



State of Ohio Environmental Protection Agency

**RE: FINAL PERMIT TO INSTALL
WARREN COUNTY**

CERTIFIED MAIL

Street Address:

122 S. Front Street

Lazarus Gov. Center TELE: (614) 644-3020 FAX: (614) 644-2329

Mailing Address:

Lazarus Gov. Center
P.O. Box 1049

Application No: 14-05740

Fac ID: 1483060318

DATE: 11/25/2005

Quebecor World - Lebanon Division
Michael Lehky
760 Fujitec Drive
Lebanon, OH 45036

Enclosed please find an Ohio EPA Permit to Install which will allow you to install the described source(s) in a manner indicated in the permit. Because this permit contains several conditions and restrictions, I urge you to read it carefully.

The Ohio EPA is urging 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 by the Director is final and may be appealed to the Ohio Environmental Review Appeals Commission pursuant to Chapter 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 within thirty (30) days after the notice of the Directors 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. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission
309 South Fourth Street, Room 222
Columbus, Ohio 43215

Sincerely,

Michael W. Ahern, Manager
Permit Issuance and Data Management Section
Division of Air Pollution Control

CC: USEPA

HCDES



**Permit To Install
Terms and Conditions**

**Issue Date: 11/25/2005
Effective Date: 11/25/2005**

FINAL PERMIT TO INSTALL 14-05740

Application Number: 14-05740
Facility ID: 1483060318
Permit Fee: **\$1200**
Name of Facility: Quebecor World - Lebanon Division
Person to Contact: Michael Lehky
Address: 760 Fujitec Drive
Lebanon, OH 45036

Location of proposed air contaminant source(s) [emissions unit(s)]:
**760 Fujitec Drive
Lebanon, Ohio**

Description of proposed emissions unit(s):
5 existing presses and one new press; increase in emissions and usages.

The above named entity is hereby granted a Permit to Install for the above described emissions unit(s) pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this permit does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the above described emissions unit(s) of environmental pollutants will operate in compliance with applicable State and Federal laws and regulations, and does not constitute expressed or implied assurance that if constructed or modified in accordance with those plans and specifications, the above described emissions unit(s) of pollutants will be granted the necessary permits to operate (air) or NPDES permits as applicable.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Director

Part I - GENERAL TERMS AND CONDITIONS

A. State and Federally Enforceable Permit-To-Install General Terms and Conditions

1. Monitoring and Related Recordkeeping 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.
- 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, 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.
- 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 recordkeeping of federally enforceable information shall be submitted to the appropriate Ohio EPA District Office or local air agency.
 - ii. Quarterly written reports of (i) any deviations from federally enforceable emission limitations, operational restrictions, and control device operating parameter limitations, excluding deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06, that have been detected by the testing, monitoring and recordkeeping requirements specified in this permit, (ii) the probable cause of such deviations, and (iii) any corrective actions or preventive measures taken, shall be made to

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the appropriate Ohio EPA District Office or local air agency. The written reports shall be submitted (i.e., postmarked) quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. See B.9 below if no deviations occurred during the quarter.

- iii. Written reports, which identify any deviations from the federally enforceable monitoring, recordkeeping, and reporting requirements contained in this permit shall be submitted (i.e., postmarked) to the appropriate Ohio EPA District Office or local air agency every six months, by January 31 and July 31 of each year for the previous six calendar months. 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.
 - iv. If this permit is for an emissions unit located at a Title V facility, then 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.
- d. The permittee shall report actual emissions pursuant to OAC Chapter 3745-78 for the purpose of collecting Air Pollution Control Fees.

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, 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. (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 shall be submitted pursuant to 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 emission unit(s) that is (are) served by such control system(s).

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.

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.

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.

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 re-issuance, or modification
- 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, revoked, or revoked and reissued, for cause. 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 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.

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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. The permittee shall pay all applicable permit-to-install fees within 30 days after the issuance of any permit-to-install. The permittee shall pay all applicable permit-to-operate fees within thirty days of the issuance of the invoice.

8. Federal and State Enforceability

Only those terms and conditions designated in this permit as federally enforceable, that are required under the Act, or any 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 and the State and by citizens (to the extent allowed by section 304 of the Act) under the Act. All other terms and conditions of this permit shall not be federally enforceable and shall be enforceable under State law only.

9. Compliance Requirements

- a. Any document (including reports) required to be submitted and required by a federally applicable requirement in this 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 ORC section 3704.08.
 - iii. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.

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- 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.

10. Permit-To-Operate Application

- a. If the permittee is required to apply for a Title V permit pursuant to OAC Chapter 3745-77, the permittee shall submit a complete Title V permit application or a complete Title V permit modification application within twelve (12) months after commencing operation of the emissions units covered by this permit. However, if the proposed new or modified source(s) would be prohibited by the terms and conditions of an existing Title V permit, a Title V permit modification must be obtained before the operation of such new or modified source(s) pursuant to OAC rule 3745-77-04(D) and OAC rule 3745-77-08(C)(3)(d).
- b. If the permittee is required to apply for permit(s) pursuant to OAC Chapter 3745-35, the source(s) identified in this permit is (are) permitted to operate for a period of up to one year from the date the source(s) commenced operation. Permission to operate is granted only if the facility complies with all requirements contained in this permit and all applicable air pollution laws, regulations, and policies. Pursuant to OAC Chapter 3745-35, the permittee shall submit a complete operating permit application within ninety (90) days after commencing operation of the source(s) covered by this permit.

11. Best Available Technology

As specified in OAC Rule 3745-31-05, all new sources must employ Best Available Technology (BAT). Compliance with the terms and conditions of this permit will fulfill this requirement.

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12. 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.

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13. Permit-To-Install

A permit-to-install must be obtained pursuant to OAC Chapter 3745-31 prior to "installation" of "any air contaminant source" as defined in OAC rule 3745-31-01, or "modification", as defined in OAC rule 3745-31-01, of any emissions unit included in this permit.

B. State Only Enforceable Permit-To-Install General Terms and Conditions

1. Compliance Requirements

The emissions unit(s) identified in this Permit shall remain in full compliance with all applicable State laws and regulations and the terms and conditions of this permit.

2. Reporting Requirements

The permittee shall submit required reports in the following manner:

- a. Reports of any required monitoring and/or recordkeeping of state-only enforceable 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 state-only required emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and recordkeeping 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 (i.e., postmarked) quarterly, 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.)

3. Permit Transfers

Any transferee of this permit shall assume the responsibilities of the prior permit holder.

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The appropriate Ohio EPA District Office or local air agency must be notified in writing of any transfer of this permit.

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4. Authorization To Install or Modify

If applicable, authorization to install or modify any new or existing emissions unit included in this permit shall terminate within eighteen months of the effective date of the permit if the owner or operator has not undertaken a continuing program of installation or modification or has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation or modification. This deadline may be extended by up to 12 months if application is made to the Director within a reasonable time before the termination date and the party shows good cause for any such extension.

5. Construction of New Sources(s)

This permit does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. This permit does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the application and terms and conditions of this permit. The action of beginning and/or completing construction prior to obtaining the Director's approval constitutes a violation of OAC rule 3745-31-02. Furthermore, issuance of this permit does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Issuance of this permit is not to be construed as a waiver of any rights that the Ohio Environmental Protection Agency (or other persons) may have against the applicant for starting construction prior to the effective date of the permit. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed facilities cannot meet the requirements of this permit or cannot meet applicable standards.

6. Public Disclosure

The facility is hereby notified that this permit, and all agency records concerning the operation of this permitted source, are subject to public disclosure in accordance with OAC rule 3745-49-03.

7. Applicability

This Permit to Install is applicable only to the emissions unit(s) identified in the Permit To Install. Separate application must be made to the Director for the installation or modification of any other emissions unit(s).

8. Construction Compliance Certification

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If applicable, the applicant shall provide Ohio EPA with a written certification (see enclosed form if applicable) that the facility has been constructed in accordance with the permit-to-install application and the terms and conditions of the permit-to-install. The certification shall be provided to Ohio EPA upon completion of construction but prior to startup of the source.

9. Additional Reporting Requirements When There Are No Deviations of Federally Enforceable 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., postmarked), by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters.

C. Permit-To-Install Summary of Allowable Emissions

The following information summarizes the total allowable emissions, by pollutant, based on the individual allowable emissions of each air contaminant source identified in this permit.

SUMMARY (for informational purposes only)
 TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS

<u>Pollutant</u>	<u>Tons Per Year</u>
VOC	183.59
NOx	27.11
CO	22.77
SO2	0.16
PM/PM10	2.06

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PTI Application: 11-05710
Issue:

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Emissions Unit ID: R001

Part II - FACILITY SPECIFIC TERMS AND CONDITIONS

A. State and Federally Enforceable Permit To Install Facility Specific Terms and Conditions

None

B. State Only Enforceable Permit To Install Facility Specific Terms and Conditions

None

Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

- 1. The specific operations(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 specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>
R001 - 8 unit Harris (838B) HWOPL with controls - - modification that would trigger a new air permit-to-install.	OAC rule 3745-31-05(A)(3)
	OAC rule 3745-31-05(C)

	Applicable Emissions <u>Limitations/Control Measures</u>	
OAC rule 3745-17-07(A)(1)	See terms A.I.2.b, A.I.2.c, A.I.2.e., A.II.4, A.II.5, and A.II.6.	2.06 TPY of total PE from emissions units R001, R002, R003, R004, R006 and R007 combined.
OAC rule 3745-17-11	Dryer and oxidizer emissions combined: Nitrogen oxides (NOx) emissions shall not exceed 0.1 lb/mmBtu from the thermal oxidizers and dryers. 27.11 tons per year (TPY) of total NOx emissions from emissions units R001, R002, R003, R004, R006 and R007 combined.	Particulate matter 10 microns and less (PM10) emissions shall not exceed 0.0076 lb/mmBtu from the thermal oxidizers and dryers. 0.47 lb/hour of PM10 emissions from the thermal oxidizer exhausts. 2.06 TPY of total PM10 emissions from emissions units R001, R002, R003, R004, R006 and R007 combined.
OAC rule 3745-21-07(G)	Carbon monoxide (CO) emissions shall not exceed 0.084 lb/mmBtu from the thermal oxidizers and dryers.	Volatile organic compound (VOC) emissions shall not exceed 49.03 TPY.
OAC rule 3745-23-06(B)	22.77 TPY of total CO emissions from emissions units R001, R002, R003, R004, R006 and R007 combined.	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A)(1), 3745-31-05(C), 3745-23-06(B), and 3745-21-08(B).
OAC rule 3745-21-08(B)	Sulfur dioxide (SO ₂) emissions shall not exceed 0.0006 lb/mmBtu from the thermal oxidizers and dryers. 0.16 TPY of total SO ₂ emissions from emissions units R001, R002, R003, R004, R006 and R007 combined.	See terms A.I.2.d, A.I.2.g, A.I.2.h and A.II.3.
	Particulate emissions (PE) shall not exceed 0.0076 lb/mmBtu from the thermal oxidizers and dryers. 0.47 lb/hour of PE from the thermal oxidizer exhausts.	Visible particulate emissions from any stack shall not exceed 20% opacity, as a six minute average, except as specified by rule. The emission limitation specified by this rule is less stringent than the emission limitation established

pursuant to OAC rule
3745-31-05(A)(3).

The emission limitation
specified by this rule is
less stringent than the
emission limitation
established pursuant to
OAC rule
3745-31-05(A)(3). See
term A.II.1.

See term A.I.2.i

See term A.I.2.j

2. Additional Terms and Conditions

- 2.a** Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by the operation of a thermal oxidizer with a control efficiency equal to or greater than 95% for VOC emissions, and the emissions and usage limitations.

Ink means a liquid material applied by a roll printer. Fountain solution means a surface coating applied to a lithographic plate to render the non image areas unreceptive to ink. Coatings, non-piling additive and adhesive means all materials applied onto or saturated within a substrate for decorative, protective or functional purposes. Metering rolling cleaner and blanket wash means all materials used to remove excess printing inks, oils and paper components from press equipment.

- 2.b** Combined organic compound emissions from both oxidizer exhausts of emissions units R001, R002, R003, R004, R006 and R007, combined shall not exceed 42.04 pounds per hour.
- 2.c** Daily organic compound emissions from each emissions units R001, R002, R003, R004, R006 and R007, combined shall not exceed 1008.96 pounds per day which includes the following limits of 516.72 pounds per day from the oven exhaust and 492.24 pounds per day from the fugitive emissions associated with the fountain solution, blanket wash, non piling additive and metering roller cleaner.

Emissions Unit ID: R001

- 2.d** The following volatile organic compound (VOC) contents shall not be exceeded for all emissions units:
- | | | |
|----|-------------------------|--------------------------|
| a. | Ink | 50 percent by wt. VOC; |
| b. | Aqueous coatings | 14.6 percent by wt. VOC; |
| c. | Blanket wash | 100 percent by wt. VOC; |
| d. | Metering Roller Cleaner | 100 percent by wt. VOC; |
| e. | Fountain solution | 15 percent by wt. VOC*; |
| f. | Non piling additive | 52 percent by wt. VOC |
- * This limit is for the fountain solution concentrate.
- 2.e** The permittee shall operate and maintain two thermal oxidizers , at a minimum, 95 percent (by weight of organic compounds) control efficiency at maximum hourly coating capacity from the oven exhausts for emissions units R001, R002, R003, R004, R006 and R007.
- 2.f** The hourly emissions limitations outlined are based upon the emissions unit's Potential to Emit (PTE). Therefore, no records are required to demonstrate compliance with these limits.
- 2.g** The allowable emissions of Hazardous Air Pollutants (HAPs) as identified in Section 112(b) of Title III of the Clean Air Act from emissions units R001, R002, R003, R004, R006, R007, and the inkjet printers shall not exceed 9.9 TPY for any single HAP and 24.9 TPY for any combination of HAPs. Compliance with the above limitations shall be determined based upon a rolling, 12-month summation.
- 2.h** The combined annual organic compound emissions from emissions units R001, R002, R003, R004, R006 and R007 shall not exceed 183.59 tons per year based on a rolling 12-month summation. This emissions limit is based on usages outlined in term A.II.3 and the VOC contents in term A.I.2.d (See term A.V.2 for the calculations).
- 2.i** The permittee shall satisfy the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06(B) by complying with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this permit to install.

On February 15, 2005, OAC rule 3745-23-06 was rescinded and therefore no

Emissions Unit ID: R001

longer a part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-23-06, the requirement to satisfy "latest available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

- 2.j The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this Permit to Install.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

II. Operational Restrictions

- 1. The use of photochemically reactive material as defined in OAC rule 3745-21-01(C)(5) is prohibited.
- 2. The average combustion temperature within the thermal oxidizer, for any 3-hour block of time when emissions units R001, R002, R003, R004, R006 and R007 are in operation shall not be more than 50 degrees Fahrenheit below the average combustion temperature during the most recent performance test that demonstrated compliance with the 95.0 percent overall VOC destruction efficiency requirement.
- 3. Coating and cleanup material usages for emissions units R001, R002, R003, R004, R006 and R007 combined shall not exceed the following limits:

		Material Usages
		<u>Lbs/yr**</u>
a.	Inks	8,711,800
b.	Blanket wash	208,400
c.	Metering Roller Cleaner	29,400
d.	Fountain solution*	350,000
e.	Non Piling Additive	59,400
f.	Aqueous Coatings	223,400

* This usage limit is for the fountain solution concentrate.

** Compliance with the annual usage limitations shall be determined on a rolling,

Emissions Unit ID: R001

12-month summation.

4. The permittee shall employ fountain solutions which have a VOC content, as applied of no more 5.0% by weight since the fountain solution does not contain any restricted alcohols. Restricted alcohols are defined as an alcohol which contains only one hydroxyl(-OH) group and less than 5 carbon atoms.
5. The vapor pressure of the blanket or roller wash, as applied, shall not exceed 10 mm of Mercury at 68 degrees Fahrenheit. Blanket or roller wash means any cleaning solvent or solution used to remove excess inks, oils and debris from the blanket roller or inking rollers.
6. The air pressure in the dryer shall be maintained lower than the air pressure of the press room, such that air flow through all openings in the dryer, other than the exhaust, is into the dryer at all times when the printing line is operating.

III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall collect and record the following information each month for each emissions unit:
 - a. The company identification of each ink, aqueous coating, blanket wash, metering roller cleaner, fountain solution and non piling additive employed in each emissions unit.
 - b. The percent (%) by weight of the volatile organic compound content of each ink, aqueous coating, blanket wash, metering roller cleaner, fountain solution(concentrate) and non piling additive for each emissions unit.
 - c. The number of pounds of each ink, aqueous coating, blanket wash, metering roller cleaner, fountain solution and non piling additive employed in each emissions unit. The amount of material allocated to each emission unit will be based on the number of impressions made at each emissions unit. Example calculations are referenced in term and condition A.V.7.
 - d. A record of each liquid organic material employed in each emissions unit indicating whether or not the liquid organic material is photochemically reactive as defined in OAC rule 3745-21-01(C)(5).
 - e. The total rolling, 12-month summation of the ink, aqueous coating, blanket wash, metering roller cleaner, fountain solution and non piling additive usage in pounds for emissions units R001, R002, R003, R004, R006 and R007, combined.
 - f. The total rolling, 12-month summation of the controlled volatile organic compound (VOC) emissions in tons per year from the inks, aqueous coatings,

Emissions Unit ID: R001

HAP from all ink, aqueous coating, blanket wash, metering roller cleaner, fountain solution and non-piling additive employed, in pounds or tons.

- i. All materials employed by the permittee shall be recorded and reported as applied except for the fountain solution and the non-piling additive, which shall be recorded and reported as concentrate.

A listing of the HAPs can be found in Section 112(b) of the Clean Air Act or can be obtained by contacting your Ohio EPA field office or local air agency contact. This information does not have to be kept on a line-by-line basis.

3. The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within each thermal oxidizer when emissions units R001, R002, R003, R004, R006 and R007 are in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

The permittee shall collect and record the following information for each day:

- a. All 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer, when the emissions unit was in operation was more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance with the 95.0% overall VOC destruction efficiency requirement; and,
 - b. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.
4. The permittee shall maintain for this facility all purchase orders and invoices of VOC-containing materials. The permittee shall retain such purchase orders and invoices for at least five years from their date of issuance. Upon request, the permittee shall make

available to the Director of the Ohio EPA, or an authorized representative of the Director, such purchase orders and invoices for use in confirming the general accuracy of the records maintained and the reports submitted regarding material usage.

IV. Reporting Requirements

1. The permittee shall notify the Hamilton County Department of Environmental Services in writing identifying each day during which any photochemically reactive material [as defined in OAC rule 3745-21-01(C)(5)] was employed in emissions units R001, R002, R003, R004, R006 and R007. This report shall identify the cause for the use of the photochemically reactive material(s) and the estimated total quantity of material(s) emitted each such day. This report shall be submitted to the Hamilton County Department of Environmental Services within 45 days after the exceedance occurs
2. The permittee shall submit deviation (excursion) reports which identify any exceedance of the HAP emissions limitations in term A.I.2.g. If no exceedances occurred during the reporting period then a report is required stating so.
3. The permittee shall submit deviation (excursion) reports which identify all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer does not comply with the temperature limitation specified in term and condition A.II.2. If no exceedances occurred during the reporting period then a report is required stating so.
4. The permittee shall submit quarterly reports which specify the updated rolling, 12-month summation of organic compound emissions in TPY for each month from emissions units R001, R002, R003, R004, R006 and R007 combined. These reports shall be submitted by February 15, May 15, August 15 and November 15 of each year and shall cover the previous calendar quarter. Exceeding the rolling, 12-month limit is a violation for each day of the last month of each 12 month period in which the limit is exceeded, regardless of whether a compliance plan is submitted.
5. The permittee shall submit quarterly reports which specify the updated rolling, 12-month summation of total usages in pounds from the inks, aqueous coatings, blanket wash(cleanup), metering roller cleaner, fountain solution and non piling additives for emissions units R001, R002, R003, R004, R006 and R007, combined for each calendar month. These reports shall be submitted by February 15, May 15, August 15 and November 15 of each year and shall cover the previous calendar quarter.

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6. The permittee shall submit deviation reports which identify all exceedances of the VOC content limitations in term and condition A.I.2.d and A.II.4.
7. The permittee shall submit deviation reports which identify all exceedances of the vapor pressure limitation outlined in term A.II.5.
8. The deviation reports shall be submitted in accordance with the reporting requirements of the General Terms and Conditions of this permit.

V. Testing Requirements

1. OAC rule 3745-21-10(B) shall be used to determine the VOC contents of the inks, fountain solutions, coatings, metering rolling cleaner, non-piling additive, and blanket wash. If pursuant to 40 CFR Part 60, Appendix A, an owner or operator determines that Method 24 or Method 24A cannot be used, the permittee shall notify the Administrator of USEPA and shall use formulation data for the material to demonstrate compliance until USEPA provides alternative analytical procedures or alternative precision statements for Method 24 or 24A.
2. The VOC emissions are calculated by multiplying the percent (%) by weight VOC content times the material usage rate times the ink retention consistent with the Ohio EPA Engineering Guide #56 times the control efficiency.

Ink emissions

For ink, 20.0% of the VOC's in heatset inks are retained by the substrate, 80.0% goes to the dryer. In addition, there is a 100.0% capture efficiency and a 95.0% control efficiency. All are demonstrated in the following equation:

$$50\% \text{ Weight VOC content} * \text{material usage rate (tons)} * (1.0 - 0.20) * (1.0 - 0.95) = \text{tons of VOC}$$

Fountain solution emissions

For fountain solution, there is a 70.0% capture efficiency by the control system and a 95.0% control efficiency as demonstrated in the following equations:

Stack Emissions

$$15\% \text{ Weight VOC content} * \text{material usage rate (tons)} * (0.70) * (1.0 - 0.95) = \text{tons of VOC}$$

Fugitive Emissions

$$15\% \text{ Weight VOC content} * \text{material usage rate (tons)} * (0.30) = \text{tons of VOC}$$

Add the stack emissions to the fugitive emissions to obtain the total VOC emissions for fountain solution.

Aqueous Coatings emissions

For aqueous coatings, there is a 100.0% capture efficiency and a 95.0% control efficiency as demonstrated in the following equation:

14.6% Weight VOC content * material usage rate (tons) * (1.0-0.95) = tons of VOC

Metering Rolling Cleaner emissions

For Metering Rolling Cleaner, 100.0% is fugitive emissions as demonstrated in the following equation:

100% Weight VOC content * material usage rate (tons) = tons of VOC

Non-piling additive emissions

For non-piling additive, there is a 70.0% capture efficiency and a 95.0% control efficiency as demonstrated in the following equation:

Stack Emissions

52% Weight VOC content * material usage rate (tons) * (0.70) * (1.0 - 0.95) = tons of VOC

Fugitive Emissions

52% Weight VOC content * material usage rate (tons)* (0.30) = tons of VOC

Add the stack emissions to the fugitive emissions to obtain the total VOC emissions for non-piling additive.

Auto Blanket Wash emissions

For Auto Blanket Wash, there is a 40.0% capture efficiency and a 95.0% control efficiency as demonstrated in the following equations:

Stack Emissions

100% Weight VOC content * material usage rate (tons)* (0.40) * (1.0 - 0.95) = tons of VOC

Fugitive Emissions

100% Weight VOC content * material usage rate (tons)*(0.60) = tons of VOC

Add the stack emissions to the fugitive emissions to obtain the total VOC emissions for auto blanket wash.

Manual Blanket Wash emissions

For Manual Blanket Wash, 50.0% of the VOC's are retained by rags, while 50.0% is fugitive emissions as demonstrated in the following equations:

Emissions Unit ID: R001

Fugitive Emissions

100% Weight VOC content * material usage rate (tons)*(0.50) = tons of VOC

Add the auto blanket wash emissions to the manual blanket wash emissions to obtain the total VOC emissions for blanket wash.

3. Compliance with the visible particulate emissions limitation shall be demonstrated by the methods outlined in 40 CFR Part 60, Appendix A, Method 9.
4. Compliance with the percent by weight VOC content and the usage limitations in pounds will be determined by the recordkeeping in Term A.III.1.
5. Compliance with the HAP emission limitation in term A.I.2.g shall be determined by the record keeping in Term A.III.2.
6. Compliance with the PM, SO₂, NO_x and CO limits in Term A.I. shall be determined by multiplying the fuel usage by the AP-42 emission factor taken from USEPA's AP-42, 5th Edition, Tables 1.4-1 and 1.4-2 dated 7/98.
7. Compliance with the recordkeeping requirement of keeping monthly usage records for each emissions unit (Term A.III.1.c) shall be determined by the following example calculation:

$$Q (R001) = Q \text{ total} \times \frac{I (R001)}{I (\text{sum of R001- R004,R006, R007})}$$

Q (R001) = the ink consumed by emission unit R001 for the month.

Q (total)= the total ink used by the permittee for the month.

I (R001) = the total impressions for emissions unit R001 for the month.

I (sum of R001-R004, R006, and R007) = the total impressions for emissions units R001, R002, R003, R004, R006 and R007 for the month.

8. Compliance with the vapor pressure limitation in term A.II.5 shall be demonstrated by the record keeping in term A.III.1.

VI. Miscellaneous Requirements

1. The terms and conditions in this permit to install shall supersede Permit to Install 14-05281 as issued on July 10, 2003 for emissions unit R001, R002, R003, R004 and R006. Permit to Install 14-05281 had an VOC tons per year allowable of 83.85. This permitting action (Permit to Install 14-05740) has an assigned VOC tons per year allowable of 183.59. Hence, a difference of (183.59-83.85) 99.74 which is below major stationary source threshold levels for non-attainment review and therefore would not trigger non-attainment review for this amount of increase over previous permitted allowables.

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PTI A

Issued: 11/25/2005

Emissions Unit ID: R001

B. State Only Enforceable Section**I. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operations(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 specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
R001 - 8 unit Harris (838B) HWOPL with controls		

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

1. None

III. Monitoring and/or Recordkeeping Requirements

1. The permit to install for this emissions unit R001 was evaluated based on the actual materials (typically coatings and cleanup materials) and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Ground-Level Concentration (MAGLC).

The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Glycol ethers

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Emissions Unit ID: R001

TLV (ug/m3): 552,888
Maximum Hourly Emission Rate (lbs/hr): 0.19
Predicted 1-Hour Maximum Ground-Level
Concentration (ug/m3): 3.0
MAGLC (ug/m3): 13,164

Pollutant: Ethylene glycol
TLV (ug/m3): 253,848
Maximum Hourly Emission Rate (lbs/hr): 0.21
Predicted 1-Hour Maximum Ground-Level
Concentration (ug/m3): 3.3
MAGLC (ug/m3): 6,044

Physical changes to or in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxics Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in the "Air Toxic Policy" include the following:

- a. changes in the composition of the materials used (typically for coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled;
- b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and
- c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Air Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01 solely due to the emissions of any type of toxic air contaminant

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not previously emitted, and a modification of the existing permit to install will not be required, even if the toxic air contaminant emissions are greater than the de minimis level in OAC rule 3745-15-05. If the change(s) is (are) defined as a modification under other provisions of the modification definition, then the permittee shall obtain a final permit to install prior to the change.

The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will 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 it's evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and
- c. when the computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

- 1. The specific operations(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 specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>
R002 - 8 unit Harris (838C) HWOPL with controls - - modification that would trigger an new air permit-to-install	OAC rule 3745-31-05(A)(3)

	<u>Applicable Emissions Limitations/Control Measures</u>	
OAC rule 3745-31-05(C)	See terms A.I.2.b, A.I.2.c, A.I.2.e, A.II.4, A.II.5, and A.II.6.	thermal oxidizer exhausts. 2.06 TPY of total PE from emissions units R001, R002, R003, R004, R006 and R007 combined.
OAC rule 3745-17-07(A)(1)	Dryer and oxidizer emissions combined: Nitrogen oxides (NOx) emissions shall not exceed 0.1 lb/mmBtu from the thermal oxidizers and dryers.	Particulate matter 10 microns and less (PM10) emissions shall not exceed 0.0076 lb/MMBtu from the thermal oxidizers and dryers.
OAC rule 3745-17-11	27.11 TPY of total NOx emissions from emissions units R001, R002, R003, R004, R006 and R007 combined.	0.47 lb/hour of PM10 emissions from the thermal oxidizer exhausts. 2.06 TPY of total PM10 emissions from emissions units R001, R002, R003, R004, R006 and R007 combined.
OAC rule 3745-21-07(G)	Carbon monoxide (CO) emissions shall not exceed 0.084 lb/mmBtu from the thermal oxidizers and dryers. 22.77 TPY of total CO emissions from emissions units R001, R002, R003, R004, R006 and R007 combined.	Volatile organic compound (VOC) emissions shall not exceed 49.03 TPY. The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A)(1), 3745-31-05(C), 3745-23-06(B), and 3745-21-08(B).
OAC rule 3745-23-06(B)	Sulfur dioxide (SO2) emissions shall not exceed 0.0006 lb/mmBtu from the thermal oxidizers and dryers.	See terms A.I.2.d, A.I.2.g, A.I.2.h and A.II.3.
OAC rule 3745-21-08(B)	0.16 TPY of total SO2 emissions from emissions units R001, R002, R003, R004, R006 and R007 combined.	Visible particulate emissions from any stack shall not exceed 20% opacity, as a six minute average, except as specified by rule.
	Particulate emissions (PE) shall not exceed 0.0076 lb/mmBtu from the thermal oxidizers and dryers. 0.47 lb/hour of PE from the	The emission limitation specified by this rule is less stringent than the

emission limitation
 established pursuant to
 OAC rule
 3745-31-05(A)(3).

The emission limitation
 specified by this rule is
 less stringent than the
 emission limitation
 established pursuant to
 OAC rule
 3745-31-05(A)(3). See
 term A.II.1

See term A.I.2.i

See term A.I.2.j

2. Additional Terms and Conditions

- 2.a** Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by the operation of a thermal oxidizer with a control efficiency equal to or greater than 95% for VOC emissions, and the emissions and usage limitations.

Ink means a liquid material applied by a roll printer. Fountain solution means a surface coating applied to a lithographic plate to render the non image areas unreceptive to ink. Coatings, non-piling additive and adhesive means all materials applied onto or saturated within a substrate for decorative, protective or functional purposes. Metering rolling cleaner and blanket wash means all materials used to remove excess printing inks, oils and paper components from press equipment.

- 2.b** Combined organic compound emissions from both oxidizer exhausts of emissions units R001, R002, R003, R004, R006 and R007, combined shall not exceed 42.04 pounds per hour.
- 2.c** Daily organic compound emissions from each emissions units R001, R002, R003, R004, R006 and R007, combined shall not exceed 1008.96 pounds per day which includes the following limits of 516.72 pounds per day from the oven exhaust and 492.24 pounds per day from the fugitive emissions associated with the fountain solution, blanket wash, non piling additive and metering roller cleaner.
- 2.d** The following volatile organic compound (VOC) contents shall not be exceeded for all emissions units:

- | | | |
|----|-------------------------|--------------------------|
| a. | Ink | 50 percent by wt. VOC; |
| b. | Aqueous coatings | 14.6 percent by wt. VOC; |
| c. | Blanket wash | 100 percent by wt. VOC; |
| d. | Metering Roller Cleaner | 100 percent by wt. VOC; |
| e. | Fountain solution | 15 percent by wt. VOC*; |
| f. | Non piling additive | 52 percent by wt. VOC |

* This limit is for the fountain solution concentrate.

- 2.e** The permittee shall operate and maintain two thermal oxidizers , at a minimum, 95 percent (by weight of organic compounds) control efficiency at maximum hourly coating capacity from the oven exhausts for emissions units R001, R002, R003, R004, R006 and R007.
- 2.f** The hourly emissions limitations outlined are based upon the emissions unit's Potential to Emit (PTE). Therefore, no records are required to demonstrate compliance with these limits.
- 2.g** The allowable emissions of Hazardous Air Pollutants (HAPs) as identified in Section 112(b) of Title III of the Clean Air Act from emissions units R001, R002, R003, R004, R006, R007, and the inkjet printers shall not exceed 9.9 TPY for any single HAP and 24.9 TPY for any combination of HAPs. Compliance with the above limitations shall be determined based upon a rolling, 12-month summation.
- 2.h** The combined annual organic compound emissions from emissions units R001, R002, R003, R004, R006 and R007 shall not exceed 183.59 tons per year based on a rolling 12-month summation. This emissions limit is based on usages outlined in term A.II.3 and the VOC contents in term A.I.2.d (See term A.V.2 for the calculations).
- 2.i** The permittee shall satisfy the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06(B) by complying with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this permit to install.

On February 15, 2005, OAC rule 3745-23-06 was rescinded and therefore no longer a part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-23-06, the requirement to satisfy "latest available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

- 2.j The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this Permit to Install.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

II. Operational Restrictions

1. The use of photochemically reactive material as defined in OAC rule 3745-21-01(C)(5) is prohibited.
2. The average combustion temperature within the thermal oxidizer, for any 3-hour block of time when emissions units R001, R002, R003, R004, R006 and R007 are in operation shall not be more than 50 degrees Fahrenheit below the average combustion temperature during the most recent performance test that demonstrated compliance with the 95.0 percent overall VOC destruction efficiency requirement.
3. Coating and cleanup material usages for emissions units R001, R002, R003, R004, R006 and R007 combined shall not exceed the following limits:

	Material Usages <u>Lbs/yr**</u>
a. Inks	8,711,800
b. Blanket wash	208,400
c. Metering Roller Cleaner	29,400
d. Fountain solution*	350,000
e. Non Piling Additive	59,400
f. Aqueous Coatings	223,400

* This usage limit is for the fountain solution concentrate.

- ** Compliance with the annual usage limitations shall be determined on a rolling, 12-month summation
4. The permittee shall employ fountain solutions which have a VOC content, as applied of no more 5.0% by weight since the fountain solution does not contain any restricted alcohols. Restricted alcohols are defined as an alcohol which contains only one hydroxyl(-OH) group and less than 5 carbon atoms.
 5. The vapor pressure of the blanket or roller wash, as applied, shall not exceed 10 mm of Mercury at 68 degrees Fahrenheit. Blanket or roller wash means any cleaning solvent or solution used to remove excess inks, oils and debris from the blanket roller or inking rollers.
 6. The air pressure in the dryer shall be maintained lower than the air pressure of the press room, such that air flow through all openings in the dryer, other than the exhaust, is into the dryer at all times when the printing line is operating.

III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall collect and record the following information each month for each emissions unit:
 - a. The company identification of each ink, aqueous coating, blanket wash, metering roller cleaner, fountain solution and non piling additive employed in each emissions unit.
 - b. The percent (%) by weight of the volatile organic compound content of each ink, aqueous coating, blanket wash, metering roller cleaner, fountain solution (concentrate and non piling additive for each emissions unit).
 - c. The number of pounds of each ink, aqueous coating, blanket wash, metering roller cleaner, fountain solution and non piling additive employed in each emissions unit. The amount of material allocated to each emission unit will be based on the number of impressions made at each emissions unit. Example calculations are referenced in term and condition A.V.7.
 - d. A record of each liquid organic material employed in each emissions unit indicating whether or not the liquid organic material is photochemically reactive as defined in OAC rule 3745-21-01(C)(5).

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- e. The total rolling, 12-month summation of the ink, aqueous coating, blanket wash, metering roller cleaner, fountain solution and non piling additive usage in pounds for emissions units R001, R002, R003, R004, R006 and R007, combined.
 - f. The total rolling, 12-month summation of the controlled volatile organic compound (VOC) emissions in tons per year from the inks, aqueous coatings, blanket wash, metering roller cleaner, fountain solution and non piling additive for emissions units R001, R002, R003, R004, R006 and R007, combined.
 - g. All materials employed by the permittee shall be recorded and reported as applied except for the fountain solution and the non-piling additive, which shall be recorded and reported as concentrate.
 - h. The vapor pressure in mm of Mercury for each blanket and roller wash.
2. The permittee shall collect and record the following information each month for emissions units R001, R002, R003, R004, R006, R007, and the inkjet printers:
- a. The name and identification number of each ink, aqueous coating, blanket wash (cleanup), metering roller cleaner, fountain solution and non piling additive.
 - b. The individual Hazardous Air Pollutant (HAP) content for each HAP of each ink, aqueous coating, blanket wash, metering roller cleaner, fountain solution and non piling additive in pounds of individual HAP per pound of material.
 - c. The total combined HAP content of each ink, aqueous coating, blanket wash, metering roller cleaner, fountain solution and non piling additive in pounds of combined HAPs per pound of material [sum all the individual HAP contents from (b)].
 - d. The number of pounds of each ink, aqueous coating, blanket wash, metering roller cleaner, fountain solution and non piling additive employed.
 - e. The total individual HAP emissions for each HAP from all ink, aqueous coating, blanket wash, metering roller cleaner, fountain solution and non piling additive employed, in pounds or tons per month [for each HAP the sum of (b) times (d)].
 - f. The total combined HAP emissions from all ink, aqueous coating, blanket wash, metering roller cleaner, fountain solution and non piling additive employed, in pounds or tons per month [the sum of (c) times (d)].
 - g. The updated rolling, 12-month summation of the individual HAP emissions for each HAP from all ink, aqueous coating, blanket wash, metering roller cleaner, fountain solution and non piling additive employed, in pounds or tons.
 - h. The updated rolling, 12-month summation of the combined HAP emissions for all

HAP from all ink, aqueous coating, blanket wash, metering roller cleaner, fountain solution and non piling additive employed, in pounds or tons.

- i. All materials employed by the permittee shall be recorded and reported as applied except for the fountain solution and the non-piling additive, which shall be recorded and reported as concentrate.

A listing of the HAPs can be found in Section 112(b) of the Clean Air Act or can be obtained by contacting your Ohio EPA field office or local air agency contact. This information does not have to be kept on a line-by-line basis.

3. The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within each thermal oxidizer when emissions units R001, R002, R003, R004, R006 and R007 are in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

The permittee shall collect and record the following information for each day:

- a. All 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer, when the emissions unit was in operation was more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance with the 95.0% overall VOC destruction efficiency requirement; and,
 - b. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.
4. The permittee shall maintain for this facility all purchase orders and invoices of VOC-containing materials. The permittee shall retain such purchase orders and invoices for at least five years from their date of issuance. Upon request, the permittee shall make available to the Director of the Ohio EPA, or an authorized representative of the Director, such purchase orders and invoices for use in confirming the general accuracy of the records maintained and the reports submitted regarding material usage.

IV. Reporting Requirements

1. The permittee shall notify the Hamilton County Department of Environmental Services in writing identifying each day during which any photochemically reactive material [as defined in OAC rule 3745-21-01(C)(5)] was employed in emissions units R001, R002, R003, R004, R006 and R007. This report shall identify the cause for the use of the photochemically reactive material(s) and the estimated total quantity of material(s) emitted each such day. This report shall be submitted to the Hamilton County Department of Environmental Services within 45 days after the exceedance occurs
2. The permittee shall submit deviation (excursion) reports which identify any exceedance of the HAP emissions limitations in term A.I.2.g. If no exceedances occurred during the reporting period then a report is required stating so.
3. The permittee shall submit deviation (excursion) reports which identify all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer does not comply with the temperature limitation specified in term and condition A.II.2. If no exceedances occurred during the reporting period then a report is required stating so.
4. The permittee shall submit quarterly reports which specify the updated rolling, 12-month summation of organic compound emissions in TPY for each month from emissions units R001, R002, R003, R004, R006 and R007 combined. These reports shall be submitted by February 15, May 15, August 15 and November 15 of each year and shall cover the previous calendar quarter. Exceeding the rolling, 12-month limit is a violation for each day of the last month of each 12 month period in which the limit is exceeded, regardless of whether a compliance plan is submitted.
5. The permittee shall submit quarterly reports which specify the updated rolling, 12-month summation of total usages in pounds from the inks, aqueous coatings, blanket wash(cleanup), metering roller cleaner, fountain solution and non piling additives for emissions units R001, R002, R003, R004, R006 and R007, combined for each calendar month. These reports shall be submitted by February 15, May 15, August 15 and November 15 of each year and shall cover the previous calendar quarter.
6. The permittee shall submit deviation reports which identify all exceedances of the VOC content limitations in term and condition A.I.2.d and A.II.4.
7. The permittee shall submit deviation reports which identify all exceedances of the vapor pressure limitation outlined in term A.II.5.
8. The deviation reports shall be submitted in accordance with the reporting requirements of the General Terms and Conditions of this permit.

V. Testing Requirements

Emissions Unit ID: R002

- OAC rule 3745-21-10(B) shall be used to determine the VOC contents of the inks, fountain solutions, coatings, metering rolling cleaner, non-piling additive, and blanket wash. If pursuant to 40 CFR Part 60, Appendix A, an owner or operator determines that Method 24 or Method 24A cannot be used, the permittee shall notify the Administrator of USEPA and shall use formulation data for the material to demonstrate compliance until USEPA provides alternative analytical procedures or alternative precision statements for Method 24 or 24A.
- The VOC emissions are calculated by multiplying the percent (%) by weight VOC content times the material usage rate times the ink retention consistent with the Ohio EPA Engineering Guide #56 times the control efficiency.

Ink emissions

For ink, 20.0% of the VOC's in heatset inks are retained by the substrate, 80.0% goes to the dryer. In addition, there is a 100.0% capture efficiency and a 95.0% control efficiency. All are demonstrated in the following equation:

$50\% \text{ Weight VOC content} * \text{material usage rate (tons)} * (1.0-0.20)*(1.0-0.95) = \text{tons of VOC}$

Fountain solution emissions

For fountain solution, there is a 70.0% capture efficiency by the control system and a 95.0% control efficiency as demonstrated in the following equations:

Stack Emissions

$15\% \text{ Weight VOC content} * \text{material usage rate (tons)} * (0.70) * (1.0 - 0.95) = \text{tons of VOC}$

Fugitive Emissions

$15\% \text{ Weight VOC content} * \text{material usage rate (tons)} * (0.30) = \text{tons of VOC}$

Add the stack emissions to the fugitive emissions to obtain the total VOC emissions for fountain solution.

Aqueous Coatings emissions

For aqueous coatings, there is a 100.0% capture efficiency and a 95.0% control efficiency as demonstrated in the following equation:

$14.6\% \text{ Weight VOC content} * \text{material usage rate (tons)} * (1.0-0.95) = \text{tons of VOC}$

Metering Rolling Cleaner emissions

For Metering Rolling Cleaner, 100.0% is fugitive emissions as demonstrated in the following equation:

$100\% \text{ Weight VOC content} * \text{material usage rate (tons)} = \text{tons of VOC}$

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Non-piling additive emissions

For non-piling additive, there is a 70.0% capture efficiency and a 95.0% control efficiency as demonstrated in the following equation:

Stack Emissions

52% Weight VOC content * material usage rate (tons) * (0.70) * (1.0 - 0.95) = tons of VOC

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Fugitive Emissions

$52\% \text{ Weight VOC content} * \text{material usage rate (tons)} * (0.30) = \text{tons of VOC}$

Add the stack emissions to the fugitive emissions to obtain the total VOC emissions for non-piling additive.

Auto Blanket Wash emissions

For Auto Blanket Wash, there is a 40.0% capture efficiency and a 95.0% control efficiency as demonstrated in the following equations:

Stack Emissions

$100\% \text{ Weight VOC content} * \text{material usage rate (tons)} * (0.40) * (1.0 - 0.95) = \text{tons of VOC}$

Fugitive Emissions

$100\% \text{ Weight VOC content} * \text{material usage rate (tons)} * (0.60) = \text{tons of VOC}$

Add the stack emissions to the fugitive emissions to obtain the total VOC emissions for auto blanket wash.

Manual Blanket Wash emissions

For Manual Blanket Wash, 50.0% of the VOC's are retained by rags, while 50.0% is fugitive emissions as demonstrated in the following equations:

Fugitive Emissions

$100\% \text{ Weight VOC content} * \text{material usage rate (tons)} * (0.50) = \text{tons of VOC}$

Add the auto blanket wash emissions to the manual blanket wash emissions to obtain the total VOC emissions for blanket wash.

3. Compliance with the visible particulate emissions limitation shall be demonstrated by the methods outlined in 40 CFR Part 60, Appendix A, Method 9.
4. Compliance with the percent by weight VOC content and the usage limitations in pounds will be determined by the recordkeeping in Term A.III.1.
5. Compliance with the HAP emission limitation in term A.I.2.g shall be determined by the record keeping in Term A.III.2.
6. Compliance with the PM, SO₂, NO_X and CO limits in Term A.I. shall be determined by

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multiplying the fuel usage by the AP-42 emission factor taken from USEPA's AP-42, 5th Edition, Tables 1.4-1 and 1.4-2 dated 7/98.

7. Compliance with the recordkeeping requirement of keeping monthly usage records for each emissions unit (Term A.III.C.1.c) shall be determined by the following example calculation:

$$Q (R001) = Q \text{ total} \times \frac{I (R001)}{I (\text{sum of R001- R004, R006, R007})}$$

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Q (R001) = the ink consumed by emission unit R001 for the month.

Q (total) = the total ink used by the permittee for the month.

I (R001) = the total impressions for emissions unit R001 for the month.

I (sum of R001-R004, R006, and R007) = the total impressions for emissions units R001, R002, R003, R004, R006 and R007 for the month.

8. Compliance with the vapor pressure limitation in term A.II.5 shall be demonstrated by the record keeping in term A.III.1.

VI. Miscellaneous Requirements

1. The terms and conditions in this permit to install shall supersede Permit to Install 14-05281 as issued on July 10, 2003 for emissions unit R001, R002, R003, R004 and R006. Permit to Install 14-05281 had an VOC tons per year allowable of 83.85. This permitting action (Permit to Install 14-05740) has an assigned VOC tons per year allowable of 183.59. Hence, a difference of (183.59-83.85) 99.74 which is below major stationary source threshold levels for non-attainment review and therefore would not trigger non-attainment review for this amount of increase over previous permitted allowables.

B. State Only Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(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 specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
R002 - 8 unit Harris (838C) HWOPL with controls		

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

1. The permit to install for this emissions unit R002 was evaluated based on the actual materials (typically coatings and cleanup materials) and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model(or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Ground-Level Concentration (MAGLC).

The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Glycol ethers

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TLV (ug/m3): 552,888
Maximum Hourly Emission Rate (lbs/hr): 0.19
Predicted 1-Hour Maximum Ground-Level
Concentration (ug/m3): 3.0
MAGLC (ug/m3): 13,164

Pollutant: Ethylene glycol
TLV (ug/m3): 253,848
Maximum Hourly Emission Rate (lbs/hr): 0.21
Predicted 1-Hour Maximum Ground-Level
Concentration (ug/m3): 3.3
MAGLC (ug/m3): 6,044

Physical changes to or in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxics Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in the "Air Toxic Policy" include the following:

- a. Changes in the composition of the materials used (typically for coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled;
- b. Changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and
- c. Physical changes to the emissions unit or its exhaust parameters (e.g., increased/decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Air Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01 solely due to the emissions of any type of toxic air contaminant not previously emitted, and a modification of the existing permit to install will not be

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required, even if the toxic air contaminant emissions are greater than the de minimis level in OAC rule 3745-15-05. If the change(s) is (are) defined as a modification under other provisions of the modification definition, then the permittee shall obtain a final permit to install prior to the change.

The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will 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 it's evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and
- c. When the computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(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 specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>
R003 - 8 unit Harris (838D) HWOPL with controls - - modification that would trigger an new air permit-to-install.	OAC rule 3745-31-05(A)(3)

	<u>Applicable Emissions Limitations/Control Measures</u>	
OAC rule 3745-31-05(C)	See terms A.I.2.b, A.I.2.c, A.I.2.e, A.II.4, A.II.5, and A.II.6.	thermal oxidizer exhausts. 2.06 TPY of total PE from emissions units R001, R002, R003, R004, R006 and R007 combined.
OAC rule 3745-17-07(A)(1)	Dryer and oxidizer emissions combined: Nitrogen oxides (NOx) emissions shall not exceed 0.1 lb/mmBtu from the thermal oxidizers and dryers.	Particulate matter 10 microns and less (PM10) emissions shall not exceed 0.0076 lb/mmBtu from the thermal oxidizers and dryers. 0.47 lb/hour of PM10 emissions from the thermal oxidizer exhausts.
	27.11 tons per year (TPY) of total NOx emissions from emissions units R001, R002, R003, R004, R006 and R007 combined.	2.06 TPY of total PM10 emissions from emissions units R001, R002, R003, R004, R006 and R007 combined.
OAC rule 3745-17-11	Carbon monoxide (CO) emissions shall not exceed 0.084 lb/mmBtu from the thermal oxidizers and dryers.	Volatile organic compound (VOC) emissions shall not exceed 49.03 TPY.
OAC rule 3745-21-07(G)	22.77 TPY of total CO emissions from emissions units R001, R002, R003, R004, R006 and R007 combined.	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A)(1), 3745-31-05(C), 3745-23-06(B), and 3745-21-08(B).
OAC rule 3745-23-06(B)	Sulfur dioxide (SO2) emissions shall not exceed 0.0006 lb/mmBtu from the thermal oxidizers and dryers. 0.16 TPY of total SO2 emissions from emissions units R001, R002, R003, R004, R006 and R007 combined.	See terms A.I.2.d, A.I.2.g, A.I.2.h and A.II.3.
OAC rule 3745-21-08(B)	Particulate emissions (PE) shall not exceed	Visible particulate emissions from any stack shall not exceed 20% opacity, as a six minute average, except as specified by rule.
	0.0076 lb/mmBtu from the thermal oxidizers and dryers. 0.47 lb/hour of PE from the	The emission limitation specified by this rule is less stringent than the

emission limitation
 established pursuant to
 OAC rule
 3745-31-05(A)(3).

The emission limitation
 specified by this rule is
 less stringent than the
 emission limitation
 established pursuant to
 OAC rule
 3745-31-05(A)(3). See
 term A.II.1.

See term A.I.2.i.

See term A.I.2.j.

2. Additional Terms and Conditions

- 2.a** Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by the operation of a thermal oxidizer with a control efficiency equal to or greater than 95% for VOC emissions, and the emissions and usage limitations.

Ink means a liquid material applied by a roll printer. Fountain solution means a surface coating applied to a lithographic plate to render the non image areas unreceptive to ink. Coatings, non-piling additive and adhesive means all materials applied onto or saturated within a substrate for decorative, protective or functional purposes. Metering rolling cleaner and blanket wash means all materials used to remove excess printing inks, oils and paper components from press equipment.

- 2.b** Combined organic compound emissions from both oxidizer exhausts of emissions units R001, R002, R003, R004, R006 and R007, combined shall not exceed 42.04 pounds per hour.
- 2.c** Daily organic compound emissions from each emissions units R001, R002, R003, R004, R006 and R007, combined shall not exceed 1008.96 pounds per day which includes the following limits of 516.72 pounds per day from the oven exhaust and 492.24 pounds per day from the fugitive emissions associated with the fountain solution, blanket wash, non piling additive and metering roller cleaner.
- 2.d** The following volatile organic compound (VOC) contents shall not be exceeded for all emissions units:

- | | | |
|----|-------------------------|--------------------------|
| a. | Ink | 50 percent by wt. VOC; |
| b. | Aqueous coatings | 14.6 percent by wt. VOC; |
| c. | Blanket wash | 100 percent by wt. VOC; |
| d. | Metering Roller Cleaner | 100 percent by wt. VOC; |
| e. | Fountain solution | 15 percent by wt. VOC*; |
| f. | Non piling additive | 52 percent by wt. VOC |

* This limit is for the fountain solution concentrate.

- 2.e** The permittee shall operate and maintain two thermal oxidizers , at a minimum, 95 percent (by weight of organic compounds) control efficiency at maximum hourly coating capacity from the oven exhausts for emissions units R001, R002, R003, R004, R006 and R007.
- 2.f** The hourly emissions limitations outlined are based upon the emissions unit's Potential to Emit (PTE). Therefore, no records are required to demonstrate compliance with these limits.
- 2.g** The allowable emissions of Hazardous Air Pollutants (HAPs) as identified in Section 112(b) of Title III of the Clean Air Act from emissions units R001, R002, R003, R004, R006, R007, and the inkjet printers shall not exceed 9.9 TPY for any single HAP and 24.9 TPY for any combination of HAPs. Compliance with the above limitations shall be determined based upon a rolling, 12-month summation.
- 2.h** The combined annual organic compound emissions from emissions units R001, R002, R003, R004, R006 and R007 shall not exceed 183.59 tons per year based on a rolling 12-month summation.
This emissions limit is based on usages outlined in term A.II.3 and the VOC contents in term A.I.2.d (See term A.V.2 for the calculations).
- 2.i** The permittee shall satisfy the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06(B) by complying with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this permit to install.

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On February 15, 2005, OAC rule 3745-23-06 was rescinded and therefore no longer a part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-23-06, the requirement to satisfy "latest available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

- 2.j** The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this Permit to Install.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

II. Operational Restrictions

1. The use of photochemically reactive material as defined in OAC rule 3745-21-01(C)(5) is prohibited.
2. The average combustion temperature within the thermal oxidizer, for any 3-hour block of time when emissions units R001, R002, R003, R004, R006 and R007 are in operation shall not be more than 50 degrees Fahrenheit below the average combustion temperature during the most recent performance test that demonstrated compliance with the 95.0 percent overall VOC destruction efficiency requirement.
3. Coating and cleanup material usages for emissions units R001, R002, R003, R004, R006 and R007 combined shall not exceed the following limits:

	Material Usages <u>Lbs/yr**</u>
a. Inks	8,711,800
b. Blanket wash	208,400
c. Metering Roller Cleaner	29,400
d. Fountain solution*	350,000
e. Non Piling Additive	59,400
f. Aqueous Coatings	223,400

* This usage limit is for the fountain solution concentrate.

** Compliance with the annual usage limitations shall be determined on a rolling, 12-month summation

4. The permittee shall employ fountain solutions which have a VOC content, as applied of no more 5.0% by weight since the fountain solution does not contain any restricted alcohols. Restricted alcohols are defined as an alcohol which contains only one hydroxyl(-OH) group and less than 5 carbon atoms.
5. The vapor pressure of the blanket or roller wash, as applied, shall not exceed 10 mm of Mercury at 68 degrees Fahrenheit. Blanket or roller wash means any cleaning solvent or solution used to remove excess inks, oils and debris from the blanket roller or inking rollers.
6. The air pressure in the dryer shall be maintained lower than the air pressure of the press room, such that air flow through all openings in the dryer, other than the exhaust,

is into the dryer at all times when the printing line is operating.

III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall collect and record the following information each month for each emissions unit:
 - a. The company identification of each ink, aqueous coating, blanket wash, metering roller cleaner, fountain solution and non piling additive employed in each emissions unit.
 - b. The percent (%) by weight of the volatile organic compound content of each ink, aqueous coating, blanket wash, metering roller cleaner, fountain solution(concentrate) and non piling additive for each emissions unit.
 - c. The number of pounds of each ink, aqueous coating, blanket wash, metering roller cleaner, fountain solution and non piling additive employed in each emissions unit. The amount of material allocated to each emission unit will be based on the number of impressions made at each emissions unit. Example calculations are referenced in term and condition A.V.7.
 - d. A record of each liquid organic material employed in each emissions unit indicating whether or not the liquid organic material is photochemically reactive as defined in OAC rule 3745-21-01(C)(5).
 - e. The total rolling, 12-month summation of the ink, aqueous coating, blanket wash, metering roller cleaner, fountain solution and non piling additive usage in pounds for emissions units R001, R002, R003, R004, R006 and R007, combined.
 - f. The total rolling, 12-month summation of the controlled volatile organic compound (VOC) emissions in tons per year from the inks, aqueous coatings, blanket wash, metering roller cleaner, fountain solution and non piling additive for emissions units R001, R002, R003, R004, R006 and R007, combined.
 - g. All materials employed by the permittee shall be recorded and reported as applied except for the fountain solution and the non-piling additive, which shall be recorded and reported as concentrate.
 - h. The vapor pressure in mm of Mercury for each blanket and roller wash.

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2. The permittee shall collect and record the following information each month for emissions units R001, R002, R003, R004, R006, R007, and the inkjet printers:
 - a. The name and identification number of each ink, aqueous coating, blanket wash (cleanup), metering roller cleaner, fountain solution and non piling additive.
 - b. The individual Hazardous Air Pollutant (HAP) content for each HAP of each ink, aqueous coating, blanket wash, metering roller cleaner, fountain solution and non piling additive in pounds of individual HAP per pound of material.
 - c. The total combined HAP content of each ink, aqueous coating, blanket wash, metering roller cleaner, fountain solution and non piling additive in pounds of combined HAPs per pound of material [sum all the individual HAP contents from (b)].
 - d. The number of pounds of each ink, aqueous coating, blanket wash, metering roller cleaner, fountain solution and non piling additive employed.
 - e. The total individual HAP emissions for each HAP from all ink, aqueous coating, blanket wash, metering roller cleaner, fountain solution and non piling additive employed, in pounds or tons per month [for each HAP the sum of (b) times (d)].
 - f. The total combined HAP emissions from all ink, aqueous coating, blanket wash, metering roller cleaner, fountain solution and non piling additive employed, in pounds or tons per month [the sum of (c) times (d)].
 - g. The updated rolling, 12-month summation of the individual HAP emissions for each HAP from all ink, aqueous coating, blanket wash, metering roller cleaner, fountain solution and non piling additive employed, in pounds or tons.
 - h. The updated rolling, 12-month summation of the combined HAP emissions for all HAP from all ink, aqueous coating, blanket wash, metering roller cleaner, fountain solution and non piling additive employed, in pounds or tons.
 - i. All materials employed by the permittee shall be recorded and reported as applied except for the fountain solution and the non-piling additive, which shall be recorded and reported as concentrate.

A listing of the HAPs can be found in Section 112(b) of the Clean Air Act or can be obtained by contacting your Ohio EPA field office or local air agency contact. This information does not have to be kept on a line-by-line basis.

3. The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within each thermal oxidizer when emissions units R001, R002, R003, R004, R006 and R007 are in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices

shall be capable of accurately measuring the desired parameter. The temperature monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

The permittee shall collect and record the following information for each day:

- a. All 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer, when the emissions unit was in operation was more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance with the 95.0% overall VOC destruction efficiency requirement; and,
- b. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.

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4. The permittee shall maintain for this facility all purchase orders and invoices of VOC-containing materials. The permittee shall retain such purchase orders and invoices for at least five years from their date of issuance. Upon request, the permittee shall make available to the Director of the Ohio EPA, or an authorized representative of the Director, such purchase orders and invoices for use in confirming the general accuracy of the records maintained and the reports submitted regarding material usage.

IV. Reporting Requirements

1. The permittee shall notify the Hamilton County Department of Environmental Services in writing identifying each day during which any photochemically reactive material [as defined in OAC rule 3745-21-01(C)(5)] was employed in emissions units R001, R002, R003, R004, R006 and R007. This report shall identify the cause for the use of the photochemically reactive material(s) and the estimated total quantity of material(s) emitted each such day. This report shall be submitted to the Hamilton County Department of Environmental Services within 45 days after the exceedance occurs
2. The permittee shall submit deviation (excursion) reports which identify any exceedance of the HAP emissions limitations in term A.I.2.g. If no exceedances occurred during the reporting period then a report is required stating so.
3. The permittee shall submit deviation (excursion) reports which identify all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer does not comply with the temperature limitation specified in term and condition A.II.2. If no exceedances occurred during the reporting period then a report is required stating so.
4. The permittee shall submit quarterly reports which specify the updated rolling, 12-month summation of organic compound emissions in TPY for each month from emissions units R001, R002, R003, R004, R006 and R007 combined. These reports shall be submitted by February 15, May 15, August 15 and November 15 of each year and shall cover the previous calendar quarter. Exceeding the rolling, 12-month limit is a violation for each day of the last month of each 12 month period in which the limit is exceeded, regardless of whether a compliance plan is submitted.
5. The permittee shall submit quarterly reports which specify the updated rolling, 12-month summation of total usages in pounds from the inks, aqueous coatings, blanket wash(cleanup), metering roller cleaner, fountain solution and non piling additives for emissions units R001, R002, R003, R004, R006 and R007, combined for each calendar month. These reports shall be submitted by February 15, May 15, August 15 and November 15 of each year and shall cover the previous calendar quarter.
6. The permittee shall submit deviation reports which identify all exceedances of the VOC content limitations in term and condition A.I.2.d and A.II.4.
7. The permittee shall submit deviation reports which identify all exceedances of the vapor

pressure limitation outlined in term A.II.5.

8. The deviation reports shall be submitted in accordance with the reporting requirements of the General Terms and Conditions of this permit.

V. Testing Requirements

1. OAC rule 3745-21-10(B) shall be used to determine the VOC contents of the inks, fountain solutions, coatings, metering rolling cleaner, non-piling additive, and blanket wash. If pursuant to 40 CFR Part 60, Appendix A, an owner or operator determines that Method 24 or Method 24A cannot be used, the permittee shall notify the Administrator of USEPA and shall use formulation data for the material to demonstrate compliance until USEPA provides alternative analytical procedures or alternative precision statements for Method 24 or 24A.
2. The VOC emissions are calculated by multiplying the percent (%) by weight VOC content times the material usage rate times the ink retention consistent with the Ohio EPA Engineering Guide #56 times the control efficiency.

Ink emissions

For ink, 20.0% of the VOC's in heatset inks are retained by the substrate, 80.0% goes to the dryer. In addition, there is a 100.0% capture efficiency and a 95.0% control efficiency. All are demonstrated in the following equation:

$50\% \text{ Weight VOC content} * \text{material usage rate (tons)} * (1.0 - 0.20) * (1.0 - 0.95) = \text{tons of VOC}$

Fountain solution emissions

For fountain solution, there is a 70.0% capture efficiency by the control system and a 95.0% control efficiency as demonstrated in the following equations:

Stack Emissions

$15\% \text{ Weight VOC content} * \text{material usage rate (tons)} * (0.70) * (1.0 - 0.95) = \text{tons of VOC}$

Fugitive Emissions

$15\% \text{ Weight VOC content} * \text{material usage rate (tons)} * (0.30) = \text{tons of VOC}$

Add the stack emissions to the fugitive emissions to obtain the total VOC emissions for fountain solution.

Aqueous Coatings emissions

For aqueous coatings, there is a 100.0% capture efficiency and a 95.0% control efficiency as demonstrated in the following equation:

$$14.6\% \text{ Weight VOC content} * \text{material usage rate (tons)} * (1.0 - 0.95) = \text{tons of VOC}$$

Metering Rolling Cleaner emissions

For Metering Rolling Cleaner, 100.0% is fugitive emissions as demonstrated in the following equation:

$$100\% \text{ Weight VOC content} * \text{material usage rate (tons)} = \text{tons of VOC}$$

Non-piling additive emissions

For non-piling additive, there is a 70.0% capture efficiency and a 95.0% control efficiency as demonstrated in the following equation:

Stack Emissions

$$52\% \text{ Weight VOC content} * \text{material usage rate (tons)} * (0.70) * (1.0 - 0.95) = \text{tons of VOC}$$

Fugitive Emissions

$$52\% \text{ Weight VOC content} * \text{material usage rate (tons)} * (0.30) = \text{tons of VOC}$$

Add the stack emissions to the fugitive emissions to obtain the total VOC emissions for non-piling additive.

Auto Blanket Wash emissions

For Auto Blanket Wash, there is a 40.0% capture efficiency and a 95.0% control efficiency as demonstrated in the following equations:

Stack Emissions

$$100\% \text{ Weight VOC content} * \text{material usage rate (tons)} * (0.40) * (1.0 - 0.95) = \text{tons of VOC}$$

Fugitive Emissions

$$100\% \text{ Weight VOC content} * \text{material usage rate (tons)} * (0.60) = \text{tons of VOC}$$

Add the stack emissions to the fugitive emissions to obtain the total VOC emissions for auto blanket wash.

Manual Blanket Wash emissions

For Manual Blanket Wash, 50.0% of the VOC's are retained by rags, while 50.0% is fugitive emissions as demonstrated in the following equations:

Fugitive Emissions

100% Weight VOC content * material usage rate (tons)*(0.50) = tons of VOC

Add the auto blanket wash emissions to the manual blanket wash emissions to obtain the total VOC emissions for blanket wash.

3. Compliance with the visible particulate emissions limitation shall be demonstrated by the methods outlined in 40 CFR Part 60, Appendix A, Method 9.
4. Compliance with the percent by weight VOC content and the usage limitations in pounds will be determined by the recordkeeping in Term A.III.1.
5. Compliance with the HAP emission limitation in term A.I.2.g shall be determined by the record keeping in Term A.III.2.
6. Compliance with the PM, SO₂, NO_x and CO limits in Term A.I. shall be determined by multiplying the fuel usage by the AP-42 emission factor taken from USEPA's AP-42, 5th Edition, Tables 1.4-1 and 1.4-2 dated 7/98.
7. Compliance with the recordkeeping requirement of keeping monthly usage records for each emissions unit (Term A.III.C.1.c) shall be determined by the following example calculation:

$$Q (R001) = Q \text{ total} \times \frac{I (R001)}{I (\text{sum of R001- R004, R006, R007})}$$

Q (R001) = the ink consumed by emission unit R001 for the month.

Q (total) = the total ink used by the permittee for the month.

I (R001) = the total impressions for emissions unit R001 for the month.

I (sum of R001-R004, R006, and R007) = the total impressions for emissions units R001, R002, R003, R004, R006 and R007 for the month.

8. Compliance with the vapor pressure limitation in term A.II.5 shall be demonstrated by the record keeping in term A.III.1.

VI. Miscellaneous Requirements

1. The terms and conditions in this permit to install shall supersede Permit to Install 14-05281 as issued on July 10, 2003 for emissions unit R001, R002, R003, R004 and R006. Permit to Install 14-05281 had an VOC tons per year allowable of 83.85. This permitting action (Permit to Install 14-05740) has an assigned VOC tons per year allowable of 183.59. Hence, a difference of (183.59-83.85) 99.74 which is below major

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stationary source threshold levels for non-attainment review and therefore would not trigger non-attainment review for this amount of increase over previous permitted allowables.

B. State Only Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(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 specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
R003 - 8 unit Harris (838D) HWOPL with controls		

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

1. The permit to install for this emissions unit R003 was evaluated based on the actual materials (typically coatings and cleanup materials) and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model(or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Ground-Level Concentration (MAGLC).

The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Glycol ethers

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TLV (ug/m3): 552,888
Maximum Hourly Emission Rate (lbs/hr): 0.19
Predicted 1-Hour Maximum Ground-Level
Concentration (ug/m3): 3.0
MAGLC (ug/m3): 13,164

Pollutant: Ethylene glycol
TLV (ug/m3): 253,848
Maximum Hourly Emission Rate (lbs/hr): 0.21
Predicted 1-Hour Maximum Ground-Level
Concentration (ug/m3): 3.3
MAGLC (ug/m3): 6,044

Physical changes to or in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxics Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in the "Air Toxic Policy" include the following:

- a. Changes in the composition of the materials used (typically for coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled;
- b. Changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and
- c. Physical changes to the emissions unit or its exhaust parameters (e.g., increased/decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Air Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01 solely due to the emissions of any type of toxic air contaminant not previously emitted, and a modification of the existing permit to install will not be

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required, even if the toxic air contaminant emissions are greater than the de minimis level in OAC rule 3745-15-05. If the change(s) is (are) defined as a modification under other provisions of the modification definition, then the permittee shall obtain a final permit to install prior to the change.

The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will 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 it's evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and
- c. When the computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(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 specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>
R004 - 8 unit Harris (838E) HWOPL with controls - - modification that would trigger an new air permit-to-install	OAC rule 3745-31-05(A)(3)

	<u>Applicable Emissions Limitations/Control Measures</u>	
	See terms A.I.2.b, A.I.2.c, A.I.2.e, A.II.4, A.II.5 and A.II.6.	thermal oxidizer exhausts. 2.06 TPY of total PE from emissions units R001, R002, R003, R004, R006 and R007 combined.
OAC rule 3745-31-05(C)	Dryer and oxidizer emissions combined: Nitrogen oxides (NOx) emissions shall not exceed 0.1 lb/mmBtu from the thermal oxidizers and dryers.	Particulate matter 10 microns and less (PM10) emissions shall not exceed 0.0076 lb/mmBtu from the thermal oxidizers and dryers.
OAC rule 3745-17-07(A)(1)	27.11 tons per year (TPY) of total NOx emissions from emissions units R001, R002, R003, R004, R006 and R007 combined.	0.47 lb/hour of PM10 emissions from the thermal oxidizer exhausts. 2.06 TPY of total PM10 emissions from emissions units R001, R002, R003, R004, R006 and R007 combined.
OAC rule 3745-17-11	Carbon monoxide (CO) emissions shall not exceed 0.084 lb/mmBtu from the thermal oxidizers and dryers.	Volatile organic compound (VOC) emissions shall not exceed 49.03 TPY.
OAC rule 3745-21-07(G)	22.77 TPY of total CO emissions from emissions units R001, R002, R003, R004, R006 and R007 combined.	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A)(1), 3745-31-05(C), 3745-23-06(B), and 3745-21-08(B).
OAC rule 3745-23-06(B)	Sulfur dioxide (SO2) emissions shall not exceed 0.0006 lb/mmBtu from the thermal oxidizers and dryers.	See terms A.I.2.d, A.I.2.g, A.I.2.h, and A.II.3
OAC rule 3745-21-08(B)	0.16 TPY of total SO2 emissions from emissions units R001, R002, R003, R004, R006 and R007 combined.	Visible particulate emissions from any stack shall not exceed 20% opacity, as a six minute average, except as specified by rule.
	Particulate emissions (PE) shall not exceed 0.0076 lb/mmBtu from the thermal oxidizers and dryers. 0.47 lb/hour of PE from the	The emission limitation specified by this rule is less stringent than the

emission limitation
 established pursuant to
 OAC rule
 3745-31-05(A)(3).

The emission limitation
 specified by this rule is
 less stringent than the
 emission limitation
 established pursuant to
 OAC rule
 3745-31-05(A)(3). See
 term A.II.1.

See term A.I.2.i

See term A.I.2.j

2. Additional Terms and Conditions

- 2.a** Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by the operation of a thermal oxidizer with a control efficiency equal to or greater than 95% for VOC emissions, and the emissions and usage limitations.

Ink means a liquid material applied by a roll printer. Fountain solution means a surface coating applied to a lithographic plate to render the non image areas unreceptive to ink. Coatings, non-piling additive and adhesive means all materials applied onto or saturated within a substrate for decorative, protective or functional purposes. Metering rolling cleaner and blanket wash means all materials used to remove excess printing inks, oils and paper components from press equipment.

- 2.b** Combined organic compound emissions from both oxidizer exhausts of emissions units R001, R002, R003, R004, R006 and R007, combined shall not exceed 42.04 pounds per hour.
- 2.c** Daily organic compound emissions from each emissions units R001, R002, R003, R004, R006 and R007, combined shall not exceed 1008.96 pounds per day which includes the following limits of 516.72 pounds per day from the oven exhaust and 492.24 pounds per day from the fugitive emissions associated with the fountain solution, blanket wash, non piling additive and metering roller cleaner.
- 2.d** The following volatile organic compound (VOC) contents shall not be exceeded for all emissions units:

- | | | |
|----|-------------------------|--------------------------|
| a. | Ink | 50 percent by wt. VOC; |
| b. | Aqueous coatings | 14.6 percent by wt. VOC; |
| c. | Blanket wash | 100 percent by wt. VOC; |
| d. | Metering Roller Cleaner | 100 percent by wt. VOC; |
| e. | Fountain solution | 15 percent by wt. VOC*; |
| f. | Non piling additive | 52 percent by wt. VOC |

* This limit is for the fountain solution concentrate.

- 2.e** The permittee shall operate and maintain two thermal oxidizers , at a minimum, 95 percent (by weight of organic compounds) control efficiency at maximum hourly coating capacity from the oven exhausts for emissions units R001, R002, R003, R004, R006 and R007.
- 2.f** The hourly emissions limitations outlined are based upon the emissions unit's Potential to Emit (PTE). Therefore, no records are required to demonstrate compliance with these limits.
- 2.g** The allowable emissions of Hazardous Air Pollutants (HAPs) as identified in Section 112(b) of Title III of the Clean Air Act from emissions units R001, R002, R003, R004, R006, R007, and the inkjet printers shall not exceed 9.9 TPY for any single HAP and 24.9 TPY for any combination of HAPs. Compliance with the above limitations shall be determined based upon a rolling, 12-month summation.
- 2.h** The combined annual organic compound emissions from emissions units R001, R002, R003, R004, R006 and R007 shall not exceed 183.59 tons per year based on a rolling 12-month summation.
This emissions limit is based on usages outlined in term A.II.3 and the VOC contents in term A.I.2.d (See term A.V.2 for the calculations).
- 2.i** The permittee shall satisfy the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06(B) by complying with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this permit to install.

On February 15, 2005, OAC rule 3745-23-06 was rescinded and therefore no longer a part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-23-06, the requirement to satisfy "latest available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

- 2.j** The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this Permit to Install.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

II. Operational Restrictions

1. The use of photochemically reactive material as defined in OAC rule 3745-21-01(C)(5) is prohibited.
2. The average combustion temperature within the thermal oxidizer, for any 3-hour block of time when emissions units R001, R002, R003, R004, R006 and R007 are in operation shall not be more than 50 degrees Fahrenheit below the average combustion temperature during the most recent performance test that demonstrated compliance with the 95.0 percent overall VOC destruction efficiency requirement.
3. Coating and cleanup material usages for emissions units R001, R002, R003, R004, R006 and R007 combined shall not exceed the following limits:

	Material Usages <u>Lbs/yr**</u>
a. Inks	8,711,800
b. Blanket wash	208,400
c. Metering Roller Cleaner	29,400
d. Fountain solution*	350,000
e. Non Piling Additive	59,400
f. Aqueous Coatings	223,400

* This usage limit is for the fountain solution concentrate.

** Compliance with the annual usage limitations shall be determined on a rolling, 12-month summation

4. The permittee shall employ fountain solutions which have a VOC content, as applied of no more 5.0% by weight since the fountain solution does not contain any restricted alcohols. Restricted alcohols are defined as an alcohol which contains only one hydroxyl(-OH) group and less than 5 carbon atoms.
5. The vapor pressure of the blanket or roller wash, as applied, shall not exceed 10 mm of Mercury at 68 degrees Fahrenheit. Blanket or roller wash means any cleaning solvent or solution used to remove excess inks, oils and debris from the blanket roller or inking rollers.
6. The air pressure in the dryer shall be maintained lower than the air pressure of the press room, such that air flow through all openings in the dryer, other than the exhaust, is into the dryer at all times when the printing line is operating.

III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall collect and record the following information each month for each emissions unit:

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- a. The company identification of each ink, aqueous coating, blanket wash, metering roller cleaner, fountain solution and non piling additive employed in each emissions unit.
 - b. The percent (%) by weight of the volatile organic compound content of each ink, aqueous coating, blanket wash, metering roller cleaner, fountain solution (concentrate) and non piling additive for each emissions unit.
 - c. The number of pounds of each ink, aqueous coating, blanket wash, metering roller cleaner, fountain solution and non piling additive employed in each emissions unit. The amount of material allocated to each emission unit will be based on the number of impressions made at each emissions unit. Example calculations are referenced in term and condition A.V.7.
 - d. A record of each liquid organic material employed in each emissions unit indicating whether or not the liquid organic material is photochemically reactive as defined in OAC rule 3745-21-01(C)(5).
 - e. The total rolling, 12-month summation of the ink, aqueous coating, blanket wash, metering roller cleaner, fountain solution and non piling additive usage in pounds for emissions units R001, R002, R003, R004, R006 and R007, combined.
 - f. The total rolling, 12-month summation of the controlled volatile organic compound (VOC) emissions in tons per year from the inks, aqueous coatings, blanket wash, metering roller cleaner, fountain solution and non piling additive for emissions units R001, R002, R003, R004, R006 and R007, combined.
 - g. All materials employed by the permittee shall be recorded and reported as applied except for the fountain solution and the non-piling additive, which shall be recorded and reported as concentrate.
 - h. The vapor pressure in mm of Mercury for each blanket and roller wash.
2. The permittee shall collect and record the following information each month for emissions units R001, R002, R003, R004, R006, R007, and the inkjet printers:
 - a. The name and identification number of each ink, aqueous coating, blanket wash (cleanup), metering roller cleaner, fountain solution and non piling additive.
 - b. The individual Hazardous Air Pollutant (HAP) content for each HAP of each ink,

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aqueous coating, blanket wash, metering roller cleaner, fountain solution and non piling additive in pounds of individual HAP per pound of material.

- c. The total combined HAP content of each ink, aqueous coating, blanket wash, metering roller cleaner, fountain solution and non piling additive in pounds of combined HAPs per pound of material [sum all the individual HAP contents from (b)].
- d. The number of pounds of each ink, aqueous coating, blanket wash, metering roller cleaner, fountain solution and non piling additive employed.
- e. The total individual HAP emissions for each HAP from all ink, aqueous coating, blanket wash, metering roller cleaner, fountain solution and non piling additive employed, in pounds or tons per month [for each HAP the sum of (b) times (d)].
- f. The total combined HAP emissions from all ink, aqueous coating, blanket wash, metering roller cleaner, fountain solution and non piling additive employed, in pounds or tons per month [the sum of (c) times (d)].
- g. The updated rolling, 12-month summation of the individual HAP emissions for each HAP from all ink, aqueous coating, blanket wash, metering roller cleaner, fountain solution and non piling additive employed, in pounds or tons.
- h. The updated rolling, 12-month summation of the combined HAP emissions for all HAP from all ink, aqueous coating, blanket wash, metering roller cleaner, fountain solution and non piling additive employed, in pounds or tons.
- i. All materials employed by the permittee shall be recorded and reported as applied except for the fountain solution and the non-piling additive, which shall be recorded and reported as concentrate.

A listing of the HAPs can be found in Section 112(b) of the Clean Air Act or can be obtained by contacting your Ohio EPA field office or local air agency contact. This information does not have to be kept on a line-by-line basis.

3. The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within each thermal oxidizer when emissions units R001, R002, R003, R004, R006 and R007 are in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

The permittee shall collect and record the following information for each day:

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- a. All 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer, when the emissions unit was in operation was more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance with the 95.0% overall VOC destruction efficiency requirement; and,
 - b. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.
4. The permittee shall maintain for this facility all purchase orders and invoices of VOC-containing materials. The permittee shall retain such purchase orders and invoices for at least five years from their date of issuance. Upon request, the permittee shall make

available to the Director of the Ohio EPA, or an authorized representative of the Director, such purchase orders and invoices for use in confirming the general accuracy of the records maintained and the reports submitted regarding material usage.

IV. Reporting Requirements

1. The permittee shall notify the Hamilton County Department of Environmental Services in writing identifying each day during which any photochemically reactive material [as defined in OAC rule 3745-21-01(C)(5)] was employed in emissions units R001, R002, R003, R004, R006 and R007. This report shall identify the cause for the use of the photochemically reactive material(s) and the estimated total quantity of material(s) emitted each such day. This report shall be submitted to the Hamilton County Department of Environmental Services within 45 days after the exceedance occurs
2. The permittee shall submit deviation (excursion) reports which identify any exceedance of the HAP emissions limitations in term A.I.2.g. If no exceedances occurred during the reporting period then a report is required stating so.
3. The permittee shall submit deviation (excursion) reports which identify all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer does not comply with the temperature limitation specified in term and condition A.II.2. If no exceedances occurred during the reporting period then a report is required stating so.
4. The permittee shall submit quarterly reports which specify the updated rolling, 12-month summation of organic compound emissions in TPY for each month from emissions units R001, R002, R003, R004, R006 and R007 combined. These reports shall be submitted by February 15, May 15, August 15 and November 15 of each year and shall cover the previous calendar quarter. Exceeding the rolling, 12-month limit is a violation for each day of the last month of each 12 month period in which the limit is exceeded, regardless of whether a compliance plan is submitted.
5. The permittee shall submit quarterly reports which specify the updated rolling, 12-month summation of total usages in pounds from the inks, aqueous coatings, blanket wash(cleanup), metering roller cleaner, fountain solution and non piling additives for emissions units R001, R002, R003, R004, R006 and R007, combined for each calendar month. These reports shall be submitted by February 15, May 15, August 15 and November 15 of each year and shall cover the previous calendar quarter.
6. The permittee shall submit deviation reports which identify all exceedances of the VOC

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content limitations in term and condition A.I.2.d and A.II.4.

7. The permittee shall submit deviation reports which identify all exceedances of the vapor pressure limitation outlined in term A.II.5.
8. The deviation reports shall be submitted in accordance with the reporting requirements of the General Terms and Conditions of this permit.

V. Testing Requirements

- OAC rule 3745-21-10(B) shall be used to determine the VOC contents of the inks, fountain solutions, coatings, metering rolling cleaner, non-piling additive, and blanket wash. If pursuant to 40 CFR Part 60, Appendix A, an owner or operator determines that Method 24 or Method 24A cannot be used, the permittee shall notify the Administrator of USEPA and shall use formulation data for the material to demonstrate compliance until USEPA provides alternative analytical procedures or alternative precision statements for Method 24 or 24A.
- The VOC emissions are calculated by multiplying the percent (%) by weight VOC content times the material usage rate times the ink retention consistent with the Ohio EPA Engineering Guide #56 times the control efficiency.

Ink emissions

For ink, 20.0% of the VOC's in heatset inks are retained by the substrate, 80.0% goes to the dryer. In addition, there is a 100.0% capture efficiency and a 95.0% control efficiency. All are demonstrated in the following equation:

$50\% \text{ Weight VOC content} * \text{material usage rate (tons)} * (1.0-0.20)*(1.0-0.95) = \text{tons of VOC}$

Fountain solution emissions

For fountain solution, there is a 70.0% capture efficiency by the control system and a 95.0% control efficiency as demonstrated in the following equations:

Stack Emissions

$15\% \text{ Weight VOC content} * \text{material usage rate (tons)} * (0.70) * (1.0 - 0.95) = \text{tons of VOC}$

Fugitive Emissions

$15\% \text{ Weight VOC content} * \text{material usage rate (tons)} * (0.30) = \text{tons of VOC}$

Add the stack emissions to the fugitive emissions to obtain the total VOC emissions for fountain solution.

Aqueous Coatings emissions

For aqueous coatings, there is a 100.0% capture efficiency and a 95.0% control efficiency as demonstrated in the following equation:

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14.6% Weight VOC content * material usage rate (tons) * (1.0-0.95) = tons of VOC

Metering Rolling Cleaner emissions

For Metering Rolling Cleaner, 100.0% is fugitive emissions as demonstrated in the following equation:

100% Weight VOC content * material usage rate (tons) = tons of VOC

Non-piling additive emissions

For non-piling additive, there is a 70.0% capture efficiency and a 95.0% control efficiency as demonstrated in the following equation:

Stack Emissions

52% Weight VOC content * material usage rate (tons) * (0.70) * (1.0 - 0.95) = tons of VOC

Fugitive Emissions

52% Weight VOC content * material usage rate (tons)* (0.30) = tons of VOC

Add the stack emissions to the fugitive emissions to obtain the total VOC emissions for non-piling additive.

Auto Blanket Wash emissions

For Auto Blanket Wash, there is a 40.0% capture efficiency and a 95.0% control efficiency as demonstrated in the following equations:

Stack Emissions

100% Weight VOC content * material usage rate (tons)* (0.40) * (1.0 - 0.95) = tons of VOC

Fugitive Emissions

100% Weight VOC content * material usage rate (tons)*(0.60) = tons of VOC

Add the stack emissions to the fugitive emissions to obtain the total VOC emissions for auto blanket wash.

Manual Blanket Wash emissions

For Manual Blanket Wash, 50.0% of the VOC's are retained by rags, while 50.0% is fugitive emissions as demonstrated in the following equations:

Fugitive Emissions

100% Weight VOC content * material usage rate (tons)*(0.50) = tons of VOC

Add the auto blanket wash emissions to the manual blanket wash emissions to obtain the total VOC emissions for blanket wash.

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3. Compliance with the visible particulate emissions limitation shall be demonstrated by the methods outlined in 40 CFR Part 60, Appendix A, Method 9.
4. Compliance with the percent by weight VOC content and the usage limitations in pounds will be determined by the recordkeeping in Term A.III.1.
5. Compliance with the HAP emission limitation in term A.I.2.g shall be determined by the record keeping in Term A.III.2.
6. Compliance with the PM, SO₂, NO_X and CO limits in Term A.I. shall be determined by multiplying the fuel usage by the AP-42 emission factor taken from USEPA's AP-42, 5th Edition, Tables 1.4-1 and 1.4-2 dated 7/98.

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7. Compliance with the recordkeeping requirement of keeping monthly usage records for each emissions unit (Term A.III.1.c) shall be determined by the following example calculation:

$$Q (R001) = Q \text{ total} \times \frac{I (R001)}{I (\text{sum of R001- R004, R006, R007})}$$

Q (R001) = the ink consumed by emission unit R001 for the month.

Q (total) = the total ink used by the permittee for the month.

I (R001) = the total impressions for emissions unit R001 for the month.

I (sum of R001-R004, R006, and R007) = the total impressions for emissions units R001, R002, R003, R004, R006 and R007 for the month.

8. Compliance with the vapor pressure limitation in term A.II.5 shall be demonstrated by the record keeping in term A.III.1.

VI. Miscellaneous Requirements

1. The terms and conditions in this permit to install shall supersede Permit to Install 14-05281 as issued on July 10, 2003 for emissions unit R001, R002, R003, R004 and R006. Permit to Install 14-05281 had an VOC tons per year allowable of 83.85. This permitting action (Permit to Install 14-05740) has an assigned VOC tons per year allowable of 183.59. Hence, a difference of (183.59-83.85) 99.74 which is below major stationary source threshold levels for non-attainment review and therefore would not trigger non-attainment review for this amount of increase over previous permitted allowables.

B. State Only Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(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 specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
R004 - 8 unit Harris (838E) HWOPL with controls		

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

1. The permit to install for this emissions unit R004 was evaluated based on the actual materials (typically coatings and cleanup materials) and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Ground-Level Concentration (MAGLC).

The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Glycol ethers

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TLV (ug/m3): 552,888
 Maximum Hourly Emission Rate (lbs/hr): 0.19
 Predicted 1-Hour Maximum Ground-Level
 Concentration (ug/m3): 3.0
 MAGLC (ug/m3): 13,164

Pollutant: Ethylene glycol
 TLV (ug/m3): 253,848
 Maximum Hourly Emission Rate (lbs/hr): 0.21
 Predicted 1-Hour Maximum Ground-Level
 Concentration (ug/m3): 3.3
 MAGLC (ug/m3): 6,044

Physical changes to or in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxics Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in the "Air Toxic Policy" include the following:

- a. Changes in the composition of the materials used (typically for coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled;
- b. Changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and
- c. Physical changes to the emissions unit or its exhaust parameters (e.g., increased/decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Air Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01 solely due to the emissions of any type of toxic air contaminant not previously emitted, and a modification of the existing permit to install will not be required, even if the toxic air contaminant emissions are greater than the de minimis level in OAC rule 3745-15-05. If the change(s) is (are) defined as a modification under other provisions of the modification definition, then the permittee shall obtain a final permit to install prior to the change.

The permittee shall collect, record, and retain the following information when it conducts

evaluations to determine that the changed emissions unit will 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 it's evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and
- c. When the computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

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IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(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 specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>
R006 - 8 unit Harris (838F) HWOPL with controls - - modification that would trigger an new air permit-to-install.	OAC rule 3745-31-05(A)(3)

	<u>Applicable Emissions Limitations/Control Measures</u>	
	See terms A.I.2.b, A.I.2.c, A.I.2.e, A.II.4, A.II.5, and A.II.6.	thermal oxidizer exhausts. 2.06 TPY of total PE from emissions units R001, R002, R003, R004, R006 and R007 combined.
OAC rule 3745-31-05(C)	Dryer and oxidizer emissions combined: Nitrogen oxides (NOx) emissions shall not exceed 0.1 lb/mmBtu from the thermal oxidizers and dryers.	Particulate matter 10 microns and less (PM10) emissions shall not exceed 0.0076 lb/mmBtu from the thermal oxidizers and dryers.
OAC rule 3745-17-07(A)(1)	27.11 tons per year (TPY) of total NOx emissions from emissions units R001, R002, R003, R004, R006 and R007 combined.	0.47 lb/hour of PM10 emissions from the thermal oxidizer exhausts. 2.06 TPY of total PM10 emissions from emissions units R001, R002, R003, R004, R006 and R007 combined.
OAC rule 3745-17-11	Carbon monoxide (CO) emissions shall not exceed 0.084 lb/mmBtu from the thermal oxidizers and dryers.	Volatile organic compound (VOC) emissions shall not exceed 49.03 TPY.
OAC rule 3745-21-07(G)	22.77 TPY of total CO emissions from emissions units R001, R002, R003, R004, R006 and R007 combined.	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A)(1), 3745-31-05(C), 3745-23-06(B), and 3745-21-08(B).
OAC rule 3745-23-06(B)	Sulfur dioxide (SO2) emissions shall not exceed 0.0006 lb/mmBtu from the thermal oxidizers and dryers. 0.16 TPY of total SO2 emissions from emissions units R001, R002, R003, R004, R006 and R007 combined.	See terms A.I.2.d, A.I.2.g, A.I.2.h and A.II.3.
OAC rule 3745-21-08(B)	Particulate emissions (PE) shall not exceed 0.0076 lb/mmBtu from the thermal oxidizers and dryers. 0.47 lb/hour of PE from the	Visible particulate emissions from any stack shall not exceed 20% opacity, as a six minute average, except as specified by rule. The emission limitation specified by this rule is less stringent than the

emission limitation
established pursuant to
OAC rule
3745-31-05(A)(3).

The emission limitation
specified by this rule is
less stringent than the
emission limitation
established pursuant to
OAC rule
3745-31-05(A)(3). See
term A.II.1

See term A.I.2.i

See term A.I.2.j

2. Additional Terms and Conditions

- 2.a** Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by the operation of a thermal oxidizer with a control efficiency equal to or greater than 95% for VOC emissions, and the emissions and usage limitations.

Ink means a liquid material applied by a roll printer. Fountain solution means a surface coating applied to a lithographic plate to render the non image areas unreceptive to ink. Coatings, non-piling additive and adhesive means all materials applied onto or saturated within a substrate for decorative, protective or functional purposes. Metering rolling cleaner and blanket wash means all materials used to remove excess printing inks, oils and paper components from press equipment.

- 2.b** Combined organic compound emissions from both oxidizer exhausts of emissions units R001, R002, R003, R004, R006 and R007, combined shall not exceed 42.04 pounds per hour.
- 2.c** Daily organic compound emissions from each emissions units R001, R002, R003, R004, R006 and R007, combined shall not exceed 1008.96 pounds per day which includes the following limits of 516.72 pounds per day from the oven

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exhaust and 492.24 pounds per day from the fugitive emissions associated with the fountain solution, blanket wash, non piling additive and metering roller cleaner.

- 2.d** The following volatile organic compound (VOC) contents shall not be exceeded for all emissions units:
- | | | |
|----|-------------------------|--------------------------|
| a. | Ink | 50 percent by wt. VOC; |
| b. | Aqueous coatings | 14.6 percent by wt. VOC; |
| c. | Blanket wash | 100 percent by wt. VOC; |
| d. | Metering Roller Cleaner | 100 percent by wt. VOC; |
| e. | Fountain solution | 15 percent by wt. VOC*; |
| f. | Non piling additive | 52 percent by wt. VOC |
- * This limit is for the fountain solution concentrate.
- 2.e** The permittee shall operate and maintain two thermal oxidizers , at a minimum, 95 percent (by weight of organic compounds) control efficiency at maximum hourly coating capacity from the oven exhausts for emissions units R001, R002, R003, R004, R006 and R007.
- 2.f** The hourly emissions limitations outlined are based upon the emissions unit's Potential to Emit (PTE). Therefore, no records are required to demonstrate compliance with these limits.
- 2.g** The allowable emissions of Hazardous Air Pollutants (HAPs) as identified in Section 112(b) of Title III of the Clean Air Act from emissions units R001, R002, R003, R004, R006, R007, and the inkjet printers shall not exceed 9.9 TPY for any single HAP and 24.9 TPY for any combination of HAPs. Compliance with the above limitations shall be determined based upon a rolling, 12-month summation.
- 2.h** The combined annual organic compound emissions from emissions units R001, R002, R003, R004, R006 and R007 shall not exceed 183.59 tons per year based on a rolling 12-month summation.
 This emissions limit is based on usages outlined in term A.II.3 and the VOC contents in term A.I.2.d (See term A.V.2 for the calculations).
- 2.i** The permittee shall satisfy the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06(B) by complying with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this permit to install.

On February 15, 2005, OAC rule 3745-23-06 was rescinded and therefore no longer a part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-23-06, the requirement to satisfy "latest available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

- 2.j** The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this Permit to Install.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

II. Operational Restrictions

- 1. The use of photochemically reactive material as defined in OAC rule 3745-21-01(C)(5) is prohibited.
- 2. The average combustion temperature within the thermal oxidizer, for any 3-hour block of time when emissions units R001, R002, R003, R004, R006 and R007 are in operation shall not be more than 50 degrees Fahrenheit below the average combustion temperature during the most recent performance test that demonstrated compliance with the 95.0 percent overall VOC destruction efficiency requirement.
- 3. Coating and cleanup material usages for emissions units R001, R002, R003, R004, R006 and R007 combined shall not exceed the following limits:

	Material Usages
	<u>Lbs/yr**</u>
a. Inks	8,711,800
b. Blanket wash	208,400
c. Metering Roller Cleaner	29,400
d. Fountain solution*	350,000
e. Non Piling Additive	59,400
f. Aqueous Coatings	223,400

* This usage limit is for the fountain solution concentrate.

** Compliance with the annual usage limitations shall be determined on a rolling, 12-month summation

- 4. The permittee shall employ fountain solutions which have a VOC content, as applied of no more 5.0% by weight since the fountain solution does not contain any restricted alcohols. Restricted alcohols are defined as an alcohol which contains only one hydroxyl(-OH) group and less than 5 carbon atoms.
- 5. The vapor pressure of the blanket or roller wash, as applied, shall not exceed 10 mm of Mercury at 68 degrees Fahrenheit. Blanket or roller wash means any cleaning solvent or solution used to remove excess inks, oils and debris from the blanket roller or inking rollers.
- 6. The air pressure in the dryer shall be maintained lower than the air pressure of the press room, such that air flow through all openings in the dryer, other than the exhaust,

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is into the dryer at all times when the printing line is operating.

III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall collect and record the following information each month for each emissions unit:
 - a. The company identification of each ink, aqueous coating, blanket wash, metering roller cleaner, fountain solution and non piling additive employed in each emissions unit.
 - b. The percent (%) by weight of the volatile organic compound content of each ink, aqueous coating, blanket wash, metering roller cleaner, fountain solution (concentrate) and non piling additive for each emissions unit.
 - c. The number of pounds of each ink, aqueous coating, blanket wash, metering roller cleaner, fountain solution and non piling additive employed in each emissions unit. The amount of material allocated to each emission unit will be based on the number of impressions made at each emissions unit. Example calculations are referenced in term and condition A.V.7.
 - d. A record of each liquid organic material employed in each emissions unit indicating whether or not the liquid organic material is photochemically reactive as defined in OAC rule 3745-21-01(C)(5).
 - e. The total rolling, 12-month summation of the ink, aqueous coating, blanket wash, metering roller cleaner, fountain solution and non piling additive usage in pounds for emissions units R001, R002, R003, R004, R006 and R007, combined.
 - f. The total rolling, 12-month summation of the controlled volatile organic compound (VOC) emissions in tons per year from the inks, aqueous coatings, blanket wash, metering roller cleaner, fountain solution and non piling additive for emissions units R001, R002, R003, R004, R006 and R007, combined.
 - g. All materials employed by the permittee shall be recorded and reported as applied except for the fountain solution and the non-piling additive, which shall be recorded and reported as concentrate.
 - h. The vapor pressure in mm of Mercury for each blanket and roller wash.
2. The permittee shall collect and record the following information each month for emissions units R001, R002, R003, R004, R006, R007, and the inkjet printers:
 - a. The name and identification number of each ink, aqueous coating, blanket wash (cleanup), metering roller cleaner, fountain solution and non piling additive.

- b. The individual Hazardous Air Pollutant (HAP) content for each HAP of each ink, aqueous coating, blanket wash, metering roller cleaner, fountain solution and non piling additive in pounds of individual HAP per pound of material.
- c. The total combined HAP content of each ink, aqueous coating, blanket wash, metering roller cleaner, fountain solution and non piling additive in pounds of combined HAPs per pound of material [sum all the individual HAP contents from (b)].
- d. The number of pounds of each ink, aqueous coating, blanket wash, metering roller cleaner, fountain solution and non piling additive employed.
- e. The total individual HAP emissions for each HAP from all ink, aqueous coating, blanket wash, metering roller cleaner, fountain solution and non piling additive employed, in pounds or tons per month [for each HAP the sum of (b) times (d)].
- f. The total combined HAP emissions from all ink, aqueous coating, blanket wash, metering roller cleaner, fountain solution and non piling additive employed, in pounds or tons per month [the sum of (c) times (d)].
- g. The updated rolling, 12-month summation of the individual HAP emissions for each HAP from all ink, aqueous coating, blanket wash, metering roller cleaner, fountain solution and non piling additive employed, in pounds or tons.
- h. The updated rolling, 12-month summation of the combined HAP emissions for all HAP from all ink, aqueous coating, blanket wash, metering roller cleaner, fountain solution and non piling additive employed, in pounds or tons.
- i. All materials employed by the permittee shall be recorded and reported as applied except for the fountain solution and the non-piling additive, which shall be recorded and reported as concentrate.

A listing of the HAPs can be found in Section 112(b) of the Clean Air Act or can be obtained by contacting your Ohio EPA field office or local air agency contact. This information does not have to be kept on a line-by-line basis.

- 3. The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within each thermal oxidizer when emissions units R001, R002, R003, R004, R006 and R007 are in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices

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shall be capable of accurately measuring the desired parameter. The temperature monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

The permittee shall collect and record the following information for each day:

- a. All 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer, when the emissions unit was in operation was more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance with the 95.0% overall VOC destruction efficiency requirement; and,
- b. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.

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4. The permittee shall maintain for this facility all purchase orders and invoices of VOC-containing materials. The permittee shall retain such purchase orders and invoices for at least five years from their date of issuance. Upon request, the permittee shall make available to the Director of the Ohio EPA, or an authorized representative of the Director, such purchase orders and invoices for use in confirming the general accuracy of the records maintained and the reports submitted regarding material usage.

IV. Reporting Requirements

1. The permittee shall notify the Hamilton County Department of Environmental Services in writing identifying each day during which any photochemically reactive material [as defined in OAC rule 3745-21-01(C)(5)] was employed in emissions units R001, R002, R003, R004, R006 and R007. This report shall identify the cause for the use of the photochemically reactive material(s) and the estimated total quantity of material(s) emitted each such day. This report shall be submitted to the Hamilton County Department of Environmental Services within 45 days after the exceedance occurs
2. The permittee shall submit deviation (excursion) reports which identify any exceedance of the HAP emissions limitations in term A.I.2.g. If no exceedances occurred during the reporting period then a report is required stating so.
3. The permittee shall submit deviation (excursion) reports which identify all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer does not comply with the temperature limitation specified in term and condition A.II.2. If no exceedances occurred during the reporting period then a report is required stating so.
4. The permittee shall submit quarterly reports which specify the updated rolling, 12-month summation of organic compound emissions in TPY for each month from emissions units R001, R002, R003, R004, R006 and R007 combined. These reports shall be submitted by February 15, May 15, August 15 and November 15 of each year and shall cover the previous calendar quarter. Exceeding the rolling, 12-month limit is a violation for each day of the last month of each 12 month period in which the limit is exceeded, regardless of whether a compliance plan is submitted.
5. The permittee shall submit quarterly reports which specify the updated rolling, 12-month summation of total usages in pounds from the inks, aqueous coatings, blanket wash(cleanup), metering roller cleaner, fountain solution and non piling additives for emissions units R001, R002, R003, R004, R006 and R007, combined for each calendar month. These reports shall be submitted by February 15, May 15, August 15 and

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November 15 of each year and shall cover the previous calendar quarter.

6. The permittee shall submit deviation reports which identify all exceedances of the VOC content limitations in term and condition A.I.2.d and A.II.4.
7. The permittee shall submit deviation reports which identify all exceedances of the vapor pressure limitation outlined in term A.II.5.
8. The deviation reports shall be submitted in accordance with the reporting requirements of the General Terms and Conditions of this permit.

V. Testing Requirements

1. OAC rule 3745-21-10(B) shall be used to determine the VOC contents of the inks, fountain solutions, coatings, metering rolling cleaner, non-piling additive, and blanket wash. If pursuant to 40 CFR Part 60, Appendix A, an owner or operator determines that Method 24 or Method 24A cannot be used, the permittee shall notify the Administrator of USEPA and shall use formulation data for the material to demonstrate compliance until USEPA provides alternative analytical procedures or alternative precision statements for Method 24 or 24A.
2. The VOC emissions are calculated by multiplying the percent (%) by weight VOC content times the material usage rate times the ink retention consistent with the Ohio EPA Engineering Guide #56 times the control efficiency.

Ink emissions

For ink, 20.0% of the VOC's in heatset inks are retained by the substrate, 80.0% goes to the dryer. In addition, there is a 100.0% capture efficiency and a 95.0% control efficiency. All are demonstrated in the following equation:

$50\% \text{ Weight VOC content} * \text{material usage rate (tons)} * (1.0-0.20)*(1.0-0.95) = \text{tons of VOC}$

Fountain solution emissions

For fountain solution, there is a 70.0% capture efficiency by the control system and a 95.0% control efficiency as demonstrated in the following equations:

Stack Emissions

$15\% \text{ Weight VOC content} * \text{material usage rate (tons)} * (0.70) * (1.0 - 0.95) = \text{tons of VOC}$

Fugitive Emissions

$15\% \text{ Weight VOC content} * \text{material usage rate (tons)} * (0.30) = \text{tons of VOC}$

Add the stack emissions to the fugitive emissions to obtain the total VOC emissions for fountain solution.

Aqueous Coatings emissions

For aqueous coatings, there is a 100.0% capture efficiency and a 95.0% control efficiency as demonstrated in the following equation:

$$14.6\% \text{ Weight VOC content} * \text{material usage rate (tons)} * (1.0 - 0.95) = \text{tons of VOC}$$

Metering Rolling Cleaner emissions

For Metering Rolling Cleaner, 100.0% is fugitive emissions as demonstrated in the following equation:

$$100\% \text{ Weight VOC content} * \text{material usage rate (tons)} = \text{tons of VOC}$$

Non-piling additive emissions

For non-piling additive, there is a 70.0% capture efficiency and a 95.0% control efficiency as demonstrated in the following equation:

Stack Emissions

$$52\% \text{ Weight VOC content} * \text{material usage rate (tons)} * (0.70) * (1.0 - 0.95) = \text{tons of VOC}$$

Fugitive Emissions

$$52\% \text{ Weight VOC content} * \text{material usage rate (tons)} * (0.30) = \text{tons of VOC}$$

Add the stack emissions to the fugitive emissions to obtain the total VOC emissions for non-piling additive.

Auto Blanket Wash emissions

For Auto Blanket Wash, there is a 40.0% capture efficiency and a 95.0% control efficiency as demonstrated in the following equations:

Stack Emissions

$$100\% \text{ Weight VOC content} * \text{material usage rate (tons)} * (0.40) * (1.0 - 0.95) = \text{tons of VOC}$$

Fugitive Emissions

$$100\% \text{ Weight VOC content} * \text{material usage rate (tons)} * (0.60) = \text{tons of VOC}$$

Add the stack emissions to the fugitive emissions to obtain the total VOC emissions for auto blanket wash.

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Manual Blanket Wash emissions

For Manual Blanket Wash, 50.0% of the VOC's are retained by rags, while 50.0% is fugitive emissions as demonstrated in the following equations:

Fugitive Emissions

100% Weight VOC content * material usage rate (tons)*(0.50) = tons of VOC

Add the auto blanket wash emissions to the manual blanket wash emissions to obtain the total VOC emissions for blanket wash.

3. Compliance with the visible particulate emissions limitation shall be demonstrated by the methods outlined in 40 CFR Part 60, Appendix A, Method 9.
4. Compliance with the percent by weight VOC content and the usage limitations in pounds will be determined by the recordkeeping in Term A.III.1.
5. Compliance with the HAP emission limitation in term A.I.2.g shall be determined by the record keeping in Term A.III.2.
6. Compliance with the PM, SO₂, NO_x and CO limits in Term A.I. shall be determined by multiplying the fuel usage by the AP-42 emission factor taken from USEPA's AP-42, 5th Edition, Tables 1.4-1 and 1.4-2 dated 7/98.
7. Compliance with the recordkeeping requirement of keeping monthly usage records for each emissions unit (Term A.III.C.1.c) shall be determined by the following example calculation:

$$Q (R001) = Q \text{ total} \times \frac{I (R001)}{I (\text{sum of R001- R004, R006, R007})}$$

Q (R001) = the ink consumed by emission unit R001 for the month.

Q (total) = the total ink used by the permittee for the month.

I (R001) = the total impressions for emissions unit R001 for the month.

I (sum of R001-R004, R006, and R007) = the total impressions for emissions units R001, R002, R003, R004, R006 and R007 for the month.

8. Compliance with the vapor pressure limitation in term A.II.5 shall be demonstrated by the record keeping in term A.III.1.

VI. Miscellaneous Requirements

1. The terms and conditions in this permit to install shall supersede Permit to Install 14-05281 as issued on July 10, 2003 for emissions unit R001, R002, R003, R004 and R006. Permit to Install 14-05281 had an VOC tons per year allowable of 83.85. This permitting action (Permit to Install 14-05740) has an assigned VOC tons per year allowable of 183.59. Hence, a difference of (183.59-83.85) 99.74 which is below major

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stationary source threshold levels for non-attainment review and therefore would not trigger non-attainment review for this amount of increase over previous permitted allowables.

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B. State Only Enforceable Section**I. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operations(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 specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
R006 - 8 unit Harris (838F) HWOPL with controls		

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

1. The permit to install for this emissions unit R006 was evaluated based on the actual materials (typically coatings and cleanup materials) and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Ground-Level Concentration (MAGLC).

The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Glycol ethers

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TLV (ug/m3): 552,888
Maximum Hourly Emission Rate (lbs/hr): 0.19
Predicted 1-Hour Maximum Ground-Level
Concentration (ug/m3): 3.0
MAGLC (ug/m3): 13,164

Pollutant: Ethylene glycol
TLV (ug/m3): 253,848
Maximum Hourly Emission Rate (lbs/hr): 0.21
Predicted 1-Hour Maximum Ground-Level
Concentration (ug/m3): 3.3
MAGLC (ug/m3): 6,044

Physical changes to or in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxics Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in the "Air Toxic Policy" include the following:

- a. Changes in the composition of the materials used (typically for coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled;
- b. Changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and
- c. Physical changes to the emissions unit or its exhaust parameters (e.g., increased/decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Air Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01 solely due to the emissions of any type of toxic air contaminant not previously emitted, and a modification of the existing permit to install will not be required, even if the toxic air contaminant emissions are greater than the de minimis level in OAC rule 3745-15-05. If the change(s) is (are) defined as a modification under other provisions of the modification definition, then the permittee shall obtain a final permit to install prior to the change.

The permittee shall collect, record, and retain the following information when it conducts

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evaluations to determine that the changed emissions unit will 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 it's evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and
- c. When the computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(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 specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>
R007 - 8 unit Goss 3000-32 HWOPL with controls - - new installation	OAC rule 3745-31-05(A)(3)

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	<u>Applicable Emissions Limitations/Control Measures</u>	
	See terms A.I.2.b, A.I.2.c, A.I.2.e, A.II.4, A.II.5, and A.II.6.	oxidizer exhausts. 2.06 TPY PE Total from emissions units R001, R002, R003, R004, R006 and R007 combined.
OAC rule 3745-31-05(C)	Dryer and oxidizer emissions combined: Nitrogen oxides (NOx) emissions shall not exceed 0.1 lb/mmBtu from the thermal oxidizers and dryers.	Particulate matter 10 microns and less (PM10) emissions shall not exceed 0.0076 lb/MMBtu from the thermal oxidizers and dryers.
OAC rule 3745-17-07(A)(1)	27.11 tons per year (TPY) of total NOx emissions from emissions units R001, R002, R003, R004, R006 and R007 combined.	0.47 lb/hour of PM10 emissions from the thermal oxidizer exhausts. 2.06 TPY of total PM10 emissions from emissions units R001, R002, R003, R004, R006 and R007 combined.
OAC rule 3745-17-11	Carbon monoxide (CO) emissions shall not exceed 0.084 lb/mmBtu from the thermal oxidizers and dryers. 22.77 TPY of total CO emissions from emissions units R001, R002, R003, R004, R006 and R007 combined.	Volatile organic compound (VOC) emissions shall not exceed 74.55 TPY. The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A)(1), 3745-31-05(C), 3745-23-06(B), and 3745-21-08(B).
OAC rule 3745-21-07(G)	Sulfur dioxide (SO2) emissions shall not exceed 0.0006 lb/MMBtu from the thermal oxidizers and dryers. 0.16 TPY SO2 Total from emissions units R001, R002, R003, R004, R006 and R007 combined.	See terms A.I.2.d, A.I.2.g, A.I.2.h and A.II.3.
OAC rule 374-23-06(B)		Visible particulate emissions from any stack shall not exceed 20% opacity, as a six minute average, except as specified by rule.
OAC rule 3745-21-08(B)	Particulate emissions (PE) shall not exceed 0.0076 lb/MMBtu from the thermal oxidizers and dryers. 0.47 lb/hour PE from the thermal	The emission limitation specified by this rule is less stringent than the

emission limitation
 established pursuant to
 OAC rule
 3745-31-05(A)(3).

The emission limitation
 specified by this rule is
 less stringent than the
 emission limitation
 established pursuant to
 OAC rule
 3745-31-05(A)(3). See
 term A.II.1.

See term A.I.2.i

See term A.I.2.j

2. Additional Terms and Conditions

- 2.a** Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by the operation of a thermal oxidizer with a control efficiency equal to or greater than 95% for VOC emissions, and the emissions and usage limitations.

Ink means a liquid material applied by a roll printer. Fountain solution means a surface coating applied to a lithographic plate to render the non image areas unreceptive to ink. Coatings, non-piling additive and adhesive means all materials applied onto or saturated within a substrate for decorative, protective or functional purposes. Metering rolling cleaner and blanket wash means all materials used to remove excess printing inks, oils and paper components from press equipment.

- 2.b** Combined organic compound emissions from both oxidizer exhausts of emissions units R001, R002, R003, R004, R006 and R007, combined shall not exceed 42.04 pounds per hour.
- 2.c** Daily organic compound emissions from each emissions units R001, R002, R003, R004, R006 and R007, combined shall not exceed 1008.96 pounds per day which includes the following limits of 516.72 pounds per day from the oven exhaust and 492.24 pounds per day from the fugitive emissions associated with the fountain solution, blanket wash, non piling additive and metering roller cleaner.
- 2.d** The following volatile organic compound (VOC) contents shall not be exceeded for all emissions units:

- | | | |
|----|-------------------------|--------------------------|
| a. | Ink | 50 percent by wt. VOC; |
| b. | Aqueous coatings | 14.6 percent by wt. VOC; |
| c. | Blanket wash | 100 percent by wt. VOC; |
| d. | Metering Roller Cleaner | 100 percent by wt. VOC; |
| e. | Fountain solution | 15 percent by wt. VOC*; |
| f. | Non piling additive | 52 percent by wt. VOC |

* This limit is for the fountain solution concentrate.

- 2.e** The permittee shall operate and maintain two thermal oxidizers , at a minimum, 95 percent (by weight of organic compounds) control efficiency at maximum hourly coating capacity from the oven exhausts for emissions units R001, R002, R003, R004, R006 and R007.
- 2.f** The hourly emissions limitations outlined are based upon the emissions unit's Potential to Emit (PTE). Therefore, no records are required to demonstrate compliance with these limits.
- 2.g** The allowable emissions of Hazardous Air Pollutants (HAPs) as identified in Section 112(b) of Title III of the Clean Air Act from emissions units R001, R002, R003, R004, R006, R007, and the inkjet printers shall not exceed 9.9 TPY for any single HAP and 24.9 TPY for any combination of HAPs. Compliance with the above limitations shall be determined based upon a rolling, 12-month summation.
- 2.h** The combined annual organic compound emissions from emissions units R001, R002, R003, R004, R006 and R007 shall not exceed 183.59 tons per year based on a rolling 12-month summation.
This emissions limit is based on usages outlined in term A.II.3 and the VOC contents in term A.I.2.d (See term A.V.2 for the calculations).
- 2.i** The permittee shall satisfy the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06(B) by complying with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this permit to install.

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On February 15, 2005, OAC rule 3745-23-06 was rescinded and therefore no longer a part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-23-06, the requirement to satisfy "latest available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

- 2.j** The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this Permit to Install.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

II. Operational Restrictions

1. The use of photochemically reactive material as defined in OAC rule 3745-21-01(C)(5) is prohibited.
2. The average combustion temperature within the thermal oxidizer, for any 3-hour block of time when emissions units R001, R002, R003, R004, R006 and R007 are in operation shall not be more than 50 degrees Fahrenheit below the average combustion temperature during the most recent performance test that demonstrated compliance with the 95.0 percent overall VOC destruction efficiency requirement.
3. Coating and cleanup material usages for emissions units R001, R002, R003, R004, R006 and R007 combined shall not exceed the following limits:

	Material Usages <u>Lbs/yr**</u>
a. Inks	8,711,800
b. Blanket wash	208,400
c. Metering Roller Cleaner	29,400
d. Fountain solution*	350,000
e. Non Piling Additive	59,400
f. Aqueous Coatings	223,400

* This usage limit is for the fountain solution concentrate.

** Compliance with the annual usage limitations shall be determined on a rolling, 12-month summation

4. The permittee shall employ fountain solutions which have a VOC content, as applied of no more 5.0% by weight since the fountain solution does not contain any restricted alcohols. Restricted alcohols are defined as an alcohol which contains only one hydroxyl(-OH) group and less than 5 carbon atoms.
5. The vapor pressure of the blanket or roller wash, as applied, shall not exceed 10 mm of Mercury at 68 degrees Fahrenheit. Blanket or roller wash means any cleaning solvent or solution used to remove excess inks, oils and debris from the blanket roller or inking rollers.
6. The air pressure in the dryer shall be maintained lower than the air pressure of the press room, such that air flow through all openings in the dryer, other than the exhaust,

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is into the dryer at all times when the printing line is operating.

III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall collect and record the following information each month for each emissions unit:
 - a. The company identification of each ink, aqueous coating, blanket wash, metering roller cleaner, fountain solution and non piling additive employed in each emissions unit.
 - b. The percent (%) by weight of the volatile organic compound content of each ink, aqueous coating, blanket wash, metering roller cleaner, fountain solution (concentrate) and non piling additive for each emissions unit.
 - c. The number of pounds of each ink, aqueous coating, blanket wash, metering roller cleaner, fountain solution and non piling additive employed in each emissions unit. The amount of material allocated to each emission unit will be based on the number of impressions made at each emissions unit. Example calculations are referenced in term and condition A.V.7.
 - d. A record of each liquid organic material employed in each emissions unit indicating whether or not the liquid organic material is photochemically reactive as defined in OAC rule 3745-21-01(C)(5).
 - e. The total rolling, 12-month summation of the ink, aqueous coating, blanket wash, metering roller cleaner, fountain solution and non piling additive usage in pounds for emissions units R001, R002, R003, R004, R006 and R007, combined.
 - f. The total rolling, 12-month summation of the controlled volatile organic compound (VOC) emissions in tons per year from the inks, aqueous coatings, blanket wash, metering roller cleaner, fountain solution and non piling additive for emissions units R001, R002, R003, R004, R006 and R007, combined.
 - g. All materials employed by the permittee shall be recorded and reported as applied except for the fountain solution and the non-piling additive, which shall be recorded and reported as concentrate.
 - h. The vapor pressure in mm of Mercury for each blanket and roller wash.
2. The permittee shall collect and record the following information each month for emissions units R001, R002, R003, R004, R006, R007, and the inkjet printers:
 - a. The name and identification number of each ink, aqueous coating, blanket wash (cleanup), metering roller cleaner, fountain solution and non piling additive.

- b. The individual Hazardous Air Pollutant (HAP) content for each HAP of each ink, aqueous coating, blanket wash, metering roller cleaner, fountain solution and non piling additive in pounds of individual HAP per pound of material.
- c. The total combined HAP content of each ink, aqueous coating, blanket wash, metering roller cleaner, fountain solution and non piling additive in pounds of combined HAPs per pound of material [sum all the individual HAP contents from (b)].
- d. The number of pounds of each ink, aqueous coating, blanket wash, metering roller cleaner, fountain solution and non piling additive employed.
- e. The total individual HAP emissions for each HAP from all ink, aqueous coating, blanket wash, metering roller cleaner, fountain solution and non piling additive employed, in pounds or tons per month [for each HAP the sum of (b) times (d)].
- f. The total combined HAP emissions from all ink, aqueous coating, blanket wash, metering roller cleaner, fountain solution and non piling additive employed, in pounds or tons per month [the sum of (c) times (d)].
- g. The updated rolling, 12-month summation of the individual HAP emissions for each HAP from all ink, aqueous coating, blanket wash, metering roller cleaner, fountain solution and non piling additive employed, in pounds or tons.
- h. The updated rolling, 12-month summation of the combined HAP emissions for all HAP from all ink, aqueous coating, blanket wash, metering roller cleaner, fountain solution and non piling additive employed, in pounds or tons.
- i. All materials employed by the permittee shall be recorded and reported as applied except for the fountain solution and the non-piling additive, which shall be recorded and reported as concentrate.

A listing of the HAPs can be found in Section 112(b) of the Clean Air Act or can be obtained by contacting your Ohio EPA field office or local air agency contact. This information does not have to be kept on a line-by-line basis.

3. The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within each thermal oxidizer when emissions units R001, R002, R003, R004, R006 and R007 are in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices

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shall be capable of accurately measuring the desired parameter. The temperature monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

The permittee shall collect and record the following information for each day:

- a. All 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer, when the emissions unit was in operation was more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance with the 95.0% overall VOC destruction efficiency requirement; and,
- b. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.

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4. The permittee shall maintain for this facility all purchase orders and invoices of VOC-containing materials. The permittee shall retain such purchase orders and invoices for at least five years from their date of issuance. Upon request, the permittee shall make available to the Director of the Ohio EPA, or an authorized representative of the Director, such purchase orders and invoices for use in confirming the general accuracy of the records maintained and the reports submitted regarding material usage.

IV. Reporting Requirements

1. The permittee shall notify the Hamilton County Department of Environmental Services in writing identifying each day during which any photochemically reactive material [as defined in OAC rule 3745-21-01(C)(5)] was employed in emissions units R001, R002, R003, R004, R006 and R007. This report shall identify the cause for the use of the photochemically reactive material(s) and the estimated total quantity of material(s) emitted each such day. This report shall be submitted to the Hamilton County Department of Environmental Services within 45 days after the exceedance occurs
2. The permittee shall submit deviation (excursion) reports which identify any exceedance of the HAP emissions limitations in term A.I.2.g. If no exceedances occurred during the reporting period then a report is required stating so.
3. The permittee shall submit deviation (excursion) reports which identify all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer does not comply with the temperature limitation specified in term and condition A.II.2. If no exceedances occurred during the reporting period then a report is required stating so.
4. The permittee shall submit quarterly reports which specify the updated rolling, 12-month summation of organic compound emissions in TPY for each month from emissions units R001, R002, R003, R004, R006 and R007 combined. These reports shall be submitted by February 15, May 15, August 15 and November 15 of each year and shall cover the previous calendar quarter. Exceeding the rolling, 12-month limit is a violation for each day of the last month of each 12 month period in which the limit is exceeded, regardless of whether a compliance plan is submitted.
5. The permittee shall submit quarterly reports which specify the updated rolling, 12-month summation of total usages in pounds from the inks, aqueous coatings, blanket wash(cleanup), metering roller cleaner, fountain solution and non piling additives for emissions units R001, R002, R003, R004, R006 and R007, combined for each calendar month. These reports shall be submitted by February 15, May 15, August 15 and

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November 15 of each year and shall cover the previous calendar quarter.

6. The permittee shall submit deviation reports which identify all exceedances of the VOC content limitations in term and condition A.I.2.d and A.II.4.
7. The permittee shall submit deviation reports which identify all exceedances of the vapor pressure limitation outlined in term A.II.5.
8. The deviation reports shall be submitted in accordance with the reporting requirements of the General Terms and Conditions of this permit.

V. Testing Requirements

1. OAC rule 3745-21-10(B) shall be used to determine the VOC contents of the inks, fountain solutions, coatings, metering rolling cleaner, non-piling additive, and blanket wash. If pursuant to 40 CFR Part 60, Appendix A, an owner or operator determines that Method 24 or Method 24A cannot be used, the permittee shall notify the Administrator of USEPA and shall use formulation data for the material to demonstrate compliance until USEPA provides alternative analytical procedures or alternative precision statements for Method 24 or 24A.
2. The VOC emissions are calculated by multiplying the percent (%) by weight VOC content times the material usage rate times the ink retention consistent with the Ohio EPA Engineering Guide #56 times the control efficiency.

Ink emissions

For ink, 20.0% of the VOC's in heatset inks are retained by the substrate, 80.0% goes to the dryer. In addition, there is a 100.0% capture efficiency and a 95.0% control efficiency. All are demonstrated in the following equation:

$$50\% \text{ Weight VOC content} * \text{material usage rate (tons)} * (1.0-0.20)*(1.0-0.95) = \text{tons of VOC}$$

Fountain solution emissions

For fountain solution, there is a 70.0% capture efficiency by the control system and a 95.0% control efficiency as demonstrated in the following equations:

Stack Emissions

$$15\% \text{ Weight VOC content} * \text{material usage rate (tons)} * (0.70) * (1.0 - 0.95) = \text{tons of VOC}$$

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Fugitive Emissions

15% Weight VOC content * material usage rate (tons)* (0.30) = tons of VOC

Add the stack emissions to the fugitive emissions to obtain the total VOC emissions for fountain solution.

Aqueous Coatings emissions

For aqueous coatings, there is a 100.0% capture efficiency and a 95.0% control efficiency as demonstrated in the following equation:

14.6% Weight VOC content * material usage rate (tons) * (1.0-0.95) = tons of VOC

Metering Rolling Cleaner emissions

For Metering Rolling Cleaner, 100.0% is fugitive emissions as demonstrated in the following equation:

100% Weight VOC content * material usage rate (tons) = tons of VOC

Non-piling additive emissions

For non-piling additive, there is a 70.0% capture efficiency and a 95.0% control efficiency as demonstrated in the following equation:

Stack Emissions

52% Weight VOC content * material usage rate (tons) * (0.70) * (1.0 - 0.95) = tons of VOC

Fugitive Emissions

52% Weight VOC content * material usage rate (tons)* (0.30) = tons of VOC

Add the stack emissions to the fugitive emissions to obtain the total VOC emissions for non-piling additive.

Auto Blanket Wash emissions

For Auto Blanket Wash, there is a 40.0% capture efficiency and a 95.0% control efficiency as demonstrated in the following equations:

Stack Emissions

100% Weight VOC content * material usage rate (tons)* (0.40) * (1.0 - 0.95) = tons of VOC

Fugitive Emissions

100% Weight VOC content * material usage rate (tons)*(0.60) = tons of VOC

Add the stack emissions to the fugitive emissions to obtain the total VOC emissions for auto blanket wash.

Manual Blanket Wash emissions

For Manual Blanket Wash, 50.0% of the VOC's are retained by rags, while 50.0% is fugitive emissions as demonstrated in the following equations:

Fugitive Emissions

100% Weight VOC content * material usage rate (tons)*(0.50) = tons of VOC

Add the auto blanket wash emissions to the manual blanket wash emissions to obtain the total VOC emissions for blanket wash.

3. Compliance with the visible particulate emissions limitation shall be demonstrated by the methods outlined in 40 CFR Part 60, Appendix A, Method 9.
4. Compliance with the percent by weight VOC content and the usage limitations in pounds will be determined by the recordkeeping in Term A.III.1.
5. Compliance with the HAP emission limitation in term A.I.2.g shall be determined by the record keeping in Term A.III.2.
6. Compliance with the PM, SO₂, NO_x and CO limits in Term A.I. shall be determined by multiplying the fuel usage by the AP-42 emission factor taken from USEPA's AP-42, 5th Edition, Tables 1.4-1 and 1.4-2 dated 7/98.
7. Compliance with the recordkeeping requirement of keeping monthly usage records for each emissions unit (Term A.III.C.1.c) shall be determined by the following example calculation:

$$Q (R001) = Q \text{ total} \times \frac{I (R001)}{I (\text{sum of R001- R004, R006, R007})}$$

Q (R001) = the ink consumed by emission unit R001 for the month.

Q (total)= the total ink used by the permittee for the month.

I (R001) = the total impressions for emissions unit R001 for the month.

I (sum of R001-R004, R006, and R007) = the total impressions for emissions units R001, R002, R003, R004, R006 and R007 for the month.

8. Compliance with the vapor pressure limitation in term A.II.5 shall be demonstrated by the record keeping in term A.III.1.
9. Emission testing requirements

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

- a. The emissions testing shall be performed within six months after the venting connections are completed for R005, R006 and R007 to the MEGTEC regenerative thermal oxidizer; and no later than twelve months of the start up of this emissions unit; whichever comes first.
- b. The emission testing shall be conducted to demonstrate compliance with the allowable mass emissions rate for OC and the 95% OC overall control efficiency for the thermal oxidizer.
- c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):
for OC, Method 25 or 25 A as per 40 CFR Part 60, Subpart A.

Alternative U.S. EPA approved test methods may be used with prior approval from the Hamilton County Department of Environmental Services.

The test method(s) which must be employed to demonstrate compliance with the destruction efficiency for the thermal oxidizer are specified below.

- d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Hamilton County Department of Environmental Services.

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.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Hamilton County Department of Environmental Services. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the 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 Hamilton County Department of Environmental Services refusal to accept the results of the emission test(s).

Personnel from the Hamilton County Department of Environmental Services shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Hamilton County Department of Environmental Services 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 Hamilton County Department of Environmental Services.

VI. Miscellaneous Requirements

None

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B. State Only Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(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 specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
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2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

1. The permit to install for this emissions unit R007 was evaluated based on the actual materials (typically coatings and cleanup materials) and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model(or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Ground-Level Concentration (MAGLC).

The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Glycol ethers
 TLV (ug/m3): 552,888
 Maximum Hourly Emission Rate (lbs/hr): 0.19
 Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 3.0
 MAGLC (ug/m3): 13,164

Pollutant: Ethylene glycol

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TLV (ug/m3): 253,848
Maximum Hourly Emission Rate (lbs/hr): 0.21
Predicted 1-Hour Maximum Ground-Level
Concentration (ug/m3): 3.3
MAGLC (ug/m3): 6,044

Physical changes to or in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxics Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in the "Air Toxic Policy" include the following:

- a. Changes in the composition of the materials used (typically for coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled;
- b. Changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and
- c. Physical changes to the emissions unit or its exhaust parameters (e.g., increased/decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Air Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01 solely due to the emissions of any type of toxic air contaminant not previously emitted, and a modification of the existing permit to install will not be required, even if the toxic air contaminant emissions are greater than the de minimis level in OAC rule 3745-15-05. If the change(s) is (are) defined as a modification under other provisions of the modification definition, then the permittee shall obtain a final permit to install prior to the change.

The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will 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 it's evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and
- c. When the computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None