unit was in compliance;

b. all instances when the set points and alarm activation levels for the temperature of the desorption air stream prior to the concentrator did not comply with the limitations specified in section A.II.2, based on the records maintained pursuant to section A.III.5 of these terms and conditions, and the magnitude of each deviation;

c. all instances when the set points and alarm activation levels for the duration of the regeneration cycle did not comply with the limitations specified in section A.II.3, based on the records maintained pursuant to section A.III.5 of these terms and conditions, and the magnitude of each deviation; and

d. all instances when an audible alarm was activated, the cause of each alarm (if known), the time interval of the deviation, the magnitude of the deviation (in degrees Fahrenheit and/or in minutes, as applicable), and the corrective action taken to restore the correct operating parameters

The reporting requirements for 2.b, 2.c and 2.d shall begin not later than 60 days following the effective date of this permit.

3. If no deviations occurred during a reporting period, then a quarterly report shall be submitted by the permittee stating so. The permittee shall submit the reports to the Director (Ohio EPA, Northeast District Office). Refer to General Term and Condition A.1.c for the deviation report due dates.

4. The permittee shall submit annual reports that specify the total OC emissions for emissions units R001-R024, combined, for the previous calendar year. These reports shall be submitted to the Director (Ohio Environmental Protection Agency, Northeast District Office) by January 30 of each year and shall cover the previous calendar year.

V. Testing Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.V.2., A.V.3., and A.V.4. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

2. Compliance with the emission limitation(s) in Section A.I. of these terms and conditions shall be determined in accordance with the following method(s):

Emission Limitation:
Minimum 90% (by weight) Capture Efficiency & 95% (by weight) Destruction Efficiency

Applicable Compliance Method:
OAC rule 3745-21-10(B). See A.V.3. USEPA Method 24A (for coatings, inks and cleanup materials) shall be used to determine the organic compound contents of the coatings, inks, and cleanup materials.

3. The permittee shall conduct, or have conducted, emissions testing for this emissions unit in accordance with the following requirements.

a. The emissions testing shall be conducted to demonstrate compliance with the capture and destruction efficiency requirements specified in Section A.I.2.a., to establish the average combustion temperature within the thermal oxidizer, to establish the temperature of the air flow entering the concentrator for the desorption cycle, and to establish the time period for the regeneration cycle.

b. The emission testing shall be conducted after 2.5 years from the effective date of this permit and 6 months prior to permit renewal. The permittee has demonstrated initial compliance during emission testing conducted on June 30, 1999.

c. The capture efficiency shall be determined using Method 204, as specified in 40 CFR Part 51, Appendix M, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency in accordance with the USEPA's "Guidelines for Determining Capture Efficiency", dated January 9, 1995. Written approval from USEPA must be obtained prior to 30 days before the scheduled test date if an alternative method is to be used. Alternative USEPA approved test methods may be used with prior approval from the Ohio EPA.

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 an approved alternative test protocol. 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. Alternative USEPA approved test methods may be used with prior approval from the Ohio EPA.

d. The test(s) shall be conducted while emissions units R001 - R024 are operating at or near their maximum capacities, unless otherwise specified or approved by the Ohio EPA, Northeast District Office.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test' notification to the Ohio EPA, Northeast District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions units 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 Northeast District Office's refusal to accept the results of the emissions test(s).

Personnel from the Ohio EPA Northeast District Office 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.

V. Testing Requirements (continued)

f. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the test and submitted to the Ohio EPA Northeast District Office 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 Ohio EPA Northeast District Office.

g. The VOC content of each coating, ink, and cleanup material used shall be based upon the use of USEPA Method 24.

4. Emission Limitation:
28.8 pounds OC per hour and 126 tons per year for emission units R001-R024, combined

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be based upon emission tests performed in accordance with the methods and procedures specified in A.V.3. Compliance with the annual emission limitation shall be based upon the record keeping in A.III.6.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. 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
R003 - Ink Jet Printer (53.1 feet long by 17.3 feet wide) and corresponding mixing operations, controlled by a 38,000 scfm Regensorb system		

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

1. The permit to install for emission units R001 - R024, combined, 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 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: MIBK

TLV (mg/m3): 205,00

Maximum Hourly Emission Rate (lbs/hr): 28.8

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 11.17

MAGLC (ug/m3): 4880

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 still 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:

III. Monitoring and/or Record Keeping Requirements (continued)

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.

2. 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.

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: R004 (R004)

Activity Description: R004 - Ink Jet Printing Machine

A. State and Federally Enforceable Section

I. 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
R004 - Ink Jet Printer (61.4 feet long by 22.1 feet wide) and corresponding mixing operations, controlled by a 38,000 scfm Regensorb system	OAC rule 3745-21-07(G)	The requirements of this rule are less stringent than the requirements established pursuant to OAC rule 3745-31-05(A)(3).
	OAC rule 3745-31-05(A)(3) (PTI # 02-2791)	See A.I.2.a and A.I.2.b.

2. Additional Terms and Conditions

2.a. The organic compounds emitted from this emissions unit shall be vented to a control device (a VOC concentrator and a thermal oxidizer) with a minimum capture efficiency of 90%, by weight, and a minimum destruction efficiency of 95%, by weight.

2.b The emissions from emissions units R001 - R024, combined, shall not exceed 28.8 pounds OC per hour and 126 tons OC per year. The hourly limitation is based on the emissions units' potential to emit after applying an 85.5% overall control efficiency. Therefore, no hourly record keeping and deviation reporting are required to demonstrate compliance with this limitation.

II. Operational Restrictions

1. 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 more than 50 degrees Fahrenheit below the average temperature during the most recent emissions test that demonstrated the emissions unit was in compliance.

2. The set point for the desorption air stream temperature shall be maintained at or above the temperature established during the most recent emissions test that demonstrated the emissions unit was in compliance. The temperature of the desorption air stream during the regeneration cycle shall not be more than 50 degrees Fahrenheit below this set point. An audible alarm shall be activated whenever the temperature of the desorption air stream is more than 50 degrees Fahrenheit below the set point.

3. The set point for the regeneration cycle time shall be maintained at the value established during the most recent emissions test that demonstrated the emissions unit was in compliance. The permittee shall maintain the duration of each regeneration cycle within 5 percent of the set point. An audible alarm shall be activated whenever the duration of each regeneration cycle is not within 5 percent of the set point.

II. Operational Restrictions (continued)

4. The operation of the control equipment outside of the restrictions established above may or may not indicate a mass emission violation. If required by the Ohio EPA, compliance with the mass emission limitations shall be determined by performing concurrent mass emission tests and parameter readings, using US EPA-approved methods and procedures. The results of any required emission tests and parameter readings shall be used in determining whether or not the operation of the control equipment outside of the restrictions specified above is indicative of a possible violation of the mass emission limitations.

5. Any malfunction, as defined in OAC rule 3745-15-06(B)(1), shall be reported to the Northeast District Office in accordance with OAC rule 3745-15-06(B). Parameter deviations due to such malfunctions, that comply with the requirements of OAC rule 3745-15-06(B), do not constitute violations of the operational restrictions for this emissions unit.

III. Monitoring and/or Record Keeping Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.III.2 and A.III.3. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

2. The permittee shall operate and maintain continuous temperature and time monitors that measure the following when the emissions unit is in operation:

a. the temperature of the exhaust gases in the combustion zone of the thermal oxidizer;

b. the temperature of the desorption air stream entering the concentrator; and

c. the duration of each regeneration cycle for the concentrator.

The permittee shall operate a continuous temperature recorder for the temperature of the exhaust gases in the combustion zone of the thermal oxidizer, and record the temperature when the emissions unit is in operation.

Units shall be in degrees Fahrenheit and minutes. The accuracy for each thermocouple, monitor, clock, and recorder shall be guaranteed by the manufacturer to be within 1 percent of the temperature/time being measured or 5 degrees Fahrenheit/ 0.5 minute, whichever is greater. The temperature monitors and recorders shall be calibrated, operated, and maintained in accordance with the manufacturers' recommendations, instructions and operating manuals.

3. Within 60 days from the effective date of this permit, the permittee shall install and thereafter operate and maintain audible alarms for deviations in the temperature of the desorption air stream entering the concentrator and the duration of each regeneration cycle for the concentrator. The set points and alarm activation levels shall be set at the values specified in A.II.2 and A.II.3 above.

The permittee shall maintain a log of each instance when an audible alarm is activated, the cause of the alarm, the time interval of the deviation, the magnitude of the deviation (in degrees Fahrenheit and/or in minutes, as applicable), and the corrective action taken to restore the correct operational parameters.

4. The permittee shall maintain a log or record of operating time for the capture (collection) system control devices, monitoring equipment, and the associated emissions unit.

5. On each day of operation of the control system for this emissions unit, the permittee shall record the set points and alarm activation levels, and the corresponding values of temperature and time duration. At least once per calendar month, the permittee shall calibrate the set points and alarm activations levels and maintain records of the results of each calibration.

III. Monitoring and/or Record Keeping Requirements (continued)

6. The permittee shall collect and record the following information each month for all the coatings, inks, and cleanup materials employed in emissions units R001-R024:

a. the name and identification of each coating, ink, and cleanup material employed;

b. the amount of each coating, ink, and cleanup material employed, in gallons;

c. the OC content of each coating, ink, and cleanup material employed, in lbs OC/gallon;

d. the OC emissions from each coating, ink, and cleanup material employed (i.e., (b) x (c) x (1 - the retention factor determined in the BAT study (factor varies from 0 - 5% max for non-vinyl substrate)) x (1 - the overall control efficiency established during the most recent emission test that demonstrated the emissions unit was in compliance); and

e. the total monthly OC emissions from all coatings, inks, and cleanup materials (the summation of all the emissions determined in (d)).

This information does not have to be kept on a line-by-line basis.

IV. Reporting Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.IV.2., A.IV.3., and A.IV.4. The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

2. The permittee shall submit quarterly temperature/time deviation (excursion) reports that identify:

a. all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer was more than 50 degrees Fahrenheit below the average temperature during the most recent emissions test that demonstrated the emissions unit was in compliance;

b. all instances when the set points and alarm activation levels for the temperature of the desorption air stream prior to the concentrator did not comply with the limitations specified in section A.II.2, based on the records maintained pursuant to section A.III.5 of these terms and conditions, and the magnitude of each deviation;

c. all instances when the set points and alarm activation levels for the duration of the regeneration cycle did not comply with the limitations specified in section A.II.3, based on the records maintained pursuant to section A.III.5 of these terms and conditions, and the magnitude of each deviation; and

d. all instances when an audible alarm was activated, the cause of each alarm (if known), the time interval of the deviation, the magnitude of the deviation (in degrees Fahrenheit and/or in minutes, as applicable), and the corrective action taken to restore the correct operating parameters

The reporting requirements for 2.b, 2.c and 2.d shall begin not later than 60 days following the effective date of this permit.

3. If no deviations occurred during a reporting period, then a quarterly report shall be submitted by the permittee stating so. The permittee shall submit the reports to the Director (Ohio EPA, Northeast District Office). Refer to General Term and Condition A.1.c for the deviation report due dates.

4. The permittee shall submit annual reports that specify the total OC emissions for emissions units R001-R024, combined, for the previous calendar year. These reports shall be submitted to the Director (Ohio Environmental Protection Agency, Northeast District Office) by January 30 of each year and shall cover the previous calendar year.

V. Testing Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.V.2., A.V.3., and A.V.4. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

2. Compliance with the emission limitation(s) in Section A.I. of these terms and conditions shall be determined in accordance with the following method(s):

Emission Limitation:
Minimum 90% (by weight) Capture Efficiency & 95% (by weight) Destruction Efficiency

Applicable Compliance Method:
OAC rule 3745-21-10(B). See A.V.3. USEPA Method 24A (for coatings, inks and cleanup materials) shall be used to determine the organic compound contents of the coatings, inks, and cleanup materials.

3. The permittee shall conduct, or have conducted, emissions testing for this emissions unit in accordance with the following requirements.

a. The emissions testing shall be conducted to demonstrate compliance with the capture and destruction efficiency requirements specified in Section A.I.2.a., to establish the average combustion temperature within the thermal oxidizer, to establish the temperature of the air flow entering the concentrator for the desorption cycle, and to establish the time period for the regeneration cycle.

b. The emission testing shall be conducted after 2.5 years from the effective date of this permit and 6 months prior to permit renewal. The permittee has demonstrated initial compliance during emission testing conducted on June 30, 1999.

c. The capture efficiency shall be determined using Method 204, as specified in 40 CFR Part 51, Appendix M, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency in accordance with the USEPA's "Guidelines for Determining Capture Efficiency", dated January 9, 1995. Written approval from USEPA must be obtained prior to 30 days before the scheduled test date if an alternative method is to be used. Alternative USEPA approved test methods may be used with prior approval from the Ohio EPA.

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 an approved alternative test protocol. 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. Alternative USEPA approved test methods may be used with prior approval from the Ohio EPA.

d. The test(s) shall be conducted while emissions units R001 - R024 are operating at or near their maximum capacities, unless otherwise specified or approved by the Ohio EPA, Northeast District Office.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test' notification to the Ohio EPA, Northeast District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions units 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 Northeast District Office's refusal to accept the results of the emissions test(s).

Personnel from the Ohio EPA Northeast District Office 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.

V. Testing Requirements (continued)

f. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the test and submitted to the Ohio EPA Northeast District Office 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 Ohio EPA Northeast District Office.

g. The VOC content of each coating, ink, and cleanup material used shall be based upon the use of USEPA Method 24.

4. Emission Limitation:
28.8 pounds OC per hour and 126 tons per year for emission units R001-R024, combined

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be based upon emission tests performed in accordance with the methods and procedures specified in A.V.3. Compliance with the annual emission limitation shall be based upon the record keeping in A.III.6.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. 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
R004 - Ink Jet Printer (61.4 feet long by 22.1 feet wide) and corresponding mixing operations, controlled by a 38,000 scfm Regensorb system		

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

1. The permit to install for emission units R001 - R024, combined, 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 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: MIBK

TLV (mg/m3): 205,00

Maximum Hourly Emission Rate (lbs/hr): 28.8

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 11.17

MAGLC (ug/m3): 4880

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 still 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:

III. Monitoring and/or Record Keeping Requirements (continued)

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.

2. 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.

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: R005 (R005)

Activity Description: R005 - Ink Jet Printing Machine

A. State and Federally Enforceable Section

I. 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
R005 - Ink Jet Printer (61.4 feet long by 22.1 feet wide) and corresponding mixing operations, controlled by a 38,000 scfm Regensorb system	OAC rule 3745-21-07(G)	The requirements of this rule are less stringent than the requirements established pursuant to OAC rule 3745-31-05(A)(3).
	OAC rule 3745-31-05(A)(3) (PTI # 02-2791)	See A.I.2.a and A.I.2.b.

2. Additional Terms and Conditions

2.a. The organic compounds emitted from this emissions unit shall be vented to a control device (a VOC concentrator and a thermal oxidizer) with a minimum capture efficiency of 90%, by weight, and a minimum destruction efficiency of 95%, by weight.

2.b The emissions from emissions units R001 - R024, combined, shall not exceed 28.8 pounds OC per hour and 126 tons OC per year. The hourly limitation is based on the emissions units' potential to emit after applying an 85.5% overall control efficiency. Therefore, no hourly record keeping and deviation reporting are required to demonstrate compliance with this limitation.

II. Operational Restrictions

1. 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 more than 50 degrees Fahrenheit below the average temperature during the most recent emissions test that demonstrated the emissions unit was in compliance.

2. The set point for the desorption air stream temperature shall be maintained at or above the temperature established during the most recent emissions test that demonstrated the emissions unit was in compliance. The temperature of the desorption air stream during the regeneration cycle shall not be more than 50 degrees Fahrenheit below this set point. An audible alarm shall be activated whenever the temperature of the desorption air stream is more than 50 degrees Fahrenheit below the set point.

3. The set point for the regeneration cycle time shall be maintained at the value established during the most recent emissions test that demonstrated the emissions unit was in compliance. The permittee shall maintain the duration of each regeneration cycle within 5 percent of the set point. An audible alarm shall be activated whenever the duration of each regeneration cycle is not within 5 percent of the set point.

II. Operational Restrictions (continued)

4. The operation of the control equipment outside of the restrictions established above may or may not indicate a mass emission violation. If required by the Ohio EPA, compliance with the mass emission limitations shall be determined by performing concurrent mass emission tests and parameter readings, using US EPA-approved methods and procedures. The results of any required emission tests and parameter readings shall be used in determining whether or not the operation of the control equipment outside of the restrictions specified above is indicative of a possible violation of the mass emission limitations.

5. Any malfunction, as defined in OAC rule 3745-15-06(B)(1), shall be reported to the Northeast District Office in accordance with OAC rule 3745-15-06(B). Parameter deviations due to such malfunctions, that comply with the requirements of OAC rule 3745-15-06(B), do not constitute violations of the operational restrictions for this emissions unit.

III. Monitoring and/or Record Keeping Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.III.2 and A.III.3. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

2. The permittee shall operate and maintain continuous temperature and time monitors that measure the following when the emissions unit is in operation:

a. the temperature of the exhaust gases in the combustion zone of the thermal oxidizer;

b. the temperature of the desorption air stream entering the concentrator; and

c. the duration of each regeneration cycle for the concentrator.

The permittee shall operate a continuous temperature recorder for the temperature of the exhaust gases in the combustion zone of the thermal oxidizer, and record the temperature when the emissions unit is in operation.

Units shall be in degrees Fahrenheit and minutes. The accuracy for each thermocouple, monitor, clock, and recorder shall be guaranteed by the manufacturer to be within 1 percent of the temperature/time being measured or 5 degrees Fahrenheit/ 0.5 minute, whichever is greater. The temperature monitors and recorders shall be calibrated, operated, and maintained in accordance with the manufacturers' recommendations, instructions and operating manuals.

3. Within 60 days from the effective date of this permit, the permittee shall install and thereafter operate and maintain audible alarms for deviations in the temperature of the desorption air stream entering the concentrator and the duration of each regeneration cycle for the concentrator. The set points and alarm activation levels shall be set at the values specified in A.II.2 and A.II.3 above.

The permittee shall maintain a log of each instance when an audible alarm is activated, the cause of the alarm, the time interval of the deviation, the magnitude of the deviation (in degrees Fahrenheit and/or in minutes, as applicable), and the corrective action taken to restore the correct operational parameters.

4. The permittee shall maintain a log or record of operating time for the capture (collection) system control devices, monitoring equipment, and the associated emissions unit.

5. On each day of operation of the control system for this emissions unit, the permittee shall record the set points and alarm activation levels, and the corresponding values of temperature and time duration. At least once per calendar month, the permittee shall calibrate the set points and alarm activations levels and maintain records of the results of each calibration.

III. Monitoring and/or Record Keeping Requirements (continued)

6. The permittee shall collect and record the following information each month for all the coatings, inks, and cleanup materials employed in emissions units R001-R024:

a. the name and identification of each coating, ink, and cleanup material employed;

b. the amount of each coating, ink, and cleanup material employed, in gallons;

c. the OC content of each coating, ink, and cleanup material employed, in lbs OC/gallon;

d. the OC emissions from each coating, ink, and cleanup material employed (i.e., (b) x (c) x (1 - the retention factor determined in the BAT study (factor varies from 0 - 5% max for non-vinyl substrate)) x (1 - the overall control efficiency established during the most recent emission test that demonstrated the emissions unit was in compliance); and

e. the total monthly OC emissions from all coatings, inks, and cleanup materials (the summation of all the emissions determined in (d)).

This information does not have to be kept on a line-by-line basis.

IV. Reporting Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.IV.2., A.IV.3., and A.IV.4. The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

2. The permittee shall submit quarterly temperature/time deviation (excursion) reports that identify:

a. all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer was more than 50 degrees Fahrenheit below the average temperature during the most recent emissions test that demonstrated the emissions unit was in compliance;

b. all instances when the set points and alarm activation levels for the temperature of the desorption air stream prior to the concentrator did not comply with the limitations specified in section A.II.2, based on the records maintained pursuant to section A.III.5 of these terms and conditions, and the magnitude of each deviation;

c. all instances when the set points and alarm activation levels for the duration of the regeneration cycle did not comply with the limitations specified in section A.II.3, based on the records maintained pursuant to section A.III.5 of these terms and conditions, and the magnitude of each deviation; and

d. all instances when an audible alarm was activated, the cause of each alarm (if known), the time interval of the deviation, the magnitude of the deviation (in degrees Fahrenheit and/or in minutes, as applicable), and the corrective action taken to restore the correct operating parameters

The reporting requirements for 2.b, 2.c and 2.d shall begin not later than 60 days following the effective date of this permit.

3. If no deviations occurred during a reporting period, then a quarterly report shall be submitted by the permittee stating so. The permittee shall submit the reports to the Director (Ohio EPA, Northeast District Office). Refer to General Term and Condition A.1.c for the deviation report due dates.

4. The permittee shall submit annual reports that specify the total OC emissions for emissions units R001-R024, combined, for the previous calendar year. These reports shall be submitted to the Director (Ohio Environmental Protection Agency, Northeast District Office) by January 30 of each year and shall cover the previous calendar year.

V. Testing Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.V.2., A.V.3., and A.V.4. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

2. Compliance with the emission limitation(s) in Section A.I. of these terms and conditions shall be determined in accordance with the following method(s):

Emission Limitation:
Minimum 90% (by weight) Capture Efficiency & 95% (by weight) Destruction Efficiency

Applicable Compliance Method:
OAC rule 3745-21-10(B). See A.V.3. USEPA Method 24A (for coatings, inks and cleanup materials) shall be used to determine the organic compound contents of the coatings, inks, and cleanup materials.

3. The permittee shall conduct, or have conducted, emissions testing for this emissions unit in accordance with the following requirements.

a. The emissions testing shall be conducted to demonstrate compliance with the capture and destruction efficiency requirements specified in Section A.I.2.a., to establish the average combustion temperature within the thermal oxidizer, to establish the temperature of the air flow entering the concentrator for the desorption cycle, and to establish the time period for the regeneration cycle.

b. The emission testing shall be conducted after 2.5 years from the effective date of this permit and 6 months prior to permit renewal. The permittee has demonstrated initial compliance during emission testing conducted on June 30, 1999.

c. The capture efficiency shall be determined using Method 204, as specified in 40 CFR Part 51, Appendix M, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency in accordance with the USEPA's "Guidelines for Determining Capture Efficiency", dated January 9, 1995. Written approval from USEPA must be obtained prior to 30 days before the scheduled test date if an alternative method is to be used. Alternative USEPA approved test methods may be used with prior approval from the Ohio EPA.

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 an approved alternative test protocol. 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. Alternative USEPA approved test methods may be used with prior approval from the Ohio EPA.

d. The test(s) shall be conducted while emissions units R001 - R024 are operating at or near their maximum capacities, unless otherwise specified or approved by the Ohio EPA, Northeast District Office.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test' notification to the Ohio EPA, Northeast District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions units 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 Northeast District Office's refusal to accept the results of the emissions test(s).

Personnel from the Ohio EPA Northeast District Office 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.

V. Testing Requirements (continued)

f. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the test and submitted to the Ohio EPA Northeast District Office 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 Ohio EPA Northeast District Office.

g. The VOC content of each coating, ink, and cleanup material used shall be based upon the use of USEPA Method 24.

4. Emission Limitation:
28.8 pounds OC per hour and 126 tons per year for emission units R001-R024, combined

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be based upon emission tests performed in accordance with the methods and procedures specified in A.V.3. Compliance with the annual emission limitation shall be based upon the record keeping in A.III.6.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. 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
R005 - Ink Jet Printer (61.4 feet long by 22.1 feet wide) and corresponding mixing operations, controlled by a 38,000 scfm Regensorb system		

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

1. The permit to install for emission units R001 - R024, combined, 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 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: MIBK

TLV (mg/m3): 205,00

Maximum Hourly Emission Rate (lbs/hr): 28.8

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 11.17

MAGLC (ug/m3): 4880

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 still 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:

III. Monitoring and/or Record Keeping Requirements (continued)

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.

2. 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.

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: R006 (R006)

Activity Description: R006 - Ink Jet Printing Machine

A. State and Federally Enforceable Section

I. 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
R006 - Ink Jet Printer (61.4 feet long by 22.1 feet wide) and corresponding mixing operations, controlled by a 38,000 scfm Regensorb system	OAC rule 3745-21-07(G)	The requirements of this rule are less stringent than the requirements established pursuant to OAC rule 3745-31-05(A)(3).
	OAC rule 3745-31-05(A)(3) (PTI # 02-2791)	See A.I.2.a and A.I.2.b.

2. Additional Terms and Conditions

2.a. The organic compounds emitted from this emissions unit shall be vented to a control device (a VOC concentrator and a thermal oxidizer) with a minimum capture efficiency of 90%, by weight, and a minimum destruction efficiency of 95%, by weight.

2.b The emissions from emissions units R001 - R024, combined, shall not exceed 28.8 pounds OC per hour and 126 tons OC per year. The hourly limitation is based on the emissions units' potential to emit after applying an 85.5% overall control efficiency. Therefore, no hourly record keeping and deviation reporting are required to demonstrate compliance with this limitation.

II. Operational Restrictions

1. 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 more than 50 degrees Fahrenheit below the average temperature during the most recent emissions test that demonstrated the emissions unit was in compliance.

2. The set point for the desorption air stream temperature shall be maintained at or above the temperature established during the most recent emissions test that demonstrated the emissions unit was in compliance. The temperature of the desorption air stream during the regeneration cycle shall not be more than 50 degrees Fahrenheit below this set point. An audible alarm shall be activated whenever the temperature of the desorption air stream is more than 50 degrees Fahrenheit below the set point.

3. The set point for the regeneration cycle time shall be maintained at the value established during the most recent emissions test that demonstrated the emissions unit was in compliance. The permittee shall maintain the duration of each regeneration cycle within 5 percent of the set point. An audible alarm shall be activated whenever the duration of each regeneration cycle is not within 5 percent of the set point.

II. Operational Restrictions (continued)

4. The operation of the control equipment outside of the restrictions established above may or may not indicate a mass emission violation. If required by the Ohio EPA, compliance with the mass emission limitations shall be determined by performing concurrent mass emission tests and parameter readings, using US EPA-approved methods and procedures. The results of any required emission tests and parameter readings shall be used in determining whether or not the operation of the control equipment outside of the restrictions specified above is indicative of a possible violation of the mass emission limitations.

5. Any malfunction, as defined in OAC rule 3745-15-06(B)(1), shall be reported to the Northeast District Office in accordance with OAC rule 3745-15-06(B). Parameter deviations due to such malfunctions, that comply with the requirements of OAC rule 3745-15-06(B), do not constitute violations of the operational restrictions for this emissions unit.

III. Monitoring and/or Record Keeping Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.III.2 and A.III.3. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

2. The permittee shall operate and maintain continuous temperature and time monitors that measure the following when the emissions unit is in operation:

a. the temperature of the exhaust gases in the combustion zone of the thermal oxidizer;

b. the temperature of the desorption air stream entering the concentrator; and

c. the duration of each regeneration cycle for the concentrator.

The permittee shall operate a continuous temperature recorder for the temperature of the exhaust gases in the combustion zone of the thermal oxidizer, and record the temperature when the emissions unit is in operation.

Units shall be in degrees Fahrenheit and minutes. The accuracy for each thermocouple, monitor, clock, and recorder shall be guaranteed by the manufacturer to be within 1 percent of the temperature/time being measured or 5 degrees Fahrenheit/ 0.5 minute, whichever is greater. The temperature monitors and recorders shall be calibrated, operated, and maintained in accordance with the manufacturers' recommendations, instructions and operating manuals.

3. Within 60 days from the effective date of this permit, the permittee shall install and thereafter operate and maintain audible alarms for deviations in the temperature of the desorption air stream entering the concentrator and the duration of each regeneration cycle for the concentrator. The set points and alarm activation levels shall be set at the values specified in A.II.2 and A.II.3 above.

The permittee shall maintain a log of each instance when an audible alarm is activated, the cause of the alarm, the time interval of the deviation, the magnitude of the deviation (in degrees Fahrenheit and/or in minutes, as applicable), and the corrective action taken to restore the correct operational parameters.

4. The permittee shall maintain a log or record of operating time for the capture (collection) system control devices, monitoring equipment, and the associated emissions unit.

5. On each day of operation of the control system for this emissions unit, the permittee shall record the set points and alarm activation levels, and the corresponding values of temperature and time duration. At least once per calendar month, the permittee shall calibrate the set points and alarm activations levels and maintain records of the results of each calibration.

III. Monitoring and/or Record Keeping Requirements (continued)

6. The permittee shall collect and record the following information each month for all the coatings, inks, and cleanup materials employed in emissions units R001-R024:

a. the name and identification of each coating, ink, and cleanup material employed;

b. the amount of each coating, ink, and cleanup material employed, in gallons;

c. the OC content of each coating, ink, and cleanup material employed, in lbs OC/gallon;

d. the OC emissions from each coating, ink, and cleanup material employed (i.e., (b) x (c) x (1 - the retention factor determined in the BAT study (factor varies from 0 - 5% max for non-vinyl substrate)) x (1 - the overall control efficiency established during the most recent emission test that demonstrated the emissions unit was in compliance); and

e. the total monthly OC emissions from all coatings, inks, and cleanup materials (the summation of all the emissions determined in (d)).

This information does not have to be kept on a line-by-line basis.

IV. Reporting Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.IV.2., A.IV.3., and A.IV.4. The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

2. The permittee shall submit quarterly temperature/time deviation (excursion) reports that identify:

a. all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer was more than 50 degrees Fahrenheit below the average temperature during the most recent emissions test that demonstrated the emissions unit was in compliance;

b. all instances when the set points and alarm activation levels for the temperature of the desorption air stream prior to the concentrator did not comply with the limitations specified in section A.II.2, based on the records maintained pursuant to section A.III.5 of these terms and conditions, and the magnitude of each deviation;

c. all instances when the set points and alarm activation levels for the duration of the regeneration cycle did not comply with the limitations specified in section A.II.3, based on the records maintained pursuant to section A.III.5 of these terms and conditions, and the magnitude of each deviation; and

d. all instances when an audible alarm was activated, the cause of each alarm (if known), the time interval of the deviation, the magnitude of the deviation (in degrees Fahrenheit and/or in minutes, as applicable), and the corrective action taken to restore the correct operating parameters

The reporting requirements for 2.b, 2.c and 2.d shall begin not later than 60 days following the effective date of this permit.

3. If no deviations occurred during a reporting period, then a quarterly report shall be submitted by the permittee stating so. The permittee shall submit the reports to the Director (Ohio EPA, Northeast District Office). Refer to General Term and Condition A.1.c for the deviation report due dates.

4. The permittee shall submit annual reports that specify the total OC emissions for emissions units R001-R024, combined, for the previous calendar year. These reports shall be submitted to the Director (Ohio Environmental Protection Agency, Northeast District Office) by January 30 of each year and shall cover the previous calendar year.

V. Testing Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.V.2., A.V.3., and A.V.4. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

2. Compliance with the emission limitation(s) in Section A.I. of these terms and conditions shall be determined in accordance with the following method(s):

Emission Limitation:
Minimum 90% (by weight) Capture Efficiency & 95% (by weight) Destruction Efficiency

Applicable Compliance Method:
OAC rule 3745-21-10(B). See A.V.3. USEPA Method 24A (for coatings, inks and cleanup materials) shall be used to determine the organic compound contents of the coatings, inks, and cleanup materials.

3. The permittee shall conduct, or have conducted, emissions testing for this emissions unit in accordance with the following requirements.

a. The emissions testing shall be conducted to demonstrate compliance with the capture and destruction efficiency requirements specified in Section A.I.2.a., to establish the average combustion temperature within the thermal oxidizer, to establish the temperature of the air flow entering the concentrator for the desorption cycle, and to establish the time period for the regeneration cycle.

b. The emission testing shall be conducted after 2.5 years from the effective date of this permit and 6 months prior to permit renewal. The permittee has demonstrated initial compliance during emission testing conducted on June 30, 1999.

c. The capture efficiency shall be determined using Method 204, as specified in 40 CFR Part 51, Appendix M, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency in accordance with the USEPA's "Guidelines for Determining Capture Efficiency", dated January 9, 1995. Written approval from USEPA must be obtained prior to 30 days before the scheduled test date if an alternative method is to be used. Alternative USEPA approved test methods may be used with prior approval from the Ohio EPA.

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 an approved alternative test protocol. 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. Alternative USEPA approved test methods may be used with prior approval from the Ohio EPA.

d. The test(s) shall be conducted while emissions units R001 - R024 are operating at or near their maximum capacities, unless otherwise specified or approved by the Ohio EPA, Northeast District Office.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test' notification to the Ohio EPA, Northeast District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions units 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 Northeast District Office's refusal to accept the results of the emissions test(s).

Personnel from the Ohio EPA Northeast District Office 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.

V. Testing Requirements (continued)

f. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the test and submitted to the Ohio EPA Northeast District Office 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 Ohio EPA Northeast District Office.

g. The VOC content of each coating, ink, and cleanup material used shall be based upon the use of USEPA Method 24.

4. Emission Limitation:
28.8 pounds OC per hour and 126 tons per year for emission units R001-R024, combined

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be based upon emission tests performed in accordance with the methods and procedures specified in A.V.3. Compliance with the annual emission limitation shall be based upon the record keeping in A.III.6.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. 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
R006 - Ink Jet Printer (61.4 feet long by 22.1 feet wide) and corresponding mixing operations, controlled by a 38,000 scfm Regensorb system		

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

1. The permit to install for emission units R001 - R024, combined, 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 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: MIBK

TLV (mg/m3): 205,00

Maximum Hourly Emission Rate (lbs/hr): 28.8

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 11.17

MAGLC (ug/m3): 4880

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 still 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:

III. Monitoring and/or Record Keeping Requirements (continued)

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.

2. 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.

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: R007 (R007)

Activity Description: R007 - Ink Jet Printing Machine

A. State and Federally Enforceable Section

I. 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
R007 - Ink Jet Printer (61.4 feet long by 22.1 feet wide) and corresponding mixing operations, controlled by a 38,000 scfm Regensorb system	OAC rule 3745-21-07(G)	The requirements of this rule are less stringent than the requirements established pursuant to OAC rule 3745-31-05(A)(3).
	OAC rule 3745-31-05(A)(3) (PTI # 02-2791)	See A.I.2.a and A.I.2.b.

2. Additional Terms and Conditions

2.a. The organic compounds emitted from this emissions unit shall be vented to a control device (a VOC concentrator and a thermal oxidizer) with a minimum capture efficiency of 90%, by weight, and a minimum destruction efficiency of 95%, by weight.

2.b The emissions from emissions units R001 - R024, combined, shall not exceed 28.8 pounds OC per hour and 126 tons OC per year. The hourly limitation is based on the emissions units' potential to emit after applying an 85.5% overall control efficiency. Therefore, no hourly record keeping and deviation reporting are required to demonstrate compliance with this limitation.

II. Operational Restrictions

1. 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 more than 50 degrees Fahrenheit below the average temperature during the most recent emissions test that demonstrated the emissions unit was in compliance.

2. The set point for the desorption air stream temperature shall be maintained at or above the temperature established during the most recent emissions test that demonstrated the emissions unit was in compliance. The temperature of the desorption air stream during the regeneration cycle shall not be more than 50 degrees Fahrenheit below this set point. An audible alarm shall be activated whenever the temperature of the desorption air stream is more than 50 degrees Fahrenheit below the set point.

3. The set point for the regeneration cycle time shall be maintained at the value established during the most recent emissions test that demonstrated the emissions unit was in compliance. The permittee shall maintain the duration of each regeneration cycle within 5 percent of the set point. An audible alarm shall be activated whenever the duration of each regeneration cycle is not within 5 percent of the set point.

II. Operational Restrictions (continued)

4. The operation of the control equipment outside of the restrictions established above may or may not indicate a mass emission violation. If required by the Ohio EPA, compliance with the mass emission limitations shall be determined by performing concurrent mass emission tests and parameter readings, using US EPA-approved methods and procedures. The results of any required emission tests and parameter readings shall be used in determining whether or not the operation of the control equipment outside of the restrictions specified above is indicative of a possible violation of the mass emission limitations.

5. Any malfunction, as defined in OAC rule 3745-15-06(B)(1), shall be reported to the Northeast District Office in accordance with OAC rule 3745-15-06(B). Parameter deviations due to such malfunctions, that comply with the requirements of OAC rule 3745-15-06(B), do not constitute violations of the operational restrictions for this emissions unit.

III. Monitoring and/or Record Keeping Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.III.2 and A.III.3. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

2. The permittee shall operate and maintain continuous temperature and time monitors that measure the following when the emissions unit is in operation:

a. the temperature of the exhaust gases in the combustion zone of the thermal oxidizer;

b. the temperature of the desorption air stream entering the concentrator; and

c. the duration of each regeneration cycle for the concentrator.

The permittee shall operate a continuous temperature recorder for the temperature of the exhaust gases in the combustion zone of the thermal oxidizer, and record the temperature when the emissions unit is in operation.

Units shall be in degrees Fahrenheit and minutes. The accuracy for each thermocouple, monitor, clock, and recorder shall be guaranteed by the manufacturer to be within 1 percent of the temperature/time being measured or 5 degrees Fahrenheit/ 0.5 minute, whichever is greater. The temperature monitors and recorders shall be calibrated, operated, and maintained in accordance with the manufacturers' recommendations, instructions and operating manuals.

3. Within 60 days from the effective date of this permit, the permittee shall install and thereafter operate and maintain audible alarms for deviations in the temperature of the desorption air stream entering the concentrator and the duration of each regeneration cycle for the concentrator. The set points and alarm activation levels shall be set at the values specified in A.II.2 and A.II.3 above.

The permittee shall maintain a log of each instance when an audible alarm is activated, the cause of the alarm, the time interval of the deviation, the magnitude of the deviation (in degrees Fahrenheit and/or in minutes, as applicable), and the corrective action taken to restore the correct operational parameters.

4. The permittee shall maintain a log or record of operating time for the capture (collection) system control devices, monitoring equipment, and the associated emissions unit.

5. On each day of operation of the control system for this emissions unit, the permittee shall record the set points and alarm activation levels, and the corresponding values of temperature and time duration. At least once per calendar month, the permittee shall calibrate the set points and alarm activations levels and maintain records of the results of each calibration.

III. Monitoring and/or Record Keeping Requirements (continued)

6. The permittee shall collect and record the following information each month for all the coatings, inks, and cleanup materials employed in emissions units R001-R024:

a. the name and identification of each coating, ink, and cleanup material employed;

b. the amount of each coating, ink, and cleanup material employed, in gallons;

c. the OC content of each coating, ink, and cleanup material employed, in lbs OC/gallon;

d. the OC emissions from each coating, ink, and cleanup material employed (i.e., (b) x (c) x (1 - the retention factor determined in the BAT study (factor varies from 0 - 5% max for non-vinyl substrate)) x (1 - the overall control efficiency established during the most recent emission test that demonstrated the emissions unit was in compliance); and

e. the total monthly OC emissions from all coatings, inks, and cleanup materials (the summation of all the emissions determined in (d)).

This information does not have to be kept on a line-by-line basis.

IV. Reporting Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.IV.2., A.IV.3., and A.IV.4. The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

2. The permittee shall submit quarterly temperature/time deviation (excursion) reports that identify:

a. all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer was more than 50 degrees Fahrenheit below the average temperature during the most recent emissions test that demonstrated the emissions unit was in compliance;

b. all instances when the set points and alarm activation levels for the temperature of the desorption air stream prior to the concentrator did not comply with the limitations specified in section A.II.2, based on the records maintained pursuant to section A.III.5 of these terms and conditions, and the magnitude of each deviation;

c. all instances when the set points and alarm activation levels for the duration of the regeneration cycle did not comply with the limitations specified in section A.II.3, based on the records maintained pursuant to section A.III.5 of these terms and conditions, and the magnitude of each deviation; and

d. all instances when an audible alarm was activated, the cause of each alarm (if known), the time interval of the deviation, the magnitude of the deviation (in degrees Fahrenheit and/or in minutes, as applicable), and the corrective action taken to restore the correct operating parameters

The reporting requirements for 2.b, 2.c and 2.d shall begin not later than 60 days following the effective date of this permit.

3. If no deviations occurred during a reporting period, then a quarterly report shall be submitted by the permittee stating so. The permittee shall submit the reports to the Director (Ohio EPA, Northeast District Office). Refer to General Term and Condition A.1.c for the deviation report due dates.

4. The permittee shall submit annual reports that specify the total OC emissions for emissions units R001-R024, combined, for the previous calendar year. These reports shall be submitted to the Director (Ohio Environmental Protection Agency, Northeast District Office) by January 30 of each year and shall cover the previous calendar year.

V. Testing Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.V.2., A.V.3., and A.V.4. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

2. Compliance with the emission limitation(s) in Section A.I. of these terms and conditions shall be determined in accordance with the following method(s):

Emission Limitation:
Minimum 90% (by weight) Capture Efficiency & 95% (by weight) Destruction Efficiency

Applicable Compliance Method:
OAC rule 3745-21-10(B). See A.V.3. USEPA Method 24A (for coatings, inks and cleanup materials) shall be used to determine the organic compound contents of the coatings, inks, and cleanup materials.

3. The permittee shall conduct, or have conducted, emissions testing for this emissions unit in accordance with the following requirements.

a. The emissions testing shall be conducted to demonstrate compliance with the capture and destruction efficiency requirements specified in Section A.I.2.a., to establish the average combustion temperature within the thermal oxidizer, to establish the temperature of the air flow entering the concentrator for the desorption cycle, and to establish the time period for the regeneration cycle.

b. The emission testing shall be conducted after 2.5 years from the effective date of this permit and 6 months prior to permit renewal. The permittee has demonstrated initial compliance during emission testing conducted on June 30, 1999.

c. The capture efficiency shall be determined using Method 204, as specified in 40 CFR Part 51, Appendix M, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency in accordance with the USEPA's "Guidelines for Determining Capture Efficiency", dated January 9, 1995. Written approval from USEPA must be obtained prior to 30 days before the scheduled test date if an alternative method is to be used. Alternative USEPA approved test methods may be used with prior approval from the Ohio EPA.

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 an approved alternative test protocol. 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. Alternative USEPA approved test methods may be used with prior approval from the Ohio EPA.

d. The test(s) shall be conducted while emissions units R001 - R024 are operating at or near their maximum capacities, unless otherwise specified or approved by the Ohio EPA, Northeast District Office.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test' notification to the Ohio EPA, Northeast District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions units 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 Northeast District Office's refusal to accept the results of the emissions test(s).

Personnel from the Ohio EPA Northeast District Office 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.

V. Testing Requirements (continued)

f. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the test and submitted to the Ohio EPA Northeast District Office 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 Ohio EPA Northeast District Office.

g. The VOC content of each coating, ink, and cleanup material used shall be based upon the use of USEPA Method 24.

4. Emission Limitation:
28.8 pounds OC per hour and 126 tons per year for emission units R001-R024, combined

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be based upon emission tests performed in accordance with the methods and procedures specified in A.V.3. Compliance with the annual emission limitation shall be based upon the record keeping in A.III.6.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. 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
R007 - Ink Jet Printer (61.4 feet long by 22.1 feet wide) and corresponding mixing operations, controlled by a 38,000 scfm Regensorb system		

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

1. The permit to install for emission units R001 - R024, combined, 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 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: MIBK

TLV (mg/m3): 205,00

Maximum Hourly Emission Rate (lbs/hr): 28.8

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 11.17

MAGLC (ug/m3): 4880

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 still 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:

III. Monitoring and/or Record Keeping Requirements (continued)

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.

2. 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.

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: R008 (R008)

Activity Description: R008 - Ink Jet Printing Machine

A. State and Federally Enforceable Section

I. 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
R008 - Ink Jet Printer (51.0 feet long by 22.1 feet wide) and corresponding mixing operations, controlled by a 38,000 scfm Regensorb system	OAC rule 3745-21-07(G)	The requirements of this rule are less stringent than the requirements established pursuant to OAC rule 3745-31-05(A)(3).
	OAC rule 3745-31-05(A)(3) (PTI # 02-2791)	See A.I.2.a and A.I.2.b.

2. Additional Terms and Conditions

2.a. The organic compounds emitted from this emissions unit shall be vented to a control device (a VOC concentrator and a thermal oxidizer) with a minimum capture efficiency of 90%, by weight, and a minimum destruction efficiency of 95%, by weight.

2.b The emissions from emissions units R001 - R024, combined, shall not exceed 28.8 pounds OC per hour and 126 tons OC per year. The hourly limitation is based on the emissions units' potential to emit after applying an 85.5% overall control efficiency. Therefore, no hourly record keeping and deviation reporting are required to demonstrate compliance with this limitation.

II. Operational Restrictions

1. 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 more than 50 degrees Fahrenheit below the average temperature during the most recent emissions test that demonstrated the emissions unit was in compliance.

2. The set point for the desorption air stream temperature shall be maintained at or above the temperature established during the most recent emissions test that demonstrated the emissions unit was in compliance. The temperature of the desorption air stream during the regeneration cycle shall not be more than 50 degrees Fahrenheit below this set point. An audible alarm shall be activated whenever the temperature of the desorption air stream is more than 50 degrees Fahrenheit below the set point.

3. The set point for the regeneration cycle time shall be maintained at the value established during the most recent emissions test that demonstrated the emissions unit was in compliance. The permittee shall maintain the duration of each regeneration cycle within 5 percent of the set point. An audible alarm shall be activated whenever the duration of each regeneration cycle is not within 5 percent of the set point.

II. Operational Restrictions (continued)

4. The operation of the control equipment outside of the restrictions established above may or may not indicate a mass emission violation. If required by the Ohio EPA, compliance with the mass emission limitations shall be determined by performing concurrent mass emission tests and parameter readings, using US EPA-approved methods and procedures. The results of any required emission tests and parameter readings shall be used in determining whether or not the operation of the control equipment outside of the restrictions specified above is indicative of a possible violation of the mass emission limitations.

5. Any malfunction, as defined in OAC rule 3745-15-06(B)(1), shall be reported to the Northeast District Office in accordance with OAC rule 3745-15-06(B). Parameter deviations due to such malfunctions, that comply with the requirements of OAC rule 3745-15-06(B), do not constitute violations of the operational restrictions for this emissions unit.

III. Monitoring and/or Record Keeping Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.III.2 and A.III.3. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

2. The permittee shall operate and maintain continuous temperature and time monitors that measure the following when the emissions unit is in operation:

a. the temperature of the exhaust gases in the combustion zone of the thermal oxidizer;

b. the temperature of the desorption air stream entering the concentrator; and

c. the duration of each regeneration cycle for the concentrator.

The permittee shall operate a continuous temperature recorder for the temperature of the exhaust gases in the combustion zone of the thermal oxidizer, and record the temperature when the emissions unit is in operation.

Units shall be in degrees Fahrenheit and minutes. The accuracy for each thermocouple, monitor, clock, and recorder shall be guaranteed by the manufacturer to be within 1 percent of the temperature/time being measured or 5 degrees Fahrenheit/ 0.5 minute, whichever is greater. The temperature monitors and recorders shall be calibrated, operated, and maintained in accordance with the manufacturers' recommendations, instructions and operating manuals.

3. Within 60 days from the effective date of this permit, the permittee shall install and thereafter operate and maintain audible alarms for deviations in the temperature of the desorption air stream entering the concentrator and the duration of each regeneration cycle for the concentrator. The set points and alarm activation levels shall be set at the values specified in A.II.2 and A.II.3 above.

The permittee shall maintain a log of each instance when an audible alarm is activated, the cause of the alarm, the time interval of the deviation, the magnitude of the deviation (in degrees Fahrenheit and/or in minutes, as applicable), and the corrective action taken to restore the correct operational parameters.

4. The permittee shall maintain a log or record of operating time for the capture (collection) system control devices, monitoring equipment, and the associated emissions unit.

5. On each day of operation of the control system for this emissions unit, the permittee shall record the set points and alarm activation levels, and the corresponding values of temperature and time duration. At least once per calendar month, the permittee shall calibrate the set points and alarm activations levels and maintain records of the results of each calibration.

III. Monitoring and/or Record Keeping Requirements (continued)

6. The permittee shall collect and record the following information each month for all the coatings, inks, and cleanup materials employed in emissions units R001-R024:

a. the name and identification of each coating, ink, and cleanup material employed;

b. the amount of each coating, ink, and cleanup material employed, in gallons;

c. the OC content of each coating, ink, and cleanup material employed, in lbs OC/gallon;

d. the OC emissions from each coating, ink, and cleanup material employed (i.e., (b) x (c) x (1 - the retention factor determined in the BAT study (factor varies from 0 - 5% max for non-vinyl substrate)) x (1 - the overall control efficiency established during the most recent emission test that demonstrated the emissions unit was in compliance); and

e. the total monthly OC emissions from all coatings, inks, and cleanup materials (the summation of all the emissions determined in (d)).

This information does not have to be kept on a line-by-line basis.

IV. Reporting Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.IV.2., A.IV.3., and A.IV.4. The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

2. The permittee shall submit quarterly temperature/time deviation (excursion) reports that identify:

a. all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer was more than 50 degrees Fahrenheit below the average temperature during the most recent emissions test that demonstrated the emissions unit was in compliance;

b. all instances when the set points and alarm activation levels for the temperature of the desorption air stream prior to the concentrator did not comply with the limitations specified in section A.II.2, based on the records maintained pursuant to section A.III.5 of these terms and conditions, and the magnitude of each deviation;

c. all instances when the set points and alarm activation levels for the duration of the regeneration cycle did not comply with the limitations specified in section A.II.3, based on the records maintained pursuant to section A.III.5 of these terms and conditions, and the magnitude of each deviation; and

d. all instances when an audible alarm was activated, the cause of each alarm (if known), the time interval of the deviation, the magnitude of the deviation (in degrees Fahrenheit and/or in minutes, as applicable), and the corrective action taken to restore the correct operating parameters

The reporting requirements for 2.b, 2.c and 2.d shall begin not later than 60 days following the effective date of this permit.

3. If no deviations occurred during a reporting period, then a quarterly report shall be submitted by the permittee stating so. The permittee shall submit the reports to the Director (Ohio EPA, Northeast District Office). Refer to General Term and Condition A.1.c for the deviation report due dates.

4. The permittee shall submit annual reports that specify the total OC emissions for emissions units R001-R024, combined, for the previous calendar year. These reports shall be submitted to the Director (Ohio Environmental Protection Agency, Northeast District Office) by January 30 of each year and shall cover the previous calendar year.

V. Testing Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.V.2., A.V.3., and A.V.4. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

2. Compliance with the emission limitation(s) in Section A.I. of these terms and conditions shall be determined in accordance with the following method(s):

Emission Limitation:
Minimum 90% (by weight) Capture Efficiency & 95% (by weight) Destruction Efficiency

Applicable Compliance Method:
OAC rule 3745-21-10(B). See A.V.3. USEPA Method 24A (for coatings, inks and cleanup materials) shall be used to determine the organic compound contents of the coatings, inks, and cleanup materials.

3. The permittee shall conduct, or have conducted, emissions testing for this emissions unit in accordance with the following requirements.

a. The emissions testing shall be conducted to demonstrate compliance with the capture and destruction efficiency requirements specified in Section A.I.2.a., to establish the average combustion temperature within the thermal oxidizer, to establish the temperature of the air flow entering the concentrator for the desorption cycle, and to establish the time period for the regeneration cycle.

b. The emission testing shall be conducted after 2.5 years from the effective date of this permit and 6 months prior to permit renewal. The permittee has demonstrated initial compliance during emission testing conducted on June 30, 1999.

c. The capture efficiency shall be determined using Method 204, as specified in 40 CFR Part 51, Appendix M, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency in accordance with the USEPA's "Guidelines for Determining Capture Efficiency", dated January 9, 1995. Written approval from USEPA must be obtained prior to 30 days before the scheduled test date if an alternative method is to be used. Alternative USEPA approved test methods may be used with prior approval from the Ohio EPA.

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 an approved alternative test protocol. 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. Alternative USEPA approved test methods may be used with prior approval from the Ohio EPA.

d. The test(s) shall be conducted while emissions units R001 - R024 are operating at or near their maximum capacities, unless otherwise specified or approved by the Ohio EPA, Northeast District Office.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test' notification to the Ohio EPA, Northeast District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions units 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 Northeast District Office's refusal to accept the results of the emissions test(s).

Personnel from the Ohio EPA Northeast District Office 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.

V. Testing Requirements (continued)

f. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the test and submitted to the Ohio EPA Northeast District Office 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 Ohio EPA Northeast District Office.

g. The VOC content of each coating, ink, and cleanup material used shall be based upon the use of USEPA Method 24.

4. Emission Limitation:
28.8 pounds OC per hour and 126 tons per year for emission units R001-R024, combined

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be based upon emission tests performed in accordance with the methods and procedures specified in A.V.3. Compliance with the annual emission limitation shall be based upon the record keeping in A.III.6.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. 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
R008 - Ink Jet Printer (51.0 feet long by 22.1 feet wide) and corresponding mixing operations, controlled by a 38,000 scfm Regensorb system		

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

1. The permit to install for emission units R001 - R024, combined, 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 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: MIBK

TLV (mg/m3): 205,00

Maximum Hourly Emission Rate (lbs/hr): 28.8

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 11.17

MAGLC (ug/m3): 4880

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 still 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:

III. Monitoring and/or Record Keeping Requirements (continued)

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.

2. 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.

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: R009 (R009)

Activity Description: R009 - Ink Jet Printing Machine

A. State and Federally Enforceable Section

I. 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
R009 - Ink Jet Printer (51.0 feet long by 22.1 feet wide) and corresponding mixing operations, controlled by a 38,000 scfm Regensorb system	OAC rule 3745-21-07(G)	The requirements of this rule are less stringent than the requirements established pursuant to OAC rule 3745-31-05(A)(3).
	OAC rule 3745-31-05(A)(3) (PTI # 02-2791)	See A.I.2.a and A.I.2.b.

2. Additional Terms and Conditions

2.a. The organic compounds emitted from this emissions unit shall be vented to a control device (a VOC concentrator and a thermal oxidizer) with a minimum capture efficiency of 90%, by weight, and a minimum destruction efficiency of 95%, by weight.

2.b The emissions from emissions units R001 - R024, combined, shall not exceed 28.8 pounds OC per hour and 126 tons OC per year. The hourly limitation is based on the emissions units' potential to emit after applying an 85.5% overall control efficiency. Therefore, no hourly record keeping and deviation reporting are required to demonstrate compliance with this limitation.

II. Operational Restrictions

1. 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 more than 50 degrees Fahrenheit below the average temperature during the most recent emissions test that demonstrated the emissions unit was in compliance.

2. The set point for the desorption air stream temperature shall be maintained at or above the temperature established during the most recent emissions test that demonstrated the emissions unit was in compliance. The temperature of the desorption air stream during the regeneration cycle shall not be more than 50 degrees Fahrenheit below this set point. An audible alarm shall be activated whenever the temperature of the desorption air stream is more than 50 degrees Fahrenheit below the set point.

3. The set point for the regeneration cycle time shall be maintained at the value established during the most recent emissions test that demonstrated the emissions unit was in compliance. The permittee shall maintain the duration of each regeneration cycle within 5 percent of the set point. An audible alarm shall be activated whenever the duration of each regeneration cycle is not within 5 percent of the set point.

II. Operational Restrictions (continued)

4. The operation of the control equipment outside of the restrictions established above may or may not indicate a mass emission violation. If required by the Ohio EPA, compliance with the mass emission limitations shall be determined by performing concurrent mass emission tests and parameter readings, using US EPA-approved methods and procedures. The results of any required emission tests and parameter readings shall be used in determining whether or not the operation of the control equipment outside of the restrictions specified above is indicative of a possible violation of the mass emission limitations.

5. Any malfunction, as defined in OAC rule 3745-15-06(B)(1), shall be reported to the Northeast District Office in accordance with OAC rule 3745-15-06(B). Parameter deviations due to such malfunctions, that comply with the requirements of OAC rule 3745-15-06(B), do not constitute violations of the operational restrictions for this emissions unit.

III. Monitoring and/or Record Keeping Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.III.2 and A.III.3. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

2. The permittee shall operate and maintain continuous temperature and time monitors that measure the following when the emissions unit is in operation:

a. the temperature of the exhaust gases in the combustion zone of the thermal oxidizer;

b. the temperature of the desorption air stream entering the concentrator; and

c. the duration of each regeneration cycle for the concentrator.

The permittee shall operate a continuous temperature recorder for the temperature of the exhaust gases in the combustion zone of the thermal oxidizer, and record the temperature when the emissions unit is in operation.

Units shall be in degrees Fahrenheit and minutes. The accuracy for each thermocouple, monitor, clock, and recorder shall be guaranteed by the manufacturer to be within 1 percent of the temperature/time being measured or 5 degrees Fahrenheit/ 0.5 minute, whichever is greater. The temperature monitors and recorders shall be calibrated, operated, and maintained in accordance with the manufacturers' recommendations, instructions and operating manuals.

3. Within 60 days from the effective date of this permit, the permittee shall install and thereafter operate and maintain audible alarms for deviations in the temperature of the desorption air stream entering the concentrator and the duration of each regeneration cycle for the concentrator. The set points and alarm activation levels shall be set at the values specified in A.II.2 and A.II.3 above.

The permittee shall maintain a log of each instance when an audible alarm is activated, the cause of the alarm, the time interval of the deviation, the magnitude of the deviation (in degrees Fahrenheit and/or in minutes, as applicable), and the corrective action taken to restore the correct operational parameters.

4. The permittee shall maintain a log or record of operating time for the capture (collection) system control devices, monitoring equipment, and the associated emissions unit.

5. On each day of operation of the control system for this emissions unit, the permittee shall record the set points and alarm activation levels, and the corresponding values of temperature and time duration. At least once per calendar month, the permittee shall calibrate the set points and alarm activations levels and maintain records of the results of each calibration.

III. Monitoring and/or Record Keeping Requirements (continued)

6. The permittee shall collect and record the following information each month for all the coatings, inks, and cleanup materials employed in emissions units R001-R024:

a. the name and identification of each coating, ink, and cleanup material employed;

b. the amount of each coating, ink, and cleanup material employed, in gallons;

c. the OC content of each coating, ink, and cleanup material employed, in lbs OC/gallon;

d. the OC emissions from each coating, ink, and cleanup material employed (i.e., (b) x (c) x (1 - the retention factor determined in the BAT study (factor varies from 0 - 5% max for non-vinyl substrate)) x (1 - the overall control efficiency established during the most recent emission test that demonstrated the emissions unit was in compliance); and

e. the total monthly OC emissions from all coatings, inks, and cleanup materials (the summation of all the emissions determined in (d)).

This information does not have to be kept on a line-by-line basis.

IV. Reporting Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.IV.2., A.IV.3., and A.IV.4. The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

2. The permittee shall submit quarterly temperature/time deviation (excursion) reports that identify:

a. all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer was more than 50 degrees Fahrenheit below the average temperature during the most recent emissions test that demonstrated the emissions unit was in compliance;

b. all instances when the set points and alarm activation levels for the temperature of the desorption air stream prior to the concentrator did not comply with the limitations specified in section A.II.2, based on the records maintained pursuant to section A.III.5 of these terms and conditions, and the magnitude of each deviation;

c. all instances when the set points and alarm activation levels for the duration of the regeneration cycle did not comply with the limitations specified in section A.II.3, based on the records maintained pursuant to section A.III.5 of these terms and conditions, and the magnitude of each deviation; and

d. all instances when an audible alarm was activated, the cause of each alarm (if known), the time interval of the deviation, the magnitude of the deviation (in degrees Fahrenheit and/or in minutes, as applicable), and the corrective action taken to restore the correct operating parameters

The reporting requirements for 2.b, 2.c and 2.d shall begin not later than 60 days following the effective date of this permit.

3. If no deviations occurred during a reporting period, then a quarterly report shall be submitted by the permittee stating so. The permittee shall submit the reports to the Director (Ohio EPA, Northeast District Office). Refer to General Term and Condition A.1.c for the deviation report due dates.

4. The permittee shall submit annual reports that specify the total OC emissions for emissions units R001-R024, combined, for the previous calendar year. These reports shall be submitted to the Director (Ohio Environmental Protection Agency, Northeast District Office) by January 30 of each year and shall cover the previous calendar year.

V. Testing Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.V.2., A.V.3., and A.V.4. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

2. Compliance with the emission limitation(s) in Section A.I. of these terms and conditions shall be determined in accordance with the following method(s):

Emission Limitation:
Minimum 90% (by weight) Capture Efficiency & 95% (by weight) Destruction Efficiency

Applicable Compliance Method:
OAC rule 3745-21-10(B). See A.V.3. USEPA Method 24A (for coatings, inks and cleanup materials) shall be used to determine the organic compound contents of the coatings, inks, and cleanup materials.

3. The permittee shall conduct, or have conducted, emissions testing for this emissions unit in accordance with the following requirements.

a. The emissions testing shall be conducted to demonstrate compliance with the capture and destruction efficiency requirements specified in Section A.I.2.a., to establish the average combustion temperature within the thermal oxidizer, to establish the temperature of the air flow entering the concentrator for the desorption cycle, and to establish the time period for the regeneration cycle.

b. The emission testing shall be conducted after 2.5 years from the effective date of this permit and 6 months prior to permit renewal. The permittee has demonstrated initial compliance during emission testing conducted on June 30, 1999.

c. The capture efficiency shall be determined using Method 204, as specified in 40 CFR Part 51, Appendix M, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency in accordance with the USEPA's "Guidelines for Determining Capture Efficiency", dated January 9, 1995. Written approval from USEPA must be obtained prior to 30 days before the scheduled test date if an alternative method is to be used. Alternative USEPA approved test methods may be used with prior approval from the Ohio EPA.

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 an approved alternative test protocol. 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. Alternative USEPA approved test methods may be used with prior approval from the Ohio EPA.

d. The test(s) shall be conducted while emissions units R001 - R024 are operating at or near their maximum capacities, unless otherwise specified or approved by the Ohio EPA, Northeast District Office.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test' notification to the Ohio EPA, Northeast District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions units 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 Northeast District Office's refusal to accept the results of the emissions test(s).

Personnel from the Ohio EPA Northeast District Office 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.

V. Testing Requirements (continued)

f. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the test and submitted to the Ohio EPA Northeast District Office 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 Ohio EPA Northeast District Office.

g. The VOC content of each coating, ink, and cleanup material used shall be based upon the use of USEPA Method 24.

4. Emission Limitation:
28.8 pounds OC per hour and 126 tons per year for emission units R001-R024, combined

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be based upon emission tests performed in accordance with the methods and procedures specified in A.V.3. Compliance with the annual emission limitation shall be based upon the record keeping in A.III.6.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. 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
R009 - Ink Jet Printer (51.0 feet long by 22.1 feet wide) and corresponding mixing operations, controlled by a 38,000 scfm Regensorb system		

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

1. The permit to install for emission units R001 - R024, combined, 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 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: MIBK

TLV (mg/m3): 205,00

Maximum Hourly Emission Rate (lbs/hr): 28.8

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 11.17

MAGLC (ug/m3): 4880

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 still 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:

III. Monitoring and/or Record Keeping Requirements (continued)

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.

2. 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.

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: R010 (R010)

Activity Description: R010 - Ink Jet Printing Machine

A. State and Federally Enforceable Section

I. 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
R010 - Ink Jet Printer (51.0 feet long by 22.1 feet wide) and corresponding mixing operations, controlled by a 38,000 scfm Regensorb system	OAC rule 3745-21-07(G)	The requirements of this rule are less stringent than the requirements established pursuant to OAC rule 3745-31-05(A)(3).
	OAC rule 3745-31-05(A)(3) (PTI # 02-2791)	See A.I.2.a and A.I.2.b.

2. Additional Terms and Conditions

2.a. The organic compounds emitted from this emissions unit shall be vented to a control device (a VOC concentrator and a thermal oxidizer) with a minimum capture efficiency of 90%, by weight, and a minimum destruction efficiency of 95%, by weight.

2.b The emissions from emissions units R001 - R024, combined, shall not exceed 28.8 pounds OC per hour and 126 tons OC per year. The hourly limitation is based on the emissions units' potential to emit after applying an 85.5% overall control efficiency. Therefore, no hourly record keeping and deviation reporting are required to demonstrate compliance with this limitation.

II. Operational Restrictions

1. 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 more than 50 degrees Fahrenheit below the average temperature during the most recent emissions test that demonstrated the emissions unit was in compliance.

2. The set point for the desorption air stream temperature shall be maintained at or above the temperature established during the most recent emissions test that demonstrated the emissions unit was in compliance. The temperature of the desorption air stream during the regeneration cycle shall not be more than 50 degrees Fahrenheit below this set point. An audible alarm shall be activated whenever the temperature of the desorption air stream is more than 50 degrees Fahrenheit below the set point.

3. The set point for the regeneration cycle time shall be maintained at the value established during the most recent emissions test that demonstrated the emissions unit was in compliance. The permittee shall maintain the duration of each regeneration cycle within 5 percent of the set point. An audible alarm shall be activated whenever the duration of each regeneration cycle is not within 5 percent of the set point.

II. Operational Restrictions (continued)

4. The operation of the control equipment outside of the restrictions established above may or may not indicate a mass emission violation. If required by the Ohio EPA, compliance with the mass emission limitations shall be determined by performing concurrent mass emission tests and parameter readings, using US EPA-approved methods and procedures. The results of any required emission tests and parameter readings shall be used in determining whether or not the operation of the control equipment outside of the restrictions specified above is indicative of a possible violation of the mass emission limitations.

5. Any malfunction, as defined in OAC rule 3745-15-06(B)(1), shall be reported to the Northeast District Office in accordance with OAC rule 3745-15-06(B). Parameter deviations due to such malfunctions, that comply with the requirements of OAC rule 3745-15-06(B), do not constitute violations of the operational restrictions for this emissions unit.

III. Monitoring and/or Record Keeping Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.III.2 and A.III.3. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

2. The permittee shall operate and maintain continuous temperature and time monitors that measure the following when the emissions unit is in operation:

a. the temperature of the exhaust gases in the combustion zone of the thermal oxidizer;

b. the temperature of the desorption air stream entering the concentrator; and

c. the duration of each regeneration cycle for the concentrator.

The permittee shall operate a continuous temperature recorder for the temperature of the exhaust gases in the combustion zone of the thermal oxidizer, and record the temperature when the emissions unit is in operation.

Units shall be in degrees Fahrenheit and minutes. The accuracy for each thermocouple, monitor, clock, and recorder shall be guaranteed by the manufacturer to be within 1 percent of the temperature/time being measured or 5 degrees Fahrenheit/ 0.5 minute, whichever is greater. The temperature monitors and recorders shall be calibrated, operated, and maintained in accordance with the manufacturers' recommendations, instructions and operating manuals.

3. Within 60 days from the effective date of this permit, the permittee shall install and thereafter operate and maintain audible alarms for deviations in the temperature of the desorption air stream entering the concentrator and the duration of each regeneration cycle for the concentrator. The set points and alarm activation levels shall be set at the values specified in A.II.2 and A.II.3 above.

The permittee shall maintain a log of each instance when an audible alarm is activated, the cause of the alarm, the time interval of the deviation, the magnitude of the deviation (in degrees Fahrenheit and/or in minutes, as applicable), and the corrective action taken to restore the correct operational parameters.

4. The permittee shall maintain a log or record of operating time for the capture (collection) system control devices, monitoring equipment, and the associated emissions unit.

5. On each day of operation of the control system for this emissions unit, the permittee shall record the set points and alarm activation levels, and the corresponding values of temperature and time duration. At least once per calendar month, the permittee shall calibrate the set points and alarm activations levels and maintain records of the results of each calibration.

III. Monitoring and/or Record Keeping Requirements (continued)

6. The permittee shall collect and record the following information each month for all the coatings, inks, and cleanup materials employed in emissions units R001-R024:

a. the name and identification of each coating, ink, and cleanup material employed;

b. the amount of each coating, ink, and cleanup material employed, in gallons;

c. the OC content of each coating, ink, and cleanup material employed, in lbs OC/gallon;

d. the OC emissions from each coating, ink, and cleanup material employed (i.e., (b) x (c) x (1 - the retention factor determined in the BAT study (factor varies from 0 - 5% max for non-vinyl substrate)) x (1 - the overall control efficiency established during the most recent emission test that demonstrated the emissions unit was in compliance); and

e. the total monthly OC emissions from all coatings, inks, and cleanup materials (the summation of all the emissions determined in (d)).

This information does not have to be kept on a line-by-line basis.

IV. Reporting Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.IV.2., A.IV.3., and A.IV.4. The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

2. The permittee shall submit quarterly temperature/time deviation (excursion) reports that identify:

a. all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer was more than 50 degrees Fahrenheit below the average temperature during the most recent emissions test that demonstrated the emissions unit was in compliance;

b. all instances when the set points and alarm activation levels for the temperature of the desorption air stream prior to the concentrator did not comply with the limitations specified in section A.II.2, based on the records maintained pursuant to section A.III.5 of these terms and conditions, and the magnitude of each deviation;

c. all instances when the set points and alarm activation levels for the duration of the regeneration cycle did not comply with the limitations specified in section A.II.3, based on the records maintained pursuant to section A.III.5 of these terms and conditions, and the magnitude of each deviation; and

d. all instances when an audible alarm was activated, the cause of each alarm (if known), the time interval of the deviation, the magnitude of the deviation (in degrees Fahrenheit and/or in minutes, as applicable), and the corrective action taken to restore the correct operating parameters

The reporting requirements for 2.b, 2.c and 2.d shall begin not later than 60 days following the effective date of this permit.

3. If no deviations occurred during a reporting period, then a quarterly report shall be submitted by the permittee stating so. The permittee shall submit the reports to the Director (Ohio EPA, Northeast District Office). Refer to General Term and Condition A.1.c for the deviation report due dates.

4. The permittee shall submit annual reports that specify the total OC emissions for emissions units R001-R024, combined, for the previous calendar year. These reports shall be submitted to the Director (Ohio Environmental Protection Agency, Northeast District Office) by January 30 of each year and shall cover the previous calendar year.

V. Testing Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.V.2., A.V.3., and A.V.4. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

2. Compliance with the emission limitation(s) in Section A.I. of these terms and conditions shall be determined in accordance with the following method(s):

Emission Limitation:
Minimum 90% (by weight) Capture Efficiency & 95% (by weight) Destruction Efficiency

Applicable Compliance Method:
OAC rule 3745-21-10(B). See A.V.3. USEPA Method 24A (for coatings, inks and cleanup materials) shall be used to determine the organic compound contents of the coatings, inks, and cleanup materials.

3. The permittee shall conduct, or have conducted, emissions testing for this emissions unit in accordance with the following requirements.

a. The emissions testing shall be conducted to demonstrate compliance with the capture and destruction efficiency requirements specified in Section A.I.2.a., to establish the average combustion temperature within the thermal oxidizer, to establish the temperature of the air flow entering the concentrator for the desorption cycle, and to establish the time period for the regeneration cycle.

b. The emission testing shall be conducted after 2.5 years from the effective date of this permit and 6 months prior to permit renewal. The permittee has demonstrated initial compliance during emission testing conducted on June 30, 1999.

c. The capture efficiency shall be determined using Method 204, as specified in 40 CFR Part 51, Appendix M, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency in accordance with the USEPA's "Guidelines for Determining Capture Efficiency", dated January 9, 1995. Written approval from USEPA must be obtained prior to 30 days before the scheduled test date if an alternative method is to be used. Alternative USEPA approved test methods may be used with prior approval from the Ohio EPA.

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 an approved alternative test protocol. 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. Alternative USEPA approved test methods may be used with prior approval from the Ohio EPA.

d. The test(s) shall be conducted while emissions units R001 - R024 are operating at or near their maximum capacities, unless otherwise specified or approved by the Ohio EPA, Northeast District Office.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test' notification to the Ohio EPA, Northeast District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions units 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 Northeast District Office's refusal to accept the results of the emissions test(s).

Personnel from the Ohio EPA Northeast District Office 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.

V. Testing Requirements (continued)

f. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the test and submitted to the Ohio EPA Northeast District Office 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 Ohio EPA Northeast District Office.

g. The VOC content of each coating, ink, and cleanup material used shall be based upon the use of USEPA Method 24.

4. Emission Limitation:
28.8 pounds OC per hour and 126 tons per year for emission units R001-R024, combined

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be based upon emission tests performed in accordance with the methods and procedures specified in A.V.3. Compliance with the annual emission limitation shall be based upon the record keeping in A.III.6.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. 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
R010 - Ink Jet Printer (51.0 feet long by 22.1 feet wide) and corresponding mixing operations, controlled by a 38,000 scfm Regensorb system		

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

1. The permit to install for emission units R001 - R024, combined, 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 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: MIBK

TLV (mg/m3): 205,00

Maximum Hourly Emission Rate (lbs/hr): 28.8

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 11.17

MAGLC (ug/m3): 4880

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 still 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:

III. Monitoring and/or Record Keeping Requirements (continued)

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.

2. 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.

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: R011 (R011)

Activity Description: R011 - Ink Jet Printing Machine

A. State and Federally Enforceable Section

I. 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
R011 - Ink Jet Printer (51.0 feet long by 22.1 feet wide) and corresponding mixing operations, controlled by a 38,000 scfm Regensorb system	OAC rule 3745-21-07(G)	The requirements of this rule are less stringent than the requirements established pursuant to OAC rule 3745-31-05(A)(3).
	OAC rule 3745-31-05(A)(3) (PTI # 02-2791)	See A.I.2.a and A.I.2.b.

2. Additional Terms and Conditions

2.a. The organic compounds emitted from this emissions unit shall be vented to a control device (a VOC concentrator and a thermal oxidizer) with a minimum capture efficiency of 90%, by weight, and a minimum destruction efficiency of 95%, by weight.

2.b The emissions from emissions units R001 - R024, combined, shall not exceed 28.8 pounds OC per hour and 126 tons OC per year. The hourly limitation is based on the emissions units' potential to emit after applying an 85.5% overall control efficiency. Therefore, no hourly record keeping and deviation reporting are required to demonstrate compliance with this limitation.

II. Operational Restrictions

1. 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 more than 50 degrees Fahrenheit below the average temperature during the most recent emissions test that demonstrated the emissions unit was in compliance.

2. The set point for the desorption air stream temperature shall be maintained at or above the temperature established during the most recent emissions test that demonstrated the emissions unit was in compliance. The temperature of the desorption air stream during the regeneration cycle shall not be more than 50 degrees Fahrenheit below this set point. An audible alarm shall be activated whenever the temperature of the desorption air stream is more than 50 degrees Fahrenheit below the set point.

3. The set point for the regeneration cycle time shall be maintained at the value established during the most recent emissions test that demonstrated the emissions unit was in compliance. The permittee shall maintain the duration of each regeneration cycle within 5 percent of the set point. An audible alarm shall be activated whenever the duration of each regeneration cycle is not within 5 percent of the set point.

II. Operational Restrictions (continued)

4. The operation of the control equipment outside of the restrictions established above may or may not indicate a mass emission violation. If required by the Ohio EPA, compliance with the mass emission limitations shall be determined by performing concurrent mass emission tests and parameter readings, using US EPA-approved methods and procedures. The results of any required emission tests and parameter readings shall be used in determining whether or not the operation of the control equipment outside of the restrictions specified above is indicative of a possible violation of the mass emission limitations.

5. Any malfunction, as defined in OAC rule 3745-15-06(B)(1), shall be reported to the Northeast District Office in accordance with OAC rule 3745-15-06(B). Parameter deviations due to such malfunctions, that comply with the requirements of OAC rule 3745-15-06(B), do not constitute violations of the operational restrictions for this emissions unit.

III. Monitoring and/or Record Keeping Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.III.2 and A.III.3. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

2. The permittee shall operate and maintain continuous temperature and time monitors that measure the following when the emissions unit is in operation:

a. the temperature of the exhaust gases in the combustion zone of the thermal oxidizer;

b. the temperature of the desorption air stream entering the concentrator; and

c. the duration of each regeneration cycle for the concentrator.

The permittee shall operate a continuous temperature recorder for the temperature of the exhaust gases in the combustion zone of the thermal oxidizer, and record the temperature when the emissions unit is in operation.

Units shall be in degrees Fahrenheit and minutes. The accuracy for each thermocouple, monitor, clock, and recorder shall be guaranteed by the manufacturer to be within 1 percent of the temperature/time being measured or 5 degrees Fahrenheit/ 0.5 minute, whichever is greater. The temperature monitors and recorders shall be calibrated, operated, and maintained in accordance with the manufacturers' recommendations, instructions and operating manuals.

3. Within 60 days from the effective date of this permit, the permittee shall install and thereafter operate and maintain audible alarms for deviations in the temperature of the desorption air stream entering the concentrator and the duration of each regeneration cycle for the concentrator. The set points and alarm activation levels shall be set at the values specified in A.II.2 and A.II.3 above.

The permittee shall maintain a log of each instance when an audible alarm is activated, the cause of the alarm, the time interval of the deviation, the magnitude of the deviation (in degrees Fahrenheit and/or in minutes, as applicable), and the corrective action taken to restore the correct operational parameters.

4. The permittee shall maintain a log or record of operating time for the capture (collection) system control devices, monitoring equipment, and the associated emissions unit.

5. On each day of operation of the control system for this emissions unit, the permittee shall record the set points and alarm activation levels, and the corresponding values of temperature and time duration. At least once per calendar month, the permittee shall calibrate the set points and alarm activations levels and maintain records of the results of each calibration.

III. Monitoring and/or Record Keeping Requirements (continued)

6. The permittee shall collect and record the following information each month for all the coatings, inks, and cleanup materials employed in emissions units R001-R024:

a. the name and identification of each coating, ink, and cleanup material employed;

b. the amount of each coating, ink, and cleanup material employed, in gallons;

c. the OC content of each coating, ink, and cleanup material employed, in lbs OC/gallon;

d. the OC emissions from each coating, ink, and cleanup material employed (i.e., (b) x (c) x (1 - the retention factor determined in the BAT study (factor varies from 0 - 5% max for non-vinyl substrate)) x (1 - the overall control efficiency established during the most recent emission test that demonstrated the emissions unit was in compliance); and

e. the total monthly OC emissions from all coatings, inks, and cleanup materials (the summation of all the emissions determined in (d)).

This information does not have to be kept on a line-by-line basis.

IV. Reporting Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.IV.2., A.IV.3., and A.IV.4. The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

2. The permittee shall submit quarterly temperature/time deviation (excursion) reports that identify:

a. all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer was more than 50 degrees Fahrenheit below the average temperature during the most recent emissions test that demonstrated the emissions unit was in compliance;

b. all instances when the set points and alarm activation levels for the temperature of the desorption air stream prior to the concentrator did not comply with the limitations specified in section A.II.2, based on the records maintained pursuant to section A.III.5 of these terms and conditions, and the magnitude of each deviation;

c. all instances when the set points and alarm activation levels for the duration of the regeneration cycle did not comply with the limitations specified in section A.II.3, based on the records maintained pursuant to section A.III.5 of these terms and conditions, and the magnitude of each deviation; and

d. all instances when an audible alarm was activated, the cause of each alarm (if known), the time interval of the deviation, the magnitude of the deviation (in degrees Fahrenheit and/or in minutes, as applicable), and the corrective action taken to restore the correct operating parameters

The reporting requirements for 2.b, 2.c and 2.d shall begin not later than 60 days following the effective date of this permit.

3. If no deviations occurred during a reporting period, then a quarterly report shall be submitted by the permittee stating so. The permittee shall submit the reports to the Director (Ohio EPA, Northeast District Office). Refer to General Term and Condition A.1.c for the deviation report due dates.

4. The permittee shall submit annual reports that specify the total OC emissions for emissions units R001-R024, combined, for the previous calendar year. These reports shall be submitted to the Director (Ohio Environmental Protection Agency, Northeast District Office) by January 30 of each year and shall cover the previous calendar year.

V. Testing Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.V.2., A.V.3., and A.V.4. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

2. Compliance with the emission limitation(s) in Section A.I. of these terms and conditions shall be determined in accordance with the following method(s):

Emission Limitation:
Minimum 90% (by weight) Capture Efficiency & 95% (by weight) Destruction Efficiency

Applicable Compliance Method:
OAC rule 3745-21-10(B). See A.V.3. USEPA Method 24A (for coatings, inks and cleanup materials) shall be used to determine the organic compound contents of the coatings, inks, and cleanup materials.

3. The permittee shall conduct, or have conducted, emissions testing for this emissions unit in accordance with the following requirements.

a. The emissions testing shall be conducted to demonstrate compliance with the capture and destruction efficiency requirements specified in Section A.I.2.a., to establish the average combustion temperature within the thermal oxidizer, to establish the temperature of the air flow entering the concentrator for the desorption cycle, and to establish the time period for the regeneration cycle.

b. The emission testing shall be conducted after 2.5 years from the effective date of this permit and 6 months prior to permit renewal. The permittee has demonstrated initial compliance during emission testing conducted on June 30, 1999.

c. The capture efficiency shall be determined using Method 204, as specified in 40 CFR Part 51, Appendix M, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency in accordance with the USEPA's "Guidelines for Determining Capture Efficiency", dated January 9, 1995. Written approval from USEPA must be obtained prior to 30 days before the scheduled test date if an alternative method is to be used. Alternative USEPA approved test methods may be used with prior approval from the Ohio EPA.

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 an approved alternative test protocol. 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. Alternative USEPA approved test methods may be used with prior approval from the Ohio EPA.

d. The test(s) shall be conducted while emissions units R001 - R024 are operating at or near their maximum capacities, unless otherwise specified or approved by the Ohio EPA, Northeast District Office.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test' notification to the Ohio EPA, Northeast District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions units 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 Northeast District Office's refusal to accept the results of the emissions test(s).

Personnel from the Ohio EPA Northeast District Office 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.

V. Testing Requirements (continued)

f. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the test and submitted to the Ohio EPA Northeast District Office 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 Ohio EPA Northeast District Office.

g. The VOC content of each coating, ink, and cleanup material used shall be based upon the use of USEPA Method 24.

4. Emission Limitation:
28.8 pounds OC per hour and 126 tons per year for emission units R001-R024, combined

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be based upon emission tests performed in accordance with the methods and procedures specified in A.V.3. Compliance with the annual emission limitation shall be based upon the record keeping in A.III.6.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. 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
R011 - Ink Jet Printer (51.0 feet long by 22.1 feet wide) and corresponding mixing operations, controlled by a 38,000 scfm Regensorb system		

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

1. The permit to install for emission units R001 - R024, combined, 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 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: MIBK

TLV (mg/m3): 205,00

Maximum Hourly Emission Rate (lbs/hr): 28.8

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 11.17

MAGLC (ug/m3): 4880

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 still 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:

III. Monitoring and/or Record Keeping Requirements (continued)

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.

2. 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.

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: R012 (R012)

Activity Description: R012 - Ink Jet Printing Machine

A. State and Federally Enforceable Section

I. 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
R012 - Ink Jet Printer (51.0 feet long by 22.1 feet wide) and corresponding mixing operations, controlled by a 38,000 scfm Regensorb system	OAC rule 3745-21-07(G)	The requirements of this rule are less stringent than the requirements established pursuant to OAC rule 3745-31-05(A)(3).
	OAC rule 3745-31-05(A)(3) (PTI # 02-2791)	See A.I.2.a and A.I.2.b.

2. Additional Terms and Conditions

2.a. The organic compounds emitted from this emissions unit shall be vented to a control device (a VOC concentrator and a thermal oxidizer) with a minimum capture efficiency of 90%, by weight, and a minimum destruction efficiency of 95%, by weight.

2.b The emissions from emissions units R001 - R024, combined, shall not exceed 28.8 pounds OC per hour and 126 tons OC per year. The hourly limitation is based on the emissions units' potential to emit after applying an 85.5% overall control efficiency. Therefore, no hourly record keeping and deviation reporting are required to demonstrate compliance with this limitation.

II. Operational Restrictions

1. 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 more than 50 degrees Fahrenheit below the average temperature during the most recent emissions test that demonstrated the emissions unit was in compliance.

2. The set point for the desorption air stream temperature shall be maintained at or above the temperature established during the most recent emissions test that demonstrated the emissions unit was in compliance. The temperature of the desorption air stream during the regeneration cycle shall not be more than 50 degrees Fahrenheit below this set point. An audible alarm shall be activated whenever the temperature of the desorption air stream is more than 50 degrees Fahrenheit below the set point.

3. The set point for the regeneration cycle time shall be maintained at the value established during the most recent emissions test that demonstrated the emissions unit was in compliance. The permittee shall maintain the duration of each regeneration cycle within 5 percent of the set point. An audible alarm shall be activated whenever the duration of each regeneration cycle is not within 5 percent of the set point.

II. Operational Restrictions (continued)

4. The operation of the control equipment outside of the restrictions established above may or may not indicate a mass emission violation. If required by the Ohio EPA, compliance with the mass emission limitations shall be determined by performing concurrent mass emission tests and parameter readings, using US EPA-approved methods and procedures. The results of any required emission tests and parameter readings shall be used in determining whether or not the operation of the control equipment outside of the restrictions specified above is indicative of a possible violation of the mass emission limitations.

5. Any malfunction, as defined in OAC rule 3745-15-06(B)(1), shall be reported to the Northeast District Office in accordance with OAC rule 3745-15-06(B). Parameter deviations due to such malfunctions, that comply with the requirements of OAC rule 3745-15-06(B), do not constitute violations of the operational restrictions for this emissions unit.

III. Monitoring and/or Record Keeping Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.III.2 and A.III.3. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

2. The permittee shall operate and maintain continuous temperature and time monitors that measure the following when the emissions unit is in operation:

a. the temperature of the exhaust gases in the combustion zone of the thermal oxidizer;

b. the temperature of the desorption air stream entering the concentrator; and

c. the duration of each regeneration cycle for the concentrator.

The permittee shall operate a continuous temperature recorder for the temperature of the exhaust gases in the combustion zone of the thermal oxidizer, and record the temperature when the emissions unit is in operation.

Units shall be in degrees Fahrenheit and minutes. The accuracy for each thermocouple, monitor, clock, and recorder shall be guaranteed by the manufacturer to be within 1 percent of the temperature/time being measured or 5 degrees Fahrenheit/ 0.5 minute, whichever is greater. The temperature monitors and recorders shall be calibrated, operated, and maintained in accordance with the manufacturers' recommendations, instructions and operating manuals.

3. Within 60 days from the effective date of this permit, the permittee shall install and thereafter operate and maintain audible alarms for deviations in the temperature of the desorption air stream entering the concentrator and the duration of each regeneration cycle for the concentrator. The set points and alarm activation levels shall be set at the values specified in A.II.2 and A.II.3 above.

The permittee shall maintain a log of each instance when an audible alarm is activated, the cause of the alarm, the time interval of the deviation, the magnitude of the deviation (in degrees Fahrenheit and/or in minutes, as applicable), and the corrective action taken to restore the correct operational parameters.

4. The permittee shall maintain a log or record of operating time for the capture (collection) system control devices, monitoring equipment, and the associated emissions unit.

5. On each day of operation of the control system for this emissions unit, the permittee shall record the set points and alarm activation levels, and the corresponding values of temperature and time duration. At least once per calendar month, the permittee shall calibrate the set points and alarm activations levels and maintain records of the results of each calibration.

III. Monitoring and/or Record Keeping Requirements (continued)

6. The permittee shall collect and record the following information each month for all the coatings, inks, and cleanup materials employed in emissions units R001-R024:

a. the name and identification of each coating, ink, and cleanup material employed;

b. the amount of each coating, ink, and cleanup material employed, in gallons;

c. the OC content of each coating, ink, and cleanup material employed, in lbs OC/gallon;

d. the OC emissions from each coating, ink, and cleanup material employed (i.e., (b) x (c) x (1 - the retention factor determined in the BAT study (factor varies from 0 - 5% max for non-vinyl substrate)) x (1 - the overall control efficiency established during the most recent emission test that demonstrated the emissions unit was in compliance); and

e. the total monthly OC emissions from all coatings, inks, and cleanup materials (the summation of all the emissions determined in (d)).

This information does not have to be kept on a line-by-line basis.

IV. Reporting Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.IV.2., A.IV.3., and A.IV.4. The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

2. The permittee shall submit quarterly temperature/time deviation (excursion) reports that identify:

a. all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer was more than 50 degrees Fahrenheit below the average temperature during the most recent emissions test that demonstrated the emissions unit was in compliance;

b. all instances when the set points and alarm activation levels for the temperature of the desorption air stream prior to the concentrator did not comply with the limitations specified in section A.II.2, based on the records maintained pursuant to section A.III.5 of these terms and conditions, and the magnitude of each deviation;

c. all instances when the set points and alarm activation levels for the duration of the regeneration cycle did not comply with the limitations specified in section A.II.3, based on the records maintained pursuant to section A.III.5 of these terms and conditions, and the magnitude of each deviation; and

d. all instances when an audible alarm was activated, the cause of each alarm (if known), the time interval of the deviation, the magnitude of the deviation (in degrees Fahrenheit and/or in minutes, as applicable), and the corrective action taken to restore the correct operating parameters

The reporting requirements for 2.b, 2.c and 2.d shall begin not later than 60 days following the effective date of this permit.

3. If no deviations occurred during a reporting period, then a quarterly report shall be submitted by the permittee stating so. The permittee shall submit the reports to the Director (Ohio EPA, Northeast District Office). Refer to General Term and Condition A.1.c for the deviation report due dates.

4. The permittee shall submit annual reports that specify the total OC emissions for emissions units R001-R024, combined, for the previous calendar year. These reports shall be submitted to the Director (Ohio Environmental Protection Agency, Northeast District Office) by January 30 of each year and shall cover the previous calendar year.

V. Testing Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.V.2., A.V.3., and A.V.4. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

2. Compliance with the emission limitation(s) in Section A.I. of these terms and conditions shall be determined in accordance with the following method(s):

Emission Limitation:
Minimum 90% (by weight) Capture Efficiency & 95% (by weight) Destruction Efficiency

Applicable Compliance Method:
OAC rule 3745-21-10(B). See A.V.3. USEPA Method 24A (for coatings, inks and cleanup materials) shall be used to determine the organic compound contents of the coatings, inks, and cleanup materials.

3. The permittee shall conduct, or have conducted, emissions testing for this emissions unit in accordance with the following requirements.

a. The emissions testing shall be conducted to demonstrate compliance with the capture and destruction efficiency requirements specified in Section A.I.2.a., to establish the average combustion temperature within the thermal oxidizer, to establish the temperature of the air flow entering the concentrator for the desorption cycle, and to establish the time period for the regeneration cycle.

b. The emission testing shall be conducted after 2.5 years from the effective date of this permit and 6 months prior to permit renewal. The permittee has demonstrated initial compliance during emission testing conducted on June 30, 1999.

c. The capture efficiency shall be determined using Method 204, as specified in 40 CFR Part 51, Appendix M, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency in accordance with the USEPA's "Guidelines for Determining Capture Efficiency", dated January 9, 1995. Written approval from USEPA must be obtained prior to 30 days before the scheduled test date if an alternative method is to be used. Alternative USEPA approved test methods may be used with prior approval from the Ohio EPA.

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 an approved alternative test protocol. 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. Alternative USEPA approved test methods may be used with prior approval from the Ohio EPA.

d. The test(s) shall be conducted while emissions units R001 - R024 are operating at or near their maximum capacities, unless otherwise specified or approved by the Ohio EPA, Northeast District Office.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test' notification to the Ohio EPA, Northeast District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions units 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 Northeast District Office's refusal to accept the results of the emissions test(s).

Personnel from the Ohio EPA Northeast District Office 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.

V. Testing Requirements (continued)

f. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the test and submitted to the Ohio EPA Northeast District Office 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 Ohio EPA Northeast District Office.

g. The VOC content of each coating, ink, and cleanup material used shall be based upon the use of USEPA Method 24.

4. Emission Limitation:
28.8 pounds OC per hour and 126 tons per year for emission units R001-R024, combined

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be based upon emission tests performed in accordance with the methods and procedures specified in A.V.3. Compliance with the annual emission limitation shall be based upon the record keeping in A.III.6.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. 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
R012 - Ink Jet Printer (51.0 feet long by 22.1 feet wide) and corresponding mixing operations, controlled by a 38,000 scfm Regensorb system		

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

1. The permit to install for emission units R001 - R024, combined, 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 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: MIBK

TLV (mg/m3): 205,00

Maximum Hourly Emission Rate (lbs/hr): 28.8

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 11.17

MAGLC (ug/m3): 4880

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 still 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:

III. Monitoring and/or Record Keeping Requirements (continued)

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.

2. 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.

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: R013 (R013)

Activity Description: R013 - Ink Jet Printing Machine

A. State and Federally Enforceable Section

I. 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
R013 - Ink Jet Printer (51.0 feet long by 22.1 feet wide) and corresponding mixing operations, controlled by a 38,000 scfm Regensorb system	OAC rule 3745-21-07(G)	The requirements of this rule are less stringent than the requirements established pursuant to OAC rule 3745-31-05(A)(3).
	OAC rule 3745-31-05(A)(3) (PTI # 02-2791)	See A.I.2.a and A.I.2.b.

2. Additional Terms and Conditions

2.a. The organic compounds emitted from this emissions unit shall be vented to a control device (a VOC concentrator and a thermal oxidizer) with a minimum capture efficiency of 90%, by weight, and a minimum destruction efficiency of 95%, by weight.

2.b The emissions from emissions units R001 - R024, combined, shall not exceed 28.8 pounds OC per hour and 126 tons OC per year. The hourly limitation is based on the emissions units' potential to emit after applying an 85.5% overall control efficiency. Therefore, no hourly record keeping and deviation reporting are required to demonstrate compliance with this limitation.

II. Operational Restrictions

1. 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 more than 50 degrees Fahrenheit below the average temperature during the most recent emissions test that demonstrated the emissions unit was in compliance.

2. The set point for the desorption air stream temperature shall be maintained at or above the temperature established during the most recent emissions test that demonstrated the emissions unit was in compliance. The temperature of the desorption air stream during the regeneration cycle shall not be more than 50 degrees Fahrenheit below this set point. An audible alarm shall be activated whenever the temperature of the desorption air stream is more than 50 degrees Fahrenheit below the set point.

3. The set point for the regeneration cycle time shall be maintained at the value established during the most recent emissions test that demonstrated the emissions unit was in compliance. The permittee shall maintain the duration of each regeneration cycle within 5 percent of the set point. An audible alarm shall be activated whenever the duration of each regeneration cycle is not within 5 percent of the set point.

II. Operational Restrictions (continued)

4. The operation of the control equipment outside of the restrictions established above may or may not indicate a mass emission violation. If required by the Ohio EPA, compliance with the mass emission limitations shall be determined by performing concurrent mass emission tests and parameter readings, using US EPA-approved methods and procedures. The results of any required emission tests and parameter readings shall be used in determining whether or not the operation of the control equipment outside of the restrictions specified above is indicative of a possible violation of the mass emission limitations.

5. Any malfunction, as defined in OAC rule 3745-15-06(B)(1), shall be reported to the Northeast District Office in accordance with OAC rule 3745-15-06(B). Parameter deviations due to such malfunctions, that comply with the requirements of OAC rule 3745-15-06(B), do not constitute violations of the operational restrictions for this emissions unit.

III. Monitoring and/or Record Keeping Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.III.2 and A.III.3. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

2. The permittee shall operate and maintain continuous temperature and time monitors that measure the following when the emissions unit is in operation:

a. the temperature of the exhaust gases in the combustion zone of the thermal oxidizer;

b. the temperature of the desorption air stream entering the concentrator; and

c. the duration of each regeneration cycle for the concentrator.

The permittee shall operate a continuous temperature recorder for the temperature of the exhaust gases in the combustion zone of the thermal oxidizer, and record the temperature when the emissions unit is in operation.

Units shall be in degrees Fahrenheit and minutes. The accuracy for each thermocouple, monitor, clock, and recorder shall be guaranteed by the manufacturer to be within 1 percent of the temperature/time being measured or 5 degrees Fahrenheit/ 0.5 minute, whichever is greater. The temperature monitors and recorders shall be calibrated, operated, and maintained in accordance with the manufacturers' recommendations, instructions and operating manuals.

3. Within 60 days from the effective date of this permit, the permittee shall install and thereafter operate and maintain audible alarms for deviations in the temperature of the desorption air stream entering the concentrator and the duration of each regeneration cycle for the concentrator. The set points and alarm activation levels shall be set at the values specified in A.II.2 and A.II.3 above.

The permittee shall maintain a log of each instance when an audible alarm is activated, the cause of the alarm, the time interval of the deviation, the magnitude of the deviation (in degrees Fahrenheit and/or in minutes, as applicable), and the corrective action taken to restore the correct operational parameters.

4. The permittee shall maintain a log or record of operating time for the capture (collection) system control devices, monitoring equipment, and the associated emissions unit.

5. On each day of operation of the control system for this emissions unit, the permittee shall record the set points and alarm activation levels, and the corresponding values of temperature and time duration. At least once per calendar month, the permittee shall calibrate the set points and alarm activations levels and maintain records of the results of each calibration.

III. Monitoring and/or Record Keeping Requirements (continued)

6. The permittee shall collect and record the following information each month for all the coatings, inks, and cleanup materials employed in emissions units R001-R024:

a. the name and identification of each coating, ink, and cleanup material employed;

b. the amount of each coating, ink, and cleanup material employed, in gallons;

c. the OC content of each coating, ink, and cleanup material employed, in lbs OC/gallon;

d. the OC emissions from each coating, ink, and cleanup material employed (i.e., (b) x (c) x (1 - the retention factor determined in the BAT study (factor varies from 0 - 5% max for non-vinyl substrate)) x (1 - the overall control efficiency established during the most recent emission test that demonstrated the emissions unit was in compliance); and

e. the total monthly OC emissions from all coatings, inks, and cleanup materials (the summation of all the emissions determined in (d)).

This information does not have to be kept on a line-by-line basis.

IV. Reporting Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.IV.2., A.IV.3., and A.IV.4. The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

2. The permittee shall submit quarterly temperature/time deviation (excursion) reports that identify:

a. all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer was more than 50 degrees Fahrenheit below the average temperature during the most recent emissions test that demonstrated the emissions unit was in compliance;

b. all instances when the set points and alarm activation levels for the temperature of the desorption air stream prior to the concentrator did not comply with the limitations specified in section A.II.2, based on the records maintained pursuant to section A.III.5 of these terms and conditions, and the magnitude of each deviation;

c. all instances when the set points and alarm activation levels for the duration of the regeneration cycle did not comply with the limitations specified in section A.II.3, based on the records maintained pursuant to section A.III.5 of these terms and conditions, and the magnitude of each deviation; and

d. all instances when an audible alarm was activated, the cause of each alarm (if known), the time interval of the deviation, the magnitude of the deviation (in degrees Fahrenheit and/or in minutes, as applicable), and the corrective action taken to restore the correct operating parameters

The reporting requirements for 2.b, 2.c and 2.d shall begin not later than 60 days following the effective date of this permit.

3. If no deviations occurred during a reporting period, then a quarterly report shall be submitted by the permittee stating so. The permittee shall submit the reports to the Director (Ohio EPA, Northeast District Office). Refer to General Term and Condition A.1.c for the deviation report due dates.

4. The permittee shall submit annual reports that specify the total OC emissions for emissions units R001-R024, combined, for the previous calendar year. These reports shall be submitted to the Director (Ohio Environmental Protection Agency, Northeast District Office) by January 30 of each year and shall cover the previous calendar year.

V. Testing Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.V.2., A.V.3., and A.V.4. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

2. Compliance with the emission limitation(s) in Section A.I. of these terms and conditions shall be determined in accordance with the following method(s):

Emission Limitation:
Minimum 90% (by weight) Capture Efficiency & 95% (by weight) Destruction Efficiency

Applicable Compliance Method:
OAC rule 3745-21-10(B). See A.V.3. USEPA Method 24A (for coatings, inks and cleanup materials) shall be used to determine the organic compound contents of the coatings, inks, and cleanup materials.

3. The permittee shall conduct, or have conducted, emissions testing for this emissions unit in accordance with the following requirements.

a. The emissions testing shall be conducted to demonstrate compliance with the capture and destruction efficiency requirements specified in Section A.I.2.a., to establish the average combustion temperature within the thermal oxidizer, to establish the temperature of the air flow entering the concentrator for the desorption cycle, and to establish the time period for the regeneration cycle.

b. The emission testing shall be conducted after 2.5 years from the effective date of this permit and 6 months prior to permit renewal. The permittee has demonstrated initial compliance during emission testing conducted on June 30, 1999.

c. The capture efficiency shall be determined using Method 204, as specified in 40 CFR Part 51, Appendix M, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency in accordance with the USEPA's "Guidelines for Determining Capture Efficiency", dated January 9, 1995. Written approval from USEPA must be obtained prior to 30 days before the scheduled test date if an alternative method is to be used. Alternative USEPA approved test methods may be used with prior approval from the Ohio EPA.

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 an approved alternative test protocol. 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. Alternative USEPA approved test methods may be used with prior approval from the Ohio EPA.

d. The test(s) shall be conducted while emissions units R001 - R024 are operating at or near their maximum capacities, unless otherwise specified or approved by the Ohio EPA, Northeast District Office.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test' notification to the Ohio EPA, Northeast District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions units 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 Northeast District Office's refusal to accept the results of the emissions test(s).

Personnel from the Ohio EPA Northeast District Office 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.

V. Testing Requirements (continued)

f. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the test and submitted to the Ohio EPA Northeast District Office 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 Ohio EPA Northeast District Office.

g. The VOC content of each coating, ink, and cleanup material used shall be based upon the use of USEPA Method 24.

4. Emission Limitation:
28.8 pounds OC per hour and 126 tons per year for emission units R001-R024, combined

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be based upon emission tests performed in accordance with the methods and procedures specified in A.V.3. Compliance with the annual emission limitation shall be based upon the record keeping in A.III.6.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. 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
R013 - Ink Jet Printer (51.0 feet long by 22.1 feet wide) and corresponding mixing operations, controlled by a 38,000 scfm Regensorb system		

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

1. The permit to install for emission units R001 - R024, combined, 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 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: MIBK

TLV (mg/m3): 205,00

Maximum Hourly Emission Rate (lbs/hr): 28.8

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 11.17

MAGLC (ug/m3): 4880

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 still 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:

III. Monitoring and/or Record Keeping Requirements (continued)

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.

2. 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.

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: R014 (R014)

Activity Description: R014 - Ink Jet Printing Machine

A. State and Federally Enforceable Section

I. 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
R014 - Ink Jet Printer (51.0 feet long by 22.1 feet wide) and corresponding mixing operations, controlled by a 38,000 scfm Regensorb system	OAC rule 3745-21-07(G)	The requirements of this rule are less stringent than the requirements established pursuant to OAC rule 3745-31-05(A)(3).
	OAC rule 3745-31-05(A)(3) (PTI # 02-2791)	See A.I.2.a and A.I.2.b.

2. Additional Terms and Conditions

2.a. The organic compounds emitted from this emissions unit shall be vented to a control device (a VOC concentrator and a thermal oxidizer) with a minimum capture efficiency of 90%, by weight, and a minimum destruction efficiency of 95%, by weight.

2.b The emissions from emissions units R001 - R024, combined, shall not exceed 28.8 pounds OC per hour and 126 tons OC per year. The hourly limitation is based on the emissions units' potential to emit after applying an 85.5% overall control efficiency. Therefore, no hourly record keeping and deviation reporting are required to demonstrate compliance with this limitation.

II. Operational Restrictions

1. 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 more than 50 degrees Fahrenheit below the average temperature during the most recent emissions test that demonstrated the emissions unit was in compliance.

2. The set point for the desorption air stream temperature shall be maintained at or above the temperature established during the most recent emissions test that demonstrated the emissions unit was in compliance. The temperature of the desorption air stream during the regeneration cycle shall not be more than 50 degrees Fahrenheit below this set point. An audible alarm shall be activated whenever the temperature of the desorption air stream is more than 50 degrees Fahrenheit below the set point.

3. The set point for the regeneration cycle time shall be maintained at the value established during the most recent emissions test that demonstrated the emissions unit was in compliance. The permittee shall maintain the duration of each regeneration cycle within 5 percent of the set point. An audible alarm shall be activated whenever the duration of each regeneration cycle is not within 5 percent of the set point.

II. Operational Restrictions (continued)

4. The operation of the control equipment outside of the restrictions established above may or may not indicate a mass emission violation. If required by the Ohio EPA, compliance with the mass emission limitations shall be determined by performing concurrent mass emission tests and parameter readings, using US EPA-approved methods and procedures. The results of any required emission tests and parameter readings shall be used in determining whether or not the operation of the control equipment outside of the restrictions specified above is indicative of a possible violation of the mass emission limitations.

5. Any malfunction, as defined in OAC rule 3745-15-06(B)(1), shall be reported to the Northeast District Office in accordance with OAC rule 3745-15-06(B). Parameter deviations due to such malfunctions, that comply with the requirements of OAC rule 3745-15-06(B), do not constitute violations of the operational restrictions for this emissions unit.

III. Monitoring and/or Record Keeping Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.III.2 and A.III.3. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

2. The permittee shall operate and maintain continuous temperature and time monitors that measure the following when the emissions unit is in operation:

a. the temperature of the exhaust gases in the combustion zone of the thermal oxidizer;

b. the temperature of the desorption air stream entering the concentrator; and

c. the duration of each regeneration cycle for the concentrator.

The permittee shall operate a continuous temperature recorder for the temperature of the exhaust gases in the combustion zone of the thermal oxidizer, and record the temperature when the emissions unit is in operation.

Units shall be in degrees Fahrenheit and minutes. The accuracy for each thermocouple, monitor, clock, and recorder shall be guaranteed by the manufacturer to be within 1 percent of the temperature/time being measured or 5 degrees Fahrenheit/ 0.5 minute, whichever is greater. The temperature monitors and recorders shall be calibrated, operated, and maintained in accordance with the manufacturers' recommendations, instructions and operating manuals.

3. Within 60 days from the effective date of this permit, the permittee shall install and thereafter operate and maintain audible alarms for deviations in the temperature of the desorption air stream entering the concentrator and the duration of each regeneration cycle for the concentrator. The set points and alarm activation levels shall be set at the values specified in A.II.2 and A.II.3 above.

The permittee shall maintain a log of each instance when an audible alarm is activated, the cause of the alarm, the time interval of the deviation, the magnitude of the deviation (in degrees Fahrenheit and/or in minutes, as applicable), and the corrective action taken to restore the correct operational parameters.

4. The permittee shall maintain a log or record of operating time for the capture (collection) system control devices, monitoring equipment, and the associated emissions unit.

5. On each day of operation of the control system for this emissions unit, the permittee shall record the set points and alarm activation levels, and the corresponding values of temperature and time duration. At least once per calendar month, the permittee shall calibrate the set points and alarm activations levels and maintain records of the results of each calibration.

III. Monitoring and/or Record Keeping Requirements (continued)

6. The permittee shall collect and record the following information each month for all the coatings, inks, and cleanup materials employed in emissions units R001-R024:

a. the name and identification of each coating, ink, and cleanup material employed;

b. the amount of each coating, ink, and cleanup material employed, in gallons;

c. the OC content of each coating, ink, and cleanup material employed, in lbs OC/gallon;

d. the OC emissions from each coating, ink, and cleanup material employed (i.e., (b) x (c) x (1 - the retention factor determined in the BAT study (factor varies from 0 - 5% max for non-vinyl substrate)) x (1 - the overall control efficiency established during the most recent emission test that demonstrated the emissions unit was in compliance); and

e. the total monthly OC emissions from all coatings, inks, and cleanup materials (the summation of all the emissions determined in (d)).

This information does not have to be kept on a line-by-line basis.

IV. Reporting Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.IV.2., A.IV.3., and A.IV.4. The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

2. The permittee shall submit quarterly temperature/time deviation (excursion) reports that identify:

a. all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer was more than 50 degrees Fahrenheit below the average temperature during the most recent emissions test that demonstrated the emissions unit was in compliance;

b. all instances when the set points and alarm activation levels for the temperature of the desorption air stream prior to the concentrator did not comply with the limitations specified in section A.II.2, based on the records maintained pursuant to section A.III.5 of these terms and conditions, and the magnitude of each deviation;

c. all instances when the set points and alarm activation levels for the duration of the regeneration cycle did not comply with the limitations specified in section A.II.3, based on the records maintained pursuant to section A.III.5 of these terms and conditions, and the magnitude of each deviation; and

d. all instances when an audible alarm was activated, the cause of each alarm (if known), the time interval of the deviation, the magnitude of the deviation (in degrees Fahrenheit and/or in minutes, as applicable), and the corrective action taken to restore the correct operating parameters

The reporting requirements for 2.b, 2.c and 2.d shall begin not later than 60 days following the effective date of this permit.

3. If no deviations occurred during a reporting period, then a quarterly report shall be submitted by the permittee stating so. The permittee shall submit the reports to the Director (Ohio EPA, Northeast District Office). Refer to General Term and Condition A.1.c for the deviation report due dates.

4. The permittee shall submit annual reports that specify the total OC emissions for emissions units R001-R024, combined, for the previous calendar year. These reports shall be submitted to the Director (Ohio Environmental Protection Agency, Northeast District Office) by January 30 of each year and shall cover the previous calendar year.

V. Testing Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.V.2., A.V.3., and A.V.4. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

2. Compliance with the emission limitation(s) in Section A.I. of these terms and conditions shall be determined in accordance with the following method(s):

Emission Limitation:
Minimum 90% (by weight) Capture Efficiency & 95% (by weight) Destruction Efficiency

Applicable Compliance Method:
OAC rule 3745-21-10(B). See A.V.3. USEPA Method 24A (for coatings, inks and cleanup materials) shall be used to determine the organic compound contents of the coatings, inks, and cleanup materials.

3. The permittee shall conduct, or have conducted, emissions testing for this emissions unit in accordance with the following requirements.

a. The emissions testing shall be conducted to demonstrate compliance with the capture and destruction efficiency requirements specified in Section A.I.2.a., to establish the average combustion temperature within the thermal oxidizer, to establish the temperature of the air flow entering the concentrator for the desorption cycle, and to establish the time period for the regeneration cycle.

b. The emission testing shall be conducted after 2.5 years from the effective date of this permit and 6 months prior to permit renewal. The permittee has demonstrated initial compliance during emission testing conducted on June 30, 1999.

c. The capture efficiency shall be determined using Method 204, as specified in 40 CFR Part 51, Appendix M, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency in accordance with the USEPA's "Guidelines for Determining Capture Efficiency", dated January 9, 1995. Written approval from USEPA must be obtained prior to 30 days before the scheduled test date if an alternative method is to be used. Alternative USEPA approved test methods may be used with prior approval from the Ohio EPA.

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 an approved alternative test protocol. 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. Alternative USEPA approved test methods may be used with prior approval from the Ohio EPA.

d. The test(s) shall be conducted while emissions units R001 - R024 are operating at or near their maximum capacities, unless otherwise specified or approved by the Ohio EPA, Northeast District Office.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test' notification to the Ohio EPA, Northeast District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions units 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 Northeast District Office's refusal to accept the results of the emissions test(s).

Personnel from the Ohio EPA Northeast District Office 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.

V. Testing Requirements (continued)

f. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the test and submitted to the Ohio EPA Northeast District Office 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 Ohio EPA Northeast District Office.

g. The VOC content of each coating, ink, and cleanup material used shall be based upon the use of USEPA Method 24.

4. Emission Limitation:
28.8 pounds OC per hour and 126 tons per year for emission units R001-R024, combined

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be based upon emission tests performed in accordance with the methods and procedures specified in A.V.3. Compliance with the annual emission limitation shall be based upon the record keeping in A.III.6.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. 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
R014 - Ink Jet Printer (51.0 feet long by 22.1 feet wide) and corresponding mixing operations, controlled by a 38,000 scfm Regensorb system		

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

1. The permit to install for emission units R001 - R024, combined, 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 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: MIBK

TLV (mg/m3): 205,00

Maximum Hourly Emission Rate (lbs/hr): 28.8

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 11.17

MAGLC (ug/m3): 4880

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 still 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:

III. Monitoring and/or Record Keeping Requirements (continued)

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.

2. 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.

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: R015 (R015)

Activity Description: R015 - Ink Jet Printing Machine

A. State and Federally Enforceable Section

I. 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
R015 - Ink Jet Printer (51.0 feet long by 22.1 feet wide) and corresponding mixing operations, controlled by a 38,000 scfm Regensorb system	OAC rule 3745-21-07(G)	The requirements of this rule are less stringent than the requirements established pursuant to OAC rule 3745-31-05(A)(3).
	OAC rule 3745-31-05(A)(3) (PTI # 02-2791)	See A.I.2.a and A.I.2.b.

2. Additional Terms and Conditions

2.a. The organic compounds emitted from this emissions unit shall be vented to a control device (a VOC concentrator and a thermal oxidizer) with a minimum capture efficiency of 90%, by weight, and a minimum destruction efficiency of 95%, by weight.

2.b The emissions from emissions units R001 - R024, combined, shall not exceed 28.8 pounds OC per hour and 126 tons OC per year. The hourly limitation is based on the emissions units' potential to emit after applying an 85.5% overall control efficiency. Therefore, no hourly record keeping and deviation reporting are required to demonstrate compliance with this limitation.

II. Operational Restrictions

1. 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 more than 50 degrees Fahrenheit below the average temperature during the most recent emissions test that demonstrated the emissions unit was in compliance.

2. The set point for the desorption air stream temperature shall be maintained at or above the temperature established during the most recent emissions test that demonstrated the emissions unit was in compliance. The temperature of the desorption air stream during the regeneration cycle shall not be more than 50 degrees Fahrenheit below this set point. An audible alarm shall be activated whenever the temperature of the desorption air stream is more than 50 degrees Fahrenheit below the set point.

3. The set point for the regeneration cycle time shall be maintained at the value established during the most recent emissions test that demonstrated the emissions unit was in compliance. The permittee shall maintain the duration of each regeneration cycle within 5 percent of the set point. An audible alarm shall be activated whenever the duration of each regeneration cycle is not within 5 percent of the set point.

II. Operational Restrictions (continued)

4. The operation of the control equipment outside of the restrictions established above may or may not indicate a mass emission violation. If required by the Ohio EPA, compliance with the mass emission limitations shall be determined by performing concurrent mass emission tests and parameter readings, using US EPA-approved methods and procedures. The results of any required emission tests and parameter readings shall be used in determining whether or not the operation of the control equipment outside of the restrictions specified above is indicative of a possible violation of the mass emission limitations.

5. Any malfunction, as defined in OAC rule 3745-15-06(B)(1), shall be reported to the Northeast District Office in accordance with OAC rule 3745-15-06(B). Parameter deviations due to such malfunctions, that comply with the requirements of OAC rule 3745-15-06(B), do not constitute violations of the operational restrictions for this emissions unit.

III. Monitoring and/or Record Keeping Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.III.2 and A.III.3. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

2. The permittee shall operate and maintain continuous temperature and time monitors that measure the following when the emissions unit is in operation:

a. the temperature of the exhaust gases in the combustion zone of the thermal oxidizer;

b. the temperature of the desorption air stream entering the concentrator; and

c. the duration of each regeneration cycle for the concentrator.

The permittee shall operate a continuous temperature recorder for the temperature of the exhaust gases in the combustion zone of the thermal oxidizer, and record the temperature when the emissions unit is in operation.

Units shall be in degrees Fahrenheit and minutes. The accuracy for each thermocouple, monitor, clock, and recorder shall be guaranteed by the manufacturer to be within 1 percent of the temperature/time being measured or 5 degrees Fahrenheit/ 0.5 minute, whichever is greater. The temperature monitors and recorders shall be calibrated, operated, and maintained in accordance with the manufacturers' recommendations, instructions and operating manuals.

3. Within 60 days from the effective date of this permit, the permittee shall install and thereafter operate and maintain audible alarms for deviations in the temperature of the desorption air stream entering the concentrator and the duration of each regeneration cycle for the concentrator. The set points and alarm activation levels shall be set at the values specified in A.II.2 and A.II.3 above.

The permittee shall maintain a log of each instance when an audible alarm is activated, the cause of the alarm, the time interval of the deviation, the magnitude of the deviation (in degrees Fahrenheit and/or in minutes, as applicable), and the corrective action taken to restore the correct operational parameters.

4. The permittee shall maintain a log or record of operating time for the capture (collection) system control devices, monitoring equipment, and the associated emissions unit.

5. On each day of operation of the control system for this emissions unit, the permittee shall record the set points and alarm activation levels, and the corresponding values of temperature and time duration. At least once per calendar month, the permittee shall calibrate the set points and alarm activations levels and maintain records of the results of each calibration.

III. Monitoring and/or Record Keeping Requirements (continued)

6. The permittee shall collect and record the following information each month for all the coatings, inks, and cleanup materials employed in emissions units R001-R024:

a. the name and identification of each coating, ink, and cleanup material employed;

b. the amount of each coating, ink, and cleanup material employed, in gallons;

c. the OC content of each coating, ink, and cleanup material employed, in lbs OC/gallon;

d. the OC emissions from each coating, ink, and cleanup material employed (i.e., (b) x (c) x (1 - the retention factor determined in the BAT study (factor varies from 0 - 5% max for non-vinyl substrate)) x (1 - the overall control efficiency established during the most recent emission test that demonstrated the emissions unit was in compliance); and

e. the total monthly OC emissions from all coatings, inks, and cleanup materials (the summation of all the emissions determined in (d)).

This information does not have to be kept on a line-by-line basis.

IV. Reporting Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.IV.2., A.IV.3., and A.IV.4. The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

2. The permittee shall submit quarterly temperature/time deviation (excursion) reports that identify:

a. all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer was more than 50 degrees Fahrenheit below the average temperature during the most recent emissions test that demonstrated the emissions unit was in compliance;

b. all instances when the set points and alarm activation levels for the temperature of the desorption air stream prior to the concentrator did not comply with the limitations specified in section A.II.2, based on the records maintained pursuant to section A.III.5 of these terms and conditions, and the magnitude of each deviation;

c. all instances when the set points and alarm activation levels for the duration of the regeneration cycle did not comply with the limitations specified in section A.II.3, based on the records maintained pursuant to section A.III.5 of these terms and conditions, and the magnitude of each deviation; and

d. all instances when an audible alarm was activated, the cause of each alarm (if known), the time interval of the deviation, the magnitude of the deviation (in degrees Fahrenheit and/or in minutes, as applicable), and the corrective action taken to restore the correct operating parameters

The reporting requirements for 2.b, 2.c and 2.d shall begin not later than 60 days following the effective date of this permit.

3. If no deviations occurred during a reporting period, then a quarterly report shall be submitted by the permittee stating so. The permittee shall submit the reports to the Director (Ohio EPA, Northeast District Office). Refer to General Term and Condition A.1.c for the deviation report due dates.

4. The permittee shall submit annual reports that specify the total OC emissions for emissions units R001-R024, combined, for the previous calendar year. These reports shall be submitted to the Director (Ohio Environmental Protection Agency, Northeast District Office) by January 30 of each year and shall cover the previous calendar year.

V. Testing Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.V.2., A.V.3., and A.V.4. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

2. Compliance with the emission limitation(s) in Section A.I. of these terms and conditions shall be determined in accordance with the following method(s):

Emission Limitation:
Minimum 90% (by weight) Capture Efficiency & 95% (by weight) Destruction Efficiency

Applicable Compliance Method:
OAC rule 3745-21-10(B). See A.V.3. USEPA Method 24A (for coatings, inks and cleanup materials) shall be used to determine the organic compound contents of the coatings, inks, and cleanup materials.

3. The permittee shall conduct, or have conducted, emissions testing for this emissions unit in accordance with the following requirements.

a. The emissions testing shall be conducted to demonstrate compliance with the capture and destruction efficiency requirements specified in Section A.I.2.a., to establish the average combustion temperature within the thermal oxidizer, to establish the temperature of the air flow entering the concentrator for the desorption cycle, and to establish the time period for the regeneration cycle.

b. The emission testing shall be conducted after 2.5 years from the effective date of this permit and 6 months prior to permit renewal. The permittee has demonstrated initial compliance during emission testing conducted on June 30, 1999.

c. The capture efficiency shall be determined using Method 204, as specified in 40 CFR Part 51, Appendix M, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency in accordance with the USEPA's "Guidelines for Determining Capture Efficiency", dated January 9, 1995. Written approval from USEPA must be obtained prior to 30 days before the scheduled test date if an alternative method is to be used. Alternative USEPA approved test methods may be used with prior approval from the Ohio EPA.

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 an approved alternative test protocol. 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. Alternative USEPA approved test methods may be used with prior approval from the Ohio EPA.

d. The test(s) shall be conducted while emissions units R001 - R024 are operating at or near their maximum capacities, unless otherwise specified or approved by the Ohio EPA, Northeast District Office.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test' notification to the Ohio EPA, Northeast District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions units 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 Northeast District Office's refusal to accept the results of the emissions test(s).

Personnel from the Ohio EPA Northeast District Office 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.

V. Testing Requirements (continued)

f. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the test and submitted to the Ohio EPA Northeast District Office 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 Ohio EPA Northeast District Office.

g. The VOC content of each coating, ink, and cleanup material used shall be based upon the use of USEPA Method 24.

4. Emission Limitation:
28.8 pounds OC per hour and 126 tons per year for emission units R001-R024, combined

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be based upon emission tests performed in accordance with the methods and procedures specified in A.V.3. Compliance with the annual emission limitation shall be based upon the record keeping in A.III.6.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. 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
R015 - Ink Jet Printer (51.0 feet long by 22.1 feet wide) and corresponding mixing operations, controlled by a 38,000 scfm Regensorb system		

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

1. The permit to install for emission units R001 - R024, combined, 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 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: MIBK

TLV (mg/m3): 205,00

Maximum Hourly Emission Rate (lbs/hr): 28.8

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 11.17

MAGLC (ug/m3): 4880

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 still 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:

III. Monitoring and/or Record Keeping Requirements (continued)

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.

2. 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.

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: R016 (R016)

Activity Description: R016 - Ink Jet Printing Machine

A. State and Federally Enforceable Section

I. 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
R016 - Ink Jet Printer (51.0 feet long by 22.1 feet wide) and corresponding mixing operations, controlled by a 38,000 scfm Regensorb system	OAC rule 3745-21-07(G)	The requirements of this rule are less stringent than the requirements established pursuant to OAC rule 3745-31-05(A)(3).
	OAC rule 3745-31-05(A)(3) (PTI # 02-2791)	See A.I.2.a and A.I.2.b.

2. Additional Terms and Conditions

2.a. The organic compounds emitted from this emissions unit shall be vented to a control device (a VOC concentrator and a thermal oxidizer) with a minimum capture efficiency of 90%, by weight, and a minimum destruction efficiency of 95%, by weight.

2.b The emissions from emissions units R001 - R024, combined, shall not exceed 28.8 pounds OC per hour and 126 tons OC per year. The hourly limitation is based on the emissions units' potential to emit after applying an 85.5% overall control efficiency. Therefore, no hourly record keeping and deviation reporting are required to demonstrate compliance with this limitation.

II. Operational Restrictions

1. 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 more than 50 degrees Fahrenheit below the average temperature during the most recent emissions test that demonstrated the emissions unit was in compliance.

2. The set point for the desorption air stream temperature shall be maintained at or above the temperature established during the most recent emissions test that demonstrated the emissions unit was in compliance. The temperature of the desorption air stream during the regeneration cycle shall not be more than 50 degrees Fahrenheit below this set point. An audible alarm shall be activated whenever the temperature of the desorption air stream is more than 50 degrees Fahrenheit below the set point.

3. The set point for the regeneration cycle time shall be maintained at the value established during the most recent emissions test that demonstrated the emissions unit was in compliance. The permittee shall maintain the duration of each regeneration cycle within 5 percent of the set point. An audible alarm shall be activated whenever the duration of each regeneration cycle is not within 5 percent of the set point.

II. Operational Restrictions (continued)

4. The operation of the control equipment outside of the restrictions established above may or may not indicate a mass emission violation. If required by the Ohio EPA, compliance with the mass emission limitations shall be determined by performing concurrent mass emission tests and parameter readings, using US EPA-approved methods and procedures. The results of any required emission tests and parameter readings shall be used in determining whether or not the operation of the control equipment outside of the restrictions specified above is indicative of a possible violation of the mass emission limitations.

5. Any malfunction, as defined in OAC rule 3745-15-06(B)(1), shall be reported to the Northeast District Office in accordance with OAC rule 3745-15-06(B). Parameter deviations due to such malfunctions, that comply with the requirements of OAC rule 3745-15-06(B), do not constitute violations of the operational restrictions for this emissions unit.

III. Monitoring and/or Record Keeping Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.III.2 and A.III.3. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

2. The permittee shall operate and maintain continuous temperature and time monitors that measure the following when the emissions unit is in operation:

a. the temperature of the exhaust gases in the combustion zone of the thermal oxidizer;

b. the temperature of the desorption air stream entering the concentrator; and

c. the duration of each regeneration cycle for the concentrator.

The permittee shall operate a continuous temperature recorder for the temperature of the exhaust gases in the combustion zone of the thermal oxidizer, and record the temperature when the emissions unit is in operation.

Units shall be in degrees Fahrenheit and minutes. The accuracy for each thermocouple, monitor, clock, and recorder shall be guaranteed by the manufacturer to be within 1 percent of the temperature/time being measured or 5 degrees Fahrenheit/ 0.5 minute, whichever is greater. The temperature monitors and recorders shall be calibrated, operated, and maintained in accordance with the manufacturers' recommendations, instructions and operating manuals.

3. Within 60 days from the effective date of this permit, the permittee shall install and thereafter operate and maintain audible alarms for deviations in the temperature of the desorption air stream entering the concentrator and the duration of each regeneration cycle for the concentrator. The set points and alarm activation levels shall be set at the values specified in A.II.2 and A.II.3 above.

The permittee shall maintain a log of each instance when an audible alarm is activated, the cause of the alarm, the time interval of the deviation, the magnitude of the deviation (in degrees Fahrenheit and/or in minutes, as applicable), and the corrective action taken to restore the correct operational parameters.

4. The permittee shall maintain a log or record of operating time for the capture (collection) system control devices, monitoring equipment, and the associated emissions unit.

5. On each day of operation of the control system for this emissions unit, the permittee shall record the set points and alarm activation levels, and the corresponding values of temperature and time duration. At least once per calendar month, the permittee shall calibrate the set points and alarm activations levels and maintain records of the results of each calibration.

III. Monitoring and/or Record Keeping Requirements (continued)

6. The permittee shall collect and record the following information each month for all the coatings, inks, and cleanup materials employed in emissions units R001-R024:

a. the name and identification of each coating, ink, and cleanup material employed;

b. the amount of each coating, ink, and cleanup material employed, in gallons;

c. the OC content of each coating, ink, and cleanup material employed, in lbs OC/gallon;

d. the OC emissions from each coating, ink, and cleanup material employed (i.e., (b) x (c) x (1 - the retention factor determined in the BAT study (factor varies from 0 - 5% max for non-vinyl substrate)) x (1 - the overall control efficiency established during the most recent emission test that demonstrated the emissions unit was in compliance); and

e. the total monthly OC emissions from all coatings, inks, and cleanup materials (the summation of all the emissions determined in (d)).

This information does not have to be kept on a line-by-line basis.

IV. Reporting Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.IV.2., A.IV.3., and A.IV.4. The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

2. The permittee shall submit quarterly temperature/time deviation (excursion) reports that identify:

a. all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer was more than 50 degrees Fahrenheit below the average temperature during the most recent emissions test that demonstrated the emissions unit was in compliance;

b. all instances when the set points and alarm activation levels for the temperature of the desorption air stream prior to the concentrator did not comply with the limitations specified in section A.II.2, based on the records maintained pursuant to section A.III.5 of these terms and conditions, and the magnitude of each deviation;

c. all instances when the set points and alarm activation levels for the duration of the regeneration cycle did not comply with the limitations specified in section A.II.3, based on the records maintained pursuant to section A.III.5 of these terms and conditions, and the magnitude of each deviation; and

d. all instances when an audible alarm was activated, the cause of each alarm (if known), the time interval of the deviation, the magnitude of the deviation (in degrees Fahrenheit and/or in minutes, as applicable), and the corrective action taken to restore the correct operating parameters

The reporting requirements for 2.b, 2.c and 2.d shall begin not later than 60 days following the effective date of this permit.

3. If no deviations occurred during a reporting period, then a quarterly report shall be submitted by the permittee stating so. The permittee shall submit the reports to the Director (Ohio EPA, Northeast District Office). Refer to General Term and Condition A.1.c for the deviation report due dates.

4. The permittee shall submit annual reports that specify the total OC emissions for emissions units R001-R024, combined, for the previous calendar year. These reports shall be submitted to the Director (Ohio Environmental Protection Agency, Northeast District Office) by January 30 of each year and shall cover the previous calendar year.

V. Testing Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.V.2., A.V.3., and A.V.4. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

2. Compliance with the emission limitation(s) in Section A.I. of these terms and conditions shall be determined in accordance with the following method(s):

Emission Limitation:
Minimum 90% (by weight) Capture Efficiency & 95% (by weight) Destruction Efficiency

Applicable Compliance Method:
OAC rule 3745-21-10(B). See A.V.3. USEPA Method 24A (for coatings, inks and cleanup materials) shall be used to determine the organic compound contents of the coatings, inks, and cleanup materials.

3. The permittee shall conduct, or have conducted, emissions testing for this emissions unit in accordance with the following requirements.

a. The emissions testing shall be conducted to demonstrate compliance with the capture and destruction efficiency requirements specified in Section A.I.2.a., to establish the average combustion temperature within the thermal oxidizer, to establish the temperature of the air flow entering the concentrator for the desorption cycle, and to establish the time period for the regeneration cycle.

b. The emission testing shall be conducted after 2.5 years from the effective date of this permit and 6 months prior to permit renewal. The permittee has demonstrated initial compliance during emission testing conducted on June 30, 1999.

c. The capture efficiency shall be determined using Method 204, as specified in 40 CFR Part 51, Appendix M, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency in accordance with the USEPA's "Guidelines for Determining Capture Efficiency", dated January 9, 1995. Written approval from USEPA must be obtained prior to 30 days before the scheduled test date if an alternative method is to be used. Alternative USEPA approved test methods may be used with prior approval from the Ohio EPA.

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 an approved alternative test protocol. 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. Alternative USEPA approved test methods may be used with prior approval from the Ohio EPA.

d. The test(s) shall be conducted while emissions units R001 - R024 are operating at or near their maximum capacities, unless otherwise specified or approved by the Ohio EPA, Northeast District Office.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test' notification to the Ohio EPA, Northeast District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions units 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 Northeast District Office's refusal to accept the results of the emissions test(s).

Personnel from the Ohio EPA Northeast District Office 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.

V. Testing Requirements (continued)

f. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the test and submitted to the Ohio EPA Northeast District Office 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 Ohio EPA Northeast District Office.

g. The VOC content of each coating, ink, and cleanup material used shall be based upon the use of USEPA Method 24.

4. Emission Limitation:
28.8 pounds OC per hour and 126 tons per year for emission units R001-R024, combined

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be based upon emission tests performed in accordance with the methods and procedures specified in A.V.3. Compliance with the annual emission limitation shall be based upon the record keeping in A.III.6.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. 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
R016 - Ink Jet Printer (51.0 feet long by 22.1 feet wide) and corresponding mixing operations, controlled by a 38,000 scfm Regensorb system		

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

1. The permit to install for emission units R001 - R024, combined, 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 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: MIBK

TLV (mg/m3): 205,00

Maximum Hourly Emission Rate (lbs/hr): 28.8

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 11.17

MAGLC (ug/m3): 4880

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 still 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:

III. Monitoring and/or Record Keeping Requirements (continued)

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.

2. 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.

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: R017 (R017)

Activity Description: R017 - Ink Jet Printing Machine

A. State and Federally Enforceable Section

I. 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
R017 - Ink Jet Printer (51.0 feet long by 22.1 feet wide) and corresponding mixing operations, controlled by a 38,000 scfm Regensorb system	OAC rule 3745-21-07(G)	The requirements of this rule are less stringent than the requirements established pursuant to OAC rule 3745-31-05(A)(3).
	OAC rule 3745-31-05(A)(3) (PTI # 02-2791)	See A.I.2.a and A.I.2.b.

2. Additional Terms and Conditions

2.a. The organic compounds emitted from this emissions unit shall be vented to a control device (a VOC concentrator and a thermal oxidizer) with a minimum capture efficiency of 90%, by weight, and a minimum destruction efficiency of 95%, by weight.

2.b The emissions from emissions units R001 - R024, combined, shall not exceed 28.8 pounds OC per hour and 126 tons OC per year. The hourly limitation is based on the emissions units' potential to emit after applying an 85.5% overall control efficiency. Therefore, no hourly record keeping and deviation reporting are required to demonstrate compliance with this limitation.

II. Operational Restrictions

1. 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 more than 50 degrees Fahrenheit below the average temperature during the most recent emissions test that demonstrated the emissions unit was in compliance.

2. The set point for the desorption air stream temperature shall be maintained at or above the temperature established during the most recent emissions test that demonstrated the emissions unit was in compliance. The temperature of the desorption air stream during the regeneration cycle shall not be more than 50 degrees Fahrenheit below this set point. An audible alarm shall be activated whenever the temperature of the desorption air stream is more than 50 degrees Fahrenheit below the set point.

3. The set point for the regeneration cycle time shall be maintained at the value established during the most recent emissions test that demonstrated the emissions unit was in compliance. The permittee shall maintain the duration of each regeneration cycle within 5 percent of the set point. An audible alarm shall be activated whenever the duration of each regeneration cycle is not within 5 percent of the set point.

II. Operational Restrictions (continued)

4. The operation of the control equipment outside of the restrictions established above may or may not indicate a mass emission violation. If required by the Ohio EPA, compliance with the mass emission limitations shall be determined by performing concurrent mass emission tests and parameter readings, using US EPA-approved methods and procedures. The results of any required emission tests and parameter readings shall be used in determining whether or not the operation of the control equipment outside of the restrictions specified above is indicative of a possible violation of the mass emission limitations.

5. Any malfunction, as defined in OAC rule 3745-15-06(B)(1), shall be reported to the Northeast District Office in accordance with OAC rule 3745-15-06(B). Parameter deviations due to such malfunctions, that comply with the requirements of OAC rule 3745-15-06(B), do not constitute violations of the operational restrictions for this emissions unit.

III. Monitoring and/or Record Keeping Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.III.2 and A.III.3. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

2. The permittee shall operate and maintain continuous temperature and time monitors that measure the following when the emissions unit is in operation:

a. the temperature of the exhaust gases in the combustion zone of the thermal oxidizer;

b. the temperature of the desorption air stream entering the concentrator; and

c. the duration of each regeneration cycle for the concentrator.

The permittee shall operate a continuous temperature recorder for the temperature of the exhaust gases in the combustion zone of the thermal oxidizer, and record the temperature when the emissions unit is in operation.

Units shall be in degrees Fahrenheit and minutes. The accuracy for each thermocouple, monitor, clock, and recorder shall be guaranteed by the manufacturer to be within 1 percent of the temperature/time being measured or 5 degrees Fahrenheit/ 0.5 minute, whichever is greater. The temperature monitors and recorders shall be calibrated, operated, and maintained in accordance with the manufacturers' recommendations, instructions and operating manuals.

3. Within 60 days from the effective date of this permit, the permittee shall install and thereafter operate and maintain audible alarms for deviations in the temperature of the desorption air stream entering the concentrator and the duration of each regeneration cycle for the concentrator. The set points and alarm activation levels shall be set at the values specified in A.II.2 and A.II.3 above.

The permittee shall maintain a log of each instance when an audible alarm is activated, the cause of the alarm, the time interval of the deviation, the magnitude of the deviation (in degrees Fahrenheit and/or in minutes, as applicable), and the corrective action taken to restore the correct operational parameters.

4. The permittee shall maintain a log or record of operating time for the capture (collection) system control devices, monitoring equipment, and the associated emissions unit.

5. On each day of operation of the control system for this emissions unit, the permittee shall record the set points and alarm activation levels, and the corresponding values of temperature and time duration. At least once per calendar month, the permittee shall calibrate the set points and alarm activations levels and maintain records of the results of each calibration.

III. Monitoring and/or Record Keeping Requirements (continued)

6. The permittee shall collect and record the following information each month for all the coatings, inks, and cleanup materials employed in emissions units R001-R024:

a. the name and identification of each coating, ink, and cleanup material employed;

b. the amount of each coating, ink, and cleanup material employed, in gallons;

c. the OC content of each coating, ink, and cleanup material employed, in lbs OC/gallon;

d. the OC emissions from each coating, ink, and cleanup material employed (i.e., (b) x (c) x (1 - the retention factor determined in the BAT study (factor varies from 0 - 5% max for non-vinyl substrate)) x (1 - the overall control efficiency established during the most recent emission test that demonstrated the emissions unit was in compliance); and

e. the total monthly OC emissions from all coatings, inks, and cleanup materials (the summation of all the emissions determined in (d)).

This information does not have to be kept on a line-by-line basis.

IV. Reporting Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.IV.2., A.IV.3., and A.IV.4. The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

2. The permittee shall submit quarterly temperature/time deviation (excursion) reports that identify:

a. all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer was more than 50 degrees Fahrenheit below the average temperature during the most recent emissions test that demonstrated the emissions unit was in compliance;

b. all instances when the set points and alarm activation levels for the temperature of the desorption air stream prior to the concentrator did not comply with the limitations specified in section A.II.2, based on the records maintained pursuant to section A.III.5 of these terms and conditions, and the magnitude of each deviation;

c. all instances when the set points and alarm activation levels for the duration of the regeneration cycle did not comply with the limitations specified in section A.II.3, based on the records maintained pursuant to section A.III.5 of these terms and conditions, and the magnitude of each deviation; and

d. all instances when an audible alarm was activated, the cause of each alarm (if known), the time interval of the deviation, the magnitude of the deviation (in degrees Fahrenheit and/or in minutes, as applicable), and the corrective action taken to restore the correct operating parameters

The reporting requirements for 2.b, 2.c and 2.d shall begin not later than 60 days following the effective date of this permit.

3. If no deviations occurred during a reporting period, then a quarterly report shall be submitted by the permittee stating so. The permittee shall submit the reports to the Director (Ohio EPA, Northeast District Office). Refer to General Term and Condition A.1.c for the deviation report due dates.

4. The permittee shall submit annual reports that specify the total OC emissions for emissions units R001-R024, combined, for the previous calendar year. These reports shall be submitted to the Director (Ohio Environmental Protection Agency, Northeast District Office) by January 30 of each year and shall cover the previous calendar year.

V. Testing Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.V.2., A.V.3., and A.V.4. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

2. Compliance with the emission limitation(s) in Section A.I. of these terms and conditions shall be determined in accordance with the following method(s):

Emission Limitation:
Minimum 90% (by weight) Capture Efficiency & 95% (by weight) Destruction Efficiency

Applicable Compliance Method:
OAC rule 3745-21-10(B). See A.V.3. USEPA Method 24A (for coatings, inks and cleanup materials) shall be used to determine the organic compound contents of the coatings, inks, and cleanup materials.

3. The permittee shall conduct, or have conducted, emissions testing for this emissions unit in accordance with the following requirements.

a. The emissions testing shall be conducted to demonstrate compliance with the capture and destruction efficiency requirements specified in Section A.I.2.a., to establish the average combustion temperature within the thermal oxidizer, to establish the temperature of the air flow entering the concentrator for the desorption cycle, and to establish the time period for the regeneration cycle.

b. The emission testing shall be conducted after 2.5 years from the effective date of this permit and 6 months prior to permit renewal. The permittee has demonstrated initial compliance during emission testing conducted on June 30, 1999.

c. The capture efficiency shall be determined using Method 204, as specified in 40 CFR Part 51, Appendix M, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency in accordance with the USEPA's "Guidelines for Determining Capture Efficiency", dated January 9, 1995. Written approval from USEPA must be obtained prior to 30 days before the scheduled test date if an alternative method is to be used. Alternative USEPA approved test methods may be used with prior approval from the Ohio EPA.

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 an approved alternative test protocol. 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. Alternative USEPA approved test methods may be used with prior approval from the Ohio EPA.

d. The test(s) shall be conducted while emissions units R001 - R024 are operating at or near their maximum capacities, unless otherwise specified or approved by the Ohio EPA, Northeast District Office.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test' notification to the Ohio EPA, Northeast District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions units 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 Northeast District Office's refusal to accept the results of the emissions test(s).

Personnel from the Ohio EPA Northeast District Office 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.

V. Testing Requirements (continued)

f. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the test and submitted to the Ohio EPA Northeast District Office 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 Ohio EPA Northeast District Office.

g. The VOC content of each coating, ink, and cleanup material used shall be based upon the use of USEPA Method 24.

4. Emission Limitation:
28.8 pounds OC per hour and 126 tons per year for emission units R001-R024, combined

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be based upon emission tests performed in accordance with the methods and procedures specified in A.V.3. Compliance with the annual emission limitation shall be based upon the record keeping in A.III.6.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. 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
R017 - Ink Jet Printer (51.0 feet long by 22.1 feet wide) and corresponding mixing operations, controlled by a 38,000 scfm Regensorb system		

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

1. The permit to install for emission units R001 - R024, combined, 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 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: MIBK

TLV (mg/m3): 205,00

Maximum Hourly Emission Rate (lbs/hr): 28.8

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 11.17

MAGLC (ug/m3): 4880

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 still 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:

III. Monitoring and/or Record Keeping Requirements (continued)

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.

2. 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.

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: R018 (R018)

Activity Description: R018 - Ink Jet Printing Machine

A. State and Federally Enforceable Section

I. 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
R018 - Ink Jet Printer (51.0 feet long by 22.1 feet wide) and corresponding mixing operations, controlled by a 38,000 scfm Regensorb system	OAC rule 3745-21-07(G)	The requirements of this rule are less stringent than the requirements established pursuant to OAC rule 3745-31-05(A)(3).
	OAC rule 3745-31-05(A)(3) (PTI # 02-2791)	See A.I.2.a and A.I.2.b.

2. Additional Terms and Conditions

2.a. The organic compounds emitted from this emissions unit shall be vented to a control device (a VOC concentrator and a thermal oxidizer) with a minimum capture efficiency of 90%, by weight, and a minimum destruction efficiency of 95%, by weight.

2.b The emissions from emissions units R001 - R024, combined, shall not exceed 28.8 pounds OC per hour and 126 tons OC per year. The hourly limitation is based on the emissions units' potential to emit after applying an 85.5% overall control efficiency. Therefore, no hourly record keeping and deviation reporting are required to demonstrate compliance with this limitation.

II. Operational Restrictions

1. 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 more than 50 degrees Fahrenheit below the average temperature during the most recent emissions test that demonstrated the emissions unit was in compliance.

2. The set point for the desorption air stream temperature shall be maintained at or above the temperature established during the most recent emissions test that demonstrated the emissions unit was in compliance. The temperature of the desorption air stream during the regeneration cycle shall not be more than 50 degrees Fahrenheit below this set point. An audible alarm shall be activated whenever the temperature of the desorption air stream is more than 50 degrees Fahrenheit below the set point.

3. The set point for the regeneration cycle time shall be maintained at the value established during the most recent emissions test that demonstrated the emissions unit was in compliance. The permittee shall maintain the duration of each regeneration cycle within 5 percent of the set point. An audible alarm shall be activated whenever the duration of each regeneration cycle is not within 5 percent of the set point.

II. Operational Restrictions (continued)

4. The operation of the control equipment outside of the restrictions established above may or may not indicate a mass emission violation. If required by the Ohio EPA, compliance with the mass emission limitations shall be determined by performing concurrent mass emission tests and parameter readings, using US EPA-approved methods and procedures. The results of any required emission tests and parameter readings shall be used in determining whether or not the operation of the control equipment outside of the restrictions specified above is indicative of a possible violation of the mass emission limitations.

5. Any malfunction, as defined in OAC rule 3745-15-06(B)(1), shall be reported to the Northeast District Office in accordance with OAC rule 3745-15-06(B). Parameter deviations due to such malfunctions, that comply with the requirements of OAC rule 3745-15-06(B), do not constitute violations of the operational restrictions for this emissions unit.

III. Monitoring and/or Record Keeping Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.III.2 and A.III.3. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

2. The permittee shall operate and maintain continuous temperature and time monitors that measure the following when the emissions unit is in operation:

a. the temperature of the exhaust gases in the combustion zone of the thermal oxidizer;

b. the temperature of the desorption air stream entering the concentrator; and

c. the duration of each regeneration cycle for the concentrator.

The permittee shall operate a continuous temperature recorder for the temperature of the exhaust gases in the combustion zone of the thermal oxidizer, and record the temperature when the emissions unit is in operation.

Units shall be in degrees Fahrenheit and minutes. The accuracy for each thermocouple, monitor, clock, and recorder shall be guaranteed by the manufacturer to be within 1 percent of the temperature/time being measured or 5 degrees Fahrenheit/ 0.5 minute, whichever is greater. The temperature monitors and recorders shall be calibrated, operated, and maintained in accordance with the manufacturers' recommendations, instructions and operating manuals.

3. Within 60 days from the effective date of this permit, the permittee shall install and thereafter operate and maintain audible alarms for deviations in the temperature of the desorption air stream entering the concentrator and the duration of each regeneration cycle for the concentrator. The set points and alarm activation levels shall be set at the values specified in A.II.2 and A.II.3 above.

The permittee shall maintain a log of each instance when an audible alarm is activated, the cause of the alarm, the time interval of the deviation, the magnitude of the deviation (in degrees Fahrenheit and/or in minutes, as applicable), and the corrective action taken to restore the correct operational parameters.

4. The permittee shall maintain a log or record of operating time for the capture (collection) system control devices, monitoring equipment, and the associated emissions unit.

5. On each day of operation of the control system for this emissions unit, the permittee shall record the set points and alarm activation levels, and the corresponding values of temperature and time duration. At least once per calendar month, the permittee shall calibrate the set points and alarm activations levels and maintain records of the results of each calibration.

III. Monitoring and/or Record Keeping Requirements (continued)

6. The permittee shall collect and record the following information each month for all the coatings, inks, and cleanup materials employed in emissions units R001-R024:

a. the name and identification of each coating, ink, and cleanup material employed;

b. the amount of each coating, ink, and cleanup material employed, in gallons;

c. the OC content of each coating, ink, and cleanup material employed, in lbs OC/gallon;

d. the OC emissions from each coating, ink, and cleanup material employed (i.e., (b) x (c) x (1 - the retention factor determined in the BAT study (factor varies from 0 - 5% max for non-vinyl substrate)) x (1 - the overall control efficiency established during the most recent emission test that demonstrated the emissions unit was in compliance); and

e. the total monthly OC emissions from all coatings, inks, and cleanup materials (the summation of all the emissions determined in (d)).

This information does not have to be kept on a line-by-line basis.

IV. Reporting Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.IV.2., A.IV.3., and A.IV.4. The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

2. The permittee shall submit quarterly temperature/time deviation (excursion) reports that identify:

a. all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer was more than 50 degrees Fahrenheit below the average temperature during the most recent emissions test that demonstrated the emissions unit was in compliance;

b. all instances when the set points and alarm activation levels for the temperature of the desorption air stream prior to the concentrator did not comply with the limitations specified in section A.II.2, based on the records maintained pursuant to section A.III.5 of these terms and conditions, and the magnitude of each deviation;

c. all instances when the set points and alarm activation levels for the duration of the regeneration cycle did not comply with the limitations specified in section A.II.3, based on the records maintained pursuant to section A.III.5 of these terms and conditions, and the magnitude of each deviation; and

d. all instances when an audible alarm was activated, the cause of each alarm (if known), the time interval of the deviation, the magnitude of the deviation (in degrees Fahrenheit and/or in minutes, as applicable), and the corrective action taken to restore the correct operating parameters

The reporting requirements for 2.b, 2.c and 2.d shall begin not later than 60 days following the effective date of this permit.

3. If no deviations occurred during a reporting period, then a quarterly report shall be submitted by the permittee stating so. The permittee shall submit the reports to the Director (Ohio EPA, Northeast District Office). Refer to General Term and Condition A.1.c for the deviation report due dates.

4. The permittee shall submit annual reports that specify the total OC emissions for emissions units R001-R024, combined, for the previous calendar year. These reports shall be submitted to the Director (Ohio Environmental Protection Agency, Northeast District Office) by January 30 of each year and shall cover the previous calendar year.

V. Testing Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.V.2., A.V.3., and A.V.4. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

2. Compliance with the emission limitation(s) in Section A.I. of these terms and conditions shall be determined in accordance with the following method(s):

Emission Limitation:
Minimum 90% (by weight) Capture Efficiency & 95% (by weight) Destruction Efficiency

Applicable Compliance Method:
OAC rule 3745-21-10(B). See A.V.3. USEPA Method 24A (for coatings, inks and cleanup materials) shall be used to determine the organic compound contents of the coatings, inks, and cleanup materials.

3. The permittee shall conduct, or have conducted, emissions testing for this emissions unit in accordance with the following requirements.

a. The emissions testing shall be conducted to demonstrate compliance with the capture and destruction efficiency requirements specified in Section A.I.2.a., to establish the average combustion temperature within the thermal oxidizer, to establish the temperature of the air flow entering the concentrator for the desorption cycle, and to establish the time period for the regeneration cycle.

b. The emission testing shall be conducted after 2.5 years from the effective date of this permit and 6 months prior to permit renewal. The permittee has demonstrated initial compliance during emission testing conducted on June 30, 1999.

c. The capture efficiency shall be determined using Method 204, as specified in 40 CFR Part 51, Appendix M, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency in accordance with the USEPA's "Guidelines for Determining Capture Efficiency", dated January 9, 1995. Written approval from USEPA must be obtained prior to 30 days before the scheduled test date if an alternative method is to be used. Alternative USEPA approved test methods may be used with prior approval from the Ohio EPA.

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 an approved alternative test protocol. 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. Alternative USEPA approved test methods may be used with prior approval from the Ohio EPA.

d. The test(s) shall be conducted while emissions units R001 - R024 are operating at or near their maximum capacities, unless otherwise specified or approved by the Ohio EPA, Northeast District Office.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test' notification to the Ohio EPA, Northeast District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions units 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 Northeast District Office's refusal to accept the results of the emissions test(s).

Personnel from the Ohio EPA Northeast District Office 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.

V. Testing Requirements (continued)

f. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the test and submitted to the Ohio EPA Northeast District Office 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 Ohio EPA Northeast District Office.

g. The VOC content of each coating, ink, and cleanup material used shall be based upon the use of USEPA Method 24.

4. Emission Limitation:
28.8 pounds OC per hour and 126 tons per year for emission units R001-R024, combined

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be based upon emission tests performed in accordance with the methods and procedures specified in A.V.3. Compliance with the annual emission limitation shall be based upon the record keeping in A.III.6.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. 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
R018 - Ink Jet Printer (51.0 feet long by 22.1 feet wide) and corresponding mixing operations, controlled by a 38,000 scfm Regensorb system		

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

1. The permit to install for emission units R001 - R024, combined, 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 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: MIBK

TLV (mg/m3): 205,00

Maximum Hourly Emission Rate (lbs/hr): 28.8

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 11.17

MAGLC (ug/m3): 4880

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 still 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:

III. Monitoring and/or Record Keeping Requirements (continued)

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.

2. 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.

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: R019 (R019)

Activity Description: R019 - Ink Jet Printing Machine

A. State and Federally Enforceable Section

I. 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
R019 - Ink Jet Printer (51.0 feet long by 22.1 feet wide) and corresponding mixing operations, controlled by a 38,000 scfm Regensorb system	OAC rule 3745-21-07(G)	The requirements of this rule are less stringent than the requirements established pursuant to OAC rule 3745-31-05(A)(3).
	OAC rule 3745-31-05(A)(3) (PTI # 02-2791)	See A.I.2.a and A.I.2.b.

2. Additional Terms and Conditions

2.a. The organic compounds emitted from this emissions unit shall be vented to a control device (a VOC concentrator and a thermal oxidizer) with a minimum capture efficiency of 90%, by weight, and a minimum destruction efficiency of 95%, by weight.

2.b The emissions from emissions units R001 - R024, combined, shall not exceed 28.8 pounds OC per hour and 126 tons OC per year. The hourly limitation is based on the emissions units' potential to emit after applying an 85.5% overall control efficiency. Therefore, no hourly record keeping and deviation reporting are required to demonstrate compliance with this limitation.

II. Operational Restrictions

1. 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 more than 50 degrees Fahrenheit below the average temperature during the most recent emissions test that demonstrated the emissions unit was in compliance.

2. The set point for the desorption air stream temperature shall be maintained at or above the temperature established during the most recent emissions test that demonstrated the emissions unit was in compliance. The temperature of the desorption air stream during the regeneration cycle shall not be more than 50 degrees Fahrenheit below this set point. An audible alarm shall be activated whenever the temperature of the desorption air stream is more than 50 degrees Fahrenheit below the set point.

3. The set point for the regeneration cycle time shall be maintained at the value established during the most recent emissions test that demonstrated the emissions unit was in compliance. The permittee shall maintain the duration of each regeneration cycle within 5 percent of the set point. An audible alarm shall be activated whenever the duration of each regeneration cycle is not within 5 percent of the set point.

II. Operational Restrictions (continued)

4. The operation of the control equipment outside of the restrictions established above may or may not indicate a mass emission violation. If required by the Ohio EPA, compliance with the mass emission limitations shall be determined by performing concurrent mass emission tests and parameter readings, using US EPA-approved methods and procedures. The results of any required emission tests and parameter readings shall be used in determining whether or not the operation of the control equipment outside of the restrictions specified above is indicative of a possible violation of the mass emission limitations.

5. Any malfunction, as defined in OAC rule 3745-15-06(B)(1), shall be reported to the Northeast District Office in accordance with OAC rule 3745-15-06(B). Parameter deviations due to such malfunctions, that comply with the requirements of OAC rule 3745-15-06(B), do not constitute violations of the operational restrictions for this emissions unit.

III. Monitoring and/or Record Keeping Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.III.2 and A.III.3. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

2. The permittee shall operate and maintain continuous temperature and time monitors that measure the following when the emissions unit is in operation:

a. the temperature of the exhaust gases in the combustion zone of the thermal oxidizer;

b. the temperature of the desorption air stream entering the concentrator; and

c. the duration of each regeneration cycle for the concentrator.

The permittee shall operate a continuous temperature recorder for the temperature of the exhaust gases in the combustion zone of the thermal oxidizer, and record the temperature when the emissions unit is in operation.

Units shall be in degrees Fahrenheit and minutes. The accuracy for each thermocouple, monitor, clock, and recorder shall be guaranteed by the manufacturer to be within 1 percent of the temperature/time being measured or 5 degrees Fahrenheit/ 0.5 minute, whichever is greater. The temperature monitors and recorders shall be calibrated, operated, and maintained in accordance with the manufacturers' recommendations, instructions and operating manuals.

3. Within 60 days from the effective date of this permit, the permittee shall install and thereafter operate and maintain audible alarms for deviations in the temperature of the desorption air stream entering the concentrator and the duration of each regeneration cycle for the concentrator. The set points and alarm activation levels shall be set at the values specified in A.II.2 and A.II.3 above.

The permittee shall maintain a log of each instance when an audible alarm is activated, the cause of the alarm, the time interval of the deviation, the magnitude of the deviation (in degrees Fahrenheit and/or in minutes, as applicable), and the corrective action taken to restore the correct operational parameters.

4. The permittee shall maintain a log or record of operating time for the capture (collection) system control devices, monitoring equipment, and the associated emissions unit.

5. On each day of operation of the control system for this emissions unit, the permittee shall record the set points and alarm activation levels, and the corresponding values of temperature and time duration. At least once per calendar month, the permittee shall calibrate the set points and alarm activations levels and maintain records of the results of each calibration.

III. Monitoring and/or Record Keeping Requirements (continued)

6. The permittee shall collect and record the following information each month for all the coatings, inks, and cleanup materials employed in emissions units R001-R024:

a. the name and identification of each coating, ink, and cleanup material employed;

b. the amount of each coating, ink, and cleanup material employed, in gallons;

c. the OC content of each coating, ink, and cleanup material employed, in lbs OC/gallon;

d. the OC emissions from each coating, ink, and cleanup material employed (i.e., (b) x (c) x (1 - the retention factor determined in the BAT study (factor varies from 0 - 5% max for non-vinyl substrate)) x (1 - the overall control efficiency established during the most recent emission test that demonstrated the emissions unit was in compliance); and

e. the total monthly OC emissions from all coatings, inks, and cleanup materials (the summation of all the emissions determined in (d)).

This information does not have to be kept on a line-by-line basis.

IV. Reporting Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.IV.2., A.IV.3., and A.IV.4. The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

2. The permittee shall submit quarterly temperature/time deviation (excursion) reports that identify:

a. all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer was more than 50 degrees Fahrenheit below the average temperature during the most recent emissions test that demonstrated the emissions unit was in compliance;

b. all instances when the set points and alarm activation levels for the temperature of the desorption air stream prior to the concentrator did not comply with the limitations specified in section A.II.2, based on the records maintained pursuant to section A.III.5 of these terms and conditions, and the magnitude of each deviation;

c. all instances when the set points and alarm activation levels for the duration of the regeneration cycle did not comply with the limitations specified in section A.II.3, based on the records maintained pursuant to section A.III.5 of these terms and conditions, and the magnitude of each deviation; and

d. all instances when an audible alarm was activated, the cause of each alarm (if known), the time interval of the deviation, the magnitude of the deviation (in degrees Fahrenheit and/or in minutes, as applicable), and the corrective action taken to restore the correct operating parameters

The reporting requirements for 2.b, 2.c and 2.d shall begin not later than 60 days following the effective date of this permit.

3. If no deviations occurred during a reporting period, then a quarterly report shall be submitted by the permittee stating so. The permittee shall submit the reports to the Director (Ohio EPA, Northeast District Office). Refer to General Term and Condition A.1.c for the deviation report due dates.

4. The permittee shall submit annual reports that specify the total OC emissions for emissions units R001-R024, combined, for the previous calendar year. These reports shall be submitted to the Director (Ohio Environmental Protection Agency, Northeast District Office) by January 30 of each year and shall cover the previous calendar year.

V. Testing Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.V.2., A.V.3., and A.V.4. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

2. Compliance with the emission limitation(s) in Section A.I. of these terms and conditions shall be determined in accordance with the following method(s):

Emission Limitation:
Minimum 90% (by weight) Capture Efficiency & 95% (by weight) Destruction Efficiency

Applicable Compliance Method:
OAC rule 3745-21-10(B). See A.V.3. USEPA Method 24A (for coatings, inks and cleanup materials) shall be used to determine the organic compound contents of the coatings, inks, and cleanup materials.

3. The permittee shall conduct, or have conducted, emissions testing for this emissions unit in accordance with the following requirements.

a. The emissions testing shall be conducted to demonstrate compliance with the capture and destruction efficiency requirements specified in Section A.I.2.a., to establish the average combustion temperature within the thermal oxidizer, to establish the temperature of the air flow entering the concentrator for the desorption cycle, and to establish the time period for the regeneration cycle.

b. The emission testing shall be conducted after 2.5 years from the effective date of this permit and 6 months prior to permit renewal. The permittee has demonstrated initial compliance during emission testing conducted on June 30, 1999.

c. The capture efficiency shall be determined using Method 204, as specified in 40 CFR Part 51, Appendix M, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency in accordance with the USEPA's "Guidelines for Determining Capture Efficiency", dated January 9, 1995. Written approval from USEPA must be obtained prior to 30 days before the scheduled test date if an alternative method is to be used. Alternative USEPA approved test methods may be used with prior approval from the Ohio EPA.

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 an approved alternative test protocol. 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. Alternative USEPA approved test methods may be used with prior approval from the Ohio EPA.

d. The test(s) shall be conducted while emissions units R001 - R024 are operating at or near their maximum capacities, unless otherwise specified or approved by the Ohio EPA, Northeast District Office.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test' notification to the Ohio EPA, Northeast District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions units 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 Northeast District Office's refusal to accept the results of the emissions test(s).

Personnel from the Ohio EPA Northeast District Office 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.

V. Testing Requirements (continued)

f. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the test and submitted to the Ohio EPA Northeast District Office 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 Ohio EPA Northeast District Office.

g. The VOC content of each coating, ink, and cleanup material used shall be based upon the use of USEPA Method 24.

4. Emission Limitation:
28.8 pounds OC per hour and 126 tons per year for emission units R001-R024, combined

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be based upon emission tests performed in accordance with the methods and procedures specified in A.V.3. Compliance with the annual emission limitation shall be based upon the record keeping in A.III.6.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. 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
R019 - Ink Jet Printer (51.0 feet long by 22.1 feet wide) and corresponding mixing operations, controlled by a 38,000 scfm Regensorb system		

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

1. The permit to install for emission units R001 - R024, combined, 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 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: MIBK

TLV (mg/m3): 205,00

Maximum Hourly Emission Rate (lbs/hr): 28.8

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 11.17

MAGLC (ug/m3): 4880

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 still 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:

III. Monitoring and/or Record Keeping Requirements (continued)

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.

2. 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.

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: R020 (R020)

Activity Description: R020 - Ink Jet Printing Machine

A. State and Federally Enforceable Section

I. 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
R020 - Ink Jet Printer (51.0 feet long by 22.1 feet wide) and corresponding mixing operations, controlled by a 38,000 scfm Regensorb system	OAC rule 3745-21-07(G)	The requirements of this rule are less stringent than the requirements established pursuant to OAC rule 3745-31-05(A)(3).
	OAC rule 3745-31-05(A)(3) (PTI # 02-2791)	See A.I.2.a and A.I.2.b.

2. Additional Terms and Conditions

2.a. The organic compounds emitted from this emissions unit shall be vented to a control device (a VOC concentrator and a thermal oxidizer) with a minimum capture efficiency of 90%, by weight, and a minimum destruction efficiency of 95%, by weight.

2.b The emissions from emissions units R001 - R024, combined, shall not exceed 28.8 pounds OC per hour and 126 tons OC per year. The hourly limitation is based on the emissions units' potential to emit after applying an 85.5% overall control efficiency. Therefore, no hourly record keeping and deviation reporting are required to demonstrate compliance with this limitation.

II. Operational Restrictions

1. 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 more than 50 degrees Fahrenheit below the average temperature during the most recent emissions test that demonstrated the emissions unit was in compliance.

2. The set point for the desorption air stream temperature shall be maintained at or above the temperature established during the most recent emissions test that demonstrated the emissions unit was in compliance. The temperature of the desorption air stream during the regeneration cycle shall not be more than 50 degrees Fahrenheit below this set point. An audible alarm shall be activated whenever the temperature of the desorption air stream is more than 50 degrees Fahrenheit below the set point.

3. The set point for the regeneration cycle time shall be maintained at the value established during the most recent emissions test that demonstrated the emissions unit was in compliance. The permittee shall maintain the duration of each regeneration cycle within 5 percent of the set point. An audible alarm shall be activated whenever the duration of each regeneration cycle is not within 5 percent of the set point.

II. Operational Restrictions (continued)

4. The operation of the control equipment outside of the restrictions established above may or may not indicate a mass emission violation. If required by the Ohio EPA, compliance with the mass emission limitations shall be determined by performing concurrent mass emission tests and parameter readings, using US EPA-approved methods and procedures. The results of any required emission tests and parameter readings shall be used in determining whether or not the operation of the control equipment outside of the restrictions specified above is indicative of a possible violation of the mass emission limitations.

5. Any malfunction, as defined in OAC rule 3745-15-06(B)(1), shall be reported to the Northeast District Office in accordance with OAC rule 3745-15-06(B). Parameter deviations due to such malfunctions, that comply with the requirements of OAC rule 3745-15-06(B), do not constitute violations of the operational restrictions for this emissions unit.

III. Monitoring and/or Record Keeping Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.III.2 and A.III.3. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

2. The permittee shall operate and maintain continuous temperature and time monitors that measure the following when the emissions unit is in operation:

a. the temperature of the exhaust gases in the combustion zone of the thermal oxidizer;

b. the temperature of the desorption air stream entering the concentrator; and

c. the duration of each regeneration cycle for the concentrator.

The permittee shall operate a continuous temperature recorder for the temperature of the exhaust gases in the combustion zone of the thermal oxidizer, and record the temperature when the emissions unit is in operation.

Units shall be in degrees Fahrenheit and minutes. The accuracy for each thermocouple, monitor, clock, and recorder shall be guaranteed by the manufacturer to be within 1 percent of the temperature/time being measured or 5 degrees Fahrenheit/ 0.5 minute, whichever is greater. The temperature monitors and recorders shall be calibrated, operated, and maintained in accordance with the manufacturers' recommendations, instructions and operating manuals.

3. Within 60 days from the effective date of this permit, the permittee shall install and thereafter operate and maintain audible alarms for deviations in the temperature of the desorption air stream entering the concentrator and the duration of each regeneration cycle for the concentrator. The set points and alarm activation levels shall be set at the values specified in A.II.2 and A.II.3 above.

The permittee shall maintain a log of each instance when an audible alarm is activated, the cause of the alarm, the time interval of the deviation, the magnitude of the deviation (in degrees Fahrenheit and/or in minutes, as applicable), and the corrective action taken to restore the correct operational parameters.

4. The permittee shall maintain a log or record of operating time for the capture (collection) system control devices, monitoring equipment, and the associated emissions unit.

5. On each day of operation of the control system for this emissions unit, the permittee shall record the set points and alarm activation levels, and the corresponding values of temperature and time duration. At least once per calendar month, the permittee shall calibrate the set points and alarm activations levels and maintain records of the results of each calibration.

III. Monitoring and/or Record Keeping Requirements (continued)

6. The permittee shall collect and record the following information each month for all the coatings, inks, and cleanup materials employed in emissions units R001-R024:

a. the name and identification of each coating, ink, and cleanup material employed;

b. the amount of each coating, ink, and cleanup material employed, in gallons;

c. the OC content of each coating, ink, and cleanup material employed, in lbs OC/gallon;

d. the OC emissions from each coating, ink, and cleanup material employed (i.e., (b) x (c) x (1 - the retention factor determined in the BAT study (factor varies from 0 - 5% max for non-vinyl substrate)) x (1 - the overall control efficiency established during the most recent emission test that demonstrated the emissions unit was in compliance); and

e. the total monthly OC emissions from all coatings, inks, and cleanup materials (the summation of all the emissions determined in (d)).

This information does not have to be kept on a line-by-line basis.

IV. Reporting Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.IV.2., A.IV.3., and A.IV.4. The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

2. The permittee shall submit quarterly temperature/time deviation (excursion) reports that identify:

a. all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer was more than 50 degrees Fahrenheit below the average temperature during the most recent emissions test that demonstrated the emissions unit was in compliance;

b. all instances when the set points and alarm activation levels for the temperature of the desorption air stream prior to the concentrator did not comply with the limitations specified in section A.II.2, based on the records maintained pursuant to section A.III.5 of these terms and conditions, and the magnitude of each deviation;

c. all instances when the set points and alarm activation levels for the duration of the regeneration cycle did not comply with the limitations specified in section A.II.3, based on the records maintained pursuant to section A.III.5 of these terms and conditions, and the magnitude of each deviation; and

d. all instances when an audible alarm was activated, the cause of each alarm (if known), the time interval of the deviation, the magnitude of the deviation (in degrees Fahrenheit and/or in minutes, as applicable), and the corrective action taken to restore the correct operating parameters

The reporting requirements for 2.b, 2.c and 2.d shall begin not later than 60 days following the effective date of this permit.

3. If no deviations occurred during a reporting period, then a quarterly report shall be submitted by the permittee stating so. The permittee shall submit the reports to the Director (Ohio EPA, Northeast District Office). Refer to General Term and Condition A.1.c for the deviation report due dates.

4. The permittee shall submit annual reports that specify the total OC emissions for emissions units R001-R024, combined, for the previous calendar year. These reports shall be submitted to the Director (Ohio Environmental Protection Agency, Northeast District Office) by January 30 of each year and shall cover the previous calendar year.

V. Testing Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.V.2., A.V.3., and A.V.4. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

2. Compliance with the emission limitation(s) in Section A.I. of these terms and conditions shall be determined in accordance with the following method(s):

Emission Limitation:
Minimum 90% (by weight) Capture Efficiency & 95% (by weight) Destruction Efficiency

Applicable Compliance Method:
OAC rule 3745-21-10(B). See A.V.3. USEPA Method 24A (for coatings, inks and cleanup materials) shall be used to determine the organic compound contents of the coatings, inks, and cleanup materials.

3. The permittee shall conduct, or have conducted, emissions testing for this emissions unit in accordance with the following requirements.

a. The emissions testing shall be conducted to demonstrate compliance with the capture and destruction efficiency requirements specified in Section A.I.2.a., to establish the average combustion temperature within the thermal oxidizer, to establish the temperature of the air flow entering the concentrator for the desorption cycle, and to establish the time period for the regeneration cycle.

b. The emission testing shall be conducted after 2.5 years from the effective date of this permit and 6 months prior to permit renewal. The permittee has demonstrated initial compliance during emission testing conducted on June 30, 1999.

c. The capture efficiency shall be determined using Method 204, as specified in 40 CFR Part 51, Appendix M, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency in accordance with the USEPA's "Guidelines for Determining Capture Efficiency", dated January 9, 1995. Written approval from USEPA must be obtained prior to 30 days before the scheduled test date if an alternative method is to be used. Alternative USEPA approved test methods may be used with prior approval from the Ohio EPA.

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 an approved alternative test protocol. 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. Alternative USEPA approved test methods may be used with prior approval from the Ohio EPA.

d. The test(s) shall be conducted while emissions units R001 - R024 are operating at or near their maximum capacities, unless otherwise specified or approved by the Ohio EPA, Northeast District Office.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test' notification to the Ohio EPA, Northeast District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions units 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 Northeast District Office's refusal to accept the results of the emissions test(s).

Personnel from the Ohio EPA Northeast District Office 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.

V. Testing Requirements (continued)

f. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the test and submitted to the Ohio EPA Northeast District Office 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 Ohio EPA Northeast District Office.

g. The VOC content of each coating, ink, and cleanup material used shall be based upon the use of USEPA Method 24.

4. Emission Limitation:
28.8 pounds OC per hour and 126 tons per year for emission units R001-R024, combined

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be based upon emission tests performed in accordance with the methods and procedures specified in A.V.3. Compliance with the annual emission limitation shall be based upon the record keeping in A.III.6.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. 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
R020 - Ink Jet Printer (51.0 feet long by 22.1 feet wide) and corresponding mixing operations, controlled by a 38,000 scfm Regensorb system		

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

1. The permit to install for emission units R001 - R024, combined, 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 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: MIBK

TLV (mg/m3): 205,00

Maximum Hourly Emission Rate (lbs/hr): 28.8

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 11.17

MAGLC (ug/m3): 4880

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 still 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:

III. Monitoring and/or Record Keeping Requirements (continued)

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.

2. 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.

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: R021 (R021)

Activity Description: R021 - Ink Jet Printing Machine

A. State and Federally Enforceable Section

I. 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
R021 - Ink Jet Printer (51.0 feet long by 22.1 feet wide) and corresponding mixing operations, controlled by a 38,000 scfm Regensorb system	OAC rule 3745-21-07(G)	The requirements of this rule are less stringent than the requirements established pursuant to OAC rule 3745-31-05(A)(3).
	OAC rule 3745-31-05(A)(3) (PTI # 02-2791)	See A.I.2.a and A.I.2.b.

2. Additional Terms and Conditions

2.a. The organic compounds emitted from this emissions unit shall be vented to a control device (a VOC concentrator and a thermal oxidizer) with a minimum capture efficiency of 90%, by weight, and a minimum destruction efficiency of 95%, by weight.

2.b The emissions from emissions units R001 - R024, combined, shall not exceed 28.8 pounds OC per hour and 126 tons OC per year. The hourly limitation is based on the emissions units' potential to emit after applying an 85.5% overall control efficiency. Therefore, no hourly record keeping and deviation reporting are required to demonstrate compliance with this limitation.

II. Operational Restrictions

1. 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 more than 50 degrees Fahrenheit below the average temperature during the most recent emissions test that demonstrated the emissions unit was in compliance.

2. The set point for the desorption air stream temperature shall be maintained at or above the temperature established during the most recent emissions test that demonstrated the emissions unit was in compliance. The temperature of the desorption air stream during the regeneration cycle shall not be more than 50 degrees Fahrenheit below this set point. An audible alarm shall be activated whenever the temperature of the desorption air stream is more than 50 degrees Fahrenheit below the set point.

3. The set point for the regeneration cycle time shall be maintained at the value established during the most recent emissions test that demonstrated the emissions unit was in compliance. The permittee shall maintain the duration of each regeneration cycle within 5 percent of the set point. An audible alarm shall be activated whenever the duration of each regeneration cycle is not within 5 percent of the set point.

II. Operational Restrictions (continued)

4. The operation of the control equipment outside of the restrictions established above may or may not indicate a mass emission violation. If required by the Ohio EPA, compliance with the mass emission limitations shall be determined by performing concurrent mass emission tests and parameter readings, using US EPA-approved methods and procedures. The results of any required emission tests and parameter readings shall be used in determining whether or not the operation of the control equipment outside of the restrictions specified above is indicative of a possible violation of the mass emission limitations.

5. Any malfunction, as defined in OAC rule 3745-15-06(B)(1), shall be reported to the Northeast District Office in accordance with OAC rule 3745-15-06(B). Parameter deviations due to such malfunctions, that comply with the requirements of OAC rule 3745-15-06(B), do not constitute violations of the operational restrictions for this emissions unit.

III. Monitoring and/or Record Keeping Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.III.2 and A.III.3. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

2. The permittee shall operate and maintain continuous temperature and time monitors that measure the following when the emissions unit is in operation:

a. the temperature of the exhaust gases in the combustion zone of the thermal oxidizer;

b. the temperature of the desorption air stream entering the concentrator; and

c. the duration of each regeneration cycle for the concentrator.

The permittee shall operate a continuous temperature recorder for the temperature of the exhaust gases in the combustion zone of the thermal oxidizer, and record the temperature when the emissions unit is in operation.

Units shall be in degrees Fahrenheit and minutes. The accuracy for each thermocouple, monitor, clock, and recorder shall be guaranteed by the manufacturer to be within 1 percent of the temperature/time being measured or 5 degrees Fahrenheit/ 0.5 minute, whichever is greater. The temperature monitors and recorders shall be calibrated, operated, and maintained in accordance with the manufacturers' recommendations, instructions and operating manuals.

3. Within 60 days from the effective date of this permit, the permittee shall install and thereafter operate and maintain audible alarms for deviations in the temperature of the desorption air stream entering the concentrator and the duration of each regeneration cycle for the concentrator. The set points and alarm activation levels shall be set at the values specified in A.II.2 and A.II.3 above.

The permittee shall maintain a log of each instance when an audible alarm is activated, the cause of the alarm, the time interval of the deviation, the magnitude of the deviation (in degrees Fahrenheit and/or in minutes, as applicable), and the corrective action taken to restore the correct operational parameters.

4. The permittee shall maintain a log or record of operating time for the capture (collection) system control devices, monitoring equipment, and the associated emissions unit.

5. On each day of operation of the control system for this emissions unit, the permittee shall record the set points and alarm activation levels, and the corresponding values of temperature and time duration. At least once per calendar month, the permittee shall calibrate the set points and alarm activations levels and maintain records of the results of each calibration.

III. Monitoring and/or Record Keeping Requirements (continued)

6. The permittee shall collect and record the following information each month for all the coatings, inks, and cleanup materials employed in emissions units R001-R024:

a. the name and identification of each coating, ink, and cleanup material employed;

b. the amount of each coating, ink, and cleanup material employed, in gallons;

c. the OC content of each coating, ink, and cleanup material employed, in lbs OC/gallon;

d. the OC emissions from each coating, ink, and cleanup material employed (i.e., (b) x (c) x (1 - the retention factor determined in the BAT study (factor varies from 0 - 5% max for non-vinyl substrate)) x (1 - the overall control efficiency established during the most recent emission test that demonstrated the emissions unit was in compliance); and

e. the total monthly OC emissions from all coatings, inks, and cleanup materials (the summation of all the emissions determined in (d)).

This information does not have to be kept on a line-by-line basis.

IV. Reporting Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.IV.2., A.IV.3., and A.IV.4. The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

2. The permittee shall submit quarterly temperature/time deviation (excursion) reports that identify:

a. all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer was more than 50 degrees Fahrenheit below the average temperature during the most recent emissions test that demonstrated the emissions unit was in compliance;

b. all instances when the set points and alarm activation levels for the temperature of the desorption air stream prior to the concentrator did not comply with the limitations specified in section A.II.2, based on the records maintained pursuant to section A.III.5 of these terms and conditions, and the magnitude of each deviation;

c. all instances when the set points and alarm activation levels for the duration of the regeneration cycle did not comply with the limitations specified in section A.II.3, based on the records maintained pursuant to section A.III.5 of these terms and conditions, and the magnitude of each deviation; and

d. all instances when an audible alarm was activated, the cause of each alarm (if known), the time interval of the deviation, the magnitude of the deviation (in degrees Fahrenheit and/or in minutes, as applicable), and the corrective action taken to restore the correct operating parameters

The reporting requirements for 2.b, 2.c and 2.d shall begin not later than 60 days following the effective date of this permit.

3. If no deviations occurred during a reporting period, then a quarterly report shall be submitted by the permittee stating so. The permittee shall submit the reports to the Director (Ohio EPA, Northeast District Office). Refer to General Term and Condition A.1.c for the deviation report due dates.

4. The permittee shall submit annual reports that specify the total OC emissions for emissions units R001-R024, combined, for the previous calendar year. These reports shall be submitted to the Director (Ohio Environmental Protection Agency, Northeast District Office) by January 30 of each year and shall cover the previous calendar year.

V. Testing Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.V.2., A.V.3., and A.V.4. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

2. Compliance with the emission limitation(s) in Section A.I. of these terms and conditions shall be determined in accordance with the following method(s):

Emission Limitation:
Minimum 90% (by weight) Capture Efficiency & 95% (by weight) Destruction Efficiency

Applicable Compliance Method:
OAC rule 3745-21-10(B). See A.V.3. USEPA Method 24A (for coatings, inks and cleanup materials) shall be used to determine the organic compound contents of the coatings, inks, and cleanup materials.

3. The permittee shall conduct, or have conducted, emissions testing for this emissions unit in accordance with the following requirements.

a. The emissions testing shall be conducted to demonstrate compliance with the capture and destruction efficiency requirements specified in Section A.I.2.a., to establish the average combustion temperature within the thermal oxidizer, to establish the temperature of the air flow entering the concentrator for the desorption cycle, and to establish the time period for the regeneration cycle.

b. The emission testing shall be conducted after 2.5 years from the effective date of this permit and 6 months prior to permit renewal. The permittee has demonstrated initial compliance during emission testing conducted on June 30, 1999.

c. The capture efficiency shall be determined using Method 204, as specified in 40 CFR Part 51, Appendix M, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency in accordance with the USEPA's "Guidelines for Determining Capture Efficiency", dated January 9, 1995. Written approval from USEPA must be obtained prior to 30 days before the scheduled test date if an alternative method is to be used. Alternative USEPA approved test methods may be used with prior approval from the Ohio EPA.

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 an approved alternative test protocol. 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. Alternative USEPA approved test methods may be used with prior approval from the Ohio EPA.

d. The test(s) shall be conducted while emissions units R001 - R024 are operating at or near their maximum capacities, unless otherwise specified or approved by the Ohio EPA, Northeast District Office.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test' notification to the Ohio EPA, Northeast District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions units 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 Northeast District Office's refusal to accept the results of the emissions test(s).

Personnel from the Ohio EPA Northeast District Office 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.

V. Testing Requirements (continued)

f. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the test and submitted to the Ohio EPA Northeast District Office 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 Ohio EPA Northeast District Office.

g. The VOC content of each coating, ink, and cleanup material used shall be based upon the use of USEPA Method 24.

4. Emission Limitation:
28.8 pounds OC per hour and 126 tons per year for emission units R001-R024, combined

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be based upon emission tests performed in accordance with the methods and procedures specified in A.V.3. Compliance with the annual emission limitation shall be based upon the record keeping in A.III.6.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. 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
R021 - Ink Jet Printer (51.0 feet long by 22.1 feet wide) and corresponding mixing operations, controlled by a 38,000 scfm Regensorb system		

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

1. The permit to install for emission units R001 - R024, combined, 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 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: MIBK

TLV (mg/m3): 205,00

Maximum Hourly Emission Rate (lbs/hr): 28.8

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 11.17

MAGLC (ug/m3): 4880

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 still 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:

III. Monitoring and/or Record Keeping Requirements (continued)

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.

2. 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.

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: R022 (R022)

Activity Description: R022 - Ink Jet Printing Machine

A. State and Federally Enforceable Section

I. 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
R022 - Ink Jet Printer (51.0 feet long by 22.1 feet wide) and corresponding mixing operations, controlled by a 38,000 scfm Regensorb system	OAC rule 3745-21-07(G)	The requirements of this rule are less stringent than the requirements established pursuant to OAC rule 3745-31-05(A)(3).
	OAC rule 3745-31-05(A)(3) (PTI # 02-2791)	See A.I.2.a and A.I.2.b.

2. Additional Terms and Conditions

2.a. The organic compounds emitted from this emissions unit shall be vented to a control device (a VOC concentrator and a thermal oxidizer) with a minimum capture efficiency of 90%, by weight, and a minimum destruction efficiency of 95%, by weight.

2.b The emissions from emissions units R001 - R024, combined, shall not exceed 28.8 pounds OC per hour and 126 tons OC per year. The hourly limitation is based on the emissions units' potential to emit after applying an 85.5% overall control efficiency. Therefore, no hourly record keeping and deviation reporting are required to demonstrate compliance with this limitation.

II. Operational Restrictions

1. 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 more than 50 degrees Fahrenheit below the average temperature during the most recent emissions test that demonstrated the emissions unit was in compliance.

2. The set point for the desorption air stream temperature shall be maintained at or above the temperature established during the most recent emissions test that demonstrated the emissions unit was in compliance. The temperature of the desorption air stream during the regeneration cycle shall not be more than 50 degrees Fahrenheit below this set point. An audible alarm shall be activated whenever the temperature of the desorption air stream is more than 50 degrees Fahrenheit below the set point.

3. The set point for the regeneration cycle time shall be maintained at the value established during the most recent emissions test that demonstrated the emissions unit was in compliance. The permittee shall maintain the duration of each regeneration cycle within 5 percent of the set point. An audible alarm shall be activated whenever the duration of each regeneration cycle is not within 5 percent of the set point.

II. Operational Restrictions (continued)

4. The operation of the control equipment outside of the restrictions established above may or may not indicate a mass emission violation. If required by the Ohio EPA, compliance with the mass emission limitations shall be determined by performing concurrent mass emission tests and parameter readings, using US EPA-approved methods and procedures. The results of any required emission tests and parameter readings shall be used in determining whether or not the operation of the control equipment outside of the restrictions specified above is indicative of a possible violation of the mass emission limitations.

5. Any malfunction, as defined in OAC rule 3745-15-06(B)(1), shall be reported to the Northeast District Office in accordance with OAC rule 3745-15-06(B). Parameter deviations due to such malfunctions, that comply with the requirements of OAC rule 3745-15-06(B), do not constitute violations of the operational restrictions for this emissions unit.

III. Monitoring and/or Record Keeping Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.III.2 and A.III.3. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

2. The permittee shall operate and maintain continuous temperature and time monitors that measure the following when the emissions unit is in operation:

a. the temperature of the exhaust gases in the combustion zone of the thermal oxidizer;

b. the temperature of the desorption air stream entering the concentrator; and

c. the duration of each regeneration cycle for the concentrator.

The permittee shall operate a continuous temperature recorder for the temperature of the exhaust gases in the combustion zone of the thermal oxidizer, and record the temperature when the emissions unit is in operation.

Units shall be in degrees Fahrenheit and minutes. The accuracy for each thermocouple, monitor, clock, and recorder shall be guaranteed by the manufacturer to be within 1 percent of the temperature/time being measured or 5 degrees Fahrenheit/ 0.5 minute, whichever is greater. The temperature monitors and recorders shall be calibrated, operated, and maintained in accordance with the manufacturers' recommendations, instructions and operating manuals.

3. Within 60 days from the effective date of this permit, the permittee shall install and thereafter operate and maintain audible alarms for deviations in the temperature of the desorption air stream entering the concentrator and the duration of each regeneration cycle for the concentrator. The set points and alarm activation levels shall be set at the values specified in A.II.2 and A.II.3 above.

The permittee shall maintain a log of each instance when an audible alarm is activated, the cause of the alarm, the time interval of the deviation, the magnitude of the deviation (in degrees Fahrenheit and/or in minutes, as applicable), and the corrective action taken to restore the correct operational parameters.

4. The permittee shall maintain a log or record of operating time for the capture (collection) system control devices, monitoring equipment, and the associated emissions unit.

5. On each day of operation of the control system for this emissions unit, the permittee shall record the set points and alarm activation levels, and the corresponding values of temperature and time duration. At least once per calendar month, the permittee shall calibrate the set points and alarm activations levels and maintain records of the results of each calibration.

III. Monitoring and/or Record Keeping Requirements (continued)

6. The permittee shall collect and record the following information each month for all the coatings, inks, and cleanup materials employed in emissions units R001-R024:

a. the name and identification of each coating, ink, and cleanup material employed;

b. the amount of each coating, ink, and cleanup material employed, in gallons;

c. the OC content of each coating, ink, and cleanup material employed, in lbs OC/gallon;

d. the OC emissions from each coating, ink, and cleanup material employed (i.e., (b) x (c) x (1 - the retention factor determined in the BAT study (factor varies from 0 - 5% max for non-vinyl substrate)) x (1 - the overall control efficiency established during the most recent emission test that demonstrated the emissions unit was in compliance); and

e. the total monthly OC emissions from all coatings, inks, and cleanup materials (the summation of all the emissions determined in (d)).

This information does not have to be kept on a line-by-line basis.

IV. Reporting Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.IV.2., A.IV.3., and A.IV.4. The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

2. The permittee shall submit quarterly temperature/time deviation (excursion) reports that identify:

a. all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer was more than 50 degrees Fahrenheit below the average temperature during the most recent emissions test that demonstrated the emissions unit was in compliance;

b. all instances when the set points and alarm activation levels for the temperature of the desorption air stream prior to the concentrator did not comply with the limitations specified in section A.II.2, based on the records maintained pursuant to section A.III.5 of these terms and conditions, and the magnitude of each deviation;

c. all instances when the set points and alarm activation levels for the duration of the regeneration cycle did not comply with the limitations specified in section A.II.3, based on the records maintained pursuant to section A.III.5 of these terms and conditions, and the magnitude of each deviation; and

d. all instances when an audible alarm was activated, the cause of each alarm (if known), the time interval of the deviation, the magnitude of the deviation (in degrees Fahrenheit and/or in minutes, as applicable), and the corrective action taken to restore the correct operating parameters

The reporting requirements for 2.b, 2.c and 2.d shall begin not later than 60 days following the effective date of this permit.

3. If no deviations occurred during a reporting period, then a quarterly report shall be submitted by the permittee stating so. The permittee shall submit the reports to the Director (Ohio EPA, Northeast District Office). Refer to General Term and Condition A.1.c for the deviation report due dates.

4. The permittee shall submit annual reports that specify the total OC emissions for emissions units R001-R024, combined, for the previous calendar year. These reports shall be submitted to the Director (Ohio Environmental Protection Agency, Northeast District Office) by January 30 of each year and shall cover the previous calendar year.

V. Testing Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.V.2., A.V.3., and A.V.4. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

2. Compliance with the emission limitation(s) in Section A.I. of these terms and conditions shall be determined in accordance with the following method(s):

Emission Limitation:
Minimum 90% (by weight) Capture Efficiency & 95% (by weight) Destruction Efficiency

Applicable Compliance Method:
OAC rule 3745-21-10(B). See A.V.3. USEPA Method 24A (for coatings, inks and cleanup materials) shall be used to determine the organic compound contents of the coatings, inks, and cleanup materials.

3. The permittee shall conduct, or have conducted, emissions testing for this emissions unit in accordance with the following requirements.

a. The emissions testing shall be conducted to demonstrate compliance with the capture and destruction efficiency requirements specified in Section A.I.2.a., to establish the average combustion temperature within the thermal oxidizer, to establish the temperature of the air flow entering the concentrator for the desorption cycle, and to establish the time period for the regeneration cycle.

b. The emission testing shall be conducted after 2.5 years from the effective date of this permit and 6 months prior to permit renewal. The permittee has demonstrated initial compliance during emission testing conducted on June 30, 1999.

c. The capture efficiency shall be determined using Method 204, as specified in 40 CFR Part 51, Appendix M, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency in accordance with the USEPA's "Guidelines for Determining Capture Efficiency", dated January 9, 1995. Written approval from USEPA must be obtained prior to 30 days before the scheduled test date if an alternative method is to be used. Alternative USEPA approved test methods may be used with prior approval from the Ohio EPA.

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 an approved alternative test protocol. 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. Alternative USEPA approved test methods may be used with prior approval from the Ohio EPA.

d. The test(s) shall be conducted while emissions units R001 - R024 are operating at or near their maximum capacities, unless otherwise specified or approved by the Ohio EPA, Northeast District Office.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test' notification to the Ohio EPA, Northeast District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions units 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 Northeast District Office's refusal to accept the results of the emissions test(s).

Personnel from the Ohio EPA Northeast District Office 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.

V. Testing Requirements (continued)

f. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the test and submitted to the Ohio EPA Northeast District Office 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 Ohio EPA Northeast District Office.

g. The VOC content of each coating, ink, and cleanup material used shall be based upon the use of USEPA Method 24.

4. Emission Limitation:
28.8 pounds OC per hour and 126 tons per year for emission units R001-R024, combined

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be based upon emission tests performed in accordance with the methods and procedures specified in A.V.3. Compliance with the annual emission limitation shall be based upon the record keeping in A.III.6.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. 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
R022 - Ink Jet Printer (51.0 feet long by 22.1 feet wide) and corresponding mixing operations, controlled by a 38,000 scfm Regensorb system		

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

1. The permit to install for emission units R001 - R024, combined, 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 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: MIBK

TLV (mg/m3): 205,00

Maximum Hourly Emission Rate (lbs/hr): 28.8

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 11.17

MAGLC (ug/m3): 4880

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 still 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:

III. Monitoring and/or Record Keeping Requirements (continued)

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.

2. 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.

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: R023 (R023)

Activity Description: R023 - Ink Jet Printing Machine

A. State and Federally Enforceable Section

I. 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
R023 - Ink Jet Printer (51.0 feet long by 22.1 feet wide) and corresponding mixing operations, controlled by a 38,000 scfm Regensorb system	OAC rule 3745-21-07(G)	The requirements of this rule are less stringent than the requirements established pursuant to OAC rule 3745-31-05(A)(3).
	OAC rule 3745-31-05(A)(3) (PTI # 02-2791)	See A.I.2.a and A.I.2.b.

2. Additional Terms and Conditions

2.a. The organic compounds emitted from this emissions unit shall be vented to a control device (a VOC concentrator and a thermal oxidizer) with a minimum capture efficiency of 90%, by weight, and a minimum destruction efficiency of 95%, by weight.

2.b The emissions from emissions units R001 - R024, combined, shall not exceed 28.8 pounds OC per hour and 126 tons OC per year. The hourly limitation is based on the emissions units' potential to emit after applying an 85.5% overall control efficiency. Therefore, no hourly record keeping and deviation reporting are required to demonstrate compliance with this limitation.

II. Operational Restrictions

1. 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 more than 50 degrees Fahrenheit below the average temperature during the most recent emissions test that demonstrated the emissions unit was in compliance.

2. The set point for the desorption air stream temperature shall be maintained at or above the temperature established during the most recent emissions test that demonstrated the emissions unit was in compliance. The temperature of the desorption air stream during the regeneration cycle shall not be more than 50 degrees Fahrenheit below this set point. An audible alarm shall be activated whenever the temperature of the desorption air stream is more than 50 degrees Fahrenheit below the set point.

3. The set point for the regeneration cycle time shall be maintained at the value established during the most recent emissions test that demonstrated the emissions unit was in compliance. The permittee shall maintain the duration of each regeneration cycle within 5 percent of the set point. An audible alarm shall be activated whenever the duration of each regeneration cycle is not within 5 percent of the set point.

II. Operational Restrictions (continued)

4. The operation of the control equipment outside of the restrictions established above may or may not indicate a mass emission violation. If required by the Ohio EPA, compliance with the mass emission limitations shall be determined by performing concurrent mass emission tests and parameter readings, using US EPA-approved methods and procedures. The results of any required emission tests and parameter readings shall be used in determining whether or not the operation of the control equipment outside of the restrictions specified above is indicative of a possible violation of the mass emission limitations.

5. Any malfunction, as defined in OAC rule 3745-15-06(B)(1), shall be reported to the Northeast District Office in accordance with OAC rule 3745-15-06(B). Parameter deviations due to such malfunctions, that comply with the requirements of OAC rule 3745-15-06(B), do not constitute violations of the operational restrictions for this emissions unit.

III. Monitoring and/or Record Keeping Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.III.2 and A.III.3. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

2. The permittee shall operate and maintain continuous temperature and time monitors that measure the following when the emissions unit is in operation:

a. the temperature of the exhaust gases in the combustion zone of the thermal oxidizer;

b. the temperature of the desorption air stream entering the concentrator; and

c. the duration of each regeneration cycle for the concentrator.

The permittee shall operate a continuous temperature recorder for the temperature of the exhaust gases in the combustion zone of the thermal oxidizer, and record the temperature when the emissions unit is in operation.

Units shall be in degrees Fahrenheit and minutes. The accuracy for each thermocouple, monitor, clock, and recorder shall be guaranteed by the manufacturer to be within 1 percent of the temperature/time being measured or 5 degrees Fahrenheit/ 0.5 minute, whichever is greater. The temperature monitors and recorders shall be calibrated, operated, and maintained in accordance with the manufacturers' recommendations, instructions and operating manuals.

3. Within 60 days from the effective date of this permit, the permittee shall install and thereafter operate and maintain audible alarms for deviations in the temperature of the desorption air stream entering the concentrator and the duration of each regeneration cycle for the concentrator. The set points and alarm activation levels shall be set at the values specified in A.II.2 and A.II.3 above.

The permittee shall maintain a log of each instance when an audible alarm is activated, the cause of the alarm, the time interval of the deviation, the magnitude of the deviation (in degrees Fahrenheit and/or in minutes, as applicable), and the corrective action taken to restore the correct operational parameters.

4. The permittee shall maintain a log or record of operating time for the capture (collection) system control devices, monitoring equipment, and the associated emissions unit.

5. On each day of operation of the control system for this emissions unit, the permittee shall record the set points and alarm activation levels, and the corresponding values of temperature and time duration. At least once per calendar month, the permittee shall calibrate the set points and alarm activations levels and maintain records of the results of each calibration.

III. Monitoring and/or Record Keeping Requirements (continued)

6. The permittee shall collect and record the following information each month for all the coatings, inks, and cleanup materials employed in emissions units R001-R024:

a. the name and identification of each coating, ink, and cleanup material employed;

b. the amount of each coating, ink, and cleanup material employed, in gallons;

c. the OC content of each coating, ink, and cleanup material employed, in lbs OC/gallon;

d. the OC emissions from each coating, ink, and cleanup material employed (i.e., (b) x (c) x (1 - the retention factor determined in the BAT study (factor varies from 0 - 5% max for non-vinyl substrate)) x (1 - the overall control efficiency established during the most recent emission test that demonstrated the emissions unit was in compliance); and

e. the total monthly OC emissions from all coatings, inks, and cleanup materials (the summation of all the emissions determined in (d)).

This information does not have to be kept on a line-by-line basis.

IV. Reporting Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.IV.2., A.IV.3., and A.IV.4. The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

2. The permittee shall submit quarterly temperature/time deviation (excursion) reports that identify:

a. all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer was more than 50 degrees Fahrenheit below the average temperature during the most recent emissions test that demonstrated the emissions unit was in compliance;

b. all instances when the set points and alarm activation levels for the temperature of the desorption air stream prior to the concentrator did not comply with the limitations specified in section A.II.2, based on the records maintained pursuant to section A.III.5 of these terms and conditions, and the magnitude of each deviation;

c. all instances when the set points and alarm activation levels for the duration of the regeneration cycle did not comply with the limitations specified in section A.II.3, based on the records maintained pursuant to section A.III.5 of these terms and conditions, and the magnitude of each deviation; and

d. all instances when an audible alarm was activated, the cause of each alarm (if known), the time interval of the deviation, the magnitude of the deviation (in degrees Fahrenheit and/or in minutes, as applicable), and the corrective action taken to restore the correct operating parameters

The reporting requirements for 2.b, 2.c and 2.d shall begin not later than 60 days following the effective date of this permit.

3. If no deviations occurred during a reporting period, then a quarterly report shall be submitted by the permittee stating so. The permittee shall submit the reports to the Director (Ohio EPA, Northeast District Office). Refer to General Term and Condition A.1.c for the deviation report due dates.

4. The permittee shall submit annual reports that specify the total OC emissions for emissions units R001-R024, combined, for the previous calendar year. These reports shall be submitted to the Director (Ohio Environmental Protection Agency, Northeast District Office) by January 30 of each year and shall cover the previous calendar year.

V. Testing Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.V.2., A.V.3., and A.V.4. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

2. Compliance with the emission limitation(s) in Section A.I. of these terms and conditions shall be determined in accordance with the following method(s):

Emission Limitation:
Minimum 90% (by weight) Capture Efficiency & 95% (by weight) Destruction Efficiency

Applicable Compliance Method:
OAC rule 3745-21-10(B). See A.V.3. USEPA Method 24A (for coatings, inks and cleanup materials) shall be used to determine the organic compound contents of the coatings, inks, and cleanup materials.

3. The permittee shall conduct, or have conducted, emissions testing for this emissions unit in accordance with the following requirements.

a. The emissions testing shall be conducted to demonstrate compliance with the capture and destruction efficiency requirements specified in Section A.I.2.a., to establish the average combustion temperature within the thermal oxidizer, to establish the temperature of the air flow entering the concentrator for the desorption cycle, and to establish the time period for the regeneration cycle.

b. The emission testing shall be conducted after 2.5 years from the effective date of this permit and 6 months prior to permit renewal. The permittee has demonstrated initial compliance during emission testing conducted on June 30, 1999.

c. The capture efficiency shall be determined using Method 204, as specified in 40 CFR Part 51, Appendix M, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency in accordance with the USEPA's "Guidelines for Determining Capture Efficiency", dated January 9, 1995. Written approval from USEPA must be obtained prior to 30 days before the scheduled test date if an alternative method is to be used. Alternative USEPA approved test methods may be used with prior approval from the Ohio EPA.

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 an approved alternative test protocol. 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. Alternative USEPA approved test methods may be used with prior approval from the Ohio EPA.

d. The test(s) shall be conducted while emissions units R001 - R024 are operating at or near their maximum capacities, unless otherwise specified or approved by the Ohio EPA, Northeast District Office.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test' notification to the Ohio EPA, Northeast District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions units 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 Northeast District Office's refusal to accept the results of the emissions test(s).

Personnel from the Ohio EPA Northeast District Office 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.

V. Testing Requirements (continued)

f. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the test and submitted to the Ohio EPA Northeast District Office 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 Ohio EPA Northeast District Office.

g. The VOC content of each coating, ink, and cleanup material used shall be based upon the use of USEPA Method 24.

4. Emission Limitation:
28.8 pounds OC per hour and 126 tons per year for emission units R001-R024, combined

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be based upon emission tests performed in accordance with the methods and procedures specified in A.V.3. Compliance with the annual emission limitation shall be based upon the record keeping in A.III.6.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. 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
R023 - Ink Jet Printer (51.0 feet long by 22.1 feet wide) and corresponding mixing operations, controlled by a 38,000 scfm Regensorb system		

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

1. The permit to install for emission units R001 - R024, combined, 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 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: MIBK

TLV (mg/m3): 205,00

Maximum Hourly Emission Rate (lbs/hr): 28.8

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 11.17

MAGLC (ug/m3): 4880

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 still 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:

III. Monitoring and/or Record Keeping Requirements (continued)

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.

2. 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.

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: R024 (R024)

Activity Description: R024 - Ink Jet Printing Machine

A. State and Federally Enforceable Section

I. 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
R024 - Ink Jet Printer (51.0 feet long by 22.1 feet wide) and corresponding mixing operations, controlled by a 38,000 scfm Regensorb system	OAC rule 3745-21-07(G)	The requirements of this rule are less stringent than the requirements established pursuant to OAC rule 3745-31-05(A)(3).
	OAC rule 3745-31-05(A)(3) (PTI # 02-2791)	See A.I.2.a and A.I.2.b.

2. Additional Terms and Conditions

2.a. The organic compounds emitted from this emissions unit shall be vented to a control device (a VOC concentrator and a thermal oxidizer) with a minimum capture efficiency of 90%, by weight, and a minimum destruction efficiency of 95%, by weight.

2.b The emissions from emissions units R001 - R024, combined, shall not exceed 28.8 pounds OC per hour and 126 tons OC per year. The hourly limitation is based on the emissions units' potential to emit after applying an 85.5% overall control efficiency. Therefore, no hourly record keeping and deviation reporting are required to demonstrate compliance with this limitation.

II. Operational Restrictions

1. 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 more than 50 degrees Fahrenheit below the average temperature during the most recent emissions test that demonstrated the emissions unit was in compliance.

2. The set point for the desorption air stream temperature shall be maintained at or above the temperature established during the most recent emissions test that demonstrated the emissions unit was in compliance. The temperature of the desorption air stream during the regeneration cycle shall not be more than 50 degrees Fahrenheit below this set point. An audible alarm shall be activated whenever the temperature of the desorption air stream is more than 50 degrees Fahrenheit below the set point.

3. The set point for the regeneration cycle time shall be maintained at the value established during the most recent emissions test that demonstrated the emissions unit was in compliance. The permittee shall maintain the duration of each regeneration cycle within 5 percent of the set point. An audible alarm shall be activated whenever the duration of each regeneration cycle is not within 5 percent of the set point.

II. Operational Restrictions (continued)

4. The operation of the control equipment outside of the restrictions established above may or may not indicate a mass emission violation. If required by the Ohio EPA, compliance with the mass emission limitations shall be determined by performing concurrent mass emission tests and parameter readings, using US EPA-approved methods and procedures. The results of any required emission tests and parameter readings shall be used in determining whether or not the operation of the control equipment outside of the restrictions specified above is indicative of a possible violation of the mass emission limitations.

5. Any malfunction, as defined in OAC rule 3745-15-06(B)(1), shall be reported to the Northeast District Office in accordance with OAC rule 3745-15-06(B). Parameter deviations due to such malfunctions, that comply with the requirements of OAC rule 3745-15-06(B), do not constitute violations of the operational restrictions for this emissions unit.

III. Monitoring and/or Record Keeping Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.III.2 and A.III.3. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

2. The permittee shall operate and maintain continuous temperature and time monitors that measure the following when the emissions unit is in operation:

a. the temperature of the exhaust gases in the combustion zone of the thermal oxidizer;

b. the temperature of the desorption air stream entering the concentrator; and

c. the duration of each regeneration cycle for the concentrator.

The permittee shall operate a continuous temperature recorder for the temperature of the exhaust gases in the combustion zone of the thermal oxidizer, and record the temperature when the emissions unit is in operation.

Units shall be in degrees Fahrenheit and minutes. The accuracy for each thermocouple, monitor, clock, and recorder shall be guaranteed by the manufacturer to be within 1 percent of the temperature/time being measured or 5 degrees Fahrenheit/ 0.5 minute, whichever is greater. The temperature monitors and recorders shall be calibrated, operated, and maintained in accordance with the manufacturers' recommendations, instructions and operating manuals.

3. Within 60 days from the effective date of this permit, the permittee shall install and thereafter operate and maintain audible alarms for deviations in the temperature of the desorption air stream entering the concentrator and the duration of each regeneration cycle for the concentrator. The set points and alarm activation levels shall be set at the values specified in A.II.2 and A.II.3 above.

The permittee shall maintain a log of each instance when an audible alarm is activated, the cause of the alarm, the time interval of the deviation, the magnitude of the deviation (in degrees Fahrenheit and/or in minutes, as applicable), and the corrective action taken to restore the correct operational parameters.

4. The permittee shall maintain a log or record of operating time for the capture (collection) system control devices, monitoring equipment, and the associated emissions unit.

5. On each day of operation of the control system for this emissions unit, the permittee shall record the set points and alarm activation levels, and the corresponding values of temperature and time duration. At least once per calendar month, the permittee shall calibrate the set points and alarm activations levels and maintain records of the results of each calibration.

III. Monitoring and/or Record Keeping Requirements (continued)

6. The permittee shall collect and record the following information each month for all the coatings, inks, and cleanup materials employed in emissions units R001-R024:

a. the name and identification of each coating, ink, and cleanup material employed;

b. the amount of each coating, ink, and cleanup material employed, in gallons;

c. the OC content of each coating, ink, and cleanup material employed, in lbs OC/gallon;

d. the OC emissions from each coating, ink, and cleanup material employed (i.e., (b) x (c) x (1 - the retention factor determined in the BAT study (factor varies from 0 - 5% max for non-vinyl substrate)) x (1 - the overall control efficiency established during the most recent emission test that demonstrated the emissions unit was in compliance); and

e. the total monthly OC emissions from all coatings, inks, and cleanup materials (the summation of all the emissions determined in (d)).

This information does not have to be kept on a line-by-line basis.

IV. Reporting Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.IV.2., A.IV.3., and A.IV.4. The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

2. The permittee shall submit quarterly temperature/time deviation (excursion) reports that identify:

a. all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer was more than 50 degrees Fahrenheit below the average temperature during the most recent emissions test that demonstrated the emissions unit was in compliance;

b. all instances when the set points and alarm activation levels for the temperature of the desorption air stream prior to the concentrator did not comply with the limitations specified in section A.II.2, based on the records maintained pursuant to section A.III.5 of these terms and conditions, and the magnitude of each deviation;

c. all instances when the set points and alarm activation levels for the duration of the regeneration cycle did not comply with the limitations specified in section A.II.3, based on the records maintained pursuant to section A.III.5 of these terms and conditions, and the magnitude of each deviation; and

d. all instances when an audible alarm was activated, the cause of each alarm (if known), the time interval of the deviation, the magnitude of the deviation (in degrees Fahrenheit and/or in minutes, as applicable), and the corrective action taken to restore the correct operating parameters

The reporting requirements for 2.b, 2.c and 2.d shall begin not later than 60 days following the effective date of this permit.

3. If no deviations occurred during a reporting period, then a quarterly report shall be submitted by the permittee stating so. The permittee shall submit the reports to the Director (Ohio EPA, Northeast District Office). Refer to General Term and Condition A.1.c for the deviation report due dates.

4. The permittee shall submit annual reports that specify the total OC emissions for emissions units R001-R024, combined, for the previous calendar year. These reports shall be submitted to the Director (Ohio Environmental Protection Agency, Northeast District Office) by January 30 of each year and shall cover the previous calendar year.

V. Testing Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install # 02-2791, issued on July 8, 1999: A.V.2., A.V.3., and A.V.4. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

2. Compliance with the emission limitation(s) in Section A.I. of these terms and conditions shall be determined in accordance with the following method(s):

Emission Limitation:
Minimum 90% (by weight) Capture Efficiency & 95% (by weight) Destruction Efficiency

Applicable Compliance Method:
OAC rule 3745-21-10(B). See A.V.3. USEPA Method 24A (for coatings, inks and cleanup materials) shall be used to determine the organic compound contents of the coatings, inks, and cleanup materials.

3. The permittee shall conduct, or have conducted, emissions testing for this emissions unit in accordance with the following requirements.

a. The emissions testing shall be conducted to demonstrate compliance with the capture and destruction efficiency requirements specified in Section A.I.2.a., to establish the average combustion temperature within the thermal oxidizer, to establish the temperature of the air flow entering the concentrator for the desorption cycle, and to establish the time period for the regeneration cycle.

b. The emission testing shall be conducted after 2.5 years from the effective date of this permit and 6 months prior to permit renewal. The permittee has demonstrated initial compliance during emission testing conducted on June 30, 1999.

c. The capture efficiency shall be determined using Method 204, as specified in 40 CFR Part 51, Appendix M, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency in accordance with the USEPA's "Guidelines for Determining Capture Efficiency", dated January 9, 1995. Written approval from USEPA must be obtained prior to 30 days before the scheduled test date if an alternative method is to be used. Alternative USEPA approved test methods may be used with prior approval from the Ohio EPA.

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 an approved alternative test protocol. 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. Alternative USEPA approved test methods may be used with prior approval from the Ohio EPA.

d. The test(s) shall be conducted while emissions units R001 - R024 are operating at or near their maximum capacities, unless otherwise specified or approved by the Ohio EPA, Northeast District Office.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test' notification to the Ohio EPA, Northeast District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions units 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 Northeast District Office's refusal to accept the results of the emissions test(s).

Personnel from the Ohio EPA Northeast District Office 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.

V. Testing Requirements (continued)

f. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the test and submitted to the Ohio EPA Northeast District Office 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 Ohio EPA Northeast District Office.

g. The VOC content of each coating, ink, and cleanup material used shall be based upon the use of USEPA Method 24.

4. Emission Limitation:
28.8 pounds OC per hour and 126 tons per year for emission units R001-R024, combined

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be based upon emission tests performed in accordance with the methods and procedures specified in A.V.3. Compliance with the annual emission limitation shall be based upon the record keeping in A.III.6.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. 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
R024 - Ink Jet Printer (51.0 feet long by 22.1 feet wide) and corresponding mixing operations, controlled by a 38,000 scfm Regensorb system		

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

1. The permit to install for emission units R001 - R024, combined, 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 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: MIBK

TLV (mg/m3): 205,00

Maximum Hourly Emission Rate (lbs/hr): 28.8

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 11.17

MAGLC (ug/m3): 4880

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 still 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:

III. Monitoring and/or Record Keeping Requirements (continued)

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.

2. 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.

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

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