

Synthetic Minor Determination and/or Netting Determination

Permit To Install **02-17878**

A. Source Description

Quebecor World - Oberlin Division has applied for a permit to install six (6) heatset web offset printing presses. The application requests modification of previously issued permits to install for presses identified as emissions units R003 through R007. The application includes the installation of a new press identified as emissions unit R008 which is being installed to replace an old press identified as emissions unit R002. Based on potential facility emissions, the facility is a major source of volatile organic compounds (VOCs) and hazardous air pollutants (HAPs). The facility is located in Lorain county.

B. Facility Emissions and Attainment Status

The six (6) heatset web offset printing presses at the facility emit volatile organic compounds (VOCs) and hazardous air pollutants (HAPs). Maximum potential VOC emissions for the facility exceed 100 tons per year. Maximum potential single HAP and combined HAP emissions for the facility exceed 10 and 25 tons per year, respectively. Lorain county is attainment for ozone.

C. Source Emissions

Quebecor World - Oberlin Division has proposed to limit VOC emissions facility-wide to 94.1 tons per year, HAP emissions facility-wide to 9.9 tons per year of each single HAP, and HAP emissions facility-wide to 24.9 tons per year of combined HAPs. This permit to install will contain terms and conditions to establish these limits.

D. Conclusion

This permit to install will limit VOC emissions by limiting daily emissions from presses R003 through R007 and hourly emissions from press R008. Daily and hourly VOC emissions will be limited in the permit to install by limitations on VOC contents and daily usage of ink, blank wash, fountain solution concentrate, and adhesive in each emissions unit. This permit to install will also limit HAP emissions by limiting facility-wide HAP emissions over a rolling, 12-month period to 9.9 tons per year of each single HAP and 24.9 tons per year of combined HAPs. Quebecor World - Oberlin Division will be required to record the monthly facility-wide emissions of each single HAP and all combined HAPs from all of the heatset web offset printing presses. Exceedance reports will be submitted if necessary.



State of Ohio Environmental Protection Agency

Street Address:

Mailing Address:

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

Lazarus Gov.
Center

**RE: DRAFT PERMIT TO INSTALL
LORAIN COUNTY**

CERTIFIED MAIL

Application No: 02-17878

DATE: 8/28/2003

Quebecor World - Oberlin Division
Roger Starett
235 Artino Street
Oberlin, OH 44074

You are hereby notified that the Ohio Environmental Protection Agency has made a draft action recommending that the Director issue a Permit to Install for the air contaminant source(s) [emissions unit(s)] shown on the enclosed draft permit. This draft action is not an authorization to begin construction or modification of your emissions unit(s). The purpose of this draft is to solicit public comments on the proposed installation. A public notice concerning the draft permit will appear in the Ohio EPA Weekly Review and the newspaper in the county where the facility will be located. Public comments will be accepted by the field office within 30 days of the date of publication in the newspaper. Any comments you have on the draft permit should be directed to the appropriate field office within the comment period. A copy of your comments should also be mailed to Robert Hodanbosi, Division of Air Pollution Control, Ohio EPA, P.O. Box 1049, Columbus, OH, 43266-0149.

A Permit to Install may be issued in proposed or final form based on the draft action, any written public comments received within 30 days of the public notice, or record of a public meeting if one is held. You will be notified in writing of a scheduled public meeting. Upon issuance of a final Permit to Install a fee of **\$1200** will be due. Please do not submit any payment now.

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. If you have any questions about this draft permit, please contact the field office where you submitted your application, or Mike Ahern, Field Operations & Permit Section at (614) 644-3631.

Very truly yours,

Michael W. Ahern, Supervisor
Field Operations and Permit Section
Division of Air Pollution Control

cc: USEPA

NEDO

PUBLIC NOTICE

ISSUANCE OF DRAFT PERMIT TO INSTALL 02-17878 FOR AN AIR CONTAMINANT SOURCE FOR QUEBECOR WORLD - OBERLIN DIVISION

On 8/28/2003 the Director of the Ohio Environmental Protection Agency issued a draft action of a Permit To Install an air contaminant source for **Quebecor World - Oberlin Division**, located at **235 Artino Street, Oberlin, Ohio**.

Installation of the air contaminant source identified below may proceed upon final issuance of Permit To Install 02-17878:

Synthetic minor PTI to cover existing equipment.

Comments concerning this draft action, or a request for a public meeting, must be sent in writing to the address identified below no later than thirty (30) days from the date this notice is published. All inquiries concerning this draft action may be directed to the contact identified below.

Dennis Bush, Ohio EPA, Northeast District Office, 2110 East Aurora Road, Twinsburg, OH 44087
[(330)425-9171]



**Permit To Install
Terms and Conditions**

**Issue Date: To be entered upon final issuance
Effective Date: To be entered upon final issuance**

DRAFT PERMIT TO INSTALL 02-17878

Application Number: 02-17878
APS Premise Number: 0247100591
Permit Fee: **To be entered upon final issuance**
Name of Facility: Quebecor World - Oberlin Division
Person to Contact: Roger Starett
Address: 235 Artino Street
Oberlin, OH 44074

Location of proposed air contaminant source(s) [emissions unit(s)]:

**235 Artino Street
Oberlin, Ohio**

Description of proposed emissions unit(s):

Synthetic minor PTI to cover existing equipment.

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. Permit to Install General Terms and Conditions

1. Compliance Requirements

The emissions unit(s) identified in this Permit to Install 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 information shall be submitted to the appropriate Ohio EPA District Office or local air agency.
- b. Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursions) from emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and 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 quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

3. Records Retention Requirements

Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include, but not be limited to, all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.

4. Inspections and Information Requests

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

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

5. Scheduled Maintenance/Malfunction Reporting

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

6. Permit Transfers

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

7. 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.

8. Termination of Permit to Install

This Permit to Install shall terminate within eighteen months of the effective date of the Permit to Install 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.

9. Construction of New Sources(s)

The proposed emissions unit(s) shall be constructed in strict accordance with the plans and application submitted for this permit to the Director of the Ohio Environmental Protection Agency. There may be no deviation from the approved plans without the express, written approval of the Agency. Any deviations from the approved plans or the above conditions may lead to such sanctions

and penalties as provided under Ohio law. Approval of these plans does not constitute an assurance that the proposed facilities will operate in compliance with all Ohio laws and regulations. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed sources cannot meet the requirements of this permit or cannot meet applicable standards.

If the construction of the proposed emissions unit(s) has already begun or has been completed prior to the date the Director of the Environmental Protection Agency approves the permit application and plans, the approval does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the approved plans. 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 the Permit to Install does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Approval of the plans in any case is not to be construed as an approval of the facility as constructed and/or completed. Moreover, issuance of the Permit to Install 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.

10. 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.

11. Applicability

This Permit To Install is applicable only to the emissions unit(s) identified in the Permit To Install. Separate Permit To Install for the installation or modification of any other emissions unit(s) are required for any emissions unit for which a Permit To Install is required.

12. 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.

13. Source Operation and Operating Permit Requirements After Completion of Construction

- 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 To Install 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.

14. Construction Compliance Certification

The applicant shall provide Ohio EPA with a written certification (see enclosed form) 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.

15. 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 this Permit to Install.

B. 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	94.1
PE	14.9
NOx	13.8
CO	8.2

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. 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 - Four-Unit Baker Perkins G44 Heatset Web Offset (lithographic) printing press equipped with an ink setting oven and a thermal incinerator (large Katec)	OAC rule 3745-31-05(A)(3)
The requirements of this permit supersede those requirements identified in Permit to Install number 02-7610 issued on January 5, 1994.	OAC rule 3745-17-07(A)(1)
	OAC rule 3745-17-11
	OAC rule 3745-21-07(G)(2)
	OAC rule 3745-21-07(G)(6)

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Emissions Unit ID: **R003**

OAC rule 3745-31-05(D)

Applicable Emissions
Limitations/Control Measures

Volatile organic compound emissions shall not exceed 44.2 lbs/day from the stack associated with this emissions unit.

Volatile organic compound emissions shall not exceed 8.06 TPY from the stack associated with this emissions unit.

Fugitive volatile organic compound emissions shall not exceed 7.44 TPY.

Particulate emissions shall not exceed 2.4 TPY.

Visible particulate emissions from the stack associated with this emissions unit shall not exceed five percent opacity as a six-minute average.

Emissions of volatile organic compounds vented to the thermal oxidizer shall be reduced by at least ninety-five percent (95%), by weight.

The requirements of this rule also include compliance with the requirements of OAC rule 3745-31-05(D) and OAC rule 3745-17-11.

See A.2.e below.

NOx emissions from the dryer associated with this emissions unit shall not exceed 0.44 lb/hr and 1.927 TPY. See A.2.f below.

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

Particulate emissions shall not exceed 0.551 lb/hr. See A.2.a below.

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 A.2.b below.

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 A.2.c, A.2.d, A.2.e and B.3 below.

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2. Additional Terms and Conditions

- 2.a** The uncontrolled mass rate of particulate emissions from this emissions unit is less than 10 pounds per hour according to Engineering Guide #56. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. The maximum process weight rate for this emissions unit in accordance with Engineering Guide #56 is 100 pounds per hour based on the maximum quantities of ink, fountain solution, and blanket wash employed hourly. Therefore, in accordance with Table I of OAC rule 3745-17-11, the allowable rate of particulate emissions is 0.551 pound per hour.
- 2.b** OAC rule 3745-21-07(G)(2) limits organic compound (OC) emissions to 8 pounds per hour and 40 pounds per day or requires an 85% reduction in OC emissions. The thermal oxidizer is employed to comply with the requirement to achieve an 85% reduction in OC emissions instead of complying with the OC emission limits of 8 pounds per hour and 40 pounds per day. The emission limitation established pursuant to OAC rule 3745-31-05(A)(3) requires a 95% reduction in OC emission which is more stringent than the emission limitation specified by OAC rule 3745-21-07(G)(2).
- 2.c** The emissions of each single hazardous air pollutant (HAP) from all emissions units at the facility shall not exceed 9.9 tons per year, based upon a rolling, 12-month summation.
- 2.d** The emissions of combined HAPs from all emissions units at the facility shall not exceed 24.9 tons per year, based upon a rolling, 12-month summation.
- 2.e** The following volatile organic compound (VOC) contents shall not be exceeded for this emissions unit:
- i. Ink: 47% VOC by weight;
 - ii. Fountain solution: 15% VOC by weight; and
 - iii. Adhesive: 2% VOC by weight.
- 2.f** The hourly and annual NO_x emission limitations for the dryer associated with this emissions unit are based on an emission factor of 100 lbs NO_x/mmscf for uncontrolled natural gas combustion in small boilers (AP-42, Table 1.4-1, 2/98), the maximum operating value for the natural gas burner in the dryer (4.4 mmBtu/hr), and 8760 maximum potential operating hours. Therefore; monitoring, record keeping, reporting, and testing is not required for NO_x emissions from this emissions unit.

B. Operational Restrictions

1. The average combustion temperature within the thermal incinerator, for any 3-hour block of time when the emissions unit is in operation, shall not be more than 50 degrees Fahrenheit below the average temperature during the compliance emission test required in Section E.1 of these terms and conditions or below 1200 degrees Fahrenheit until such testing has been completed.
2. The permittee shall maintain negative pressure in the press dryer when the emissions unit is in operation.
3. Material usage for this emissions unit shall not exceed the following limits:
 - a. Ink: 416.1 tons/yr;
 - b. Blanket wash: 6.6 tons/yr;
 - c. Fountain solution concentrate: 15.3 tons/yr; and
 - d. Adhesive: 162.1 tons/yr.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall collect and record the following information each month* for this emissions unit for the purpose of determining annual organic compound emissions:
 - a. The name and identification number of each ink, fountain solution, blanket wash, and adhesive employed;
 - b. The amount, in pounds, of each ink, fountain solution, blanket wash, and adhesive employed;
 - c. The VOC content of each ink, fountain solution, blanket wash, and adhesive employed, in percent by weight, as applied;
 - d. The number of days the emissions unit is in operation;
 - e. The total controlled VOC emission rate for all inks, fountain solutions, and blanket washes; in pounds or ton(s), calculated using the destruction efficiency determined from the most recent performance test that demonstrated the emissions unit was in compliance and the formula contained in Section E of these terms and conditions; and

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- f. The total fugitive VOC emission rate for all fountain solutions, blanket washes, and adhesives; in pounds or ton(s), calculated using the formula contained in Section E of these terms and conditions.
 - * Since the daily VOC emission limitation for this emissions unit is based on maximum potential material usage, daily record keeping is not required. It is acceptable for the facility to maintain monthly records for the purpose of determining actual annual VOC emissions.
2. The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal incinerator when the emissions unit is in operation.
 3. 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 incinerator, 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.
 - 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 monitor and record the pressure in the press dryer on a daily basis when the emissions unit is in operation. Dryer pressure shall be demonstrated by means of a differential pressure gauge, smoke tube(s), plastic flow indicator strips, or other flow indicating devices approved by the Ohio EPA Northeast District Office. Pressure monitoring shall be conducted to demonstrate that air flows into the press dryer at all openings in the dryer (excluding the exhaust stack). If a differential pressure gauge is used to monitor dryer pressure, the gauge reading shall be recorded. If a smoke tube(s) or plastic flow indicator strips are used to monitor dryer pressure, the permittee shall record whether or not the pressure in the press dryer is negative.
 5. The permittee shall collect and record the following information each month for all printing presses at the facility:
 - a. The name and identification number of each ink, fountain solution, blanket wash, and adhesive, as applied.

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- b. The individual HAP¹ content for each HAP of each ink, fountain solution, blanket wash, and adhesive in weight percent of individual HAP, as applied.
- c. The total combined HAP content of each ink, fountain solution, blanket wash, and adhesive in weight percent of combined HAPs (sum all the individual HAP contents from b), as applied.
- d. The number of pounds of each ink, fountain solution, blanket wash, and adhesive employed.
- e. The total individual HAP emissions for each HAP from all inks, fountain solutions, blanket washes, and adhesives employed, in pounds or tons per month [for each HAP, the sum of (b times d) for each ink, fountain solution, blanket wash, and adhesive].
- f. The total combined HAP emissions from all inks, fountain solutions, blanket washes, and adhesives, in pounds or tons per month [the sum of © times d) for each ink, fountain solution, blanket wash, and adhesive].
- g. The updated rolling, 12-month total of the individual HAP emissions for each HAP from all inks, fountain solutions, blanket washes, and adhesives employed, in pounds or tons.
- h. The updated rolling, 12-month total of the total combined HAP emissions from all inks, fountain solutions, blanket washes, and adhesives employed, in pounds or tons.

¹ 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. Material Safety Data Sheets typically include a listing of the solvents contained in the coatings or cleanup materials. This information does not have to be kept on an emissions unit-by-emissions unit basis.

- 6. The permittee shall collect and record the following information each month for this emissions unit for the purpose of determining compliance with material usage and VOC content limitations:
 - a. The name and identification number of each ink, fountain solution, blanket wash, and adhesive employed;
 - b. The amount, in pounds, of each ink, fountain solution, blanket wash, and adhesive employed;
 - c. The VOC content of each ink, fountain solution, blanket wash, and adhesive employed, in percent by weight, as applied;

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- d. A record of each liquid organic material employed in this emissions unit indicating whether or not the liquid organic material is photochemically reactive as defined in OAC rule 3745-21-01(C)(5); and
 - e. The rolling, 12-month summation of material usage of each of the following materials employed in this emissions unit, in tons per year: ink, blanket wash, fountain solution concentrate, and adhesive.
7. The permit to install for this emissions unit (R003) was evaluated based on the actual materials employed 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 potentially emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: 1, 2, 4 trimethyl benzene

TLV (ug/m3): 179,000

Maximum Hourly Emission Rate (g/s): 0.023

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 134.9

MAGLC (ug/m3): 4272

Pollutant: ethylene glycol

TLV (ug/m3): 254,000

Maximum Hourly Emission Rate (g/s): 0.008

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 45.5

MAGLC (ug/m3): 6040

Pollutant: ethylene glycol N-butyl ether

TLV (ug/m3): 97,000

Maximum Hourly Emission Rate (g/s): 0.004

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 22.8

MAGLC (ug/m3): 2301

Pollutant: vinyl acetate

TLV (ug/m3): 35,000

Maximum Hourly Emission Rate (g/s): 0.004

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 23.3

MAGLC (ug/m3): 838

Physical changes to or changes in the method of operation of the emissions unit after its installation could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied.

Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will be satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

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

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

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

- a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);
- b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and

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Emissions Unit ID: **R003**

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- c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

D. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which identify all 3-hour blocks of time during which the average combustion temperature within the thermal incinerator, 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. Each report shall be submitted within 30 days after the deviation occurs.
2. The permittee shall submit quarterly summaries which include a log of the downtime for the capture (collection) system (including failure to demonstrate negative pressure within the press dryer), control device, and monitoring equipment, when the associated emissions unit was in operation. These summaries shall be submitted by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters.
3. The permittee shall submit deviation (excursion) reports which identify each month during which the rolling, 12-month emissions of any single HAP from all emissions units at the facility exceeded 9.9 tons per year, and the actual rolling, 12-month emissions of each such single HAP for each such month.
4. The permittee shall submit deviation (excursion) reports which identify each month during which the rolling, 12-month emissions of combined HAPs from all emissions units at the facility exceeded 24.9 tons per year, and the actual rolling, 12-month emissions of combined HAPs for each such month.
5. Reporting is not required for material usage because the Operational Restrictions in Section B.3 of these terms and conditions are based on the maximum hourly consumption rate for this emissions unit.

E. Testing Requirements

1. The permittee shall conduct, or have conducted, emission testing for the thermal oxidizer for emissions units R003, R004, R005, R006, and R007 in accordance with the following requirements:
 - a. The emission testing shall be conducted within 6 months of the effective date of this permit.

- b. The emission testing shall be conducted to demonstrate compliance with the destruction efficiency limitation for VOC emissions.
- c. The emission tests shall be conducted while the emissions unit is operating at normal or representative operating conditions. Prior to testing, the permittee shall propose to the Ohio EPA Northeast District Office an operating scenario for the presses being tested which is representative of actual operating conditions and VOC input rate to the control device.
- d. The destruction 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 and U.S. EPA Methods 25 or 25A of 40 CFR Part 60, Appendix A. Formulation data from the manufacturer, or if required Method 24A, shall be used to determine VOC contents of the inks, fountain solutions, and blanket washes. 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 day prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA Northeast District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the tests, and the person(s) who will be conducting the tests. Failure to submit such notification for review and approval prior to the tests may result in the Ohio EPA Northeast District Office's refusal to accept the results of the emission tests.

Personnel from the Ohio EPA Northeast District Office shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

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 Ohio EPA Northeast District Office within 30 days following completion of the test(s). The permittee may request additional time for submittal of the written report, where warranted, with prior approval from the Ohio EPA Northeast District Office.

2. Compliance with the emission limitations in Section A.1. of these terms and conditions shall be determined in accordance with the following method(s):
 - a. Emission Limitation:

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Volatile organic compound emissions shall not exceed 44.2 lbs/day from the stack associated with this emissions unit.

Applicable Compliance Method:

Compliance shall be demonstrated by the following equation:

$$S = (1 - DRE) \times [0.8(P) + A_d(FS) + B_d(BW)]$$

Where

S = stack emissions, equation obtained from Engineering Guide #56;

DRE = destruction efficiency of the thermal incinerator, expressed as a decimal or percent which was determined during the most recent performance test which demonstrated compliance with the pound per hour emission limitation from the stack (a 95% destruction efficiency shall be used until testing has been completed);

0.8 = 20% of VOC's in heatset inks retained by substrate, 80% emitted per Engineering Guide #56;

P = (ink usage rate, lbs/month) x (ink VOC content, % by weight) x (1 month/number of days of operation);

A_d = mass fraction of fountain solution VOC routed to dryer and control device = 0.7 for alcohol substitutes;

FS = (fountain solution usage rate, lbs/day) x (fountain solution VOC content, % by wt.) x (1 month/number of days of operation);

B_d = mass fraction of cleanup solvent routed to dryer and control device = 0.4 for automatic blanket wash; and

BW = (blanket wash usage rate, lbs/day) x (blanket wash VOC content, % by wt.) x (1 month/number of days of operation).

b. Emission Limitation:

Volatile organic compound emissions shall not exceed 8.06 TPY from the stack associated with this emissions unit.

Applicable Compliance Method:

The annual stack emission limitation was established by multiplying the pound per hour VOC stack emission limitation by the maximum operating schedule of 8760 hours per year and dividing by 2000 pounds per ton. Therefore, a demonstration of compliance with the hourly stack emission limitation shall also be a demonstration of compliance with the annual stack emission limitation. Actual annual VOC emissions from the stack associated with this emissions unit shall be determined by summing the average daily emissions in Section E.2.a on an annual basis.

c. Emission Limitation:

Fugitive volatile organic compound emissions shall not exceed 7.44 TPY.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping specified in Section C.1 of these terms and conditions and the following equation:

$$F = [A_f(FS) + B_f(BW) + AD] \times 1 \text{ ton}/2000 \text{ lbs}$$

Where

F = annual fugitive emissions from emissions unit R003, equation obtained from Engineering Guide #56 with the addition of adhesive emissions which are all fugitive according to the facility's permit application;

A_f = mass fraction of fountain solution VOC routed to dryer and control device = 0.7 for alcohol substitutes;

FS = (fountain solution usage rate, lbs/yr) x (fountain solution VOC content, % by wt.);

B_f = mass fraction of cleanup solvent emitted as fugitive = 0.6 for automatic blanket wash;

BW = (blanket wash usage rate, lbs/yr) x (blanket wash VOC content, % by wt.); and

AD = (adhesive usage rate, lbs/yr) x (adhesive VOC content, % by wt.).

d. Emission Limitation:

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Particulate emissions shall not exceed 2.4 TPY.

Applicable Compliance Method:

The annual particulate emission limitation was established by multiplying the pound per hour particulate emission limitation by the maximum operating schedule of 8760 hours per year and dividing by 2000 pounds per ton. Therefore, a demonstration of compliance with the hourly particulate emission limitation shall also be a demonstration of compliance with the annual particulate emission limitation.

e. Emission Limitation:

Visible particulate emissions from the stack associated with this emissions unit shall not exceed five percent opacity as a six-minute average.

Applicable Compliance Method:

If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9, and the procedures specified in OAC rule 3745-17-03(B)(1).

f. Emission Limitation:

Emissions of volatile organic compounds vented to the thermal oxidizer shall be reduced by at least ninety-five percent (95%), by weight.

Applicable Compliance Method:

Compliance shall be determined through stack testing specified in Section E.1 of these terms and conditions.

g. Emission Limitation:

Particulate emissions shall not exceed 0.551 lb/hr.

Applicable Compliance Method:

If required, compliance shall be determined through stack testing in accordance with 40 CFR Part 60, Appendix A, Method 5. Per the Ohio Engineering Guide #56, no particulate testing should be necessary since this emissions unit is controlled by a thermal oxidizer.

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Emissions Unit ID: **R003**

h. Emission Limitation:

The emissions of each single hazardous air pollutant (HAP) from all emissions units at the facility shall not exceed 9.9 tons per year, based upon a rolling, 12-month summation.

Applicable Compliance Method:

Compliance shall be based upon the record keeping specified in Section C of these terms and conditions.

i. Emission Limitation:

The emissions of the combined HAPs from all emissions units at the facility shall not exceed 24.9 tons per year, based upon a rolling, 12-month summation.

Applicable Compliance Method:

Compliance shall be based upon the record keeping specified in Section C of these terms and conditions.

3. Formulation data or US EPA Method 24 shall be used to determine the VOC contents of all the inks, fountain solutions, blanket washes, and adhesives employed in this emissions unit.

F. Miscellaneous Requirements

None

Quiet
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Emissions Unit ID: **R004**

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OAC rule 3745-21-07(G)(6)

Applicable Emissions
Limitations/Control Measures

NO_x emissions from the dryer associated with this emissions unit shall not exceed 0.52 lb/hr and 2.256 TPY. See A.2.f below.

OAC rule 3745-31-05(D)

Volatile organic compound emissions shall not exceed 57.6 lbs/day from the stack associated with this emissions unit.

CO emissions from the dryer associated with this emissions unit shall not exceed 0.43 lb/hr and 1.883 TPY. See A.2.g below.

Volatile organic compound emissions shall not exceed 10.5 TPY from the stack associated with this emissions unit.

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

Fugitive volatile organic compound emissions shall not exceed 12.7 TPY.

Particulate emissions shall not exceed 0.652 lb/hr. See A.2.a below.

Particulate emissions shall not exceed 2.9 TPY.

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 A.2.b below.

Visible particulate emissions from the stack associated with this emissions unit shall not exceed five percent opacity as a six-minute average.

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

Emissions of volatile organic compounds vented to the thermal oxidizer shall be reduced by at least ninety-five percent (95%), by weight.

See A.2.c, A.2.d, A.2.e and B.3 below.

The requirements of this rule also include compliance with the requirements of OAC rule 3745-31-05(D) and OAC rule 3745-17-11.

See A.2.e below.

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2. Additional Terms and Conditions

- 2.a** The uncontrolled mass rate of particulate emissions from this emissions unit is less than 10 pounds per hour according to Engineering Guide #56. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. The maximum process weight rate for this emissions unit in accordance with Engineering Guide #56 is 128.5 pounds per hour based on the maximum quantities of ink, fountain solution, and blanket wash employed hourly. Therefore, in accordance with Table I of OAC rule 3745-17-11, the allowable rate of particulate emissions is 0.652 pound per hour.
- 2.b** OAC rule 3745-21-07(G)(2) limits organic compound (OC) emissions to 8 pounds per hour and 40 pounds per day or requires an 85% reduction in OC emissions. The thermal oxidizer is employed to comply with the requirement to achieve an 85% reduction in OC emissions instead of complying with the OC emission limits of 8 pounds per hour and 40 pounds per day. The emission limitation established pursuant to OAC rule 3745-31-05(A)(3) requires a 95% reduction in OC emission which is more stringent than the emission limitation specified by OAC rule 3745-21-07(G)(2).
- 2.c** The emissions of each single hazardous air pollutant (HAP) from all emissions units at the facility shall not exceed 9.9 tons per year, based upon a rolling, 12-month summation.
- 2.d** The emissions of combined HAPs from all emissions units at the facility shall not exceed 24.9 tons per year, based upon a rolling, 12-month summation.
- 2.e** The following volatile organic compound (VOC) contents shall not be exceeded for this emissions unit:
- i. Ink: 47% VOC by weight;
 - ii. Fountain solution: 15% VOC by weight; and
 - iii. Adhesive: 2% VOC by weight.
- 2.f** The hourly and annual NO_x emission limitations for the dryer associated with this emissions unit are based on an emission factor of 100 lbs NO_x/mmscf for uncontrolled natural gas combustion in small boilers (AP-42, Table 1.4-1, 2/98), the maximum operating value for the natural gas burner in the dryer (5.15 mmBtu/hr), and 8760 maximum potential operating hours. Therefore; monitoring, record keeping, reporting, and testing is not required for NO_x emissions from this emissions unit.

- 2.g The hourly and annual CO emission limitations for the dryer associated with this emissions unit are based on an emission factor of 84 lbs CO/mmscf for uncontrolled natural gas combustion in small boilers (AP-42, Table 1.4-1, 2/98), the maximum operating value for the natural gas burner in the dryer (5.15 mmBtu/hr), and 8760 maximum potential operating hours. Therefore; monitoring, record keeping, reporting, and testing is not required for CO emissions from this emissions unit.

B. Operational Restrictions

1. The average combustion temperature within the thermal incinerator, for any 3-hour block of time when the emissions unit is in operation, shall not be more than 50 degrees Fahrenheit below the average temperature during the compliance emission test required in Section E.1 of these terms and conditions or below 1200 degrees Fahrenheit until such testing has been completed.
2. The permittee shall maintain negative pressure in the press dryer when the emissions unit is in operation.
3. Material usage for this emissions unit shall not exceed the following limits:
 - a. Ink: 525.6 tons/yr;
 - b. Blanket wash: 15.3 tons/yr;
 - c. Fountain solution concentrate: 21.9 tons/yr; and
 - d. Adhesive: 162.1 tons/yr.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall collect and record the following information each month* for this emissions unit for the purpose of determining annual organic compound emissions:
 - a. The name and identification number of each ink, fountain solution, blanket wash, and adhesive employed;
 - b. The amount, in pounds, of each ink, fountain solution, blanket wash, and adhesive employed;
 - c. The VOC content of each ink, fountain solution, blanket wash, and adhesive employed, in percent by weight, as applied;

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- d. The number of days the emissions unit is in operation;
 - e. The total controlled VOC emission rate for all inks, fountain solutions, and blanket washes; in pounds or ton(s), calculated using the destruction efficiency determined from the most recent performance test that demonstrated the emissions unit was in compliance and the formula contained in Section E of these terms and conditions; and
 - f. The total fugitive VOC emission rate for all fountain solutions, blanket washes, and adhesives; in pounds or ton(s), calculated using the formula contained in Section E of these terms and conditions.
- * Since the daily VOC emission limitation for this emissions unit is based on maximum potential material usage, daily record keeping is not required. It is acceptable for the facility to maintain monthly records for the purpose of determining actual annual VOC emissions.
2. The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal incinerator when the emissions unit is in operation.
 3. 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 incinerator, 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.
 - 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 monitor and record the pressure in the press dryer on a daily basis when the emissions unit is in operation. Dryer pressure shall be demonstrated by means of a differential pressure gauge, smoke tube(s), plastic flow indicator strips, or other flow indicating devices approved by the Ohio EPA Northeast District Office. Pressure monitoring shall be conducted to demonstrate that air flows into the press dryer at all openings in the dryer (excluding the exhaust stack). If a differential pressure gauge is used to monitor dryer pressure, the gauge reading shall be recorded. If a smoke tube(s) or plastic flow indicator strips are used to monitor dryer pressure, the permittee shall record whether or not the pressure in the press dryer is negative.
 5. The permittee shall collect and record the following information each month for all printing

presses at the facility:

- a. The name and identification number of each ink, fountain solution, blanket wash, and adhesive, as applied.
- b. The individual HAP¹ content for each HAP of each ink, fountain solution, blanket wash, and adhesive in weight percent of individual HAP, as applied.
- c. The total combined HAP content of each ink, fountain solution, blanket wash, and adhesive in weight percent of combined HAPs (sum all the individual HAP contents from b), as applied.
- d. The number of pounds of each ink, fountain solution, blanket wash, and adhesive employed.
- e. The total individual HAP emissions for each HAP from all inks, fountain solutions, blanket washes, and adhesives employed, in pounds or tons per month [for each HAP, the sum of (b times d) for each ink, fountain solution, blanket wash, and adhesive].
- f. The total combined HAP emissions from all inks, fountain solutions, blanket washes, and adhesives, in pounds or tons per month [the sum of © times d) for each ink, fountain solution, blanket wash, and adhesive].
- g. The updated rolling, 12-month total of the individual HAP emissions for each HAP from all inks, fountain solutions, blanket washes, and adhesives employed, in pounds or tons.
- h. The updated rolling, 12-month total of the total combined HAP emissions from all inks, fountain solutions, blanket washes, and adhesives employed, in pounds or tons.

¹ 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. Material Safety Data Sheets typically include a listing of the solvents contained in the coatings or cleanup materials. This information does not have to be kept on an emissions unit-by-emissions unit basis.

6. The permittee shall collect and record the following information each month for this emissions unit for the purpose of determining compliance with material usage and VOC content limitations:
 - a. The name and identification number of each ink, fountain solution, blanket wash, and adhesive employed;
 - b. The amount, in pounds, of each ink, fountain solution, blanket wash, and adhesive

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employed;

- c. The VOC content of each ink, fountain solution, blanket wash, and adhesive employed, in percent by weight, as applied;
 - d. A record of each liquid organic material employed in this emissions unit indicating whether or not the liquid organic material is photochemically reactive as defined in OAC rule 3745-21-01(C)(5); and
 - e. The rolling, 12-month summation of material usage of each of the following materials employed in this emissions unit, in tons per year: ink, blanket wash, fountain solution concentrate, and adhesive.
7. The permit to install for this emissions unit (R004) was evaluated based on the actual materials employed 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 potentially emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: 1, 2, 4 trimethyl benzene

TLV (ug/m3): 179,000

Maximum Hourly Emission Rate (g/s): 0.023

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 134.9

MAGLC (ug/m3): 4272

Pollutant: ethylene glycol

TLV (ug/m3): 254,000

Maximum Hourly Emission Rate (g/s): 0.008

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 45.5

MAGLC (ug/m3): 6040

Pollutant: ethylene glycol N-butyl ether

TLV (ug/m3): 97,000

Maximum Hourly Emission Rate (g/s): 0.004

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 22.8

MAGLC (ug/m3): 2301

Pollutant: vinyl acetate

TLV (ug/m3): 35,000

Maximum Hourly Emission Rate (g/s): 0.004

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 23.3

MAGLC (ug/m3): 838

Physical changes to or changes in the method of operation of the emissions unit after its installation could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied.

Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will be satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

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

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

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

- a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);

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- b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and
- c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

D. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which identify all 3-hour blocks of time during which the average combustion temperature within the thermal incinerator, 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. Each report shall be submitted within 30 days after the deviation occurs.
2. The permittee shall submit quarterly summaries which include a log of the downtime for the capture (collection) system (including failure to demonstrate negative pressure within the press dryer), control device, and monitoring equipment, when the associated emissions unit was in operation. These summaries shall be submitted by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters.
3. The permittee shall submit deviation (excursion) reports which identify each month during which the rolling, 12-month emissions of any single HAP from all emissions units at the facility exceeded 9.9 tons per year, and the actual rolling, 12-month emissions of each such single HAP for each such month.
4. The permittee shall submit deviation (excursion) reports which identify each month during which the rolling, 12-month emissions of combined HAPs from all emissions units at the facility exceeded 24.9 tons per year, and the actual rolling, 12-month emissions of combined HAPs for each such month.
5. Reporting is not required for material usage because the Operational Restrictions in Section B.3 of these terms and conditions are based on the maximum hourly consumption rate for this emissions unit.

E. Testing Requirements

1. The permittee shall conduct, or have conducted, emission testing for the thermal oxidizer for emissions units R003, R004, R005, R006, and R007 in accordance with the following requirements:

- a. The emission testing shall be conducted within 6 months of the effective date of this permit.
- b. The emission testing shall be conducted to demonstrate compliance with the destruction efficiency limitation for VOC emissions.
- c. The emission tests shall be conducted while the emissions unit is operating at normal or representative operating conditions. Prior to testing, the permittee shall propose to the Ohio EPA Northeast District Office an operating scenario for the presses being tested which is representative of actual operating conditions and VOC input rate to the control device.
- d. The destruction 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 and U.S. EPA Methods 25 or 25A of 40 CFR Part 60, Appendix A. Formulation data from the manufacturer, or if required Method 24A, shall be used to determine VOC contents of the inks, fountain solutions, and blanket washes. 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 day prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA Northeast District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the tests, and the person(s) who will be conducting the tests. Failure to submit such notification for review and approval prior to the tests may result in the Ohio EPA Northeast District Office's refusal to accept the results of the emission tests.

Personnel from the Ohio EPA Northeast District Office shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

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 Ohio EPA Northeast District Office within 30 days following completion of the test(s). The permittee may request additional time for submittal of the written report, where warranted, with prior approval from the Ohio EPA Northeast District Office.

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Emissions Unit ID: **R004**

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2. Compliance with the emission limitations in Section A.1. of these terms and conditions shall be determined in accordance with the following method(s):

- a. Emission Limitation:

Volatile organic compound emissions shall not exceed 57.6 lbs/day from the stack associated with this emissions unit.

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Emissions Unit ID: **R004**

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Applicable Compliance Method:

Compliance shall be demonstrated by the following equation:

$$S = (1 - DRE) \times [0.8(P) + A_d(FS) + B_d(BW)]$$

Where

S = stack emissions, equation obtained from Engineering Guide #56;

DRE = destruction efficiency of the thermal incinerator, expressed as a decimal or percent which was determined during the most recent performance test which demonstrated compliance with the pound per hour emission limitation from the stack (a 95% destruction efficiency shall be used until testing has been completed);

0.8 = 20% of VOC's in heatset inks retained by substrate, 80% emitted per Engineering Guide #56;

P = (ink usage rate, lbs/month) x (ink VOC content, % by weight) x (1 month/number of days of operation);

A_d = mass fraction of fountain solution VOC routed to dryer and control device = 0.7 for alcohol substitutes;

FS = (fountain solution usage rate, lbs/day) x (fountain solution VOC content, % by wt.) x (1 month/number of days of operation);

B_d = mass fraction of cleanup solvent routed to dryer and control device = 0.4 for automatic blanket wash; and

BW = (blanket wash usage rate, lbs/day) x (blanket wash VOC content, % by wt.) x (1 month/number of days of operation).

b. Emission Limitation:

Volatile organic compound emissions shall not exceed 10.5 TPY from the stack associated with this emissions unit.

Applicable Compliance Method:

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The annual stack emission limitation was established by multiplying the pound per hour OC stack emission limitation by the maximum operating schedule of 8760 hours per year and dividing by 2000 pounds per ton. Therefore, a demonstration of compliance with the hourly

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stack emission limitation shall also be a demonstration of compliance with the annual stack emission limitation. Actual annual VOC emissions from the stack associated with this emissions unit shall be determined by summing the average daily emissions in Section E.2.a on an annual basis.

c. Emission Limitation:

Fugitive volatile organic compound emissions shall not exceed 12.7 TPY.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping specified in Section C.1. of these terms and conditions and the following equation:

$$F = [A_f(FS) + B_f(BW) + AD] \times 1 \text{ ton}/2000 \text{ lbs}$$

Where

F = annual fugitive emissions from emissions unit R004, equation obtained from Engineering Guide #56 with the addition of adhesive emissions which are all fugitive according to the facility's permit application;

A_f = mass fraction of fountain solution VOC routed to dryer and control device = 0.7 for alcohol substitutes;

FS = (fountain solution usage rate, lbs/yr) x (fountain solution VOC content, % by wt.);

B_f = mass fraction of cleanup solvent emitted as fugitive = 0.6 for automatic blanket wash;

BW = (blanket wash usage rate, lbs/yr) x (blanket wash VOC content, % by wt.); and

AD = (adhesive usage rate, lbs/yr) x (adhesive VOC content, % by wt.).

d. Emission Limitation:

Particulate emissions shall not exceed 2.9 TPY.

Applicable Compliance Method:

The annual particulate emission limitation was established by multiplying the pound per

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hour particulate emission limitation by the maximum operating schedule of 8760 hours per year and dividing by 2000 pounds per ton. Therefore, a demonstration of compliance with the hourly particulate emission limitation shall also be a demonstration of compliance with the annual particulate emission limitation.

e. Emission Limitation:

Visible particulate emissions from the stack associated with this emissions unit shall not exceed five percent opacity as a six-minute average.

Applicable Compliance Method:

If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9, and the procedures specified in OAC rule 3745-17-03(B)(1).

f. Emission Limitation:

Emissions of volatile organic compounds vented to the thermal oxidizer shall be reduced by at least ninety-five percent (95%), by weight.

Applicable Compliance Method:

Compliance shall be determined through stack testing specified in Section E.1 of these terms and conditions.

g. Emission Limitation:

Particulate emissions shall not exceed 0.652 lb/hr.

Applicable Compliance Method:

If required, compliance shall be determined through stack testing in accordance with 40 CFR Part 60, Appendix A, Method 5. Per the Ohio Engineering Guide #56, no particulate testing should be necessary since this emissions unit is controlled by a thermal oxidizer.

h. Emission Limitation:

The emissions of each single hazardous air pollutant (HAP) from all emissions units at the facility shall not exceed 9.9 tons per year, based upon a rolling, 12-month summation.

Applicable Compliance Method:

Compliance shall be based upon the record keeping specified in Section C of these terms and conditions.

i. Emission Limitation:

The emissions of the combined HAPs from all emissions units at the facility shall not exceed 24.9 tons per year, based upon a rolling, 12-month summation.

Applicable Compliance Method:

Compliance shall be based upon the record keeping specified in Section C of these terms and conditions.

3. Formulation data or US EPA Method 24 shall be used to determine the VOC contents of all the inks, fountain solutions, blanket washes, and adhesives employed in this emissions unit.

F. Miscellaneous Requirements

None

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Emissions Unit ID: **R005**

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PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. 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>
R005 - Six-Unit Harris M110C Heatset Web Offset (lithographic) printing press equipped with an ink setting oven and a thermal incinerator (large Katec)	OAC rule 3745-31-05(A)(3)
The requirements of this permit supersede those requirements identified in Permit to Install number 02-7610 issued on January 5, 1994.	OAC rule 3745-17-07(A)(1)
	OAC rule 3745-17-11
	OAC rule 3745-21-07(G)(2)
	OAC rule 3745-21-07(G)(6)
	OAC rule 3745-31-05(D)

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Emissions Unit ID: R005

Applicable Emissions
Limitations/Control Measures

Volatile organic compound emissions shall not exceed 28.8 lbs/day from the stack associated with this emissions unit.

Volatile organic compound emissions shall not exceed 5.3 TPY from the stack associated with this emissions unit.

Fugitive volatile organic compound emissions shall not exceed 6.9 TPY.

Particulate emissions shall not exceed 2.4 TPY.

Visible particulate emissions from the stack associated with this emissions unit shall not exceed five percent opacity as a six-minute average.

Emissions of volatile organic compounds vented to the thermal oxidizer shall be reduced by at least ninety-five percent (95%), by weight.

The requirements of this rule also include compliance with the requirements of OAC rule 3745-31-05(D) and OAC rule 3745-17-11.

See A.2.e below.

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

Particulate emissions shall not exceed 0.551 lb/hr. See A.2.a below.

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 A.2.b below.

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 A.2.c, A.2.d, A.2.e and B.3 below.

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2. Additional Terms and Conditions

- 2.a** The uncontrolled mass rate of particulate emissions from this emissions unit is less than 10 pounds per hour according to Engineering Guide #56. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. The maximum process weight rate for this emissions unit in accordance with Engineering Guide #56 is 64.1 pounds per hour based on the maximum quantities of ink, fountain solution, and blanket wash employed hourly. Therefore, in accordance with Table I of OAC rule 3745-17-11, the allowable rate of particulate emissions is 0.551 pound per hour.
- 2.b** OAC rule 3745-21-07(G)(2) limits organic compound (OC) emissions to 8 pounds per hour and 40 pounds per day or requires an 85% reduction in OC emissions. The thermal oxidizer is employed to comply with the requirement to achieve an 85% reduction in OC emissions instead of complying with the OC emission limits of 8 pounds per hour and 40 pounds per day. The emission limitation established pursuant to OAC rule 3745-31-05(A)(3) requires a 95% reduction in OC emission which is more stringent than the emission limitation specified by OAC rule 3745-21-07(G)(2).
- 2.c** The emissions of each single hazardous air pollutant (HAP) from all emissions units at the facility shall not exceed 9.9 tons per year, based upon a rolling, 12-month summation.
- 2.d** The emissions of combined HAPs from all emissions units at the facility shall not exceed 24.9 tons per year, based upon a rolling, 12-month summation.
- 2.e** The following volatile organic compound (VOC) contents shall not be exceeded for this emissions unit:
- i. Ink: 47% VOC by weight;
 - ii. Fountain solution: 15% VOC by weight; and
 - iii. Adhesive: 2% VOC by weight.

B. Operational Restrictions

1. The average combustion temperature within the thermal incinerator, for any 3-hour block of time when the emissions unit is in operation, shall not be more than 50 degrees Fahrenheit below the average temperature during the compliance emission test required in Section E.1 of these terms and conditions or below 1200 degrees Fahrenheit until such testing has been completed.

2. The permittee shall maintain negative pressure in the press dryer when the emissions unit is in operation.
3. Material usage for this emissions unit shall not exceed the following limits:
 - a. Ink: 262.8 tons/yr;
 - b. Blanket wash: 5.7 tons/yr;
 - c. Fountain solution concentrate: 12.3 tons/yr; and
 - d. Adhesive: 162.1 tons/yr.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall collect and record the following information each month* for this emissions unit for the purpose of determining annual organic compound emissions:
 - a. The name and identification number of each ink, fountain solution, blanket wash, and adhesive employed;
 - b. The amount, in pounds, of each ink, fountain solution, blanket wash, and adhesive employed;
 - c. The VOC content of each ink, fountain solution, blanket wash, and adhesive employed, in percent by weight, as applied;
 - d. The number of days the emissions unit is in operation;
 - e. The total controlled VOC emission rate for all inks, fountain solutions, and blanket washes; in pounds or ton(s), calculated using the destruction efficiency determined from the most recent performance test that demonstrated the emissions unit was in compliance and the formula contained in Section E of these terms and conditions; and
 - f. The total fugitive VOC emission rate for all fountain solutions, blanket washes, and adhesives; in pounds or ton(s), calculated using the formula contained in Section E of these terms and conditions.

* Since the daily VOC emission limitation for this emissions unit is based on maximum potential material usage, daily record keeping is not required. It is acceptable for the facility to maintain monthly records for the purpose of determining actual annual VOC

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emissions.

2. The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal incinerator when the emissions unit is in operation.
3. 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 incinerator, 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.
 - 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 monitor and record the pressure in the press dryer on a daily basis when the emissions unit is in operation. Dryer pressure shall be demonstrated by means of a differential pressure gauge, smoke tube(s), plastic flow indicator strips, or other flow indicating devices approved by the Ohio EPA Northeast District Office. Pressure monitoring shall be conducted to demonstrate that air flows into the press dryer at all openings in the dryer (excluding the exhaust stack). If a differential pressure gauge is used to monitor dryer pressure, the gauge reading shall be recorded. If a smoke tube(s) or plastic flow indicator strips are used to monitor dryer pressure, the permittee shall record whether or not the pressure in the press dryer is negative.
5. The permittee shall collect and record the following information each month for all printing presses at the facility:
 - a. The name and identification number of each ink, fountain solution, blanket wash, and adhesive, as applied.
 - b. The individual HAP¹ content for each HAP of each ink, fountain solution, blanket wash, and adhesive in weight percent of individual HAP, as applied.
 - c. The total combined HAP content of each ink, fountain solution, blanket wash, and adhesive in weight percent of combined HAPs (sum all the individual HAP contents from b), as applied.
 - d. The number of pounds of each ink, fountain solution, blanket wash, and adhesive

employed.

- e. The total individual HAP emissions for each HAP from all inks, fountain solutions, blanket washes, and adhesives employed, in pounds or tons per month [for each HAP, the sum of (b times d) for each ink, fountain solution, blanket wash, and adhesive].
- f. The total combined HAP emissions from all inks, fountain solutions, blanket washes, and adhesives, in pounds or tons per month [the sum of © times d) for each ink, fountain solution, blanket wash, and adhesive].
- g. The updated rolling, 12-month total of the individual HAP emissions for each HAP from all inks, fountain solutions, blanket washes, and adhesives employed, in pounds or tons.
- h. The updated rolling, 12-month total of the total combined HAP emissions from all inks, fountain solutions, blanket washes, and adhesives employed, in pounds or tons.

¹ 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. Material Safety Data Sheets typically include a listing of the solvents contained in the coatings or cleanup materials. This information does not have to be kept on an emissions unit-by-emissions unit basis.

- 6. The permittee shall collect and record the following information each month for this emissions unit for the purpose of determining compliance with material usage and VOC content limitations:
 - a. The name and identification number of each ink, fountain solution, blanket wash, and adhesive employed;
 - b. The amount, in pounds, of each ink, fountain solution, blanket wash, and adhesive employed;
 - c. The VOC content of each ink, fountain solution, blanket wash, and adhesive employed, in percent by weight, as applied;
 - d. A record of each liquid organic material employed in this emissions unit indicating whether or not the liquid organic material is photochemically reactive as defined in OAC rule 3745-21-01(C)(5); and
 - e. The rolling, 12-month summation of material usage of each of the following materials employed in this emissions unit, in tons per year: ink, blanket wash, fountain solution concentrate, and adhesive.

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7. The permit to install for this emissions unit (R005) was evaluated based on the actual materials employed 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 potentially emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: 1, 2, 4 trimethyl benzene

TLV (ug/m3): 179,000

Maximum Hourly Emission Rate (g/s): 0.023

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 134.9

MAGLC (ug/m3): 4272

Pollutant: ethylene glycol

TLV (ug/m3): 254,000

Maximum Hourly Emission Rate (g/s): 0.008

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 45.5

MAGLC (ug/m3): 6040

Pollutant: ethylene glycol N-butyl ether

TLV (ug/m3): 97,000

Maximum Hourly Emission Rate (g/s): 0.004

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 22.8

MAGLC (ug/m3): 2301

Pollutant: vinyl acetate

TLV (ug/m3): 35,000

Maximum Hourly Emission Rate (g/s): 0.004

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 23.3

MAGLC (ug/m3): 838

Physical changes to or changes in the method of operation of the emissions unit after its installation could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied.

Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will be satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee

will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

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

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

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

- a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);
- b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and
- c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

D. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which identify all 3-hour blocks of time during which the average combustion temperature within the thermal incinerator, 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

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compliance. Each report shall be submitted within 30 days after the deviation occurs.

2. The permittee shall submit quarterly summaries which include a log of the downtime for the capture (collection) system (including failure to demonstrate negative pressure within the press dryer), control device, and monitoring equipment, when the associated emissions unit was in operation. These summaries shall be submitted by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters.
3. The permittee shall submit deviation (excursion) reports which identify each month during which the rolling, 12-month emissions of any single HAP from all emissions units at the facility exceeded 9.9 tons per year, and the actual rolling, 12-month emissions of each such single HAP for each such month.
4. The permittee shall submit deviation (excursion) reports which identify each month during which the rolling, 12-month emissions of combined HAPs from all emissions units at the facility exceeded 24.9 tons per year, and the actual rolling, 12-month emissions of combined HAPs for each such month.
5. Reporting is not required for material usage because the Operational Restrictions in Section B.3 of these terms and conditions are based on the maximum hourly consumption rate for this emissions unit.

E. Testing Requirements

1. The permittee shall conduct, or have conducted, emission testing for the thermal oxidizer for emissions units R003, R004, R005, R006, and R007 in accordance with the following requirements:
 - a. The emission testing shall be conducted within 6 months of the effective date of this permit.
 - b. The emission testing shall be conducted to demonstrate compliance with the destruction efficiency limitation for VOC emissions.
 - c. The emission tests shall be conducted while the emissions unit is operating at normal or representative operating conditions. Prior to testing, the permittee shall propose to the Ohio EPA Northeast District Office an operating scenario for the presses being tested which is representative of actual operating conditions and VOC input rate to the control device.

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- d. The destruction 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 and U.S. EPA Methods 25 or 25A of 40 CFR Part 60, Appendix A. Formulation data from the manufacturer, or if required Method 24A, shall be used to determine OC contents of the inks, fountain solutions, and blanket washes. 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 day prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA Northeast District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the tests, and the person(s) who will be conducting the tests. Failure to submit such notification for review and approval prior to the tests may result in the Ohio EPA Northeast District Office's refusal to accept the results of the emission tests.

Personnel from the Ohio EPA Northeast District Office shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

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 Ohio EPA Northeast District Office within 30 days following completion of the test(s). The permittee may request additional time for submittal of the written report, where warranted, with prior approval from the Ohio EPA Northeast District Office.

- 2. Compliance with the emission limitations in Section A.1. of these terms and conditions shall be determined in accordance with the following method(s):

- a. Emission Limitation:

Volatile organic compound emissions shall not exceed 28.8 lbs/day from the stack associated with this emissions unit.

Applicable Compliance Method:

Compliance shall be demonstrated by the following equation:

$$S = (1 - DRE) \times [0.8(P) + A_d(FS) + B_d(BW)]$$

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Where

S = stack emissions, equation obtained from Engineering Guide #56;

DRE = destruction efficiency of the thermal incinerator, expressed as a decimal or percent which was determined during the most recent performance test which demonstrated compliance with the pound per hour emission limitation from the stack (a 95% destruction efficiency shall be used until testing has been completed);

0.8 = 20% of VOC's in heatset inks retained by substrate, 80% emitted per Engineering Guide #56;

P = (ink usage rate, lbs/month) x (ink VOC content, % by weight) x (1 month/number of days of operation);

A_d = mass fraction of fountain solution VOC routed to dryer and control device = 0.7 for alcohol substitutes;

FS = (fountain solution usage rate, lbs/day) x (fountain solution VOC content, % by wt.) x (1 month/number of days of operation);

B_d = mass fraction of cleanup solvent routed to dryer and control device = 0.4 for automatic blanket wash; and

BW = (blanket wash usage rate, lbs/day) x (blanket wash VOC content, % by wt.) x (1 month/number of days of operation).

b. Emission Limitation:

Volatile organic compound emissions shall not exceed 5.3 TPY from the stack associated with this emissions unit.

Applicable Compliance Method:

The annual stack emission limitation was established by multiplying the pound per hour OC stack emission limitation by the maximum operating schedule of 8760 hours per year and dividing by 2000 pounds per ton. Therefore, a demonstration of compliance with the hourly stack emission limitation shall also be a demonstration of compliance with the annual stack emission limitation. Actual annual VOC emissions from the stack associated with this emissions unit shall be determined by summing the average daily emissions in

Section E.2.a on an annual basis.

c. Emission Limitation:

Fugitive volatile organic compound emissions shall not exceed 6.9 TPY.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping specified in Section C.1 of these terms and conditions and the following equation:

$$F = [A_f(FS) + B_f(BW) + AD] \times 1 \text{ ton}/2000 \text{ lbs}$$

Where

F = annual fugitive emissions from emissions unit R005, equation obtained from Engineering Guide #56 with the addition of adhesive emissions which are all fugitive according to the facility's permit application;

A_f = mass fraction of fountain solution VOC routed to dryer and control device = 0.7 for alcohol substitutes;

FS = (fountain solution usage rate, lbs/yr) x (fountain solution VOC content, % by wt.);

B_f = mass fraction of cleanup solvent emitted as fugitive = 0.6 for automatic blanket wash;

BW = (blanket wash usage rate, lbs/yr) x (blanket wash VOC content, % by wt.); and

AD = (adhesive usage rate, lbs/yr) x (adhesive VOC content, % by wt.).

d. Emission Limitation:

Particulate emissions shall not exceed 2.4 TPY.

Applicable Compliance Method:

The annual particulate emission limitation was established by multiplying the pound per hour particulate emission limitation by the maximum operating schedule of 8760 hours per year and dividing by 2000 pounds per ton. Therefore, a demonstration of compliance with the hourly particulate emission limitation shall also be a demonstration of compliance with the annual particulate emission limitation.

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e. Emission Limitation:

Visible particulate emissions from the stack associated with this emissions unit shall not exceed five percent opacity as a six-minute average.

Applicable Compliance Method:

If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9, and the procedures specified in OAC rule 3745-17-03(B)(1).

f. Emission Limitation:

Emissions of volatile organic compounds vented to the thermal oxidizer shall be reduced by at least ninety-five percent (95%), by weight.

Applicable Compliance Method:

Compliance shall be determined through stack testing specified in Section E.1 of these terms and conditions.

g. Emission Limitation:

Particulate emissions shall not exceed 0.551 lb/hr.

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Applicable Compliance Method:

If required, compliance shall be determined through stack testing in accordance with 40 CFR Part 60, Appendix A, Method 5. Per the Ohio Engineering Guide #56, no particulate testing should be necessary since this emissions unit is controlled by a thermal oxidizer.

h. Emission Limitation:

The emissions of each single hazardous air pollutant (HAP) from all emissions units at the facility shall not exceed 9.9 tons per year, based upon a rolling, 12-month summation.

Applicable Compliance Method:

Compliance shall be based upon the record keeping specified in Section C of these terms and conditions.

i. Emission Limitation:

The emissions of the combined HAPs from all emissions units at the facility shall not exceed 24.9 tons per year, based upon a rolling, 12-month summation.

Applicable Compliance Method:

Compliance shall be based upon the record keeping specified in Section C of these terms and conditions.

3. Formulation data or US EPA Method 24 shall be used to determine the VOC contents of all the inks, fountain solutions, blanket washes, and adhesives employed in this emissions unit.

F. Miscellaneous Requirements

None

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. 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 - Six-Unit MAN Roland Polyman Heatset Web Offset (lithographic) printing press equipped with an ink setting oven and a thermal incinerator (large Katec)	OAC rule 3745-31-05(A)(3)
The requirements of this permit supersede those requirements identified in Permit to Install number 02-11995 issued on August 5, 1998.	OAC rule 3745-17-07(A)(1)
	OAC rule 3745-17-11
	OAC rule 3745-21-07(G)(2)
	OAC rule 3745-21-07(G)(6)

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Emissions Unit ID: R006

OAC rule 3745-31-05(D)

Applicable Emissions
Limitations/Control Measures

Volatile organic compound emissions shall not exceed 44.2 lbs/day from the stack associated with this emissions unit.

Volatile organic compound emissions shall not exceed 8.06 TPY from the stack associated with this emissions unit.

Fugitive volatile organic compound emissions shall not exceed 7.44 TPY.

Particulate emissions shall not exceed 2.4 TPY.

Visible particulate emissions from the stack associated with this emissions unit shall not exceed five percent opacity as a six-minute average.

Emissions of volatile organic compounds vented to the thermal oxidizer shall be reduced by at least ninety-five percent (95%), by weight.

The requirements of this rule also include compliance with the requirements of OAC rule 3745-31-05(D) and OAC rule 3745-17-11.

See A.2.e below.

NOx emissions from the dryer associated with this emissions unit shall not exceed 0.44 lb/hr and 1.927 TPY. See A.2.f below.

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

Particulate emissions shall not exceed 0.551 lb/hr. See A.2.a below.

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 A.2.b below.

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 A.2.c, A.2.d, A.2.e and B.3 below.

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2. Additional Terms and Conditions

- 2.a** The uncontrolled mass rate of particulate emissions from this emissions unit is less than 10 pounds per hour according to Engineering Guide #56. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. The maximum process weight rate for this emissions unit in accordance with Engineering Guide #56 is 100 pounds per hour based on the maximum quantities of ink, fountain solution, and blanket wash employed hourly. Therefore, in accordance with Table I of OAC rule 3745-17-11, the allowable rate of particulate emissions is 0.551 pound per hour.
- 2.b** OAC rule 3745-21-07(G)(2) limits organic compound (OC) emissions to 8 pounds per hour and 40 pounds per day or requires an 85% reduction in OC emissions. The thermal oxidizer is employed to comply with the requirement to achieve an 85% reduction in OC emissions instead of complying with the OC emission limits of 8 pounds per hour and 40 pounds per day. The emission limitation established pursuant to OAC rule 3745-31-05(A)(3) requires a 95% reduction in OC emission which is more stringent than the emission limitation specified by OAC rule 3745-21-07(G)(2).
- 2.c** The emissions of each single hazardous air pollutant (HAP) from all emissions units at the facility shall not exceed 9.9 tons per year, based upon a rolling, 12-month summation.
- 2.d** The emissions of combined HAPs from all emissions units at the facility shall not exceed 24.9 tons per year, based upon a rolling, 12-month summation.
- 2.e** The following volatile organic compound (VOC) contents shall not be exceeded for this emissions unit:
- i. Ink: 47% VOC by weight;
 - ii. Fountain solution: 15% VOC by weight; and
 - iii. Adhesive: 2% VOC by weight.
- 2.f** The hourly and annual NO_x emission limitations for the dryer associated with this emissions unit are based on an emission factor of 100 lbs NO_x/mmscf for uncontrolled natural gas combustion in small boilers (AP-42, Table 1.4-1, 2/98), the maximum operating value for the natural gas burner in the dryer (4.4 mmBtu/hr), and 8760 maximum potential operating hours. Therefore; monitoring, record keeping, reporting, and testing is not required for NO_x emissions from this emissions unit.

B. Operational Restrictions

1. The average combustion temperature within the thermal incinerator, for any 3-hour block of time when the emissions unit is in operation, shall not be more than 50 degrees Fahrenheit below the average temperature during the compliance emission test required in Section E.1 of these terms and conditions or below 1200 degrees Fahrenheit until such testing has been completed.
2. The permittee shall maintain negative pressure in the press dryer when the emissions unit is in operation.
3. Material usage for this emissions unit shall not exceed the following limits:
 - a. Ink: 416.1 tons/yr;
 - b. Blanket wash: 6.6 tons/yr;
 - c. Fountain solution concentrate: 15.3 tons/yr; and
 - d. Adhesive: 162.1 tons/yr.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall collect and record the following information each month* for this emissions unit for the purpose of determining annual organic compound emissions:
 - a. The name and identification number of each ink, fountain solution, blanket wash, and adhesive employed;
 - b. The amount, in pounds, of each ink, fountain solution, blanket wash, and adhesive employed;
 - c. The VOC content of each ink, fountain solution, blanket wash, and adhesive employed, in percent by weight, as applied;
 - d. The number of days the emissions unit is in operation;
 - e. The total controlled VOC emission rate for all inks, fountain solutions, and blanket washes; in pounds or ton(s), calculated using the destruction efficiency determined from the most recent performance test that demonstrated the emissions unit was in compliance and the formula contained in Section E of these terms and conditions; and

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- f. The total fugitive VOC emission rate for all fountain solutions, blanket washes, and adhesives; in pounds or ton(s), calculated using the formula contained in Section E of these terms and conditions.
- * Since the daily VOC emission limitation for this emissions unit is based on maximum potential material usage, daily record keeping is not required. It is acceptable for the facility to maintain monthly records for the purpose of determining actual annual VOC emissions.
2. The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal incinerator when the emissions unit is in operation.
3. 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 incinerator, 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.
 - 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 monitor and record the pressure in the press dryer on a daily basis when the emissions unit is in operation. Dryer pressure shall be demonstrated by means of a differential pressure gauge, smoke tube(s), plastic flow indicator strips, or other flow indicating devices approved by the Ohio EPA Northeast District Office. Pressure monitoring shall be conducted to demonstrate that air flows into the press dryer at all openings in the dryer (excluding the exhaust stack). If a differential pressure gauge is used to monitor dryer pressure, the gauge reading shall be recorded. If a smoke tube(s) or plastic flow indicator strips are used to monitor dryer pressure, the permittee shall record whether or not the pressure in the press dryer is negative.
5. The permittee shall collect and record the following information each month for all printing presses at the facility:
 - a. The name and identification number of each ink, fountain solution, blanket wash, and adhesive, as applied.
 - b. The individual HAP¹ content for each HAP of each ink, fountain solution, blanket wash,

and adhesive in weight percent of individual HAP, as applied.

- c. The total combined HAP content of each ink, fountain solution, blanket wash, and adhesive in weight percent of combined HAPs (sum all the individual HAP contents from b), as applied.
- d. The number of pounds of each ink, fountain solution, blanket wash, and adhesive employed.
- e. The total individual HAP emissions for each HAP from all inks, fountain solutions, blanket washes, and adhesives employed, in pounds or tons per month [for each HAP, the sum of (b times d) for each ink, fountain solution, blanket wash, and adhesive].
- f. The total combined HAP emissions from all inks, fountain solutions, blanket washes, and adhesives, in pounds or tons per month [the sum of © times d) for each ink, fountain solution, blanket wash, and adhesive].
- g. The updated rolling, 12-month total of the individual HAP emissions for each HAP from all inks, fountain solutions, blanket washes, and adhesives employed, in pounds or tons.
- h. The updated rolling, 12-month total of the total combined HAP emissions from all inks, fountain solutions, blanket washes, and adhesives employed, in pounds or tons.

¹ 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. Material Safety Data Sheets typically include a listing of the solvents contained in the coatings or cleanup materials. This information does not have to be kept on an emissions unit-by-emissions unit basis.

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6. The permittee shall collect and record the following information each month for this emissions unit for the purpose of determining compliance with material usage and VOC content limitations:
 - a. The name and identification number of each ink, fountain solution, blanket wash, and adhesive employed;
 - b. The amount, in pounds, of each ink, fountain solution, blanket wash, and adhesive employed;
 - c. The VOC content of each ink, fountain solution, blanket wash, and adhesive employed, in percent by weight, as applied;
 - d. A record of each liquid organic material employed in this emissions unit indicating whether or not the liquid organic material is photochemically reactive as defined in OAC rule 3745-21-01(C)(5); and
 - e. The rolling, 12-month summation of material usage of each of the following materials employed in this emissions unit, in tons per year: ink, blanket wash, fountain solution concentrate, and adhesive.

7. The permit to install for this emissions unit (R006) was evaluated based on the actual materials employed 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 potentially emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: 1, 2, 4 trimethyl benzene

TLV (ug/m3): 179,000

Maximum Hourly Emission Rate (g/s): 0.023

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 134.9

MAGLC (ug/m3): 4272

Pollutant: ethylene glycol

TLV (ug/m3): 254,000

Maximum Hourly Emission Rate (g/s): 0.008

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 45.5

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MAGLC (ug/m3): 6040

Pollutant: ethylene glycol N-butyl ether

TLV (ug/m3): 97,000

Maximum Hourly Emission Rate (g/s): 0.004

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 22.8

MAGLC (ug/m3): 2301

Pollutant: vinyl acetate

TLV (ug/m3): 35,000

Maximum Hourly Emission Rate (g/s): 0.004

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 23.3

MAGLC (ug/m3): 838

Physical changes to or changes in the method of operation of the emissions unit after its installation could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied.

Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will be satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

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

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

definition (other than (VV)(1)(a)(ii)), then the permittee shall obtain a final permit to install prior to the change.

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

- a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);
- b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and
- c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

D. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which identify all 3-hour blocks of time during which the average combustion temperature within the thermal incinerator, 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. Each report shall be submitted within 30 days after the deviation occurs.
2. The permittee shall submit quarterly summaries which include a log of the downtime for the capture (collection) system (including failure to demonstrate negative pressure within the press dryer), control device, and monitoring equipment, when the associated emissions unit was in operation. These summaries shall be submitted by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters.
3. The permittee shall submit deviation (excursion) reports which identify each month during which the rolling, 12-month emissions of any single HAP from all emissions units at the facility exceeded 9.9 tons per year, and the actual rolling, 12-month emissions of each such single HAP for each such month.
4. The permittee shall submit deviation (excursion) reports which identify each month during which the rolling, 12-month emissions of combined HAPs from all emissions units at the facility exceeded 24.9 tons per year, and the actual rolling, 12-month emissions of combined HAPs for each such month.
5. Reporting is not required for material usage because the Operational Restrictions in Section B.3

of these terms and conditions are based on the maximum hourly consumption rate for this emissions unit.

E. Testing Requirements

1. The permittee shall conduct, or have conducted, emission testing for the thermal oxidizer for emissions units R003, R004, R005, R006, and R007 in accordance with the following requirements:
 - a. The emission testing shall be conducted within 6 months of the effective date of this permit.
 - b. The emission testing shall be conducted to demonstrate compliance with the destruction efficiency limitation for VOC emissions.
 - c. The emission tests shall be conducted while the emissions unit is operating at normal or representative operating conditions. Prior to testing, the permittee shall propose to the Ohio EPA Northeast District Office an operating scenario for the presses being tested which is representative of actual operating conditions and VOC input rate to the control device.
 - d. The destruction 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 and U.S. EPA Methods 25 or 25A of 40 CFR Part 60, Appendix A. Formulation data from the manufacturer, or if required Method 24A, shall be used to determine VOC contents of the inks, fountain solutions, and blanket washes. 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 day prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA Northeast District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the tests, and the person(s) who will be conducting the tests. Failure to submit such notification for review and approval prior to the tests may result in the Ohio EPA Northeast District Office's refusal to accept the results of the emission tests.

Personnel from the Ohio EPA Northeast District Office shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

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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 Ohio EPA Northeast District Office within 30 days following completion of the test(s). The permittee may request additional time for submittal of the written report, where warranted, with prior approval from the Ohio EPA Northeast District Office.

2. Compliance with the emission limitations in Section A.1 of these terms and conditions shall be determined in accordance with the following method(s):

- a. Emission Limitation:

Volatile organic compound emissions shall not exceed 44.2 lbs/day from the stack associated with this emissions unit.

Applicable Compliance Method:

Compliance shall be demonstrated by the following equation:

$$S = (1 - DRE) \times [0.8(P) + A_d(FS) + B_d(BW)]$$

Where

S = stack emissions, equation obtained from Engineering Guide #56;

DRE = destruction efficiency of the thermal incinerator, expressed as a decimal or percent which was determined during the most recent performance test which demonstrated compliance with the pound per hour emission limitation from the stack (a 95% destruction efficiency shall be used until testing has been completed);

0.8 = 20% of VOC's in heatset inks retained by substrate, 80% emitted per Engineering Guide #56;

P = (ink usage rate, lbs/month) x (ink VOC content, % by weight) x (1 month/number of days of operation);

A_d = mass fraction of fountain solution VOC routed to dryer and control device = 0.7 for alcohol substitutes;

FS = (fountain solution usage rate, lbs/day) x (fountain solution VOC content, % by wt.) x

(1 month/number of days of operation);

B_d = mass fraction of cleanup solvent routed to dryer and control device = 0.4 for automatic blanket wash; and

BW = (blanket wash usage rate, lbs/day) x (blanket wash VOC content, % by wt.) x (1 month/number of days of operation).

b. Emission Limitation:

Volatile organic compound emissions shall not exceed 8.06 TPY from the stack associated with this emissions unit.

Applicable Compliance Method:

The annual stack emission limitation was established by multiplying the pound per hour OC stack emission limitation by the maximum operating schedule of 8760 hours per year and dividing by 2000 pounds per ton. Therefore, a demonstration of compliance with the hourly stack emission limitation shall also be a demonstration of compliance with the annual stack emission limitation. Actual annual VOC emissions from the stack associated with this emissions unit shall be determined by summing the average daily emissions in Section E.2.a on an annual basis.

c. Emission Limitation:

Fugitive volatile organic compound emissions shall not exceed 7.44 TPY.

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Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping specified in Section C.1 of these terms and conditions and the following equation:

$$F = [A_f(FS) + B_f(BW) + AD] \times 1 \text{ ton}/2000 \text{ lbs}$$

Where

F = annual fugitive emissions from emissions unit R006, equation obtained from Engineering Guide #56 with the addition of adhesive emissions which are all fugitive according to the facility's permit application;

A_f = mass fraction of fountain solution VOC routed to dryer and control device = 0.7 for alcohol substitutes;

FS = (fountain solution usage rate, lbs/yr) x (fountain solution VOC content, % by wt.);

B_f = mass fraction of cleanup solvent emitted as fugitive = 0.6 for automatic blanket wash;

BW = (blanket wash usage rate, lbs/yr) x (blanket wash VOC content, % by wt.); and

AD = (adhesive usage rate, lbs/yr) x (adhesive VOC content, % by wt.).

d. Emission Limitation:

Particulate emissions shall not exceed 2.4 TPY.

Applicable Compliance Method:

The annual particulate emission limitation was established by multiplying the pound per hour particulate emission limitation by the maximum operating schedule of 8760 hours per year and dividing by 2000 pounds per ton. Therefore, a demonstration of compliance with the hourly particulate emission limitation shall also be a demonstration of compliance with the annual particulate emission limitation. Actual annual VOC emissions from the stack associated with this emissions unit shall be determined by summing the average daily emissions in Section E.2.a on an annual basis.

e. Emission Limitation:

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Visible particulate emissions from the stack associated with this emissions unit shall not exceed five percent opacity as a six-minute average.

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Applicable Compliance Method:

If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9, and the procedures specified in OAC rule 3745-17-03(B)(1).

f. Emission Limitation:

Emissions of volatile organic compounds vented to the thermal oxidizer shall be reduced by at least ninety-five percent (95%), by weight.

Applicable Compliance Method:

Compliance shall be determined through stack testing specified in Section E.1 of these terms and conditions.

g. Emission Limitation:

Particulate emissions shall not exceed 0.551 lb/hr.

Applicable Compliance Method:

If required, compliance shall be determined through stack testing in accordance with 40 CFR Part 60, Appendix A, Method 5. Per the Ohio Engineering Guide #56, no particulate testing should be necessary since this emissions unit is controlled by a thermal oxidizer.

h. Emission Limitation:

The emissions of each single hazardous air pollutant (HAP) from all emissions units at the facility shall not exceed 9.9 tons per year, based upon a rolling, 12-month summation.

Applicable Compliance Method:

Compliance shall be based upon the record keeping specified in Section C of these terms and conditions.

i. Emission Limitation:

The emissions of the combined HAPs from all emissions units at the facility shall not exceed 24.9 tons per year, based upon a rolling, 12-month summation.

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Emissions Unit ID: R006

Applicable Compliance Method:

Compliance shall be based upon the record keeping specified in Section C of these terms and conditions.

3. Formulation data or US EPA Method 24 shall be used to determine the VOC contents of all the inks, fountain solutions, blanket washes, and adhesives employed in this emissions unit.

F. Miscellaneous Requirements

None

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Emissions Unit ID: **R007**

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PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. 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>
<p>R007 - Six-Unit Harris M110C Heatset Web Offset (lithographic) printing press equipped with an ink setting oven and a thermal incinerator (large Katec)</p>	<p>OAC rule 3745-31-05(A)(3)</p>
<p>The requirements of this permit supersede those requirements identified in Permit to Install number 02-16062 issued on March 7, 2002.</p>	<p>OAC rule 3745-17-07(A)(1)</p>
	<p>OAC rule 3745-17-11</p>
	<p>OAC rule 3745-21-07(G)(2)</p>

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	<u>Applicable Emissions Limitations/Control Measures</u>	
OAC rule 3745-21-07(G)(6)	Volatile organic compound emissions shall not exceed 28.8 lbs/day from the stack associated with this emissions unit.	NOx emissions from the dryer associated with this emissions unit shall not exceed 0.88 lb/hr and 3.854 TPY. See A.2.f below. CO emissions from the dryer associated with this emissions unit shall not exceed 0.73 lb/hr and 3.174 TPY. See A.2.g below.
OAC rule 3745-31-05(D)	Volatile organic compound emissions shall not exceed 5.3 TPY from the stack associated with this emissions unit. Fugitive volatile organic compound emissions shall not exceed 6.9 TPY. Particulate emissions shall not exceed 2.4 TPY. Visible particulate emissions from the stack associated with this emissions unit shall not exceed five percent opacity as a six-minute average. Emissions of volatile organic compounds vented to the thermal oxidizer shall be reduced by at least ninety-five percent (95%), by weight. The requirements of this rule also include compliance with the requirements of OAC rule 3745-31-05(D) and OAC rule 3745-17-11. See A.2.e below.	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3). Particulate emissions shall not exceed 0.551 lb/hr. See A.2.a below. 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 A.2.b below. 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 A.2.c, A.2.d, A.2.e and B.3 below.

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2. Additional Terms and Conditions

- 2.a** The uncontrolled mass rate of particulate emissions from this emissions unit is less than 10 pounds per hour according to Engineering Guide #56. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. The maximum

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process weight rate for this emissions unit in accordance with Engineering Guide #56 is 64.1 pounds per hour based on the maximum quantities of ink, fountain solution, and blanket wash employed hourly. Therefore, in accordance with Table I of OAC rule 3745-17-11, the allowable rate of particulate emissions is 0.551 pound per hour.

- 2.b** OAC rule 3745-21-07(G)(2) limits organic compound (OC) emissions to 8 pounds per hour and 40 pounds per day or requires an 85% reduction in OC emissions. The thermal oxidizer is employed to comply with the requirement to achieve an 85% reduction in OC emissions instead of complying with the OC emission limits of 8 pounds per hour and 40 pounds per day. The emission limitation established pursuant to OAC rule 3745-31-05(A)(3) requires a 95% reduction in OC emission which is more stringent than the emission limitation specified by OAC rule 3745-21-07(G)(2).
- 2.c** The emissions of each single hazardous air pollutant (HAP) from all emissions units at the facility shall not exceed 9.9 tons per year, based upon a rolling, 12-month summation.
- 2.d** The emissions of combined HAPs from all emissions units at the facility shall not exceed 24.9 tons per year, based upon a rolling, 12-month summation.
- 2.e** The following volatile organic compound (VOC) contents shall not be exceeded for this emissions unit:
 - i. Ink: 47% VOC by weight;
 - ii. Fountain solution: 15% VOC by weight; and
 - iii. Adhesive: 2% VOC by weight.
- 2.f** The hourly and annual NO_x emission limitations for the dryer associated with this emissions unit are based on an emission factor of 100 lbs NO_x/mmscf for uncontrolled natural gas combustion in small boilers (AP-42, Table 1.4-1, 2/98), the maximum operating value for the natural gas burner in the dryer (8.8 mmBtu/hr), and 8760 maximum potential operating hours. Therefore; monitoring, record keeping, reporting, and testing is not required for NO_x emissions from this emissions unit.
- 2.g** The hourly and annual CO emission limitations for the dryer associated with this emissions unit are based on an emission factor of 84 lbs CO/mmscf for uncontrolled natural gas combustion in small boilers (AP-42, Table 1.4-1, 2/98), the maximum operating value for the natural gas burner in the dryer (8.8 mmBtu/hr), and 8760 maximum potential operating hours. Therefore; monitoring, record keeping, reporting, and testing is not

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required for CO emissions from this emissions unit.

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B. Operational Restrictions

1. The average combustion temperature within the thermal incinerator, for any 3-hour block of time when the emissions unit is in operation, shall not be more than 50 degrees Fahrenheit below the average temperature during the compliance emission test required in Section E.1 of these terms and conditions or below 1200 degrees Fahrenheit until such testing has been completed.
2. The permittee shall maintain negative pressure in the press dryer when the emissions unit is in operation.
3. Material usage for this emissions unit shall not exceed the following limits:
 - a. Ink: 262.8 tons/yr;
 - b. Blanket wash: 5.7 tons/yr;
 - c. Fountain solution concentrate: 12.3 tons/yr; and
 - d. Adhesive: 162.1 tons/yr.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall collect and record the following information each month* for this emissions unit for the purpose of determining annual organic compound emissions:
 - a. The name and identification number of each ink, fountain solution, blanket wash, and adhesive employed;
 - b. The amount, in pounds, of each ink, fountain solution, blanket wash, and adhesive employed;
 - c. The VOC content of each ink, fountain solution, blanket wash, and adhesive employed, in percent by weight, as applied;
 - d. The number of days the emissions unit is in operation;
 - e. The total controlled VOC emission rate for all inks, fountain solutions, and blanket washes; in pounds or ton(s), calculated using the destruction efficiency determined from the most recent performance test that demonstrated the emissions unit was in compliance and the formula contained in Section E of these terms and conditions; and

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- f. The total fugitive VOC emission rate for all fountain solutions, blanket washes, and adhesives; in pounds or ton(s), calculated using the formula contained in Section E of these terms and conditions.

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- * Since the daily VOC emission limitation for this emissions unit is based on maximum potential material usage, daily record keeping is not required. It is acceptable for the facility to maintain monthly records for the purpose of determining actual annual VOC emissions.
- 2. The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal incinerator when the emissions unit is in operation.
- 3. 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 incinerator, 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.
 - 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 monitor and record the pressure in the press dryer on a daily basis when the emissions unit is in operation. Dryer pressure shall be demonstrated by means of a differential pressure gauge, smoke tube(s), plastic flow indicator strips, or other flow indicating devices approved by the Ohio EPA Northeast District Office. Pressure monitoring shall be conducted to demonstrate that air flows into the press dryer at all openings in the dryer (excluding the exhaust stack). If a differential pressure gauge is used to monitor dryer pressure, the gauge reading shall be recorded. If a smoke tube(s) or plastic flow indicator strips are used to monitor dryer pressure, the permittee shall record whether or not the pressure in the press dryer is negative.
- 5. The permittee shall collect and record the following information each month for all printing presses at the facility:
 - a. The name and identification number of each ink, fountain solution, blanket wash, and adhesive, as applied.
 - b. The individual HAP¹ content for each HAP of each ink, fountain solution, blanket wash, and adhesive in weight percent of individual HAP, as applied.
 - c. The total combined HAP content of each ink, fountain solution, blanket wash, and adhesive in weight percent of combined HAPs (sum all the individual HAP contents from b), as applied.

- d. The number of pounds of each ink, fountain solution, blanket wash, and adhesive employed.
- e. The total individual HAP emissions for each HAP from all inks, fountain solutions, blanket washes, and adhesives employed, in pounds or tons per month [for each HAP, the sum of (b times d) for each ink, fountain solution, blanket wash, and adhesive].
- f. The total combined HAP emissions from all inks, fountain solutions, blanket washes, and adhesives, in pounds or tons per month [the sum of © times d) for each ink, fountain solution, blanket wash, and adhesive].
- g. The updated rolling, 12-month total of the individual HAP emissions for each HAP from all inks, fountain solutions, blanket washes, and adhesives employed, in pounds or tons.
- h. The updated rolling, 12-month total of the total combined HAP emissions from all inks, fountain solutions, blanket washes, and adhesives employed, in pounds or tons.

¹ 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. Material Safety Data Sheets typically include a listing of the solvents contained in the coatings or cleanup materials. This information does not have to be kept on an emissions unit-by-emissions unit basis.

- 6. The permittee shall collect and record the following information each month for this emissions unit for the purpose of determining compliance with material usage and VOC content limitations:
 - a. The name and identification number of each ink, fountain solution, blanket wash, and adhesive employed;
 - b. The amount, in pounds, of each ink, fountain solution, blanket wash, and adhesive employed;
 - c. The VOC content of each ink, fountain solution, blanket wash, and adhesive employed, in percent by weight, as applied;
 - d. A record of each liquid organic material employed in this emissions unit indicating whether or not the liquid organic material is photochemically reactive as defined in OAC rule 3745-21-01(C)(5); and
 - e. The rolling, 12-month summation of material usage of each of the following materials employed in this emissions unit, in tons per year: ink, blanket wash, fountain solution

concentrate, and adhesive.

7. The permit to install for this emissions unit (R007) was evaluated based on the actual materials employed 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 potentially emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

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Pollutant: 1, 2, 4 trimethyl benzene
TLV (ug/m3): 179,000
Maximum Hourly Emission Rate (g/s): 0.023
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 134.9
MAGLC (ug/m3): 4272

Pollutant: ethylene glycol
TLV (ug/m3): 254,000
Maximum Hourly Emission Rate (g/s): 0.008
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 45.5
MAGLC (ug/m3): 6040

Pollutant: ethylene glycol N-butyl ether
TLV (ug/m3): 97,000
Maximum Hourly Emission Rate (g/s): 0.004
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 22.8
MAGLC (ug/m3): 2301

Pollutant: vinyl acetate
TLV (ug/m3): 35,000
Maximum Hourly Emission Rate (g/s): 0.004
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 23.3
MAGLC (ug/m3): 838

Physical changes to or changes in the method of operation of the emissions unit after its installation could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied.

Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will be satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

- a. changes in the composition of the materials used (typically 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

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an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and

- c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

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

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

- a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);
- b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and
- c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

D. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which identify all 3-hour blocks of time during which the average combustion temperature within the thermal incinerator, 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. Each report shall be submitted within 30 days after the deviation occurs.
2. The permittee shall submit quarterly summaries which include a log of the downtime for the capture (collection) system (including failure to demonstrate negative pressure within the press dryer), control device, and monitoring equipment, when the associated emissions unit was in operation. These summaries shall be submitted by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters.
3. The permittee shall submit deviation (excursion) reports which identify each month during which

the rolling, 12-month emissions of any single HAP from all emissions units at the facility exceeded 9.9 tons per year, and the actual rolling, 12-month emissions of each such single HAP for each such month.

4. The permittee shall submit deviation (excursion) reports which identify each month during which the rolling, 12-month emissions of combined HAPs from all emissions units at the facility exceeded 24.9 tons per year, and the actual rolling, 12-month emissions of combined HAPs for each such month.
5. Reporting is not required for material usage because the Operational Restrictions in Section B.3 of these terms and conditions are based on the maximum hourly consumption rate for this emissions unit.

E. Testing Requirements

1. The permittee shall conduct, or have conducted, emission testing for the thermal oxidizer for emissions units R003, R004, R005, R006, and R007 in accordance with the following requirements:
 - a. The emission testing shall be conducted within 6 months of the effective date of this permit.
 - b. The emission testing shall be conducted to demonstrate compliance with the destruction efficiency limitation for OC emissions.
 - c. The emission tests shall be conducted while the emissions unit is operating at normal or representative operating conditions. Prior to testing, the permittee shall propose to the Ohio EPA Northeast District Office an operating scenario for the presses being tested which is representative of actual operating conditions and VOC input rate to the control device.
 - d. The destruction 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 and U.S. EPA Methods 25 or 25A of 40 CFR Part 60, Appendix A. Formulation data from the manufacturer, or if required Method 24A, shall be used to determine VOC contents of the inks, fountain solutions, and blanket washes. 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 day prior to the proposed test date(s), the permittee shall submit an "Intent to

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Test" notification to the Ohio EPA Northeast District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the tests, and the person(s) who will be conducting the tests. Failure to submit such notification for review and approval prior to the tests may result in the Ohio EPA Northeast District Office's refusal to accept the results of the emission tests.

Personnel from the Ohio EPA Northeast District Office shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

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 Ohio EPA Northeast District Office within 30 days following completion of the test(s). The permittee may request additional time for submittal of the written report, where warranted, with prior approval from the Ohio EPA Northeast District Office.

2. Compliance with the emission limitations in Section A.1. of these terms and conditions shall be determined in accordance with the following method(s):

- a. Emission Limitation:

Volatile organic compound emissions shall not exceed 28.8 lbs/day from the stack associated with this emissions unit.

Applicable Compliance Method:

Compliance shall be demonstrated by the following equation:

$$S = (1 - DRE) \times [0.8(P) + A_d(FS) + B_d(BW)]$$

Where

S = stack emissions, equation obtained from Engineering Guide #56;

DRE = destruction efficiency of the thermal incinerator, expressed as a decimal or percent which was determined during the most recent performance test which demonstrated compliance with the pound per hour emission limitation from the stack (a 95% destruction efficiency shall be used until testing has been completed);

Emissions Unit ID: **R007**

0.8 = 20% of VOC's in heatset inks retained by substrate, 80% emitted per Engineering Guide #56;

$P = (\text{ink usage rate, lbs/month}) \times (\text{ink VOC content, \% by weight}) \times (1 \text{ month/number of days of operation});$

$A_d = \text{mass fraction of fountain solution VOC routed to dryer and control device} = 0.7 \text{ for alcohol substitutes};$

$FS = (\text{fountain solution usage rate, lbs/day}) \times (\text{fountain solution VOC content, \% by wt.}) \times (1 \text{ month/number of days of operation});$

$B_d = \text{mass fraction of cleanup solvent routed to dryer and control device} = 0.4 \text{ for automatic blanket wash}; \text{ and}$

$BW = (\text{blanket wash usage rate, lbs/day}) \times (\text{blanket wash VOC content, \% by wt.}) \times (1 \text{ month/number of days of operation}).$

b. Emission Limitation:

Volatile organic compound emissions shall not exceed 5.3 TPY from the stack associated with this emissions unit.

Quiet

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Applicable Compliance Method:

The annual stack emission limitation was established by multiplying the pound per hour OC stack emission limitation by the maximum operating schedule of 8760 hours per year and dividing by 2000 pounds per ton. Therefore, a demonstration of compliance with the hourly stack emission limitation shall also be a demonstration of compliance with the annual stack emission limitation. Actual annual VOC emissions from the stack associated with this emissions unit shall be determined by summing the average daily emissions in Section E.2.a on an annual basis.

c. Emission Limitation:

Fugitive volatile organic compound emissions shall not exceed 6.9 TPY.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping specified in Section C.1 of these terms and conditions and the following equation:

$$F = [A_f(FS) + B_f(BW) + AD] \times 1 \text{ ton}/2000 \text{ lbs}$$

Where

F = annual fugitive emissions from emissions unit R007, equation obtained from Engineering Guide #56 with the addition of adhesive emissions which are all fugitive according to the facility's permit application;

A_f = mass fraction of fountain solution VOC routed to dryer and control device = 0.7 for alcohol substitutes;

FS = (fountain solution usage rate, lbs/yr) x (fountain solution VOC content, % by wt.);

B_f = mass fraction of cleanup solvent emitted as fugitive = 0.6 for automatic blanket wash;

BW = (blanket wash usage rate, lbs/yr) x (blanket wash VOC content, % by wt.); and

AD = (adhesive usage rate, lbs/yr) x (adhesive VOC content, % by wt.).

d. Emission Limitation:

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Particulate emissions shall not exceed 2.4 TPY.

Quiet

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Applicable Compliance Method:

The annual particulate emission limitation was established by multiplying the pound per hour particulate emission limitation by the maximum operating schedule of 8760 hours per year and dividing by 2000 pounds per ton. Therefore, a demonstration of compliance with the hourly particulate emission limitation shall also be a demonstration of compliance with the annual particulate emission limitation.

e. Emission Limitation:

Visible particulate emissions from the stack associated with this emissions unit shall not exceed five percent opacity as a six-minute average.

Applicable Compliance Method:

If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9, and the procedures specified in OAC rule 3745-17-03(B)(1).

f. Emission Limitation:

Emissions of volatile organic compounds vented to the thermal oxidizer shall be reduced by at least ninety-five percent (95%), by weight.

Applicable Compliance Method:

Compliance shall be determined through stack testing specified in Section E.1 of these terms and conditions.

g. Emission Limitation:

Particulate emissions shall not exceed 0.551 lb/hr.

Applicable Compliance Method:

If required, compliance shall be determined through stack testing in accordance with 40 CFR Part 60, Appendix A, Method 5. Per the Ohio Engineering Guide #56, no particulate testing should be necessary since this emissions unit is controlled by a thermal oxidizer.

h. Emission Limitation:

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Emissions Unit ID: R007

The emissions of each single hazardous air pollutant (HAP) from all emissions units at the facility shall not exceed 9.9 tons per year, based upon a rolling, 12-month summation.

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Applicable Compliance Method:

Compliance shall be based upon the record keeping specified in Section C of these terms and conditions.

i. Emission Limitation:

The emissions of the combined HAPs from all emissions units at the facility shall not exceed 24.9 tons per year, based upon a rolling, 12-month summation.

Applicable Compliance Method:

Compliance shall be based upon the record keeping specified in Section C of these terms and conditions.

3. Formulation data or US EPA Method 24 shall be used to determine the VOC contents of all the inks, fountain solutions, blanket washes, and adhesives employed in this emissions unit.

F. Miscellaneous Requirements

None

Quiet

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Emissions Unit ID: **R008**

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PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. 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>
R008 - Six-Unit Harris M1000 Heatset Web Offset (lithographic) printing press equipped with an ink setting oven and a thermal incinerator (Applied Web Systems Thermal Oxidizer)	OAC rule 3745-31-05(A)(3)
	OAC rule 3745-17-07(A)(1)
	OAC rule 3745-17-11
	OAC rule 3745-21-07(G)(2)

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Emissions Unit ID: **R008**

	<u>Applicable Emissions Limitations/Control Measures</u>	
OAC rule 3745-21-07(G)(6)	Volatile organic compound emissions shall not exceed 1.84 lbs/hr from the stack associated with this emissions unit.	NOx emissions from the dryer associated with this emissions unit shall not exceed 0.88 lb/hr and 3.854 TPY. See A.2.f below.
OAC rule 3745-31-05(D)	Volatile organic compound emissions shall not exceed 8.06 TPY from the stack associated with this emissions unit. Fugitive volatile organic compound emissions shall not exceed 7.44 TPY. Particulate emissions shall not exceed 2.4 TPY. Visible particulate emissions from the stack associated with this emissions unit shall not exceed five percent opacity as a six-minute average. Emissions of volatile organic compounds vented to the thermal oxidizer shall be reduced by at least ninety-five percent (95%), by weight. The requirements of this rule also include compliance with the requirements of OAC rule 3745-31-05(D) and OAC rule 3745-17-11. See A.2.e below.	CO emissions from the dryer associated with this emissions unit shall not exceed 0.73 lb/hr and 3.174 TPY. See A.2.g below. The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3). Particulate emissions shall not exceed 0.551 lb/hr. See A.2.a below. 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 A.2.b below. 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 A.2.c, A.2.d, A.2.e and B.3 below.

2. Additional Terms and Conditions

- 2.a** The uncontrolled mass rate of particulate emissions from this emissions unit is less than 10 pounds per hour according to Engineering Guide #56. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. The maximum process weight rate for this emissions unit in accordance with Engineering Guide #56 is 100 pounds per hour based on the maximum quantities of ink, fountain solution, and blanket wash employed hourly. Therefore, in accordance with Table I of OAC rule 3745-17-11, the allowable rate of particulate emissions is 0.551 pound per hour.
- 2.b** OAC rule 3745-21-07(G)(2) limits organic compound (OC) emissions to 8 pounds per hour and 40 pounds per day or requires an 85% reduction in OC emissions. The thermal oxidizer is employed to comply with the requirement to achieve an 85% reduction in OC emissions instead of complying with the OC emission limits of 8 pounds per hour and 40 pounds per day. The emission limitation established pursuant to OAC rule 3745-31-05(A)(3) requires a 95% reduction in OC emissions which is more stringent than the emission limitation specified by OAC rule 3745-21-07(G)(2).
- 2.c** The emissions of each single hazardous air pollutant (HAP) from all emissions units at the facility shall not exceed 9.9 tons per year, based upon a rolling, 12-month summation.
- 2.d** The emissions of combined HAPs from all emissions units at the facility shall not exceed 24.9 tons per year, based upon a rolling, 12-month summation.
- 2.e** The following volatile organic compound (VOC) contents shall not be exceeded for this emissions unit:
- i. Ink: 47% VOC by weight;
 - ii. Fountain solution: 15% VOC by weight; and
 - iii. Adhesive: 2% VOC by weight.
- 2.f** The hourly and annual NO_x emission limitations for the dryer associated with this emissions unit are based on an emission factor of 100 lbs NO_x/mmscf for uncontrolled natural gas combustion in small boilers (AP-42, Table 1.4-1, 2/98), the maximum operating value for the natural gas burner in the dryer (8.8 mmBtu/hr), and 8760 maximum potential operating hours. Therefore; monitoring, record keeping, reporting, and testing is not required for NO_x emissions from this emissions unit.
- 2.g** The hourly and annual CO emission limitations for the dryer associated with this emissions

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unit are based on an emission factor of 84 lbs CO/mmscf for uncontrolled natural gas combustion in small boilers (AP-42, Table 1.4-1, 2/98), the maximum operating value for the natural gas burner in the dryer (8.8 mmBtu/hr), and 8760 maximum potential operating hours. Therefore; monitoring, record keeping, reporting, and testing is not required for CO emissions from this emissions unit.

B. Operational Restrictions

1. The average combustion temperature within the thermal incinerator, for any 3-hour block of time when the emissions unit is in operation, shall not be more than 50 degrees Fahrenheit below the average temperature during the compliance emission test required in Section E.1 of these terms and conditions or below 1200 degrees Fahrenheit until such testing has been completed.
2. The permittee shall maintain negative pressure in the press dryer when the emissions unit is in operation.
3. Material usage for this emissions unit shall not exceed the following limits:
 - a. Ink: 416.1 tons/yr;
 - b. Blanket wash: 6.6 tons/yr;
 - c. Fountain solution concentrate: 15.3 tons/yr; and
 - d. Adhesive: 162.1 tons/yr.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall collect and record the following information each month for this emissions unit for the purpose of determining annual organic compound emissions:
 - a. The name and identification number of each ink, fountain solution, blanket wash, and adhesive employed;
 - b. The amount, in pounds, of each ink, fountain solution, blanket wash, and adhesive employed;
 - c. The VOC content of each ink, fountain solution, blanket wash, and adhesive employed, in percent by weight, as applied;

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- d. The total controlled VOC emission rate for all inks, fountain solutions, and blanket washes; in pounds or ton(s), calculated using the destruction efficiency determined from the most recent performance test that demonstrated the emissions unit was in compliance and the formula contained in Section E of these terms and conditions; and
 - e. The total fugitive VOC emission rate for all fountain solutions, blanket washes, and adhesives; in pounds or ton(s), calculated using the formula contained in Section E of these terms and conditions.
2. The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal incinerator when the emissions unit is in operation.
 3. 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 incinerator, 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.
 - 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 monitor and record the pressure in the press dryer on a daily basis when the emissions unit is in operation. Dryer pressure shall be demonstrated by means of a differential pressure gauge, smoke tube(s), plastic flow indicator strips, or other flow indicating devices approved by the Ohio EPA Northeast District Office. Pressure monitoring shall be conducted to demonstrate that air flows into the press dryer at all openings in the dryer (excluding the exhaust stack). If a differential pressure gauge is used to monitor dryer pressure, the gauge reading shall be recorded. If a smoke tube(s) or plastic flow indicator strips are used to monitor dryer pressure, the permittee shall record whether or not the pressure in the press dryer is negative.
 5. The permittee shall collect and record the following information each month for all printing presses at the facility:
 - a. The name and identification number of each ink, fountain solution, blanket wash, and adhesive, as applied.
 - b. The individual HAP¹ content for each HAP of each ink, fountain solution, blanket wash, and adhesive in weight percent of individual HAP, as applied.

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- c. The total combined HAP content of each ink, fountain solution, blanket wash, and adhesive in weight percent of combined HAPs (sum all the individual HAP contents from b), as applied.
- d. The number of pounds of each ink, fountain solution, blanket wash, and adhesive employed.
- e. The total individual HAP emissions for each HAP from all inks, fountain solutions, blanket washes, and adhesives employed, in pounds or tons per month [for each HAP, the sum of (b times d) for each ink, fountain solution, blanket wash, and adhesive].
- f. The total combined HAP emissions from all inks, fountain solutions, blanket washes, and adhesives, in pounds or tons per month [the sum of © times d) for each ink, fountain solution, blanket wash, and adhesive].
- g. The updated rolling, 12-month total of the individual HAP emissions for each HAP from all inks, fountain solutions, blanket washes, and adhesives employed, in pounds or tons.
- h. The updated rolling, 12-month total of the total combined HAP emissions from all inks, fountain solutions, blanket washes, and adhesives employed, in pounds or tons.

¹ 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. Material Safety Data Sheets typically include a listing of the solvents contained in the coatings or cleanup materials. This information does not have to be kept on an emissions unit-by-emissions unit basis.

6. The permittee shall collect and record the following information each month for this emissions unit for the purpose of determining compliance with material usage and VOC content limitations:
 - a. The name and identification number of each ink, fountain solution, blanket wash, and adhesive employed;
 - b. The amount, in pounds, of each ink, fountain solution, blanket wash, and adhesive employed;
 - c. The VOC content of each ink, fountain solution, blanket wash, and adhesive employed, in percent by weight, as applied;
 - d. A record of each liquid organic material employed in this emissions unit indicating whether or not the liquid organic material is photochemically reactive as defined in OAC rule

3745-21-01(C)(5); and

- e. The rolling, 12-month summation of material usage of each of the following materials employed in this emissions unit, in tons per year: ink, blanket wash, fountain solution concentrate, and adhesive.
7. The permit to install for this emissions unit (R008) was evaluated based on the actual materials employed 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 potentially emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: ethylene glycol

TLV (ug/m3): 254,000

Maximum Hourly Emission Rate (g/s): 0.009

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 75.9

MAGLC (ug/m3): 6040

Pollutant: ethylene glycol N-butyl ether

TLV (ug/m3): 97,000

Maximum Hourly Emission Rate (g/s): 0.005

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 38.0

MAGLC (ug/m3): 2301

Pollutant: vinyl acetate

TLV (ug/m3): 35,000

Maximum Hourly Emission Rate (g/s): 0.003

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 22.8

MAGLC (ug/m3): 838

Physical changes to or changes in the method of operation of the emissions unit after its installation could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied.

Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will be satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic

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Policy" include the following:

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

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

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

- a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);
- b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and
- c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

D. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which identify all 3-hour blocks of time during which the average combustion temperature within the thermal incinerator, 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. Each report shall be submitted within 30 days after the deviation occurs.

2. The permittee shall submit quarterly summaries which include a log of the downtime for the capture (collection) system (including failure to demonstrate negative pressure within the press dryer), control device, and monitoring equipment, when the associated emissions unit was in operation. These summaries shall be submitted by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters.
3. The permittee shall submit deviation (excursion) reports which identify each month during which the rolling, 12-month emissions of any single HAP from all emissions units at the facility exceeded 9.9 tons per year, and the actual rolling, 12-month emissions of each such single HAP for each such month.
4. The permittee shall submit deviation (excursion) reports which identify each month during which the rolling, 12-month emissions of combined HAPs from all emissions units at the facility exceeded 24.9 tons per year, and the actual rolling, 12-month emissions of combined HAPs for each such month.
5. Reporting is not required for material usage because the Operational Restrictions in Section B.3 of these terms and conditions are based on the maximum hourly consumption rate for this emissions unit.

E. Testing Requirements

1. The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:
 - a. The emission testing shall be conducted within 6 months of the effective date of this permit.
 - b. The emission testing shall be conducted to demonstrate compliance with the destruction efficiency limitation for VOC emissions and the allowable hourly VOC mass rate of emissions.
 - c. The emission tests shall be conducted while the emissions unit is operating at normal or representative operating conditions. Prior to testing, the permittee shall propose to the Ohio EPA Northeast District Office an operating scenario for the press being tested which is representative of actual operating conditions and VOC input rate to the control device.
 - d. The destruction efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) and compliance with the allowable mass emission rate

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shall be determined in accordance with the test methods and procedures specified in OAC rule 3745-21-10 and U.S. EPA Methods 25 or 25A of 40 CFR Part 60, Appendix A. Formulation data from the manufacturer, or if required Method 24A, shall be used to determine VOC contents of the inks, fountain solutions, and blanket washes. 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.

- e. In accordance with Engineering Guide #56, the results of the performance test shall be converted to pounds of VOC per hour by multiplying the reported pounds of volatile organic carbon per hour (from Method 25 or 25A) by a ratio of 1.2 pounds of organic material per pound of carbon.

Not later than 30 day prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA Northeast District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the tests, and the person(s) who will be conducting the tests. Failure to submit such notification for review and approval prior to the tests may result in the Ohio EPA Northeast District Office's refusal to accept the results of the emission tests.

Personnel from the Ohio EPA Northeast District Office shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

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 Ohio EPA Northeast District Office within 30 days following completion of the test(s). The permittee may request additional time for submittal of the written report, where warranted, with prior approval from the Ohio EPA Northeast District Office.

2. Compliance with the emission limitations in Section A.1. of these terms and conditions shall be determined in accordance with the following method(s):

- a. Emission Limitation:

Volatile organic compound emissions shall not exceed 1.84 lbs/hr from the stack associated with this emissions unit.

Applicable Compliance Method:

Initial compliance shall be determined in accordance with Section E.1 of these terms and conditions. Thereafter, if required, compliance shall be demonstrated by the following equation:

$$S = (1 - DRE) \times [0.8(P) + A_d(FS) + B_d(BW)]$$

Where

S = stack emissions, equation obtained from Engineering Guide #56;

DRE = destruction efficiency of the thermal incinerator, expressed as a decimal or percent which was determined during the most recent performance test which demonstrated compliance with the pound per hour emission limitation from the stack (a 95% destruction efficiency shall be used until testing has been completed);

0.8 = 20% of VOC's in heatset inks retained by substrate, 80% emitted per Engineering Guide #56;

P = (ink usage rate, lbs/hr) x (ink VOC content, % by weight);

A_d = mass fraction of fountain solution VOC routed to dryer and control device = 0.7 for alcohol substitutes;

FS = (fountain solution usage rate, lbs/hr) x (fountain solution VOC content, % by wt.);

B_d = mass fraction of cleanup solvent routed to dryer and control device = 0.4 for automatic blanket wash; and

BW = (blanket wash usage rate, lbs/hr) x (blanket wash VOC content, % by wt.).

b. Emission Limitation:

Volatile organic compound emissions shall not exceed 8.06 TPY from the stack associated with this emissions unit.

Applicable Compliance Method:

The annual stack emission limitation was established by multiplying the pound per hour OC stack emission limitation by the maximum operating schedule of 8760 hours per year and dividing by 2000 pounds per ton. Therefore, a demonstration of compliance with the

Issued: To be entered upon final issuance

hourly stack emission limitation shall also be a demonstration of compliance with the annual stack emission limitation.

c. Emission Limitation:

Fugitive volatile organic compound emissions shall not exceed 7.44 TPY.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping specified in Section C.1. of these terms and conditions and the following equation:

$$F = [A_f(FS) + B_f(BW) + AD] \times 1 \text{ ton}/2000 \text{ lbs}$$

Where

F = annual fugitive emissions from emissions unit R008, equation obtained from Engineering Guide #56 with the addition of adhesive emissions which are all fugitive according to the facility's permit application;

A_f = mass fraction of fountain solution VOC routed to dryer and control device = 0.7 for alcohol substitutes;

FS = (fountain solution usage rate, lbs/yr) x (fountain solution VOC content, % by wt.);

B_f = mass fraction of cleanup solvent emitted as fugitive = 0.6 for automatic blanket wash;

BW = (blanket wash usage rate, lbs/yr) x (blanket wash VOC content, % by wt.); and

AD = (adhesive usage rate, lbs/yr) x (adhesive VOC content, % by wt.).

d. Emission Limitation:

Particulate emissions shall not exceed 2.4 TPY.

Applicable Compliance Method:

The annual particulate emission limitation was established by multiplying the pound per hour particulate emission limitation by the maximum operating schedule of 8760 hours per year and dividing by 2000 pounds per ton. Therefore, a demonstration of compliance with

Emissions Unit ID: **R008**

the hourly particulate emission limitation shall also be a demonstration of compliance with the annual particulate emission limitation.

e. Emission Limitation:

Visible particulate emissions from the stack associated with this emissions unit shall not exceed five percent opacity as a six-minute average.

Applicable Compliance Method:

If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9, and the procedures specified in OAC rule 3745-17-03(B)(1).

f. Emission Limitation:

Emissions of volatile organic compounds vented to the thermal oxidizer shall be reduced by at least ninety percent (95%), by weight.

Applicable Compliance Method:

Compliance shall be determined through stack testing specified in Section E.1 of these terms and conditions.

g. Emission Limitation:

Particulate emissions shall not exceed 0.551 lb/hr.

Applicable Compliance Method:

If required, compliance shall be determined through stack testing in accordance with 40 CFR Part 60, Appendix A, Method 5. Per the Ohio Engineering Guide #56, no particulate testing should be necessary since this emissions unit is controlled by a thermal oxidizer.

h. Emission Limitation:

The emissions of each single hazardous air pollutant (HAP) from all emissions units at the facility shall not exceed 9.9 tons per year, based upon a rolling, 12-month summation.

Applicable Compliance Method:

Quiet

PTI /

Emissions Unit ID: **R008**

Issued: To be entered upon final issuance

Compliance shall be based upon the record keeping specified in Section C of these terms and conditions.

i. Emission Limitation:

The emissions of the combined HAPs from all emissions units at the facility shall not exceed 24.9 tons per year, based upon a rolling, 12-month summation.

Applicable Compliance Method:

Compliance shall be based upon the record keeping specified in Section C of these terms and conditions.

3. Formulation data or US EPA Method 24 shall be used to determine the VOC contents of all the inks, fountain solutions, blanket washes, and adhesives employed in this emissions unit.

F. Miscellaneous Requirements

None

NEW SOURCE REVIEW FORM B

PTI Number: 02-17878 Facility ID: 0247100591

FACILITY NAME Quebecor World - Oberlin Division

FACILITY DESCRIPTION Synthetic minor PTI to cover existing equipment. CITY/TWP Oberlin

SIC CODE 2752 SCC CODE 4-05-904-01 EMISSIONS UNIT ID R003

EMISSIONS UNIT DESCRIPTION 4-unit Baker Perkins G44 heatset web offset press

DATE INSTALLED 12/91

EMISSIONS: (Click on bubble help for Air Quality Descriptions)

Pollutants	Air Quality Description	Actual Emissions Rate		PTI Allowable	
		Short Term Rate	Tons Per Year	Short Term Rate	Tons Per Year
Particulate Matter		NA - E.G. #56	NA - E.G. #56	0.551 lb/hr	2.4 TPY
PM ₁₀					
Sulfur Dioxide					
Organic Compounds		4.8 lbs/day stack	0.85 TPY stack; 7.44 TPY fugitive	44.2 lbs/day stack	8.06 TPY stack; 7.44 TPY fugitive
Nitrogen Oxides		0.44 lb/hr	1.927 TPY	0.44 lb/hr	1.927 TPY
Carbon Monoxide					
Lead					
Other: Air Toxics					

APPLICABLE FEDERAL RULES:

NSPS? NESHAP? PSD? OFFSET POLICY?

WHAT IS THE BAT DETERMINATION, AND WHAT IS THE BASIS FOR THE DETERMINATION?

Enter Determination Daily and annual stack VOC/PE limitations, hourly and annual NOx limitations, annual fugitive VOC emission limitation, VE limitation of 5% opacity from stack, use of thermal oxidizer to reduce emissions of VOC vented to thermal oxidizer by at least 95% by weight.

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? yes

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT? \$ _____

TOXIC AIR CONTAMINANTS

Ohio EPA's air toxics policy applies to containinants for which the American Conference of Governmental Industrial Hygienists (ACGIH) has a listed threshold limit value.

AIR TOXICS MODELING PERFORMED*? x YES _____ NO _____

IDENTIFY THE AIR CONTAMINANTS: 1, 2, 4 trimethyl benzene, ethylene glycol, ethylene glycol N-butyl ether, vinyl acetate

NEW SC

PTI Num

FACILITY

Emissions Unit ID: **R008**

FACILITY DESCRIPTION Synthetic minor PTI to cover existing equipment.

CITY/TWP Oberlin

SIC CODE 2752 SCC CODE 4-05-904-01 EMISSIONS UNIT ID R005

EMISSIONS UNIT DESCRIPTION 6-unit Harris M110C heatset seb offset press

DATE INSTALLED 8/94

EMISSIONS: (Click on bubble help for Air Quality Descriptions)

Pollutants	Air Quality Description	Actual Emissions Rate		PTI Allowable	
		Short Term Rate	Tons Per Year	Short Term Rate	Tons Per Year
Particulate Matter		NA - E.G. #56	NA - E.G. #56	0.551 lb/hr	2.4 TPY
PM ₁₀					
Sulfur Dioxide					
Organic Compounds		2.9 lbs/day stack	0.54 TPY stack; 6.9 TPY fugitive	28.8 lbs/day stack	5.3 TPY stack; 6.9 TPY fugitive
Nitrogen Oxides					
Carbon Monoxide					
Lead					
Other: Air Toxics					

APPLICABLE FEDERAL RULES:

NSPS? NESHAP? PSD? OFFSET POLICY?

WHAT IS THE BAT DETERMINATION, AND WHAT IS THE BASIS FOR THE DETERMINATION?

Enter Determination Daily and annual stack VOC/PE limitations, annual fugitive VOC emission limitation, VE limitation of 5% opacity from stack, use of thermal oxidizer to reduce emissions of VOC vented to thermal oxidizer by at least 95% by weight.

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? yes
OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT? \$

TOXIC AIR CONTAMINANTS

Ohio EPA's air toxics policy applies to containinants for which the American Conference of Governmental Industrial Hygienists (ACGIH) has a listed threshold limit value.

AIR TOXICS MODELING PERFORMED*? x YES NO

IDENTIFY THE AIR CONTAMINANTS: 1, 2, 4 trimethyl benzene, ethylene glycol, ethylene glycol N-butyl ether, vinyl acetate

NEW SOURCE REVIEW FORM B

PTI Number: 02-17878

Facility ID: 0247100591

FACILITY NAME Quebecor World - Oberlin Division

FACILITY DESCRIPTION Synthetic minor PTI to cover existing CITY/TWP Oberlin

Emissions Unit ID: **R008**

SIC CODE 2752

SCC CODE 4-05-904-01

EMISSIONS UNIT ID R006

EMISSIONS UNIT DESCRIPTION 6-unit MAN Roland Polyman heatset web offset press

DATE INSTALLED 6/98

EMISSIONS: (Click on bubble help for Air Quality Descriptions)

Pollutants	Air Quality Description	Actual Emissions Rate		PTI Allowable	
		Short Term Rate	Tons Per Year	Short Term Rate	Tons Per Year
Particulate Matter		NA - E.G. #56	NA - E.G. #56	0.551 lb/hr	2.4 TPY
PM ₁₀					
Sulfur Dioxide					
Organic Compounds		4.8 lbs/day stack	0.85 TPY stack; 7.44 TPY fugitive	44.2 lbs/day stack	8.06 TPY stack; 7.44 TPY fugitive
Nitrogen Oxides		0.44 lb/hr	1.927 TPY	0.44 lb/hr	1.927 TPY
Carbon Monoxide					
Lead					
Other: Air Toxics					

APPLICABLE FEDERAL RULES:

NSPS?

NESHAP?

PSD?

OFFSET POLICY?

WHAT IS THE BAT DETERMINATION, AND WHAT IS THE BASIS FOR THE DETERMINATION?

Enter Determination Daily and annual stack VOC/PE limitations, hourly and annual NOx limitations, annual fugitive VOC emission limitation, VE limitation of 5% opacity from stack, use of thermal oxidizer to reduce emissions of VOC vented to thermal oxidizer by at least 95% by weight.

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? yes

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT?

\$

TOXIC AIR CONTAMINANTS

Ohio EPA's air toxics policy applies to contaminants for which the American Conference of Governmental Industrial Hygienists (ACGIH) has a listed threshold limit value.

AIR TOXICS MODELING PERFORMED*?

x

YES

 NO

IDENTIFY THE AIR CONTAMINANTS:

1, 2, 4 trimethyl benzene, ethylene glycol, ethylene glycol N-butyl ether, vinyl acetate

108 NEW SC

PTI Num

FACILITY

Emissions Unit ID: **R008**

FACILITY DESCRIPTION Synthetic minor PTI to cover existing equipment.

CITY/TWP Oberlin

SIC CODE 2752 SCC CODE 4-05-904-01 EMISSIONS UNIT ID R008

EMISSIONS UNIT DESCRIPTION Six-unit Harris M1000 heatset web offset printing press

DATE INSTALLED pending PTI issuance (9/03)

EMISSIONS: (Click on bubble help for Air Quality Descriptions)

Pollutants	Air Quality Description	Actual Emissions Rate		PTI Allowable	
		Short Term Rate	Tons Per Year	Short Term Rate	Tons Per Year
Particulate Matter		NA - E.G. #56	NA - E.G. #56	0.551 lb/hr	2.4 TPY
PM ₁₀					
Sulfur Dioxide					
Organic Compounds		1.84 lbs/hr stack	8.06 TPY stack; 7.44 TPY fugitive	1.84 lbs/hr stack	8.06 TPY stack; 7.44 TPY fugitive
Nitrogen Oxides		0.88 lb/hr	3.854 TPY	0.88 lb/hr	3.854 TPY
Carbon Monoxide		0.73 lb/hr	3.174 TPY	0.73 lb/hr	3.174 TPY
Lead					
Other: Air Toxics					

APPLICABLE FEDERAL RULES:

NSPS?

NESHAP?

PSD?

OFFSET POLICY?

WHAT IS THE BAT DETERMINATION, AND WHAT IS THE BASIS FOR THE DETERMINATION?

Enter Determination Hourly and annual stack VOC/PE limitations, hourly and annual NOx and CO limitations, annual fugitive VOC emission limitation, VE limitation of 5% opacity from stack, use of thermal oxidizer to reduce emissions of VOC vented to thermal oxidizer by at least 95% by weight.

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? yes

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT? \$

TOXIC AIR CONTAMINANTS

Ohio EPA's air toxics policy applies to contaminants for which the American Conference of Governmental Industrial Hygienists (ACGIH) has a listed threshold limit value.

AIR TOXICS MODELING PERFORMED*? x YES NO

IDENTIFY THE AIR CONTAMINANTS: ethylene glycol, ethylene glycol N-butyl ether, vinyl acetate