



State of Ohio Environmental Protection Agency

**RE: FINAL PERMIT TO INSTALL MODIFICATION
HAMILTON COUNTY**

CERTIFIED MAIL

Street Address:

122 S. Front Street

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

Mailing Address:

Lazarus Gov. Center
P.O. Box 1049

Application No: 14-04841

DATE: 7/24/2003

CJ Krehbiel Co
John Krehbiel
3962 Virginia Ave
Cincinnati, OH 45227

Enclosed Please find a modification to the Ohio EPA Permit To Install referenced above which will modify the terms and conditions.

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

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

Sincerely,

Michael W. Ahern

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

CC: USEPA

HCDES

Steve Rosenthal USEPA -Region 5



**Permit To Install
Terms and Conditions**

**Issue Date: 7/24/2003
Effective Date: 7/24/2003**

FINAL ADMINISTRATIVE MODIFICATION OF PERMIT TO INSTALL 14-04841

Application Number: 14-04841
APS Premise Number: 1431070992
Permit Fee: **\$0**
Name of Facility: CJ Krehbiel Co
Person to Contact: John Krehbiel
Address: 3962 Virginia Ave
Cincinnati, OH 45227

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

**3962 Virginia Ave
Cincinnati, Ohio**

Description of proposed emissions unit(s):

Modification to Existing Printing Presses.

The above named entity is hereby granted a modification to the permit to install described above pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this modification 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 source(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 included in the application, the above described source(s) of pollutants will be granted the necessary operating permits.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency


Director

CJ Krehbiel Co

Facility ID: 1431070992

PTI Application: 14-04841

Modification Issued: 7/24/2003

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

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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

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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 thirty (30) 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>
OC	91.67
PM/PM10	9.64

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.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
R001 - Heatset web offset press with dryer - Cottrell I - Modification	OAC rule 3745-35-07(B)	770.06 lbs/day OC for emissions unit R001
		0.551 lb/hr PM/PM10 2.41 TPY PM/PM10
		32.48 TPY OC
		32.48 TPY OC, based upon a rolling, 12-month summation
		See Sections A.2.2.a., A.2.2.b., A.2.2.d., A.2.2.e. and A.2.2.f.
	OAC rule 3745-17-11(A)	The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1).
	OAC rule 3745-17-07(A)(1)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
	OAC rule 3745-21-07(G)	See Section A.2.2.c.

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CJ Kr

PTI A

Modification Issued: 7/24/2003

Emissions Unit ID: **R001**

Exempt

2. Additional Terms and Conditions

- 2.a** The total allowable usage* of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title III of the Clean Air Act, from this facility shall not exceed 9.9 TPY for any single HAP and 24.9 TPY for any combination of HAPs. Compliance with the above limitation shall be based on a rolling, 12-month summation.

To ensure federal enforceability during the first 12 calendar months of operation following the issuance of this permit to install, the permittee shall not exceed the HAPs usage limits specified in the following table:

Month(s)	Maximum Allowable Single HAP Usage In Tons	Maximum Allowable Combined HAP Usage In Tons
1	0.8	2.1
1-2	1.7	4.2
1-3	2.5	6.2
1-4	3.3	8.3
1-5	4.2	10.4
1-6	5.0	12.5
1-7	5.8	14.6
1-8	6.6	16.6
1-9	7.5	18.7
1-10	8.3	20.8
1-11	9.1	22.9
1-12	9.9	24.9

After the first 12 calendar months of operation following the issuance of this permit to install, compliance with the annual HAPs usage limits shall be based upon a rolling, 12-month summation of the HAP(s) usage* figures.

*The usage figures for HAPs can be adjusted for retention and control efficiency where appropriate.

- 2.b** The maximum organic compound content of the inks, fountain solutions, and cleanup materials, as applied, shall not exceed the following:

Ink	45% by weight OC
Fountain Solution	0.21 lb OC/gallon

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CJ Kr

PTI A

Modification Issued: 7/24/2003

Emissions Unit ID: **R001**

Cleanup Material 6.6 lbs OC/gallon

Ink means a liquid material applied by a roll printer. Fountain solution means a surface coating applied to a lithographic plate to render the nonimage areas unreceptive to ink. Cleanup material means all materials used to remove excess printing inks, oils and paper components from press equipment.

- 2.c** Visible particulate emissions from any stack shall not exceed 20 percent opacity, as a six-minute average.
- 2.d** The maximum annual ink usage for this emissions unit shall not exceed 120,000 pounds per year, based upon a rolling, 12-month summation of the ink usage figures.

To ensure enforceability during the first 12 calendar months of operation following the issuance of this permit, the permittee shall not exceed the ink usage levels specified in the following table:

Month(s)	Maximum Allowable Cumulative Ink Usage, in pounds
1	10,000
1-2	20,000
1-3	30,000
1-4	40,000
1-5	50,000
1-6	60,000
1-7	70,000
1-8	80,000
1-9	90,000
1-10	100,000
1-11	110,000
1-12	120,000

After the first 12 calendar months of operation following the issuance of this permit, compliance with the annual ink usage limitation shall be based upon a rolling, 12-month summation of the ink usage figures.

- 2.e** The maximum annual fountain solution usage for this emissions unit shall not exceed 80,000 gallons per year, based upon a rolling, 12-month summation of the fountain solution usage figures.

To ensure enforceability during the first 12 calendar months of operation following the issuance of this permit, the permittee shall not exceed the fountain solution usage levels specified in the following table:

Month(s)	Maximum Allowable Cumulative Fountain Solution Usage, in gallons
1	6,667
1-2	13,334
1-3	20,001
1-4	26,668
1-5	33,335
1-6	40,002
1-7	46,669
1-8	53,336
1-9	60,003
1-10	66,670
1-11	73,337
1-12	80,000

After the first 12 calendar months of operation following the issuance of this permit, compliance with the annual fountain solution usage limitation shall be based upon a rolling, 12-month summation of the fountain solution usage figures.

- 2.f** The maximum annual cleanup material usage for this emissions unit shall not exceed 1,500 gallons per year, based upon a rolling, 12-month summation of the cleanup material usage figures.

To ensure enforceability during the first 12 calendar months of operation following the issuance of this permit, the permittee shall not exceed the cleanup material usage levels specified in the following table:

Month(s)	Maximum Allowable Cumulative Cleanup Material Usage, in gallons
1	250
1-2	350
1-3	450
1-4	550
1-5	650

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PTI A

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Emissions Unit ID: R001

1-6	750
1-7	875
1-8	1,000
1-9	1,125
1-10	1,250
1-11	1,375
1-12	1,500

After the first 12 calendar months of operation following the issuance of this permit, compliance with the annual cleanup material usage limitation shall be based upon a rolling, 12-month summation of the cleanup material usage figures.

2.g The daily emission limitation outlined for inks and fountain solutions are based upon the emissions units' PTE at 24 hours per day. Therefore, no daily records are required to demonstrate compliance with this limit.

2.h Daily, monthly, and annual emissions rates in this permit are subject to revision should any of the listed emissions units be withdrawn.

B. Operational Restrictions

1. The use of photochemically reactive materials as defined in OAC rule 3745-21-01(C)(5) is prohibited in emissions unit R001.

Prior to employing any photochemically reactive material in this emissions unit, including any cleanup material that is a photochemically reactive material, the permittee shall provide written notification to the Hamilton County Department of Environmental Services. Such notification shall include information sufficient to determine compliance with the emission limits and/or control requirements specified in OAC rule 3745-21-07(G). This notification, at a minimum, shall include the company identification of the new material to be employed, the solvent composition of the material, and the maximum amount to be used, in pounds per hour, and pounds per day.

2. The maximum daily cleanup material usage for emissions unit R001 shall not exceed 10 gallons per day.
3. To ensure that the evaporative OC/VOC loss from the hand cleanup process does not exceed more than 50% (by weight), all rags utilized in the cleanup process shall be stored in containers with tight fitting covers.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall collect and record the following information each month for the entire facility:
 - a. The name and identification number of all inks and each fountain solution, employed;
 - b. The individual Hazardous Air Pollutant (HAP) content for each HAP of all inks and each fountain solution in pounds of individual HAP per gallon of ink (or fountain solution), as applied;
 - c. The total combined HAP content of all inks and each fountain solution in pounds of combined HAPs per gallon of ink (or fountain solution), as applied [sum all the individual HAP contents from (b)];
 - d. The number of gallons of all inks and each fountain solution employed;
 - e. The name and identification of each cleanup material employed;
 - f. The individual HAP content for each HAP of each cleanup material, in pounds of individual HAP per gallon of cleanup material, as applied;
 - g. The total combined HAP content of each cleanup material, in pounds of combined HAPs per gallon of cleanup material, as applied [sum all the individual HAP contents from (f)];
 - h. The number of gallons of each cleanup material employed;
 - i. The total individual HAP usage* for each HAP from all inks, fountain solutions and cleanup materials employed, in pounds or tons per month [for each HAP the sum of (b) times (d) for each ink and fountain solution plus the sum of (f) times (h) for each cleanup material];
 - j. The total combined HAP usage* from all inks, fountain solutions and cleanup materials employed, in pounds or tons per month [the sum of (c) times (d) for each inks and fountain solution plus the sum of (g) times (h) for each cleanup material];
 - k. The updated rolling, 12-month summation of usage* for each individual HAP emissions, in pounds or tons. This shall include the information for the current month and the preceding eleven calendar months. For the first twelve months following the issuance of the permit, this shall be a cumulative total for all months since the issuance of the PTI; and
 - l. The updated rolling, 12-month summation of usage* for total combined HAP emissions, in

Emissions Unit ID: **R001**

pounds or tons. This shall include the information for the current month and the preceding eleven calendar months. For the first twelve months following the issuance of the permit, this shall be a cumulative total for all months since the issuance of the PTI.

* The usage figures for HAPs can be adjusted for retention and control efficiency where appropriate.

** A listing of the HAPs can be found in Section 112(b) of the Clean Air Act or can be obtained by contacting your Hamilton County Department of Environmental Services contact. This information does not have to be kept on a line-by-line basis.

Inks may be recorded in pounds HAP per pound ink and annual HAP emissions calculated using:

$E = \text{Lbs. ink employed per month} \times \text{HAP fraction of ink by wt.} = \text{Lbs. HAPs/Month}$

Fountain solutions, and cleanup material may be recorded in pounds HAP per gallon of material and annual HAP emissions calculated using:

$E = \text{Lbs. HAP per gallon material} \times \text{No. of gallons employed per month} = \text{Lbs. HAPs/Month}$

2. The permittee shall collect and record the following information each day for cleanup materials employed in this emissions unit:
 - a. The company identification (including product name per MSDSs) for each cleanup material employed.
 - b. Documentation on whether or not each cleanup material is a photochemically reactive material as identified in OAC rule 3745-21-01(C)(5).
 - c. The number of gallons of each cleanup material employed.
 - d. The organic compound content of each cleanup material, as applied.

3. The permittee shall collect and record the following information each month for each material employed in each emissions unit:
 - a. The company identification for each ink, fountain solution, and cleanup material employed.
 - b. A record of each ink and fountain solution employed in this emissions unit indicating whether or not the ink or fountain solution is photochemically reactive as identified in

OAC rule 3745-21-01(C)(5).

- c. The number of pounds of each ink employed and the number of gallons of each fountain solution and cleanup material employed in each emission unit.
- d. The organic compound content of each ink in pounds per pound, and the organic compound content of each fountain solution and cleanup material in pounds per gallon.
- e. The organic compound emission rate for each ink, fountain solution and cleanup material, in pounds or tons per month, from each emissions unit.
- f. The total organic compound emission rate for all inks, fountain solutions, and cleanup materials, in pounds or tons per month, from each emissions unit.
- g. During the first 12 calendar months of operation following the issuance of this permit, the permittee shall record the cumulative organic compound emissions for each calendar month.
- h. After the first 12 calendar months of operation following the issuance of this permit, the permittee shall record the rolling 12-month total organic compound emissions rate for all inks, fountain solutions, and cleanup materials, in tons per year.
- i. During the first 12 calendar months of operation following the issuance of this permit, the permittee shall record the cumulative usage figures for each material employed (See Sections A.2.2.d. through A.2.2.f.) for each calendar month.
- j. After the first 12 calendar months of operation following the issuance of this permit, the permittee shall record the rolling 12-month summation of the ink in pounds per year, and fountain solution and cleanup material usage figures in gallons per year. (See Sections A.2.2.d. through A.2.2.f.)

Note: The ink information must be for the inks as applied, including any thinning solvents or catalysts added at the emissions unit. Also, the definitions of "photochemically reactive" and "non-photochemically reactive" are based upon OAC rule 3745-21-01(C)(5).

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

regarding material usage.

D. Reporting Requirements

1. The permittee shall submit an annual report which identifies each day during which any photochemically reactive material was employed in this emissions unit. This report shall identify the cause for the use of the photochemically reactive material(s) and the estimated total quantity of material(s) emitted each such day. This report shall be submitted by January 31 of each year and shall cover the previous calendar year.
2. The permittee shall notify the Hamilton County Department of Environmental Services of any exceedance of the HAP emissions limitations set forth in this Permit to Install. The permittee shall submit annual reports which identify all exceedances of these limitations, as well as the corrective actions that were taken to achieve compliance. These reports shall be submitted by January 31 of each year. If no exceedances occurred during the reporting period then a report is required stating so.
3. The permittee shall submit annual reports which specify the total annual organic compound emissions from emissions unit R001. These reports shall be submitted by January 31 of each year.
4. The permittee shall submit quarterly deviation (excursion) reports which identify:
 - a. Any exceedances of cleanup material usage or emissions limit in this permit (e.g., 10 gallons per day cleanup for emissions unit R001).
 - b. All exceedances of the OC content limits delineated in Section A.2.2.b.
 - c. All exceedances of the rolling, 12-month usage limitations for all materials employed and, for the first 12 calendar months of operation following the issuance of this permit, all exceedances of the maximum allowable cumulative materials usage rates limits. (See Sections A.2.2.d. through A.2.2.f.).
 - d. All exceedances of the rolling, 12-month OC emission limitation.

Exceeding the rolling, 12-month limit is a violation for each day of the last month of each 12 month period in which the limit is exceeded, regardless of whether a compliance plan is submitted.

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

E. Testing Requirements

1. Compliance with the emission limitation(s) in this permit shall be determined in accordance with the following method(s):
 - a. Emission Limitation:
770.06 lbs/day OC for emissions unit R001

Applicable Compliance Method:
Compliance for the inks and fountain solutions shall be based on multiplying the maximum daily usage rates (1920 pounds/day and 218.4 gallons/day, respectively) by the maximum OC contents (45% OC by weight and 0.21 lbs/gallon, respectively) and adding their results to the daily OC emissions from the cleanup materials (as determined by the record keeping requirements specified in Section C.2.).
 - b. Emission Limitation:
0.551 lb/hr PM/PM10

Applicable Compliance Method:
If testing is required to demonstrate compliance with the allowable emission limitation of 0.551 pound PM/PM10 per hour, then testing shall be conducted using the following method: Method 5, 40 CFR Part 60, Appendix A.
 - c. Emission Limitation:
2.41 TPY PM/PM10

Applicable Compliance Method:
The 2.41 TPY limitation was developed by multiplying the 0.551 lb/hr limitation by the maximum operating schedule of 8760 hours per year, and dividing by 2,000 pounds per ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.
 - d. Emission Limitation:
32.48 TPY OC

Applicable Compliance Method:
Compliance shall be based upon the record keeping requirements specified in Section C.3.
 - e. Emission Limitation:
32.48 TPY OC, based upon a rolling, 12-month summation

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PTI Application: 11 04841
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Facility ID: 1431070992

Emissions Unit ID: R001

Applicable Compliance Method:

Compliance shall be based upon the record keeping requirements specified in Section C.3.

- f. Emission Limitation:
HAPs emissions 9.9 TPY or less for any single HAP and 24.9 TPY or less for any combination of HAPs

Applicable Compliance Method:

Compliance shall be based upon the record keeping requirements specified in Section C.1.

- g. Organic Compound Content Limitations:
Ink: 45% by weight OC
Fountain Solution: 0.21 lb OC/gallon
Cleanup Material: 6.6 lbs OC/gallon

Applicable Compliance Method:

See term E.5.

- h. Compliance with the usage rate limitations for all materials employed (see Sections A.2.2.d. through A.2.2.f.) shall be based upon the record keeping requirements specified in Section C.3.
 - i. Compliance with the daily cleanup material usage rate limitation specified in Section B.2. shall be based upon the record keeping requirements specified in Section C.2.
2. The OC emission rate for inks is calculated on a "worst case" basis for the ink with the highest OC content as follows:

For ink, 20.0% of the OC's in heatset inks are retained by the substrate, 80.0% goes to the dryer. All are demonstrated in the following equation:

$45\% \text{ Weight OC content (maximum allowable)} * \text{material usage rate (pounds)} * (1.0 - 0.20) = \text{pounds of OC}$

3. The OC emission rate for fountain solutions and cleanup materials shall be based on OC content information from the manufacturer and is calculated as follows:

Fountain solution emissions
Demonstrated in the following equation:

$\text{OC content (lbs/gal)} * \text{material usage rate (gallons)} = \text{pounds of OC}$

Cleanup Material emissions
For cleanup material, 50.0% of the OC's are retained by the rags, 50.0% goes to the dryer. The 50% retention factor can only be used if the composite partial pressure of the cleanup material is less than 10 mm of Mercury.

Demonstrated in the following equations:

$\text{OC content (lbs/gal)} * \text{material usage rate (gallons)} * (1.0 - 0.50) = \text{pounds of OC}$

4. Compliance with the visible particulate limitation shall be demonstrated by the methods outlined in 40 CFR Part 60, Appendix A, Method 9.

5. OAC rule 3745-21-10(B) shall be used to determine the OC contents of the inks, fountain solutions, and cleanup materials. If pursuant to 40 CFR Part 60, Appendix A, an owner or operator determines that Method 24 or Method 24A cannot be used, the permittee shall notify the Administrator of USEPA and shall use formulation data for the material to demonstrate compliance until USEPA provides alternative analytical procedures or alternative precision statements for Method 24 or 24A.

F. Miscellaneous Requirements

1. The following terms and conditions of this permit are federally enforceable, A.2.2.a., A.2.2.b., A.2.2.d., A.2.2.e., A.2.2.f., A.2.2.g, A.2.2.h, B.1. - B.3., C.1., C.2., C.3., C.4., D.1., D.2.,D.4 and D.5 and E.
2. For all inks employed in this emissions unit, the worst case OC content (from term A.2.b) can be used to calculate emissions.
3. The terms and conditions listed in this permit to install shall supercede all the air pollution control requirements for this emission unit contained in permit to install 14-04811 as issued on March 29, 2000.

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

A. Applicable Emissions Limitations and/or Control Requirements

- 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.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
R005 - Heatset web offset press with dryer and regenerative thermal oxidizer (RTO) - Cottrell III - Modification	OAC rule 3745-31-05 (A)(3)	105.09 lbs/day OC for emissions unit R005
		0.551 lb/hr PM/PM10 2.41 TPY PM/PM10
		10.12 TPY OC
	OAC rule 3745-31-05(D)	The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1) and OAC rule 3745-31-05(D).
	OAC rule 3745-17-11(A)	10.12 TPY OC, based upon a rolling, 12-month summation
OAC rule 3745-17-07(A)(1)	See Sections A.2.2.a., A.2.2.b., A.2.2.d., A.2.2.e., A.2.2.f. and A.2.2.j.	
OAC rule 3745-21-07(G)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).	

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Emissions Unit ID: **R005**

See Section A.2.2.c.

Exempt

2. Additional Terms and Conditions

- 2.a** The total allowable usage* of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title III of the Clean Air Act, from this facility shall not exceed 9.9 TPY for any single HAP and 24.9 TPY for any combination of HAPs. Compliance with the above limitation shall be based on a rolling, 12-month summation.

To ensure federal enforceability during the first 12 calendar months of operation following the issuance of this permit to install, the permittee shall not exceed the HAPs usage limits specified in the following table:

Month(s)	Maximum Allowable Single HAP Usage In Tons	Maximum Allowable Combined HAP Usage In Tons
1	0.8	2.1
1-2	1.7	4.2
1-3	2.5	6.2
1-4	3.3	8.3
1-5	4.2	10.4
1-6	5.0	12.5
1-7	5.8	14.6
1-8	6.6	16.6
1-9	7.5	18.7
1-10	8.3	20.8
1-11	9.1	22.9
1-12	9.9	24.9

After the first 12 calendar months of operation following the issuance of this permit to install, compliance with the annual HAPs usage limits shall be based upon a rolling, 12-month summation of the HAP(s) usage* figures.

* The usage figures for HAPs can be adjusted for retention and control efficiency where appropriate.

- 2.b** The maximum organic compound content of the inks, fountain solutions, and cleanup materials, as applied, shall not exceed the following:

Ink	45% by weight OC
Fountain Solution	0.21 lb OC/gallon

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Emissions Unit ID: **R005**

Cleanup Material 6.6 lbs OC/gallon

Ink means a liquid material applied by a roll printer. Fountain solution means a surface coating applied to a lithographic plate to render the nonimage areas unreceptive to ink. Cleanup material means all materials used to remove excess printing inks, oils and paper components from press equipment.

- 2.c** Visible particulate emissions from any stack shall not exceed 20 percent opacity, as a six-minute average.
- 2.d** The maximum annual ink usage for this emissions unit shall not exceed 170,000 pounds per year, based upon a rolling, 12-month summation of the ink usage figures.

To ensure enforceability during the first 12 calendar months of operation following the issuance of this permit, the permittee shall not exceed the ink usage levels specified in the following table:

Month(s)	Maximum Allowable Cumulative Ink Usage, in pounds
1	14,167
1-2	28,334
1-3	42,501
1-4	56,668
1-5	70,835
1-6	85,002
1-7	99,169
1-8	113,336
1-9	127,503
1-10	141,670
1-11	155,837
1-12	170,000

After the first 12 calendar months of operation following the issuance of this permit, compliance with the annual ink usage limitation shall be based upon a rolling, 12-month summation of the ink usage figures.

- 2.e** The maximum annual fountain solution usage for this emissions unit shall not exceed 100,000 gallons per year, based upon a rolling, 12-month summation of the fountain solution usage figures.

To ensure enforceability during the first 12 calendar months of operation following the issuance of this permit, the permittee shall not exceed the fountain solution usage levels specified in the following table:

Month(s)	Maximum Allowable Cumulative Fountain Solution Usage, in gallons
1	8,333
1-2	16,666
1-3	24,999
1-4	33,332
1-5	41,665
1-6	49,998
1-7	58,331
1-8	66,664
1-9	74,997
1-10	83,330
1-11	91,663
1-12	100,000

After the first 12 calendar months of operation following the issuance of this permit, compliance with the annual fountain solution usage limitation shall be based upon a rolling, 12-month summation of the fountain solution usage figures.

- 2.f** The maximum annual cleanup material usage for this emissions unit shall not exceed 2,500 gallons per year, based upon a rolling, 12-month summation of the cleanup material usage figures.

To ensure enforceability during the first 12 calendar months of operation following the issuance of this permit, the permittee shall not exceed the cleanup material usage levels specified in the following table:

Month(s)	Maximum Allowable Cumulative Cleanup Material Usage, in gallons
1	400
1-2	570
1-3	740
1-4	910

1-5	1,080
1-6	1,248
1-7	1,456
1-8	1,664
1-9	1,872
1-10	2,080
1-11	2,288
1-12	2,500

After the first 12 calendar months of operation following the issuance of this permit, compliance with the annual cleanup material usage limitation shall be based upon a rolling, 12-month summation of the cleanup material usage figures.

- 2.g** The daily emission limitation outlined for inks and fountain solutions are based upon the emissions units' PTE at 24 hours per day. Therefore, no daily records are required to demonstrate compliance with this limit.
- 2.h** Daily, monthly, and annual emissions rates in this permit are subject to revision should any of the listed emissions units be withdrawn.
- 2.i** Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by OC content limitations for all inks, fountain solutions and cleanup materials, usage limitations, use of the RTO and compliance with the Air Toxics Policy#.
- #Air Toxics Policy is not federally enforceable
- 2.j** The permittee shall operate and maintain a control device, at a minimum, 92.5% (by weight of organic compounds) control efficiency at maximum hourly ink capacity from the control device exhaust for emissions units R005, R007 and R011.

B. Operational Restrictions

1. The use of photochemically reactive materials as defined in OAC rule 3745-21-01(C)(5) is prohibited in emissions unit R005.

Prior to employing any photochemically reactive material in this emissions unit, including any cleanup material that is a photochemically reactive material, the permittee shall provide written notification to the Hamilton County Department of Environmental Services. Such notification shall include information sufficient to determine compliance with the emission limits and/or control requirements specified in OAC rule 3745-21-07(G). This notification, at a minimum, shall

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include the company identification of the new material to be employed, the solvent composition of the material, and the maximum amount to be used, in pounds per hour, and pounds per day.

2. The maximum daily cleanup material usage for emissions unit R005 shall not exceed 10 gallons per day.
3. To ensure that the evaporative OC/VOC loss from the hand cleanup process does not exceed more than 50% (by weight), all rags utilized in the cleanup process shall be stored in containers with tight covers.
4. The average combustion temperature within the thermal oxidizer, for any 3-hour block of time when the emissions unit is in operation, shall not be more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall collect and record the following information each month for the entire facility:
 - a. The name and identification number of all inks and each fountain solution, employed;
 - b. The individual Hazardous Air Pollutant (HAP) content for each HAP of all inks and each fountain solution in pounds of individual HAP per gallon of ink (or fountain solution), as applied;
 - c. The total combined HAP content of all inks and each fountain solution in pounds of combined HAPs per gallon of ink (or fountain solution), as applied [sum all the individual HAP contents from (b)];
 - d. The number of gallons of all inks and each fountain solution employed;
 - e. The name and identification of each cleanup material employed;
 - f. The individual HAP content for each HAP of each cleanup material, in pounds of individual HAP per gallon of cleanup material, as applied;
 - g. The total combined HAP content of each cleanup material, in pounds of combined HAPs per gallon of cleanup material, as applied [sum all the individual HAP contents from (f)];
 - h. The number of gallons of each cleanup material employed;

- i. The total individual HAP usage * for each HAP from all inks, fountain solutions and cleanup materials employed, in pounds or tons per month [for each HAP the sum of (b) times (d) for each ink and fountain solution plus the sum of (f) times (h) for each cleanup material];
- j. The total combined HAP usage* from all inks, fountain solutions and cleanup materials employed, in pounds or tons per month [the sum of (c) times (d) for each inks and fountain solution plus the sum of (g) times (h) for each cleanup material];
- k. The updated rolling, 12-month summation of usage* for each individual HAP emissions, in pounds or tons. This shall include the information for the current month and the preceding eleven calendar months. For the first twelve months following the issuance of the permit, this shall be a cumulative total for all months since the issuance of the PTI; and
- l. The updated rolling, 12-month summation of usage* for total combined HAP emissions, in pounds or tons. This shall include the information for the current month and the preceding eleven calendar months. For the first twelve months following the issuance of the permit, this shall be a cumulative total for all months since the issuance of the PTI.

* The usage figures for HAPs can be adjusted for retention and control efficiency where appropriate.

** A listing of the HAPs can be found in Section 112(b) of the Clean Air Act or can be obtained by contacting your Hamilton County Department of Environmental Services contact. This information does not have to be kept on a line-by-line basis.

Inks may be recorded in pounds HAP per pound ink and annual HAP emissions calculated using:

$$E = \text{Lbs. ink employed per month} \times \text{HAP fraction of ink by wt.} = \text{Lbs. HAPs/Month}$$

Fountain solutions, and cleanup material may be recorded in pounds HAP per gallon of material and annual HAP emissions calculated using:

$$E = \text{Lbs. HAP per gallon material} \times \text{No. of gallons employed per month} = \text{Lbs. HAPs/Month}$$

2. The permittee shall collect and record the following information each day for cleanup materials employed in this emissions unit:
 - a. The company identification (including product name per MSDSs) for each cleanup material employed.

- b. Documentation on whether or not each cleanup material is a photochemically reactive material as identified in OAC rule 3745-21-01(C)(5).
 - c. The number of gallons of each cleanup material employed.
 - d. The organic compound content of each cleanup material, as applied.
3. The permittee shall collect and record the following information each month for each material employed in each emissions unit:
 - a. The company identification for each ink, fountain solution, and cleanup material employed.
 - b. A record of each ink and fountain solution employed in this emissions unit indicating whether or not the ink or fountain solution is photochemically reactive as identified in OAC rule 3745-21-01(C)(5).
 - c. The number of pounds of each ink employed and the number of gallons of each fountain solution and cleanup material employed in each emission unit.
 - d. The organic compound content of each ink in pounds per pound, and the organic compound content of each fountain solution and cleanup material in pounds per gallon.
 - e. The organic compound emission rate for each ink, fountain solution and cleanup material, in pounds or tons per month, from each emissions unit.
 - f. The total organic compound emission rate for all inks, fountain solutions, and cleanup materials, in pounds or tons per month, from each emissions unit.
 - g. During the first 12 calendar months of operation following the issuance of this permit, the permittee shall record the cumulative organic compound emissions for each calendar month.
 - h. After the first 12 calendar months of operation following the issuance of this permit, the permittee shall record the rolling 12-month total organic compound emissions rate for all inks, fountain solutions, and cleanup materials, in tons per year.
 - i. During the first 12 calendar months of operation following the issuance of this permit, the permittee shall record the cumulative usage figures for each material employed (See

Sections A.2.2.d. through A.2.2.f.) for each calendar month.

- j. After the first 12 calendar months of operation following the issuance of this permit, the permittee shall record the rolling 12-month summation of the ink in pounds per year, and fountain solution and cleanup material usage figures in gallons per year. (See Sections A.2.2.d. through A.2.2.f.)

Note: The ink information must be for the inks as applied, including any thinning solvents or catalysts added at the emissions unit. Also, the definitions of "photochemically reactive" and "non-photochemically reactive" are based upon OAC rule 3745-21-01(C)(5).

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

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

- a. All 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer, when the emissions unit was in operation, was more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.
 - b. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.
5. The permittee shall maintain for this facility all purchase orders and invoices of OC-containing materials. The permittee shall retain such purchase orders and invoices for at least five years from their date of issuance. Upon request, the permittee shall make available to the Director of the Ohio EPA, or an authorized representative of the Director, such purchase orders and invoices for use in confirming the general accuracy of the records maintained and the reports submitted regarding material usage.
 6. The permit to install for this emissions unit R005 was evaluated based on the actual materials (typically inks and adhesive materials) and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum

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ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Ground-Level Concentration (MAGLC).

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

Pollutant: Glycol Ethers

TLV (ug/m3): 121,000

Maximum Hourly Emission Rate (lbs/hr): 73.92

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 2,775

MAGLC (ug/m3): 2,880

Pollutant: Ethylene Glycol

TLV (ug/m3): 100,000

Maximum Hourly Emission Rate (lbs/hr): 9.39

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 351.8

MAGLC (ug/m3): 1,755

Pollutant: Naphthalene

TLV (ug/m3): 52,400

Maximum Hourly Emission Rate (lbs/hr): 26.02

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 977.8

MAGLC (ug/m3): 1,247

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

- a. changes in the composition of the materials used (typically for inks or adhesive 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 with 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 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. when the computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

D. Reporting Requirements

1. The permittee shall submit an annual report which identifies each day during which any photochemically reactive material was employed in this emissions unit. This report shall identify the cause for the use of the photochemically reactive material(s) and the estimated total quantity of material(s) emitted each such day. This report shall be submitted by January 31 of each year and shall cover the previous calendar year.
2. The permittee shall notify the Hamilton County Department of Environmental Services of any exceedance of the HAP emissions limitations set forth in this Permit to Install. The permittee shall submit annual reports which identify all exceedances of these limitations, as well as the corrective actions that were taken to achieve compliance. These reports shall be submitted by January 31 of each year. If no exceedances occurred during the reporting period then a report is required stating so.
3. The permittee shall submit annual reports which specify the total annual organic compound emissions from emissions unit R001. These reports shall be submitted by January 31 of each year.
4. The permittee shall submit quarterly deviation (excursion) reports which identify:

- a. Any exceedances of cleanup material usage or emissions limit in this permit (e.g., 10 gallons per day cleanup for emissions unit R005).
- b. All exceedances of the OC content limits delineated in Section A.2.2.b.
- c. All exceedances of the rolling, 12-month usage limitations for all materials employed and, for the first 12 calendar months of operation following the issuance of this permit, all exceedances of the maximum allowable cumulative materials usage rates limits. (See Sections A.2.2.d. through A.2.2.f.)
- d. All exceedances of the rolling, 12-month OC emission limitation.

Exceeding the rolling, 12-month limit is a violation for each day of the last month of each 12 month period in which the limit is exceeded, regardless of whether a compliance plan is submitted.

5. The permittee shall submit deviation (excursion) reports which identify all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer does not comply with the temperature limitation specified above. This report shall include the allowable operating temperature determined during the last emissions test.
6. The deviation reports shall be submitted in accordance with the reporting requirements of the General Terms and Conditions of this permit.

E. Testing Requirements

1. Compliance with the emission limitation(s) in this permit shall be determined in accordance with the following method(s):

- a. Emission Limitation:
105.09 lbs/day OC for emissions unit R005

Applicable Compliance Method:

Compliance for the inks and fountain solutions shall be based on multiplying the maximum daily usage rates (1920 pounds/day and 273.6 gallons/day, respectively) by the maximum OC contents (45% OC by weight and 0.21 lbs/gallon, respectively) and adding their results to the daily OC emissions from the cleanup materials (as determined by the record keeping requirements specified in Section C.2.).

- b. Emission Limitation:
0.551 lb/hr PM/PM10

Applicable Compliance Method:

If testing is required to demonstrate compliance with the allowable emission limitation of 0.551 pound PM/PM10 per hour, then testing shall be conducted using the following method: Method 5, 40 CFR Part 60, Appendix A.

- c. Emission Limitation:
2.41 TPY PM/PM10

Applicable Compliance Method:

The 2.41 TPY limitation was developed by multiplying the 0.551 lb/hr limitation by the maximum operating schedule of 8760 hours per year, and dividing by 2,000 pounds per ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

- d. Emission Limitation:
10.12 TPY OC

Applicable Compliance Method:

Compliance shall be based upon the record keeping requirements specified in Section C.3.

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- e. Emission Limitation:
10.12 TPY OC, based upon a rolling, 12-month summation
- Applicable Compliance Method:
Compliance shall be based upon the record keeping requirements specified in Section C.3.
- f. Emission Limitation:
HAPs emissions 9.9 TPY or less for any single HAP and 24.9 TPY or less for any combination of HAPs
- Applicable Compliance Method:
Compliance shall be based upon the record keeping requirements specified in Section C.1.
- g. Organic Compound Content Limitations:
Ink: 45% by weight OC
Fountain Solution: 0.21 lb OC/gallon
Cleanup Material: 6.6 lbs OC/gallon
- Applicable Compliance Method:
See term E.5.
- h. Compliance with the usage rate limitations for all materials employed (see Sections A.2.2.d. through A.2.2.f.) shall be based upon the record keeping requirements specified in Section C.3.
- i. Compliance with the daily cleanup material usage rate limitation specified in Section B.2. shall be based upon the record keeping requirements specified in Section C.2.
2. The OC emission rate for inks is calculated on a "worst case" basis for the ink with the highest OC content as follows:
- For ink, 20.0% of the OC's in heatset inks are retained by the substrate, 80.0% goes to the dryer. In addition, there is a 100.0% capture efficiency and a 92.5% control efficiency. All are demonstrated in the following equation:
- $$45\% \text{ Weight OC content (maximum allowable)} * \text{material usage rate (pounds)} * (1.0 - 0.20) * (1.0 - 0.925) = \text{pounds of OC}$$
3. The OC emission rate for fountain solutions and cleanup materials shall be based on OC content

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information from the manufacturer and is calculated as follows:

Fountain solution emissions

Demonstrated in the following equations:

Fugitive Emissions

OC content (lbs/gal) * material usage rate (gallons) * (0.30) = pounds of OC

Oven Emissions

OC content (lbs/gal) * material usage rate (gallons) * (0.70) *(1.0-0.925) = pounds of OC

Add the fugitive emissions to the oven emissions to obtain the total OC emissions for fountain solution.

Cleanup Material emissions

For cleanup material, 50.0% of the OC's are retained by the rags, 50.0% goes to the dryer. The 50% retention factor can only be used if the composite partial pressure of the cleanup material is less than 10 mm of Mercury.

Demonstrated in the following equations:

OC content (lbs/gal) * material usage rate (gallons) * (1.0 - 0.50) = pounds of OC

4. Compliance with the visible particulate limitation shall be demonstrated by the methods outlined in 40 CFR Part 60, Appendix A, Method 9.
5. OAC rule 3745-21-10(B) shall be used to determine the OC contents of the inks, fountain solutions, and cleanup materials. If pursuant to 40 CFR Part 60, Appendix A, an owner or operator determines that Method 24 or Method 24A cannot be used, the permittee shall notify the Administrator of USEPA and shall use formulation data for the material to demonstrate compliance until USEPA provides alternative analytical procedures or alternative precision statements for Method 24 or 24A.

F. Miscellaneous Requirements

1. The terms and conditions of this permit to install shall supersede all the Air Pollution Control requirements for this emission unit contained in permit to install 14-04811, as issued on March 29, 2000.
2. The following terms and conditions of this permit are federally enforceable,; A.2.2.a., through, A.2.2.j., B.1., through B.4., C.1., C.2., C.3., C.4, C.5., D.1., D.2., D.3., D.4., D.5., E.1 - E.5. and F.1.

3. For all inks employed, the worst case OC content (from term A.2.b) can be used to calculate emissions.

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.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
R007 - Heatset web offset press with dryer and regenerative thermal oxidizer (RTO) - Hantscho IV - Modification	OAC rule 3745-31-05 (A)(3)	96.35 lbs/day OC for R007 0.551 lb/hr PM/PM10 2.41 TPY PM/PM10 5.87 TPY OC
	OAC rule 3745-31-05(D)	The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1) and OAC rule 3745-31-05(D). 5.87 TPY OC, based upon a rolling, 12-month summation.
	OAC rule 3745-17-11(A)	See Sections A.2.2.a., A.2.2.b., A.2.2.d., A.2.2.e., A.2.2.f. and A.2.2.j.
	OAC rule 3745-17-07(A)(1)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
	OAC rule 3745-21-07(G)	

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Emissions Unit ID: **R007**

See Section A.2.2.c.

See Section B.1.

2. Additional Terms and Conditions

2.a The total allowable usage* of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title III of the Clean Air Act, from this facility shall not exceed 9.9 TPY for any single HAP and 24.9 TPY for any combination of HAPs. Compliance with the above limitation shall be based on a rolling, 12-month summation.

To ensure federal enforceability during the first 12 calendar months of operation following the issuance of this permit to install, the permittee shall not exceed the HAPs usage limits specified in the following table:

Month(s)	Maximum Allowable Single HAP Usage In Tons	Maximum Allowable Combined HAP Usage In Tons
1	0.8	2.1
1-2	1.7	4.2
1-3	2.5	6.2
1-4	3.3	8.3
1-5	4.2	10.4
1-6	5.0	12.5
1-7	5.8	14.6
1-8	6.6	16.6
1-9	7.5	18.7
1-10	8.3	20.8
1-11	9.1	22.9
1-12	9.9	24.9

After the first 12 calendar months of operation following the issuance of this permit to install, compliance with the annual HAPs usage limits shall be based upon a rolling, 12-month summation of the HAP(s) usage* figures.

* The usage figures for HAPs can be adjusted for retention and control efficiency where appropriate.

2.b The maximum organic compound content of the inks, fountain solutions, and cleanup materials, as applied, shall not exceed the following:

Ink	45% by weight OC
Fountain Solution	0.16 lb OC/gallon

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Cleanup Material 6.6 lbs OC/gallon

Ink means a liquid material applied by a roll printer. Fountain solution means a surface coating applied to a lithographic plate to render the nonimage areas unreceptive to ink. Cleanup material means all materials used to remove excess printing inks, oils and paper components from press equipment.

- 2.c** Visible particulate emissions from any stack shall not exceed 20 percent opacity, as a six-minute average.
- 2.d** The maximum annual ink usage for this emissions unit shall not exceed 80,000 pounds per year, based upon a rolling, 12-month summation of the ink usage figures.

To ensure enforceability during the first 12 calendar months of operation following the issuance of this permit, the permittee shall not exceed the ink usage levels specified in the following table:

Month(s)	Maximum Allowable Cumulative Ink Usage, in pounds
1	6,667
1-2	13,334
1-3	20,001
1-4	26,668
1-5	33,335
1-6	40,002
1-7	46,669
1-8	53,336
1-9	60,003
1-10	66,670
1-11	73,337
1-12	80,000

After the first 12 calendar months of operation following the issuance of this permit, compliance with the annual ink usage limitation shall be based upon a rolling, 12-month summation of the ink usage figures.

- 2.e** The maximum annual fountain solution usage for this emissions unit shall not exceed 53,000 gallons per year, based upon a rolling, 12-month summation of the fountain solution usage figures.

To ensure enforceability during the first 12 calendar months of operation following the issuance of this permit, the permittee shall not exceed the fountain solution usage levels specified in the following table:

Month(s)	Maximum Allowable Cumulative Fountain Solution Usage, in gallons
1	4,417
1-2	8,834
1-3	13,251
1-4	17,668
1-5	22,085
1-6	26,502
1-7	30,919
1-8	35,336
1-9	39,753
1-10	44,170
1-11	48,587
1-12	53,000

After the first 12 calendar months of operation following the issuance of this permit, compliance with the annual fountain solution usage limitation shall be based upon a rolling, 12-month summation of the fountain solution usage figures.

- 2.f** The maximum annual cleanup material usage for this emissions unit shall not exceed 1,500 gallons per year, based upon a rolling, 12-month summation of the cleanup material usage figures.

To ensure enforceability during the first 12 calendar months of operation following the issuance of this permit, the permittee shall not exceed the cleanup material usage levels specified in the following table:

Month(s)	Maximum Allowable Cumulative Cleanup Material Usage, in gallons
1	330
1-2	460
1-3	590

1-4	720
1-5	850
1-6	1,002
1-7	1,169
1-8	1,336
1-9	1,503
1-10	1,670
1-11	1,837
1-12	2,000

After the first 12 calendar months of operation following the issuance of this permit, compliance with the annual cleanup material usage limitation shall be based upon a rolling, 12-month summation of the cleanup material usage figures.

- 2.g** The daily emission limitation outlined for inks and fountain solutions are based upon the emissions units' PTE at 24 hours per day. Therefore, no daily records are required to demonstrate compliance with this limit.
- 2.h** Daily, monthly, and annual emissions rates in this permit are subject to revision should any of the listed emissions units be withdrawn.
- 2.i** Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by OC content limitations for all inks, fountain solutions and cleanup materials, usage limitations, use of the RTO and compliance with the Air Toxics Policy#.
- #Air Toxics Policy is not federally enforceable
- 2.j** The permittee shall operate and maintain a control device, at a minimum, 92.5% (by weight of organic compounds) control efficiency at maximum hourly ink capacity from the control device exhaust for emissions units R005, R007 and R011.

B. Operational Restrictions

1. The use of photochemically reactive materials as defined in OAC rule 3745-21-01(C)(5) is prohibited in emissions unit R007.

Prior to employing any photochemically reactive material in this emissions unit, including any cleanup material that is a photochemically reactive material, the permittee shall provide written notification to the Hamilton County Department of Environmental Services. Such notification shall include information sufficient to determine compliance with the emission limits and/or control requirements specified in OAC rule 3745-21-07(G). This notification, at a minimum, shall

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include the company identification of the new material to be employed, the solvent composition of the material, and the maximum amount to be used, in pounds per hour, and pounds per day.

2. The maximum daily cleanup material usage for emissions unit R007 shall not exceed 10 gallons per day.
3. To ensure that the evaporative OC/VOC loss from the hand cleanup process does not exceed more than 50% (by weight), all rags utilized in the cleanup process shall be stored in containers with tight covers.
4. The average combustion temperature within the thermal oxidizer, for any 3-hour block of time when the emissions unit is in operation, shall not be more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall collect and record the following information each month for the entire facility:
 - a. The name and identification number of all inks and each fountain solution, employed;
 - b. The individual Hazardous Air Pollutant (HAP) content for each HAP of all inks and each fountain solution in pounds of individual HAP per gallon of ink (or fountain solution), as applied;
 - c. The total combined HAP content of all inks and each fountain solution in pounds of combined HAPs per gallon of ink (or fountain solution), as applied [sum all the individual HAP contents from (b)];
 - d. The number of gallons of all inks and each fountain solution employed;
 - e. The name and identification of each cleanup material employed;
 - f. The individual HAP content for each HAP of each cleanup material, in pounds of individual HAP per gallon of cleanup material, as applied;
 - g. The total combined HAP content of each cleanup material, in pounds of combined HAPs per gallon of cleanup material, as applied [sum all the individual HAP contents from (f)];
 - h. The number of gallons of each cleanup material employed;

- i. The total individual HAP usage * for each HAP from all inks, fountain solutions and cleanup materials employed, in pounds or tons per month [for each HAP the sum of (b) times (d) for each ink and fountain solution plus the sum of (f) times (h) for each cleanup material];
- j. The total combined HAP usage* from all inks, fountain solutions and cleanup materials employed, in pounds or tons per month [the sum of (c) times (d) for each inks and fountain solution plus the sum of (g) times (h) for each cleanup material];
- k. The updated rolling, 12-month summation of usage* for each individual HAP emissions, in pounds or tons. This shall include the information for the current month and the preceding eleven calendar months. For the first twelve months following the issuance of the permit, this shall be a cumulative total for all months since the issuance of the PTI; and
- l. The updated rolling, 12-month summation of usage* for total combined HAP emissions, in pounds or tons. This shall include the information for the current month and the preceding eleven calendar months. For the first twelve months following the issuance of the permit, this shall be a cumulative total for all months since the issuance of the PTI.

* The usage figures for HAPs can be adjusted for retention and control efficiency where appropriate.

** A listing of the HAPs can be found in Section 112(b) of the Clean Air Act or can be obtained by contacting your Hamilton County Department of Environmental Services contact. This information does not have to be kept on a line-by-line basis.

Inks may be recorded in pounds HAP per pound ink and annual HAP emissions calculated using:

$$E = \text{Lbs. ink employed per month} \times \text{HAP fraction of ink by wt.} = \text{Lbs. HAPs/Month}$$

Fountain solutions, and cleanup material may be recorded in pounds HAP per gallon of material and annual HAP emissions calculated using:

$$E = \text{Lbs. HAP per gallon material} \times \text{No. of gallons employed per month} = \text{Lbs. HAPs/Month}$$

2. The permittee shall collect and record the following information each day for cleanup materials employed in this emissions unit:
 - a. The company identification (including product name per MSDSs) for each cleanup material employed.

- b. Documentation on whether or not each cleanup material is a photochemically reactive material as identified in OAC rule 3745-21-01(C)(5).
 - c. The number of gallons of each cleanup material employed.
 - d. The organic compound content of each cleanup material, as applied.
3. The permittee shall collect and record the following information each month for each material employed in each emissions unit:
 - a. The company identification for each ink, fountain solution, and cleanup material employed.
 - b. A record of each ink and fountain solution employed in this emissions unit indicating whether or not the ink or fountain solution is photochemically reactive as identified in OAC rule 3745-21-01(C)(5).
 - c. The number of pounds of each ink employed and the number of gallons of each fountain solution and cleanup material employed in each emission unit.
 - d. The organic compound content of each ink in pounds per pound, and the organic compound content of each fountain solution and cleanup material in pounds per gallon.
 - e. The organic compound emission rate for each ink, fountain solution and cleanup material, in pounds or tons per month, from each emissions unit.
 - f. The total organic compound emission rate for all inks, fountain solutions, and cleanup materials, in pounds or tons per month, from each emissions unit.
 - g. During the first 12 calendar months of operation following the issuance of this permit, the permittee shall record the cumulative organic compound emissions for each calendar month.
 - h. After the first 12 calendar months of operation following the issuance of this permit, the permittee shall record the rolling 12-month total organic compound emissions rate for all inks, fountain solutions, and cleanup materials, in tons per year.
 - i. During the first 12 calendar months of operation following the issuance of this permit, the permittee shall record the cumulative usage figures for each material employed (See

Sections A.2.2.d. through A.2.2.f.) for each calendar month.

- j. After the first 12 calendar months of operation following the issuance of this permit, the permittee shall record the rolling 12-month summation of the ink in pounds per year, and fountain solution and cleanup material usage figures in gallons per year. (See Sections A.2.2.d. through A.2.2.f.)

Note: The ink information must be for the inks as applied, including any thinning solvents or catalysts added at the emissions unit. Also, the definitions of "photochemically reactive" and "non-photochemically reactive" are based upon OAC rule 3745-21-01(C)(5).

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

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

- a. All 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer, when the emissions unit was in operation, was more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.
 - b. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.
5. The permittee shall maintain for this facility all purchase orders and invoices of OC-containing materials. The permittee shall retain such purchase orders and invoices for at least five years from their date of issuance. Upon request, the permittee shall make available to the Director of the Ohio EPA, or an authorized representative of the Director, such purchase orders and invoices for use in confirming the general accuracy of the records maintained and the reports submitted regarding material usage.
 6. The permit to install for this emissions unit R007 was evaluated based on the actual materials (typically inks and adhesive materials) and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the

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SCREEN 3.0 model(or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Ground-Level Concentration (MAGLC).

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

Pollutant: Glycol Ethers

TLV (ug/m3): 121,000

Maximum Hourly Emission Rate (lbs/hr): 73.92

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 2,775

MAGLC (ug/m3): 2,880

Pollutant: Ethylene Glycol

TLV (ug/m3): 100,000

Maximum Hourly Emission Rate (lbs/hr): 9.39

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 351.8

MAGLC (ug/m3): 1,755

Pollutant: Naphthalene

TLV (ug/m3): 52,400

Maximum Hourly Emission Rate (lbs/hr): 26.02

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 977.8

MAGLC (ug/m3): 1,247

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

- a. changes in the composition of the materials used (typically for inks or adhesive 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 with 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 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. when the computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

D. Reporting Requirements

1. The permittee shall submit an annual report which identifies each day during which any photochemically reactive material was employed in this emissions unit. This report shall identify the cause for the use of the photochemically reactive material(s) and the estimated total quantity of material(s) emitted each such day. This report shall be submitted by January 31 of each year and shall cover the previous calendar year.
2. The permittee shall notify the Hamilton County Department of Environmental Services of any exceedance of the HAP emissions limitations set forth in this Permit to Install. The permittee shall submit annual reports which identify all exceedances of these limitations, as well as the corrective actions that were taken to achieve compliance. These reports shall be submitted by January 31 of each year. If no exceedances occurred during the reporting period then a report is required stating so.
3. The permittee shall submit annual reports which specify the total annual organic compound emissions from emissions unit R001. These reports shall be submitted by January 31 of each year.

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4. The permittee shall submit quarterly deviation (excursion) reports which identify:
 - a. Any exceedances of cleanup material usage or emissions limit in this permit (e.g., 10 gallons per day cleanup for emissions unit R007).
 - b. All exceedances of the OC content limits delineated in Section A.2.2.b.
 - c. All exceedances of the rolling, 12-month usage limitations for all materials employed and, for the first 12 calendar months of operation following the issuance of this permit, all exceedances of the maximum allowable cumulative materials usage rates limits. (See Sections A.2.2.d. through A.2.2.f.)
 - a. All exceedances of the rolling, 12-month OC emission limitation.

Exceeding the rolling, 12-month limit is a violation for each day of the last month of each 12 month period in which the limit is exceeded, regardless of whether a compliance plan is submitted.
5. The permittee shall submit deviation (excursion) reports which identify all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer does not comply with the temperature limitation specified above. This report shall include the allowable operating temperature determined during the last emissions test.
6. The deviation reports shall be submitted in accordance with the reporting requirements of the General Terms and Conditions of this permit.

E. Testing Requirements

1. Compliance with the emission limitation(s) in this permit shall be determined in accordance with the following method(s):
 - a. Emission Limitation:
96.35 lbs/day OC for emissions unit R007

Applicable Compliance Method:

Compliance for the inks and fountain solutions shall be based on multiplying the maximum daily usage rates (1920 pounds/day and 204 gallons/day, respectively) by the maximum OC contents (45% OC by weight and 0.16 lbs/gallon, respectively) and adding their results to the daily OC emissions from the cleanup materials (as determined by the record keeping requirements specified in Section C.2.).

- b. Emission Limitation:
0.551 lb/hr PM/PM10

Applicable Compliance Method:

If testing is required to demonstrate compliance with the allowable emission limitation of 0.551 pound PM/PM10 per hour, then testing shall be conducted using the following method: Method 5, 40 CFR Part 60, Appendix A.

- c. Emission Limitation:
2.41 TPY PM/PM10

Applicable Compliance Method:

The 2.41 TPY limitation was developed by multiplying the 0.551 lb/hr limitation by the maximum operating schedule of 8760 hours per year, and dividing by 2,000 pounds per ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

- d. Emission Limitation:
5.87 TPY OC

Applicable Compliance Method:

Compliance shall be based upon the record keeping requirements specified in Section C.3.

- e. Emission Limitation:
5.87 TPY OC, based upon a rolling, 12-month summation

Applicable Compliance Method:

Compliance shall be based upon the record keeping requirements specified in Section C.3.

- f. Emission Limitation:
HAPs emissions 9.9 TPY or less for any single HAP and 24.9 TPY or less for any combination of HAPs

Applicable Compliance Method:

Compliance shall be based upon the record keeping requirements specified in Section C.1.

- g. Organic Compound Content Limitations:

Ink:	45% by weight OC
Fountain Solution:	0.16 lb OC/gallon
Cleanup Material:	6.6 lbs OC/gallon

Applicable Compliance Method:

See term E.5.

- h. Compliance with the usage rate limitations for all materials employed (see Sections A.2.2.d. through A.2.2.f.) shall be based upon the record keeping requirements specified in Section C.3.
- i. Compliance with the daily cleanup usage rate limitation specified in Section B.2. shall be based upon the record keeping requirements specified in Section C.2.
2. The OC emission rate for inks is calculated on a "worst case" basis for the ink with the highest OC content as follows:

For ink, 20.0% of the OC's in heatset inks are retained by the substrate, 80.0% goes to the dryer. In addition, there is a 100.0% capture efficiency and a 92.5% control efficiency. All are demonstrated in the following equation:

45% Weight OC content (maximum allowable) * material usage rate (pounds) *

$$(1.0-0.20)*(1.0-0.925) = \text{pounds of OC}$$

- The OC emission rate for fountain solutions and cleanup materials shall be based on OC content information from the manufacturer and is calculated as follows:

Fountain solution emissions

Demonstrated in the following equations:

Fugitive Emissions

$$\text{OC content (lbs/gal)} * \text{material usage rate (gallons)} * (0.30) = \text{pounds of OC}$$

Oven Emissions

$$\text{OC content (lbs/gal)} * \text{material usage rate (gallons)} * (0.70) * (1.0-0.925) = \text{pounds of OC}$$

Add the fugitive emissions to the oven emissions to obtain the total OC emissions for fountain solution.

Cleanup Material emissions

For cleanup material, 50.0% of the OC's are retained by the rags, 50.0% goes to the dryer. The 50% retention factor can only be used if the composite partial pressure of the cleanup material is less than 10 mm of Mercury.

Demonstrated in the following equations:

$$\text{OC content (lbs/gal)} * \text{material usage rate (gallons)} * (1.0 - 0.50) = \text{pounds of OC}$$

- Compliance with the visible particulate limitation shall be demonstrated by the methods outlined in 40 CFR Part 60, Appendix A, Method 9.
- OAC rule 3745-21-10(B) shall be used to determine the OC contents of the inks, fountain solutions, and cleanup materials. If pursuant to 40 CFR Part 60, Appendix A, an owner or operator determines that Method 24 or Method 24A cannot be used, the permittee shall notify the Administrator of USEPA and shall use formulation data for the material to demonstrate compliance until USEPA provides alternative analytical procedures or alternative precision statements for Method 24 or 24A.

F. Miscellaneous Requirements

- The terms and conditions of this permit to install shall supersede all the Air Pollution Control requirements for this emission unit contained in permit to install 4-04811, as issued on March 29,

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2. The following terms and conditions of this permit are federally enforceable, A.2.2.a., through A.2.2.j., B.1., through B.4., C.1., C.2., C.3., C.4. C.5.,, D.1., D.2., D.3., D.4., D.5., E.1. through E.5. and F.1.
3. For all inks employed, the worst case OC content (from term A.2.b) can be used to calculate emissions.

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.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
R010 - Non-heatset sheet-fed offset press with infrared dryer - Mitsubishi Sheet Fed - Modification	OAC rule 3745-31-05 (A)(3)	330.82 lbs/day OC for emissions unit R010
		10.60 TPY OC
		See term B.1
		The requirements of this rule also include compliance with the requirements of OAC rule 3745-31-05(D).
	OAC rule 3745-31-05(D)	10.60 TPY OC, based upon a rolling, 12-month summation.
	OAC rule 3745-21-07(G)	See Sections A.2.2.a., A.2.2.b., A.2.2.c., A.2.2.d., A.2.2.e. and A.2.2.f.
		Exempt

2. Additional Terms and Conditions

- 2.a The total allowable usage* of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title III of the Clean Air Act, from this facility shall not exceed 9.9 TPY for any

single HAP and 24.9 TPY for any combination of HAPs. Compliance with the above limitation shall be based on a rolling, 12-month summation.

To ensure federal enforceability during the first 12 calendar months of operation following the issuance of this permit to install, the permittee shall not exceed the HAPs usage limits specified in the following table:

Month(s)	Maximum Allowable Single HAP Usage In Tons	Maximum Allowable Combined HAP Usage In Tons
1	0.8	2.1
1-2	1.7	4.2
1-3	2.5	6.2
1-4	3.3	8.3
1-5	4.2	10.4
1-6	5.0	12.5
1-7	5.8	14.6
1-8	6.6	16.6
1-9	7.5	18.7
1-10	8.3	20.8
1-11	9.1	22.9
1-12	9.9	24.9

After the first 12 calendar months of operation following the issuance of this permit to install, compliance with the annual HAPs usage limits shall be based upon a rolling, 12-month summation of the HAP(s) usage* figures.

* The usage figures for HAPs can be adjusted for retention and control efficiency where appropriate.

- 2.b** The maximum organic compound content of the inks, fountain solutions, aqueous coating and cleanup materials, as applied, shall not exceed the following:

Ink	30% by weight OC
Fountain Solution	0.16 lb OC/gallon
Aqueous Coating	1.35 lbs OC/gallon
Cleanup Material	6.6 lbs OC/gallon

Ink means a liquid material applied by a roll printer. Fountain solution means a surface ink

applied to a lithographic plate to render the nonimage areas unreceptive to ink. Aqueous coatings means all materials applied onto or saturated within a substrate for decorative, protective or functional purposes. Cleanup Material means all materials used to remove excess printing inks, oils and paper components from press equipment.

- 2.c** The maximum annual ink usage for this emissions unit shall not exceed 40,000 pounds per year, based upon a rolling, 12-month summation of the ink usage figures.

To ensure enforceability during the first 12 calendar months of operation following the issuance of this permit, the permittee shall not exceed the ink usage levels specified in the following table:

Month(s)	Maximum Allowable Cumulative Ink Usage, in pounds
1	3,333
1-2	6,666
1-3	9,999
1-4	13,332
1-5	16,665
1-6	19,998
1-7	23,331
1-8	26,664
1-9	29,997
1-10	33,330
1-11	36,663
1-12	40,000

After the first 12 calendar months of operation following the issuance of this permit, compliance with the annual ink usage limitation shall be based upon a rolling, 12-month summation of the ink usage figures.

- 2.d** The maximum annual fountain solution usage for this emissions unit shall not exceed 20,000 gallons per year, based upon a rolling, 12-month summation of the fountain solution usage figures.

To ensure enforceability during the first 12 calendar months of operation following the issuance of this permit, the permittee shall not exceed the fountain solution usage levels specified in the following table:

Month(s)	Maximum Allowable Cumulative Fountain Solution Usage, in gallons
1	1,667
1-2	3,334
1-3	5,001
1-4	6,668
1-5	8,335
1-6	10,002
1-7	11,669
1-8	13,336
1-9	15,003
1-10	16,670
1-11	18,337
1-12	20,000

After the first 12 calendar months of operation following the issuance of this permit, compliance with the annual fountain solution usage limitation shall be based upon a rolling, 12-month summation of the fountain solution usage figures.

- 2.e** The maximum annual aqueous coating usage for this emissions unit shall not exceed 8,000 gallons per year, based upon a rolling, 12-month summation of the aqueous coating usage figures.

To ensure enforceability during the first 12 calendar months of operation following the issuance of this permit, the permittee shall not exceed the aqueous coating usage levels specified in the following table:

Month(s)	Maximum Allowable Cumulative Aqueous Coating Usage, in gallons
1	667
1-2	1,334
1-3	2,001
1-4	2,668
1-5	3,335
1-6	4,002
1-7	4,669

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1-8	5,336
1-9	6,003
1-10	6,670
1-11	7,337
1-12	8,000

After the first 12 calendar months of operation following the issuance of this permit, compliance with the annual aqueous coating usage limitation shall be based upon a rolling, 12-month summation of the aqueous coating usage figures.

- 2.f** The maximum annual cleanup material usage for this emissions unit shall not exceed 1,000 gallons per year, based upon a rolling, 12-month summation of the blanket wash material usage figures.

To ensure enforceability during the first 12 calendar months of operation following the issuance of this permit, the permittee shall not exceed the cleanup material usage levels specified in the following table:

Month(s)	Maximum Allowable Cumulative Cleanup Material Usage, in gallons
1	160
1-2	230
1-3	300
1-4	370
1-5	440
1-6	498
1-7	581
1-8	664
1-9	747
1-10	830
1-11	913
1-12	1,000

After the first 12 calendar months of operation following the issuance of this permit, compliance with the annual cleanup material usage limitation shall be based upon a rolling, 12-month summation of the cleanup material usage figures.

- 2.g** The daily emission limitation outlined for inks, fountain solutions, and aqueous coatings are based upon the emissions units' PTE at 24 hours per day. Therefore, no daily records

are required to demonstrate compliance with this limit.

- 2.h** Daily, monthly, and annual emissions rates in this permit are subject to revision should any of the listed emissions units be withdrawn.

- 2.i** Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by OC content limitations for all inks, fountain solutions and cleanup materials, usage limitations and compliance with the Air Toxics Policy#.

#Air Toxics Policy is not federally enforceable

B. Operational Restrictions

1. The use of photochemically reactive materials as defined in OAC rule 3745-21-01(C)(5) is prohibited in emissions unit R010.

Prior to employing any photochemically reactive material in this emissions unit, including any cleanup material that is a photochemically reactive material, the permittee shall provide written notification to the Hamilton County Department of Environmental Services. Such notification shall include information sufficient to determine compliance with the emission limits and/or control requirements specified in OAC rule 3745-21-07(G). This notification, at a minimum, shall include the company identification of the new material to be employed, the solvent composition of the material, and the maximum amount to be used, in pounds per hour, and pounds per day.

2. The maximum daily cleanup material usage for emissions unit R010 shall not exceed 10 gallons per day.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall collect and record the following information each month for the entire facility:
 - a. The name and identification number of all inks, aqueous coatings and each fountain solution, employed;
 - b. The individual Hazardous Air Pollutant (HAP) content for each HAP of all inks, aqueous coatings and each fountain solution in pounds of individual HAP per gallon of ink (or fountain solution), as applied;
 - c. The total combined HAP content of all inks, aqueous coatings and each fountain solution in pounds of combined HAPs per gallon of ink (or fountain solution), as applied [sum all the individual HAP contents from (b)];
 - d. The number of gallons of all inks, aqueous coatings and each fountain solution employed;
 - e. The name and identification of each cleanup material employed;
 - f. The individual HAP content for each HAP of each cleanup material, in pounds of individual HAP per gallon of cleanup material, as applied;
 - g. The total combined HAP content of each cleanup material, in pounds of combined HAPs per gallon of cleanup material, as applied [sum all the individual HAP contents from (f)];

- h. The number of gallons of each cleanup material employed;
- i. The total individual HAP usage * for each HAP from all inks, aqueous coatings, fountain solutions and cleanup materials employed, in pounds or tons per month [for each HAP the sum of (b) times (d) for each ink and fountain solution plus the sum of (f) times (h) for each cleanup material];
- j. The total combined HAP usage* from all inks, aqueous coatings, fountain solutions and cleanup materials employed, in pounds or tons per month [the sum of (c) times (d) for each ink and fountain solution plus the sum of (g) times (h) for each cleanup material];
- k. The updated rolling, 12-month summation of usage* for each individual HAP emissions, in pounds or tons. This shall include the information for the current month and the preceding eleven calendar months. For the first twelve months following the issuance of the permit, this shall be a cumulative total for all months since the issuance of the PTI; and
- l. The updated rolling, 12-month summation of usage* for total combined HAP emissions, in pounds or tons. This shall include the information for the current month and the preceding eleven calendar months. For the first twelve months following the issuance of the permit, this shall be a cumulative total for all months since the issuance of the PTI.

* The usage figures for HAPs can be adjusted for retention and control efficiency where appropriate.

** A listing of the HAPs can be found in Section 112(b) of the Clean Air Act or can be obtained by contacting your Hamilton County Department of Environmental Services contact. This information does not have to be kept on a line-by-line basis.

Inks may be recorded in pounds HAP per pound ink and annual HAP emissions calculated using:

$$E = \text{Lbs. ink employed per month} \times \text{HAP fraction of ink by wt.} = \text{Lbs. HAPs/Month}$$

Fountain solutions, aqueous inks, and cleanup material may be recorded in pounds HAP per gallon of material and annual HAP emissions calculated using:

$$E = \text{Lbs. HAP per gallon material} \times \text{No. of gallons employed per month} = \text{Lbs. HAPs/Month}$$

- 2. The permittee shall collect and record the following information each day for cleanup materials employed in this emissions unit:

- a. The company identification (including product name per MSDSs) for each cleanup material employed.
 - b. Documentation on whether or not each cleanup material is a photochemically reactive material as identified in OAC rule 3745-21-01(C)(5).
 - c. The number of gallons of each cleanup material employed.
 - d. The organic compound content of each cleanup material, as applied.
3. The permittee shall collect and record the following information each month for each material employed in each emissions unit:
- a. The company identification for each ink (inks and aqueous coatings), fountain solution, and cleanup material employed.
 - b. A record of each inks, aqueous coatings and fountain solution employed in this emissions unit indicating whether or not the inks, aqueous coatings or fountain solution is photochemically reactive as identified in OAC rule 3745-21-01(C)(5).
 - c. The number of pounds of all inks and gallons of each *aqueous coating and* fountain solution employed, respectively.
 - d. The organic compound content of each ink in pounds per pound and fountain solution and aqueous coating in pounds per gallon.
 - e. The organic compound emission rate for all inks and each fountain solution, aqueous coating and cleanup material, in pounds or tons per month.
 - f. The total organic compound emission rate for all inks, fountain solutions, aqueous coating and cleanup materials, in pounds or tons per month.
 - g. During the first 12 calendar months of operation following the issuance of this permit, the permittee shall record the cumulative organic compound emissions for each calendar month.
 - h. After the first 12 calendar months of operation following the issuance of this permit, the permittee shall record the rolling 12-month total organic compound emissions rate for all inks, fountain solutions, aqueous coating and cleanup materials, in tons per year.

- i. During the first 12 calendar months of operation following the issuance of this permit, the permittee shall record the cumulative usage figures for each material employed (See Sections A.2.2.c. through A.2.2.f.) for each calendar month.
- j. After the first 12 calendar months of operation following the issuance of this permit, the permittee shall record the rolling 12-month summation of the inks, fountain solution, aqueous coating and cleanup material usage figures, in gallons per year. (See Sections A.2.2.c. through A.2.2.f.)

Note: The ink information must be for the inks as applied, including any thinning solvents or catalysts added at the emissions unit. Also, the definitions of "photochemically reactive" and "non-photochemically reactive" are based upon OAC rule 3745-21-01(C)(5).

4. The permittee shall maintain for this facility all purchase orders and invoices of OC-containing materials. The permittee shall retain such purchase orders and invoices for at least five years from their date of issuance. Upon request, the permittee shall make available to the Director of the Ohio EPA, or an authorized representative of the Director, such purchase orders and invoices for use in confirming the general accuracy of the records maintained and the reports submitted regarding material usage.
5. The permit to install for this emissions unit R010 was evaluated based on the actual materials (typically inks and adhesive materials) and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Ground-Level Concentration (MAGLC).

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

Pollutant: Glycol Ethers

TLV (ug/m3): 121,000

Maximum Hourly Emission Rate (lbs/hr): 73.92

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 2,775

MAGLC (ug/m3): 2,880

Pollutant: Ethylene Glycol

TLV (ug/m3): 100,000

Maximum Hourly Emission Rate (lbs/hr): 9.39

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Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 351.8
 MAGLC (ug/m3): 1,755

Pollutant: Naphthalene
 TLV (ug/m3): 52,400
 Maximum Hourly Emission Rate (lbs/hr): 26.02
 Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 977.8
 MAGLC (ug/m3): 1,247

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

- a. changes in the composition of the materials used (typically for inks or adhesive 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 with 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 satisfy the Air Toxic Policy:"

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

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

D. Reporting Requirements

1. The permittee shall submit an annual report which identifies each day during which any photochemically reactive material was employed in this emissions unit. This report shall identify the cause for the use of the photochemically reactive material(s) and the estimated total quantity of material(s) emitted each such day. This report shall be submitted by January 31 of each year and shall cover the previous calendar year.
2. The permittee shall notify the Hamilton County Department of Environmental Services of any exceedance of the HAP emissions limitations set forth in this Permit to Install. The permittee shall submit annual reports which identify all exceedances of these limitations, as well as the corrective actions that were taken to achieve compliance. These reports shall be submitted by January 31 of each year. If no exceedances occurred during the reporting period then a report is required stating so.
3. The permittee shall submit annual reports which specify the total annual organic compound emissions from emissions unit R010. These reports shall be submitted by January 31 of each year.
4. The permittee shall submit quarterly deviation (excursion) reports which identify:
 - a. Any exceedances of cleanup material usage or emissions limit in this permit (e.g., 10 gallons per day cleanup for emissions unit R010).
 - b. All exceedances of the OC content limits delineated in Section A.2.2.b.
 - c. All exceedances of the rolling, 12-month usage limitations for all materials employed and, for the first 12 calendar months of operation following the issuance of this permit, all exceedances of the maximum allowable cumulative materials usage rates limits. (See Sections A.2.2.c. through A.2.2.f.)
 - d. All exceedances of the rolling, 12-month OC emission limitation.

Exceeding the rolling, 12-month limit is a violation for each day of the last month of each 12

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month period in which the limit is exceeded, regardless of whether a compliance plan is submitted.

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

E. Testing Requirements

1. Compliance with the emission limitation(s) in this permit shall be determined in accordance with the following method(s):

- a. Emission Limitation:
330.82 lbs/day OC for emissions unit R010

Applicable Compliance Method:

Compliance for the inks, fountain solutions and aqueous inks shall be based on multiplying the maximum daily usage rates (1920 pounds/day, 57.6 gallons/day, and 168 gallons/day respectively) by the maximum OC contents (30% OC by weight, 0.16 lb/gallon and 1.35 lbs/gallon, respectively) and adding their results to the daily OC emissions from the cleanup materials (as determined by the record keeping requirements specified in Section C.2.).

- b. Emission Limitation:
10.60 TPY OC

Applicable Compliance Method:

Compliance shall be based upon the record keeping requirements specified in Section C.3.

- c. Emission Limitation:
10.60 TPY OC, based upon a rolling, 12-month summation

Applicable Compliance Method:

Compliance shall be based upon the record keeping requirements specified in Section C.3.

- d. Emission Limitation:
HAPs emissions 9.9 TPY or less for any single HAP and 24.9 TPY or less for any combination of HAPs

Applicable Compliance Method:

Compliance shall be based upon the record keeping requirements specified in Section C.1.

- e. Organic Compound Content Limitations:

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Ink:	30% by weight OC
Fountain Solution:	0.16 lb OC/gallon
Aqueous Coating:	1.35 lbs OC/gallon
Cleanup Material:	6.6 lbs OC/gallon

Applicable Compliance Method:
See term E.4

- f. Compliance with the usage rate limitations for all materials employed (see Sections A.2.2.c. through A.2.2f.) shall be based upon the record keeping requirements specified in Section C.3.
- g. Compliance with the daily cleanup material usage rate limitation specified in Section B.2. shall be based upon the record keeping requirements specified in Section C.2.
2. The OC emission rate for inks is calculated on a "worst case" basis for the ink with the highest OC content as follows:
- For ink, 95.0% of the OC's in inks are retained by the substrate, 5.0% goes to the dryer. All are demonstrated in the following equation:
- $$30\% \text{ Weight OC content (maximum allowable)} * \text{material usage rate (pounds)} * (1.0 - 0.95) = \text{pounds of OC}$$
3. The OC emission rate for fountain solutions, aqueous inks and cleanup materials shall be based on OC content information from the manufacturer and is calculated as follows:

Fountain solution emissions
Demonstrated in the following equation:

$$\text{OC content (lbs/gal)} * \text{material usage rate (gallons)} = \text{pounds of OC}$$

Aqueous Coatings emissions
Demonstrated in the following equation:

$$\text{OC content (lbs/gal)} * \text{material usage rate (gallons)} = \text{pounds of OC}$$

Cleanup Material emissions
Demonstrated in the following equations:

$$\text{OC content (lbs/gal)} * \text{material usage rate (gallons)} = \text{pounds of OC}$$

4. OAC rule 3745-21-10(B) shall be used to determine the OC contents of the inks, fountain solutions, aqueous coatings, and cleanup materials. If pursuant to 40 CFR Part 60, Appendix A, an owner or operator determines that Method 24 or Method 24A cannot be used, the permittee shall notify the Administrator of USEPA and shall use formulation data for the material to demonstrate compliance until USEPA provides alternative analytical procedures or alternative precision statements for Method 24 or 24A.

F. Miscellaneous Requirements

1. The following terms and conditions of this permit are federally enforceable, A.2.2.a., through A.2.i, B.1., B.2,C.1., C.2., C.3., C.4., D.1., D.2., D.3. and D.4 and E.
2. For all inks employed, the worst case OC content (from term A.2.b) can be used to calculate emissions.
3. The terms and conditions listed in this permit to install shall supercede all the air pollution control requirements for this emission unit contained in permit to install 14-04811 as issued on March 29, 2000.

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.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
R011 - Heatset Web Offset Press with dryer and regenerative thermal oxidizer (RTO) - Mitsubishi Web - Modification	OAC rule 3745-31-05 (A)(3)	360.34 lbs/day OC for emissions unit R011
		0.551 lb/hr PM/PM10 2.41 TPY PM/PM10
		32.60 TPY OC
	OAC rule 3745-31-05(D)	The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1) and OAC rule 3745-31-05(D).
	OAC rule 3745-17-11(A)	32.60 TPY OC, based upon a rolling, 12-month summation.
OAC rule 3745-17-07(A)(1)	See Sections A.2.2.a., A.2.2.b., A.2.2.d., A.2.2.e., A.2.2.f. and A.2.2.j.	
OAC rule 3745-21-07(G)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).	

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See Section A.2.2.c.

Exempt

2. Additional Terms and Conditions

- 2.a** The total allowable usage* of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title III of the Clean Air Act, from this facility shall not exceed 9.9 TPY for any single HAP and 24.9 TPY for any combination of HAPs. Compliance with the above limitation shall be based on a rolling, 12-month summation.

To ensure federal enforceability during the first 12 calendar months of operation following the issuance of this permit to install, the permittee shall not exceed the HAPs usage limits specified in the following table:

Month(s)	Maximum Allowable Single HAP Usage In Tons	Maximum Allowable Combined HAP Usage In Tons
1	0.8	2.1
1-2	1.7	4.2
1-3	2.5	6.2
1-4	3.3	8.3
1-5	4.2	10.4
1-6	5.0	12.5
1-7	5.8	14.6
1-8	6.6	16.6
1-9	7.5	18.7
1-10	8.3	20.8
1-11	9.1	22.9
1-12	9.9	24.9

After the first 12 calendar months of operation following the issuance of this permit to install, compliance with the annual HAPs usage limits shall be based upon a rolling, 12-month summation of the HAP(s) usage* figures.

* The usage figures for HAPs can be adjusted for retention and control efficiency where appropriate.

- 2.b** The maximum organic compound content of the inks, fountain solutions, and cleanup materials, as applied, shall not exceed the following:

Ink	45% by weight OC
Fountain Solution	0.65 lb OC/gallon

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Cleanup Material 6.6 lbs OC/gallon

Ink means a liquid material applied by a roll printer. Fountain solution means a surface coating applied to a lithographic plate to render the nonimage areas unreceptive to ink. Cleanup material means all materials used to remove excess printing inks, oils and paper components from press equipment.

- 2.c Visible particulate emissions from any stack shall not exceed 20 percent opacity, as a six-minute average.
- 2.d The maximum annual ink usage for this emissions unit shall not exceed 400,000 pounds per year, based upon a rolling, 12-month summation of the ink usage figures.

To ensure enforceability during the first 12 calendar months of operation following the issuance of this permit, the permittee shall not exceed the ink usage levels specified in the following table:

Month(s)	Maximum Allowable Cumulative Ink Usage, in pounds
1	33,333
1-2	66,666
1-3	99,999
1-4	133,332
1-5	166,665
1-6	199,998
1-7	233,331
1-8	266,664
1-9	299,997
1-10	333,330
1-11	366,663
1-12	400,000

After the first 12 calendar months of operation following the issuance of this permit, compliance with the annual ink usage limitation shall be based upon a rolling, 12-month summation of the ink usage figures.

- 2.e The maximum annual fountain solution usage for this emissions unit shall not exceed 120,000 gallons per year, based upon a rolling, 12-month summation of the fountain solution usage figures.

To ensure enforceability during the first 12 calendar months of operation following the issuance of this permit, the permittee shall not exceed the fountain solution usage levels specified in the following table:

Month(s)	Maximum Allowable Cumulative Fountain Solution Usage, in gallons
1	10,000
1-2	20,000
1-3	30,000
1-4	40,000
1-5	50,000
1-6	60,000
1-7	70,000
1-8	80,000
1-9	90,000
1-10	100,000
1-11	110,000
1-12	120,000

After the first 12 calendar months of operation following the issuance of this permit, compliance with the annual fountain solution usage limitation shall be based upon a rolling, 12-month summation of the fountain solution usage figures.

- 2.f** The maximum annual cleanup material usage for this emissions unit shall not exceed 3,000 gallons per year, based upon a rolling, 12-month summation of the cleanup material usage figures.

To ensure enforceability during the first 12 calendar months of operation following the issuance of this permit, the permittee shall not exceed the cleanup material usage levels specified in the following table:

Month(s)	Maximum Allowable Cumulative Cleanup Material Usage, in gallons
1	500
1-2	700
1-3	900
1-4	1,100

1-5	1,300
1-6	1,500
1-7	1,750
1-8	2,000
1-9	2,250
1-10	2,500
1-11	2,750
1-12	3,000

After the first 12 calendar months of operation following the issuance of this permit, compliance with the annual cleanup material usage limitation shall be based upon a rolling, 12-month summation of the cleanup material usage figures.

- 2.g** The daily emission limitation outlined for inks and fountain solutions are based upon the emissions units' PTE at 24 hours per day. Therefore, no daily records are required to demonstrate compliance with this limit.
- 2.h** Daily, monthly, and annual emissions rates in this permit are subject to revision should any of the listed emissions units be withdrawn.
- 2.i** Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by OC content limitations for all inks, fountain solutions and cleanup materials, usage limitations, use of the RTO and compliance with the Air Toxics Policy.
- 2.j** The permittee shall operate and maintain a control device at a minimum, 92.5% (by weight of organic compounds) control efficiency at maximum hourly coating capacity from the control device exhaust for emissions units R005, R007 and R011.

B. Operational Restrictions

1. The use of photochemically reactive materials as defined in OAC rule 3745-21-01(C)(5) is prohibited in emissions unit R011.

Prior to employing any photochemically reactive material in this emissions unit, including any cleanup material that is a photochemically reactive material, the permittee shall provide written notification to the Hamilton County Department of Environmental Services. Such notification shall include information sufficient to determine compliance with the emission limits and/or control requirements specified in OAC rule 3745-21-07(G). This notification, at a minimum, shall include the company identification of the new material to be employed, the solvent composition of the material, and the maximum amount to be used, in pounds per hour, and pounds per day.

2. The maximum daily cleanup material usage for emissions unit R011 shall not exceed 20 gallons per day.
3. The average combustion temperature within the thermal oxidizer, for any 3-hour block of time when the emissions unit is in operation, shall not be more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall collect and record the following information each month for the entire facility:
 - a. The name and identification number of all inks and each fountain solution, employed;
 - b. The individual Hazardous Air Pollutant (HAP) content for each HAP of all inks and each fountain solution in pounds of individual HAP per gallon of ink (or fountain solution), as applied;
 - c. The total combined HAP content of all inks and each fountain solution in pounds of combined HAPs per gallon of ink (or fountain solution), as applied [sum all the individual HAP contents from (b)];
 - d. The number of gallons of all inks and each fountain solution employed;
 - e. The name and identification of each cleanup material employed;
 - f. The individual HAP content for each HAP of each cleanup material, in pounds of individual HAP per gallon of cleanup material, as applied;
 - g. The total combined HAP content of each cleanup material, in pounds of combined HAPs per gallon of cleanup material, as applied [sum all the individual HAP contents from (f)];
 - h. The number of gallons of each cleanup material employed;
 - i. The total individual HAP usage * for each HAP from all inks, fountain solutions and cleanup materials employed, in pounds or tons per month [for each HAP the sum of (b) times (d) for each ink and fountain solution plus the sum of (f) times (h) for each cleanup material];

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- j. The total combined HAP usage* from all inks, fountain solutions and cleanup materials employed, in pounds or tons per month [the sum of (c) times (d) for each inks and fountain solution plus the sum of (g) times (h) for each cleanup material];
- k. The updated rolling, 12-month summation of usage* for each individual HAP emissions, in pounds or tons. This shall include the information for the current month and the preceding eleven calendar months. For the first twelve months following the issuance of the permit, this shall be a cumulative total for all months since the issuance of the PTI; and
- l. The updated rolling, 12-month summation of usage* for total combined HAP emissions, in pounds or tons. This shall include the information for the current month and the preceding eleven calendar months. For the first twelve months following the issuance of the permit, this shall be a cumulative total for all months since the issuance of the PTI.

* The usage figures for HAPs can be adjusted for retention and control efficiency where appropriate.

** A listing of the HAPs can be found in Section 112(b) of the Clean Air Act or can be obtained by contacting your Hamilton County Department of Environmental Services contact. This information does not have to be kept on a line-by-line basis.

Inks may be recorded in pounds HAP per pound ink and annual HAP emissions calculated using:

$$E = \text{Lbs. ink employed per month} \times \text{HAP fraction of ink by wt.} = \text{Lbs. HAPs/Month}$$

Fountain solutions, aqueous inks, and cleanup material may be recorded in pounds HAP per gallon of material and annual HAP emissions calculated using:

$$E = \text{Lbs. HAP per gallon material} \times \text{No. of gallons employed per month} = \text{Lbs. HAPs/Month}$$

- 2. The permittee shall collect and record the following information each day for cleanup materials employed in this emissions unit:
 - a. The company identification (including product name per MSDSs) for each cleanup material employed.
 - b. Documentation on whether or not each cleanup material is a photochemically reactive material as identified in OAC rule 3745-21-01(C)(5).
 - c. The number of gallons of each cleanup material employed.

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- d. The organic compound content of each cleanup material, as applied.
3. The permittee shall collect and record the following information each month for each material employed in each emissions unit:
 - a. The company identification for each ink, fountain solution, and cleanup material employed.
 - b. A record of each ink and fountain solution employed in this emissions unit indicating whether or not the ink or fountain solution is photochemically reactive as identified in OAC rule 3745-21-01(C)(5).
 - c. The number of pounds of each ink employed and the number of gallons of each fountain solution and cleanup material employed in each emission unit.
 - d. The organic compound content of each ink in pounds per pound, and the organic compound content of each fountain solution and cleanup material in pounds per gallon.
 - e. The organic compound emission rate for each ink, fountain solution and cleanup material, in pounds or tons per month, from each emissions unit.
 - f. The total organic compound emission rate for all inks, fountain solutions, and cleanup materials, in pounds or tons per month, from each emissions unit.
 - g. During the first 12 calendar months of operation following the issuance of this permit, the permittee shall record the cumulative organic compound emissions for each calendar month.
 - h. After the first 12 calendar months of operation following the issuance of this permit, the permittee shall record the rolling 12-month total organic compound emissions rate for all inks, fountain solutions, and cleanup materials, in tons per year.
 - i. During the first 12 calendar months of operation following the issuance of this permit, the permittee shall record the cumulative usage figures for each material employed (See Sections A.2.2.d. through A.2.2.f.) for each calendar month.
 - j. After the first 12 calendar months of operation following the issuance of this permit, the permittee shall record the rolling 12-month summation of the ink in pounds per year, and fountain solution and cleanup material usage figures in gallons per year. (See Sections A.2.2.d. through A.2.2.f.)

Note: The ink information must be for the inks as applied, including any thinning solvents or catalysts added at the emissions unit. Also, the definitions of "photochemically reactive" and "non-photochemically reactive" are based upon OAC rule 3745-21-01(C)(5).

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

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

- a. All 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer, when the emissions unit was in operation, was more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.
 - b. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.
5. The permittee shall maintain for this facility all purchase orders and invoices of OC-containing materials. The permittee shall retain such purchase orders and invoices for at least five years from their date of issuance. Upon request, the permittee shall make available to the Director of the Ohio EPA, or an authorized representative of the Director, such purchase orders and invoices for use in confirming the general accuracy of the records maintained and the reports submitted regarding material usage.
 6. The permit to install for this emissions unit R011 was evaluated based on the actual materials (typically inks and adhesive materials) and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Ground-Level Concentration (MAGLC).

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

Pollutant: Glycol Ethers

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TLV (ug/m3): 121,000

Maximum Hourly Emission Rate (lbs/hr): 73.92

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 2,775

MAGLC (ug/m3): 2,880

Pollutant: Ethylene Glycol

TLV (ug/m3): 100,000

Maximum Hourly Emission Rate (lbs/hr): 9.39

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 351.8

MAGLC (ug/m3): 1,755

Pollutant: Naphthalene

TLV (ug/m3): 52,400

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Maximum Hourly Emission Rate (lbs/hr): 26.02

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 977.8

MAGLC (ug/m3): 1,247

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

- a. changes in the composition of the materials used (typically for inks or adhesive 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 with 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 satisfy the Air Toxic Policy:"

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

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

D. Reporting Requirements

1. The permittee shall submit an annual report which identifies each day during which any photochemically reactive material was employed in this emissions unit. This report shall identify the cause for the use of the photochemically reactive material(s) and the estimated total quantity of material(s) emitted each such day. This report shall be submitted by January 31 of each year and shall cover the previous calendar year.
2. The permittee shall notify the Hamilton County Department of Environmental Services of any exceedance of the HAP emissions limitations set forth in this Permit to Install. The permittee shall submit annual reports which identify all exceedances of these limitations, as well as the corrective actions that were taken to achieve compliance. These reports shall be submitted by January 31 of each year. If no exceedances occurred during the reporting period then a report is required stating so.
3. The permittee shall submit annual reports which specify the total annual organic compound emissions from emissions unit R011. These reports shall be submitted by January 31 of each year.
4. The permittee shall submit quarterly deviation (excursion) reports which identify:
 - a. Any exceedances of cleanup material usage or emissions limit in this permit (e.g., 20 gallons per day cleanup for emissions unit R011).
 - b. All exceedances of the OC content limits delineated in Section A.2.2.b.
 - c. All exceedances of the rolling, 12-month usage limitations for all materials employed and, for the first 12 calendar months of operation following the issuance of this permit, all exceedances of the maximum allowable cumulative materials usage rates limits. (See Sections A.2.2.d. through A.2.2.f.)
 - d. All exceedances of the rolling, 12-month OC emission limitation.

Exceeding the rolling, 12-month limit is a violation for each day of the last month of each 12 month period in which the limit is exceeded, regardless of whether a compliance plan is submitted.

5. The permittee shall submit deviation (excursion) reports which identify all 3-hour blocks of time during which the average combustion temperature within the thermal incinerator does not comply with the temperature limitation specified above. This report shall include the allowable operating temperature determined during the last emissions test.

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

E. Testing Requirements

1. Compliance with the emission limitation(s) in this permit shall be determined in accordance with the following method(s):

- a. Emission Limitation:
360.34 lbs/day OC for emissions unit R011

Applicable Compliance Method:

Compliance for the inks and fountain solutions shall be based on multiplying the maximum daily usage rates (4,800 pounds/day and 422.4 gallons/day, respectively) by the maximum OC contents (45% OC by weight and 0.65 lb/gallon, respectively) and adding their results to the daily OC emissions from the cleanup materials (as determined by the record keeping requirements specified in Section C.2.).

- b. Emission Limitation:
0.551 lb/hr PM/PM10

Applicable Compliance Method:

If testing is required to demonstrate compliance with the allowable emission limitation of 0.551 pound PM/PM10 per hour, then testing shall be conducted using the following method: Method 5, 40 CFR Part 60, Appendix A.

- c. Emission Limitation:
2.41 TPY PM/PM10

Applicable Compliance Method:

The 2.41 TPY limitation was developed by multiplying the 0.551 lb/hr limitation by the maximum operating schedule of 8760 hours per year, and dividing by 2,000 pounds per ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

- d. Emission Limitation:
32.60 TPY OC

Applicable Compliance Method:

Compliance shall be based upon the record keeping requirements specified in Section C.3.

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- e. Emission Limitation:
32.60 TPY OC, based upon a rolling, 12-month summation

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Applicable Compliance Method:

Compliance shall be based upon the record keeping requirements specified in Section C.3.

- f. Emission Limitation:
HAPs emissions 9.9 TPY or less for any single HAP and 24.9 TPY or less for any combination of HAPs

Applicable Compliance Method:

Compliance shall be based upon the record keeping requirements specified in Section C.1.

- g. Organic Compound Content Limitations:
Ink: 45% by weight OC
Fountain Solution: 0.65 lb OC/gallon
Cleanup Material: 6.6 lbs OC/gallon

Applicable Compliance Method:

See term E.5.

- h. Compliance with the usage rate limitations for all materials employed (see Sections A.2.2.d. through A.2.2.f.) shall be based upon the record keeping requirements specified in Section C.3.
- i. Compliance with the daily cleanup usage rate limitation specified in Section B.2. shall be based upon the record keeping requirements specified in Section C.2.
2. The OC emission rate for inks is calculated on a "worst case" basis for the ink with the highest OC content as follows:
For ink, 20.0% of the OC's in heatset inks are retained by the substrate, 80.0% goes to the dryer. In addition, there is a 100.0% capture efficiency and a 92.5% control efficiency. All are demonstrated in the following equation:

$$45\% \text{ Weight OC content (maximum allowable) } * \text{ material usage rate (pounds) } * \\ (1.0-0.20)*(1.0-0.925) = \text{pounds of OC}$$

3. The OC emission rate for fountain solutions and cleanup materials shall be based on OC content information from the manufacturer and is calculated as follows:

Fountain solution emissions

Demonstrated in the following equations:

Fugitive Emissions

OC content (lbs/gal) * material usage rate (gallons) * (0.30) = pounds of OC

Oven Emissions

OC content (lbs/gal) * material usage rate (gallons) * (0.70) *(1.0-0.925) = pounds of OC

Add the fugitive emissions to the oven emissions to obtain the total OC emissions for fountain solution.

Cleanup Material emissions

Oven Emissions

OC content (lbs/gal) * material usage rate (pounds) * (0.40) *(1.0-0.925) = pounds of OC

Fugitive Emissions

OC content (lbs/gal) * material usage rate (tons) * (0.60) = tons of OC

Add the fugitive emissions to the oven emissions to obtain the total OC emissions for Cleanup Material

4. Compliance with the visible particulate limitation shall be demonstrated by the methods outlined in 40 CFR Part 60, Appendix A, Method 9.
5. OAC rule 3745-21-10(B) shall be used to determine the OC contents of the inks, fountain solutions, and cleanup materials. If pursuant to 40 CFR Part 60, Appendix A, an owner or operator determines that Method 24 or Method 24A cannot be used, the permittee shall notify the Administrator of USEPA and shall use formulation data for the material to demonstrate compliance until USEPA provides alternative analytical procedures or alternative precision statements for Method 24 or 24A.

F. Miscellaneous Requirements

1. The following terms and conditions of this permit are federally enforceable, A.2.2.a., through A.2.2.j., B.1.through B.3, C.1., through C.5., D.1., D.2., D.3., D.4., D.5., and E.
2. For all inks employed, the worst case OC content (from term A.2.b) can be used to calculate emissions.
3. The terms and conditions listed in this permit to install shall supercede all the air pollution control requirements for this emission unit contained in permit to install 14-04811 as issued on March 29,

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