

Facility ID: 1431070992 Issuance type: Final State Permit To Operate

This version of facility specific terms and conditions was converted from a database format to an HTML file during an upgrade of the Ohio EPA, Division of Air Pollution Control's permitting software. Every attempt has been made to convert the terms and conditions to look and substantively conform to the permit issued or being drafted in STARS. However, the format of the terms may vary slightly from the original. In addition, although it is not expected, there is a slight possibility that a term and condition may have been inadvertently "left out" of this reproduction during the conversion process. Therefore, if this version is to be used as a starting point in drafting a new version of a permit, it is imperative that the entire set of terms and conditions be reviewed to ensure they substantively mimic the issued permit. The official version of any permit issued final by Ohio EPA is kept in the Agency's Legal section. The Legal section may be contacted at (614) 644-3037.

In addition to the terms and conditions, hyperlinks have been inserted into the document so you may more readily access the section of the document you wish to review.

Finally, the term language under "Part II" and before "A. Applicable Emissions Limitations..." has been added to aid in document conversion, and was not part of the original issued permit.

- [Go to Part II for Emissions Unit R001](#)
- [Go to Part II for Emissions Unit R007](#)
- [Go to Part II for Emissions Unit R010](#)
- [Go to Part II for Emissions Unit R011](#)

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Facility ID: 1431070992 Emissions Unit ID: R001 Issuance type: Final State Permit To Operate

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Part II - Special Terms and Conditions

This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

1. For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
 - (a) None.
2. For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
 - (a) None.

A. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
R001 - Heatset web offset press with dryer - Cottrell I	OAC rule 3745-31-05(C) (PTI 14-04841)	Organic compound emissions shall not exceed 770.06 lbs/day and 32.48 tons per year (TPY), based upon a rolling, 12-month summation. Particulate emissions (PE) and particulate matter emissions 10 microns and less in diameter (PM10) shall not exceed 0.551 lb/hr and 2.41 TPY. See terms A.2.a through A.2.e. See sections B.1 through B.6.
	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) and 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(C).
	OAC rule 3745-17-07(A)(1)	See term A.2.c.
	OAC rule 3745-21-07(G)	Exempt. See section B.1.

2. Additional Terms and Conditions

- (a) The actual emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title III of the Clean Air Act from emissions units R001, R007, R010, R011, P004, other de minimus air contaminant source, as defined in OAC rule 3745-15-05, and other air contaminant sources exempt from the requirement to obtain a permit-to-install pursuant to OAC rule 3745-31-03 installed subsequent to the issuance of this permit, combined, shall not exceed 9.9 TPY for any single HAP and 24.9 TPY for any combination of HAPs. The usage figures for HAPs can be adjusted for retention and control efficiency where appropriate. Compliance with the above limitations shall be based on a rolling, 12-month summation.
The maximum organic compound content of the inks, fountain solutions, and cleanup materials, as applied, shall not exceed the following:

Ink 45% by weight of OC;
Fountain Solution 0.21 lb of OC/gallon; and
Cleanup Material 6.6 lbs of 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.
Visible particulate emissions from any stack shall not exceed 20 percent opacity, as a six-minute

average.

The daily emission limitation is based upon the emissions unit's PTE at 24 hours per day. Therefore, no daily records are required to demonstrate compliance with this limitation.

Daily and annual emission 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. 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.
4. 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.
5. 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.
6. 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 Record Keeping Requirements

1. The permittee shall collect and record the following information each month for the emissions units identified in term A.2.a:

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; 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.

* 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 of HAP per pound of ink and annual HAP emissions calculated using:

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

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

$E = \text{Lbs of HAP per gallon material} \times \text{gallons of material employed per month} = \text{Lbs of HAPs/Month.}$

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 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, fountain solution and cleanup material employed in this emissions unit indicating whether or not the ink, fountain solution and cleanup material employed 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 emissions 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. The rolling 12-month total organic compound emissions rate for all inks, fountain solutions, and cleanup materials, in tons per year.
 - h. The rolling 12-month summation of the ink in pounds per year, and fountain solution and cleanup material usage figures in gallons per year.
- 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 emission limitations. 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 emission limitation in this permit (e.g., 10 gallons per day cleanup for emissions unit R001).
 - b. All exceedances of the OC content limitations delineated in term A.2.b.
 - c. All exceedances of the rolling, 12-month usage limitations for all materials employed.
 - 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. Emission Limitations:

Organic compound emissions shall not exceed 770.06 lbs/day and 32.48 TPY, based upon a rolling, 12-month summation.

Applicable Compliance Method:

The daily and annual organic compound emission rates were calculated using the following equations:

$$\text{lbs of OC/day} = [(A \times B \times (1-C)) + (D \times E) + (F \times G \times (1-H))].$$

$$\text{TPY OC} = [(A \times B \times (1-C)) + (D \times E) + (F \times G \times (1-H))] \times \text{ton}/2000 \text{ lbs.}$$

where;

A = maximum daily and annual ink usage rate = 1920 lbs/day and 120,000 lbs/year.
 B = maximum OC content in percent by weight expressed as a decimal = 0.45 lb of OC/lb of ink.
 C = ink retention factor from OEPA Engineering Guide #56 of 20 percent expressed as a decimal = 0.20.
 D = maximum daily and annual fountain solution usage rate = 218.4 gallons/day and 80,000 gallons/year.
 E = maximum OC content in lbs/gallon = 0.21 lb of OC/gallon of fountain solution.
 F = maximum daily and annual cleanup solvent usage rate = 10 gallons/day and 1500 gallons/year.
 G = maximum OC content in lbs/gallon = 6.6 lbs of OC/gallon of cleanup solvent.
 H = cleanup solvent retention factor from OEPA Engineering Guide #56 of 50 percent expressed as a decimal (the 50% retention factor can only be used if the composite partial pressure of the cleanup material is less than 10 mm of Mercury). = 0.50.

Compliance with the 12-month rolling OC emission limitation shall be demonstrated by the required recordkeeping in section C.3.

2. Emission Limitations:

Particulate emissions (PE) and particulate matter emissions 10 microns and less in diameter (PM10) shall not exceed 0.551 lb/hr and 2.41 TPY.

Applicable Compliance Method:

According to OEPA Engineering Guide #56, the allowable emission rate from Table 1 of OAC rule 3745-17-11 should be used to determine PE emission rate. PTI 14-04841 used the more stringent minimum process weight of 100 lbs/hr to set the lb/hr emission rate of 0.551 lb/hr as BAT. PM10 emissions are assumed to be equal to PE emissions.

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: Methods 1- 5, 40 CFR Part 60, Appendix A.

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.

3. Compliance with the 12-month rolling HAP limitations outlined in term A.2.a shall be demonstrated by the record keeping in section C.1.

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

Method 24 or 24A can be performed by the permittee or other party (i.e., the permittee's coating supplier).

5. Compliance with the annual usage rate limitations for inks, fountain solution and cleanup materials shall be based upon the record keeping requirements specified in section C.3.

6. 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.

7. Visible Emission Limitation:

Visible particulate emissions from any stack shall not exceed 20 percent opacity, as a six-minute average.

Applicable Compliance Method:

Compliance shall be determined through visible emission observations performed in accordance with 40 CFR Part 60 ("Standards of Performance for New Stationary Sources"), Appendix A, U.S. EPA Reference Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

F. Miscellaneous Requirements

1. The following Sections of this permit are federally enforceable: A, B, C, D, and E.
2. For all inks employed in this emissions unit, the worst case OC content can be used to calculate emissions.

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Facility ID: 1431070992 Emissions Unit ID: R007 Issuance type: Final State Permit To Operate

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Part II - Special Terms and Conditions

This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

1. For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
 - (a) None.
2. For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
 - (a) None.

A. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
R007 - Heatset web offset press with dryer and regenerative thermal oxidizer (RTO) - Hantscho IV	OAC rule 3745-31-05(A)(3) (PTI #14-04841)	Organic compound emissions shall not exceed 96.35 pounds per day (lbs/day).
		Particulate emissions (PE) shall not exceed 0.551 lb/hr and 2.41 tons per year (TPY).
		Particulate matter emissions 10 microns and less in diameter (PM10) shall not exceed 0.551 lb/hr and 2.41 TPY
		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(C)and OAC rule 3745-21-07 (G).
	OAC rule 3745-31-05(C)	OC emissions shall not exceed 5.87 tons per year (TPY), based upon a rolling, 12-month summation.
	OAC rule 3745-17-11(A)	See sections A.2.a, A.2.b and A.2.f. See sections B.3, B.4 and B.5.
	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.c. Exempt. See section B.1.

2. Additional Terms and Conditions

- (a) The actual emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title III of the Clean Air Act from emissions units R001, R007, R010, R011, P004, other de minimus air contaminant source, as defined in OAC rule 3745-15-05, and other air contaminant sources exempt from the requirement to obtain a permit-to-install pursuant to OAC rule 3745-31-03 installed subsequent to the issuance of this permit, combined, shall not exceed 9.9 TPY for any single HAP and 24.9 TPY for any combination of HAPs. The usage figures for HAPs can be adjusted for retention and control efficiency where appropriate. Compliance with the above limitations shall be based on a rolling, 12-month summation.
The maximum organic compound content of the inks, fountain solutions, and cleanup materials, as applied, shall not exceed the following:

 Ink 45% by weight of OC;
 Fountain Solution 0.16 lb of OC/gallon; and
 Cleanup Material 6.6 lbs of 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. Visible particulate emissions from any stack shall not exceed 20 percent opacity, as a six-minute average.
 The daily emission limitation outlined for inks and fountain solutions are based upon the emissions unit's PTE at 24 hours per day. Therefore, no daily records are required to demonstrate compliance with this limitation.
 Daily and annual emission rates in this permit are subject to revision should any of the listed emissions units be withdrawn.
 Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by OC content limitations for all inks, fountain solutions and cleanup materials, material usage limitations and use of the RTO with a 92.5% (by weight of organic compounds) control efficiency.
 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 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 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. 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.
 4. 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.
 5. The maximum annual cleanup material usage for this emissions unit shall not exceed 2000 gallons per year, based upon a rolling, 12-month summation of the cleanup material usage figures.
 6. 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.
 7. 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 Record Keeping Requirements**
1. The permittee shall collect and record the following information each month for the emissions units identified in term A.2.a:
 - 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; 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.

* 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 of HAP per pound of ink and annual HAP emissions calculated using:

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

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

$$E = \text{Lbs of HAP per gallon material} \times \text{gallons of material employed per month} = \text{Lbs of HAPs/Month.}$$
 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 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, fountain solution and cleanup material employed in this emissions unit indicating whether or not the ink, fountain solution and cleanup material employed 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 emissions 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. The rolling 12-month total organic compound emissions rate for all inks, fountain solutions, and cleanup materials, in tons per year.
- h. The rolling 12-month summation of the ink in pounds per year, and fountain solution and cleanup material usage figures in gallons per year.

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

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

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 emission 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 R007. 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 emission limitation in this permit (e.g., 10 gallons per day cleanup for emissions unit R005).
 - b. All exceedances of the OC content limitations delineated in term A.2.b.
 - c. All exceedances of the rolling, 12-month usage limitations for all materials employed.
 - 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. Emission Limitation:
Organic compound emissions shall not exceed 96.35 pounds per day (lbs/day).

Applicable Compliance Method:

The daily organic compound emission rate was calculated using the following equation:

$$\text{lbs of OC/day} = [A \times B \times (1-C) \times (1-D)] + [E \times F \times G \times (1-D)] + [E \times F \times H] + [I \times J \times (1-K)].$$

where;

A = maximum daily usage rate = 1920 lbs/day.

B = maximum OC content in percent by weight expressed as a decimal = 0.45 lb of OC/lb of ink.

C = ink retention factor from OEPA Engineering Guide #56 of 20 percent expressed as a decimal = 0.20.

D = control efficiency of thermal oxidizer of 92.5% expressed as a decimal = 0.925.

E = maximum daily fountain solution usage rate = 204 gallons/day.

F = maximum OC content in lbs/gallon = 0.16 lb of OC/gallon of fountain solution.

- G = fountain solution capture factor from OEPA Engineering Guide #56 of 70 percent captured and ducted to control device expressed as a decimal = 0.70.
 H = fountain solution fugitive factor from OEPA Engineering Guide #56 of 30 percent expressed as a decimal = 0.30
 I = maximum daily cleanup solvent usage rate = 10 gallons/day.
 J = maximum OC content in lbs/gallon = 6.6 lbs of OC/gallon of cleanup solvent.
 K = cleanup solvent retention factor from OEPA Engineering Guide #56 of 50 percent expressed as a decimal (the 50% retention factor can only be used if the composite partial pressure of the cleanup material is less than 10 mm of Mercury). = 0.50.

2. Emission Limitation:

OC emissions shall not exceed 5.87 tons per year (TPY), based upon a rolling, 12-month summation.

The annual organic compound emissions rate was calculated using the following equation:

$$\text{lbs of OC/year} = [A \times B \times (1-C) \times (1-D)] + [E \times F \times G \times (1-D)] + [E \times F \times H] + [I \times J \times (1-K)] \times \text{ton}/2000 \text{ lbs.}$$

where;

- A = maximum annual ink usage rate = 80,000 lbs/year.
 B = maximum OC content in percent by weight expressed as a decimal = 0.45 lb of OC/lb of ink.
 C = ink retention factor from OEPA Engineering Guide #56 of 20 percent expressed as a decimal = 0.20.
 D = control efficiency of thermal oxidizer of 92.5% expressed as a decimal = 0.925.
 E = maximum annual fountain solution usage rate = 53,000 gallons/year.
 F = maximum OC content in lbs/gallon = 0.16 lb of OC/gallon of fountain solution.
 G = fountain solution capture factor from OEPA Engineering Guide #56 of 70 percent captured and ducted to control device expressed as a decimal = 0.70.
 H = fountain solution fugitive factor from OEPA Engineering Guide #56 of 30 percent expressed as a decimal = 0.30
 I = maximum annual cleanup solvent usage rate = 2000 gallons/year.
 J = maximum OC content in lbs/gallon = 6.6 lbs of OC/gallon of cleanup solvent.
 K = cleanup solvent retention factor from OEPA Engineering Guide #56 of 50 percent expressed as a decimal (the 50% retention factor can only be used if the composite partial pressure of the cleanup material is less than 10 mm of Mercury). = 0.50.

Compliance with the rolling, 12-month annual limit shall be based upon the record keeping requirements specified in Section C.3.

3. Emission Limitations:

Particulate emissions (PE) and particulate matter emissions 10 microns and less in diameter (PM10) shall not exceed 0.551 lb/hr and 2.41 TPY.

Applicable Compliance Method:

According to OEPA Engineering Guide #56, the allowable emission rate from Table 1 of OAC rule 3745-17-11 should be used to determine PE emission rate. PTI 14-04841 used the more stringent minimum process weight of 100 lbs/hr to set the lb/hr emission rate of 0.551 lb/hr as BAT. PM10 emissions are assumed to be equal to PE emissions.

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: Methods 1- 5, 40 CFR Part 60, Appendix A.

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.

4. Compliance with the 12-month rolling HAP limitations outlined in term A.2.a shall be demonstrated by the record keeping in section C.1.
5. OAC rule 3745-21-10(B) shall be used to determine the OC contents of the inks, fountain solutions and cleanup materials employed in this emissions unit. If, pursuant to 40 CFR Part 60, Appendix A, an owner or operator determines that Method 24 or 24A cannot be used for a particular coating, cleaning, washoff or gluing material, the permittee shall so notify the Administrator of the USEPA and shall use formulation data for the coating or ink to demonstrate compliance until the USEPA provides alternative analytical procedures or alternative precision statements for Method 24 or 24A.

Method 24 or 24A can be performed by the permittee or other party (i.e., the permittee's coating supplier).

6. Compliance with the annual usage rate limitations for inks, fountain solution and cleanup materials shall be based upon the record keeping requirements specified in section C.3.
7. 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.
8. Visible Emission Limitation:

Visible particulate emissions from any stack shall not exceed 20 percent opacity, as a six-minute average.

Applicable Compliance Method:

Compliance shall be determined through visible emission observations performed in accordance with 40 CFR Part 60 ("Standards of Performance for New Stationary Sources"), Appendix A, U.S. EPA Reference Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

9. The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:
 - a. The emission testing shall be conducted within 6 months after issuance of this permit to operate.
 - b. The emission testing shall be conducted to demonstrate compliance with the overall control efficiency limitation for organic compounds.
 - c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate:

Method 25 of 40 CFR Part 60, Appendix A.

Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.
 - d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency.
 - e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time (s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).
 - f. Personnel from the Hamilton County Department of Environmental Services shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.
 - g. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

F. Miscellaneous Requirements

1. The following Sections of this permit are federally enforceable: A, B, C.1 thru C.5, D, and E.

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION

Facility ID: 1431070992 Emissions Unit ID: R010 Issuance type: Final State Permit To Operate

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Part II - Special Terms and Conditions

This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

1. For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
 - (a) None.
2. For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
 - (a) None.

A. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
R010 - Non-heatset sheet-fed offset press with infrared dryer - Mitsubishi Sheet Fed	OAC rule 3745-31-05(A)(3) (PTI #14-04841)	Organic compound emissions shall not exceed 330.82 pounds per day (lbs/day).
		See sections B.1 and B.2.
		The requirements of this rule also include compliance with the requirements of OAC rule 3745-31-05(C) and 3745-21-07 (G).
	OAC rule 3745-31-05(C)	OC emissions shall not exceed 10.60 tons per year (TPY), based upon a rolling, 12-month summation.

See terms A.2.a and A.2.b.
See Sections B.2-B.6.
Exempt. See section B.1.

OAC rule 3745-21-07(G)

2. Additional Terms and Conditions

- (a) The actual emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title III of the Clean Air Act from emissions units R001, R007, R010, R011, P004, other de minimus air contaminant source, as defined in OAC rule 3745-15-05, and other air contaminant sources exempt from the requirement to obtain a permit-to-install pursuant to OAC rule 3745-31-03 installed subsequent to the issuance of this permit, combined, shall not exceed 9.9 TPY for any single HAP and 24.9 TPY for any combination of HAPs. The usage figures for HAPs can be adjusted for retention and control efficiency where appropriate. Compliance with the above limitations shall be based on a rolling, 12-month summation.

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 of OC;
Fountain Solution 0.16 lb of OC/gallon;
Aqueous Coating 1.35 lbs of OC/gallon; and
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.

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

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

Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by OC content limitations for all inks, fountain solutions, aqueous coatings, cleanup materials and material usage limitations.

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.
3. 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.
4. 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.
5. 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.
6. 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.

C. Monitoring and/or Record Keeping Requirements

1. The permittee shall collect and record the following information each month for the emissions units identified in term A.2.a:
- The name and identification number of all inks, aqueous coatings and each fountain solution, employed;
 - 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;
 - 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)];
 - The number of gallons of all inks, aqueous coatings and each fountain solution employed;
 - The name and identification of each cleanup material employed;
 - The individual HAP content for each HAP of each cleanup material, in pounds of individual HAP per gallon of cleanup material, as applied;
 - 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)];
 - 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; 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.

* 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 of HAP per pound of ink and annual HAP emissions calculated using:

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

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

$$E = \text{Lbs of HAP per gallon material} \times \text{gallons of material employed per month} = \text{Lbs of HAPs/Month.}$$

2. The permittee shall collect and record the following information each day for cleanup materials employed in this emissions unit:
- The company identification (including product name per MSDSs) for each cleanup material employed.
 - Documentation on whether or not each cleanup material is photochemically reactive material as identified in OAC rule 3745-21-01(C)(5).
 - The number of gallons of each cleanup material employed.
 - 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:
- The company identification for each ink, fountain solution, and cleanup material employed.
 - A record of each ink, fountain solution and cleanup material employed in this emissions unit indicating whether or not the ink, fountain solution and cleanup material employed is photochemically reactive as identified in OAC rule 3745-21-01(C)(5).
 - The number of pounds of each ink employed and the number of gallons of each fountain solution and cleanup material employed in each emissions unit.
 - 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.
 - The organic compound emission rate for each ink, fountain solution and cleanup material, in pounds or tons per month, from each emissions unit.
 - The total organic compound emission rate for all inks, fountain solutions, and cleanup materials, in pounds or tons per month, from each emissions unit.
 - The rolling 12-month total organic compound emissions rate for all inks, fountain solutions, and cleanup materials, in tons per year.
 - The rolling 12-month summation of the ink in pounds per year, and fountain solution and cleanup material usage figures in gallons per year.
- 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
 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 its installation or modification could affect the parameters used to determine whether or not the "Air Toxics Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in the "Air Toxic Policy" include the following:

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

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

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

b. documentation of 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 emission 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 emission limitation in this permit (e.g., 10 gallons per day cleanup for emissions unit R010).
 - b. All exceedances of the OC content limitations delineated in term A.2.b.
 - c. All exceedances of the rolling, 12-month usage limitations for all materials employed.
 - 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. Emission Limitation:

Organic compound emissions shall not exceed 330.82 pounds per day (lbs/day).

Applicable Compliance Method:

The daily organic compound emissions rate was calculated using the following equation:

$$\text{lbs of OC/day} = [A \times B \times (1-C)] + (D \times E) + (F \times G) + (H \times I).$$

where;

A = maximum daily ink usage rate = 1920 lbs/day.

B = maximum OC content in percent by weight expressed as a decimal = 0.30 lb of OC/lb of ink.

C = ink retention factor from OEPA Engineering Guide #68 of 95 percent expressed as a decimal = 0.95.

D = maximum daily fountain solution usage rate = 57.6 gallons/day.

E = maximum OC content in lbs/gallon = 0.16 lb of OC/gallon of fountain solution.

F = maximum daily aqueous coating usage rate = 168 gallons/day.

G = maximum OC content in lbs/gallon = 1.35 lbs/gal.

H = maximum daily cleanup solvent usage rate = 10 gallons/day.

I = maximum OC content in lbs/gallon = 6.6 lbs/gallon.

2. Emission Limitation:

OC emission shall not exceed 10.60 tons per year (TPY), based upon a rolling, 12-month summation.

Applicable Compliance Method:

$$\text{TPYOC} = [A \times B \times (1-C)] + (D \times E) + (F \times G) + (H \times I) \times \text{ton}/2000 \text{ lbs.}$$

where;

A = maximum annual ink usage rate = 40,000 lbs/year.

B = maximum OC content in percent by weight expressed as a decimal = 0.30 lb of OC/lb of ink.

C = ink retention factor from OEPA Engineering Guide #68 of 95 percent expressed as a decimal = 0.95.

D = maximum annual fountain solution usage rate = 20,000 gallons/year.

E = maximum OC content in lbs/gallon = 0.16 lb of OC/gallon of fountain solution.

F = maximum annual aqueous coating usage rate = 8000 gallons/year.

G = maximum OC content in lbs/gallon = 1.35 lbs/gal.

H = maximum annual cleanup solvent usage rate = 1000 gallons/year.

I = maximum OC content in lbs/gallon = 6.6 lbs/gallon.

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

3. Compliance with the 12-month rolling HAP limitations outlined in term A.2.a shall be demonstrated by the record keeping in section C.1.
4. 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.
5. Compliance with the annual usage rate limitations for inks, fountain solution, aqueous coatings and cleanup materials shall be based upon the record keeping requirements specified in section C.3. OAC rule 3745-21-10(B) shall be used to determine the OC contents of the inks, fountain solutions, aqueous coatings and cleanup materials employed in this emissions unit. If, pursuant to 40 CFR Part 60, Appendix A, an owner or operator determines that Method 24 or 24A cannot be used for a particular coating, cleaning, washoff or gluing material, the permittee shall so notify the Administrator of the USEPA and shall use formulation data for the coating or ink to demonstrate compliance until the USEPA provides alternative analytical procedures or alternative precision statements for Method 24 or 24A.

Method 24 or 24A can be performed by the permittee or other party (i.e., the permittee's coating supplier).

F. **Miscellaneous Requirements**

1. The following terms and conditions of this permit are federally enforceable, A, B, C.1- C.4, D and E.

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION

Facility ID: 1431070992 Emissions Unit ID: R011 Issuance type: Final State Permit To Operate

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Part II - Special Terms and Conditions

This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

1. For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
 - (a) None.
2. For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
 - (a) None.

A. **Applicable Emissions Limitations and/or Control Requirements**

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
R011 - Heatset Web Offset Press with dryer and regenerative thermal oxidizer (RTO) - Mitsubishi Web	OAC rule 3745-31-05 (A)(3) (PTI #14-04841)	Organic compound (OC) emissions shall not exceed 360.34 lbs/day. Particulate emissions (PE) and particulate matter emissions 10 microns and less in diameter (PM10) shall not exceed 0.551 lb/hr and 2.41 TPY. The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1), OAC rule 3745-31-05(C) and OAC rule 3745-21-07(G).
	OAC rule 3745-31-05(C)	Organic Compound (OC) emissions shall not exceed 32.60 TPY, based upon a rolling, 12-month summation.
	OAC rule 3745-17-11(A)	See terms A.2.a, A.2.b and A.2.f. See sections B.3, B.4 and B.5.
	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). See term A.2.c.
	OAC rule 3745-21-07(G)	Exempt. See section B.1.

2. **Additional Terms and Conditions**

- (a) The actual emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title III of the Clean Air Act from emissions units R001, R007, R010, R011, P004, other de minimus air contaminant source, as defined in OAC rule 3745-15-05, and other air contaminant sources exempt from the requirement to obtain a permit-to-install pursuant to OAC rule 3745-31-03 installed subsequent to the issuance of this permit, combined, shall not exceed 9.9 TPY for any single HAP and 24.9 TPY for any combination of HAPs. The usage figures for HAPs can be adjusted for retention and control efficiency where appropriate. Compliance with the above limitations shall be based on a rolling, 12-month summation.
The maximum organic compound content of the inks, fountain solutions, and cleanup materials, as applied, shall not exceed the following:

Ink 45% by weight of OC;
Fountain Solution 0.65 lb of OC/gallon; and
Cleanup Material 6.6 lbs of 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. Visible particulate emissions from any stack shall not exceed 20 percent opacity, as a six-minute average.
The daily emission limitation outlined for inks and fountain solutions are based upon the emissions unit's PTE at 24 hours per day. Therefore, no daily records are required to demonstrate compliance with this limitation.
Daily, monthly, and annual emission rates in this permit are subject to revision should any of the listed emissions units be withdrawn.
Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by OC content limitations for all inks, fountain solutions and cleanup materials, material usage limitations and use of the RTO with a 92.5% (by weight of organic compounds) control efficiency.
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 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 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.
4. 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.

5. 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.
6. 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 Record Keeping Requirements

1. The permittee shall collect and record the following information each month for the emissions units identified in term A.2.a:
 - 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; 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.

* 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 of HAP per pound of ink and annual HAP emissions calculated using:

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

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

$E = \text{Lbs of HAP per gallon material} \times \text{gallons of material employed per month} = \text{Lbs of HAPs/Month.}$

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 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, fountain solution and cleanup material employed in this emissions unit indicating whether or not the ink, fountain solution and cleanup material employed 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. The rolling 12-month total organic compound emissions rate for all inks, fountain solutions, and cleanup materials, in tons per year.

h. The rolling 12-month summation of the ink in pounds per year, and fountain solution and cleanup material usage figures in gallons per year.

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 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

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

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

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

determine that the changed emissions unit will satisfy the Air Toxic Policy:"

- a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);
- b. documentation of 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 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 emission limitation in this permit (e.g., 20 gallons per day cleanup for emissions unit R011).
 - b. All exceedances of the OC content limitations delineated in Section A.2.b.
 - c. All exceedances of the rolling, 12-month usage limitations for all materials employed.
 - 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.
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. Emission Limitation:
Organic compound emissions shall not exceed 360.34 pounds per day.

Applicable Compliance Method:
The daily organic compound emission rate was calculated using the following equation:

$$\text{lbs of OC/day} = [A \times B \times (1-C) \times (1-D)] + [E \times F \times G \times (1-D)] + [E \times F \times H] + [I \times J \times K \times (1-D)] + [I \times J \times L]$$

where;

A = maximum daily usage rate = 4800 lbs/day.
B = maximum OC content in percent by weight expressed as a decimal = 0.45 lb of OC/lb of ink.
C = ink retention factor from OEPA Engineering Guide #56 of 20 percent expressed as a decimal = 0.20.
D = control efficiency of thermal oxidizer of 92.5% expressed as a decimal = 0.925.
E = maximum daily fountain solution usage rate = 422.4 gallons/day.
F = maximum OC content in lbs/gallon = 0.65 lb of OC/gallon of fountain solution.
G = fountain solution capture factor from EPA Guideline Series Control of Volatile Organic Compound Emissions from Offset Lithographic Printing Section 2.2.2.4 of 50 percent captured and ducted to control device expressed as a decimal = 0.50.
H = fountain solution fugitive factor from EPA Guideline Series Control of Volatile Organic Compound Emissions from Offset Lithographic Printing Section 2.2.2.4 of 50 percent expressed as a decimal = 0.50
I = maximum daily cleanup solvent usage rate = 20 gallons/day.
J = maximum OC content in lbs/gallon = 6.6 lbs of OC/gallon of cleanup solvent.
K = automatic blanket wash factor from OEPA Engineering Guide #56 of 40 percent captured and ducted to control device expressed as a decimal = 0.40.
L = automatic blanket wash fugitive factor from OEPA Engineering Guide #56 of 60 percent expressed as a decimal = 0.60.
Note: Fountain solution factors for G and H were the factors used to calculate the emissions limitations in PTI 14-4841 issued 3/29/00. When calculating emissions to demonstrate compliance, the factors found in OEPA Engineering Guide #56 should be used. This would be 70% captured and ducted to control device for G and 30% fugitive for H.
2. Emission Limitation:
OC emissions shall not exceed 32.6 tons per year (TPY), based upon a rolling, 12-month summation.

The annual organic compound emission rate was calculated using the following equation:

lbs of OC/year = [A x B x (1-C) x (1-D)] + [E x F x G x (1-D)] + [E x F x H] + [I x J x K (1-D)] + [I x J x L] x ton/2000 lbs.

where;

A = maximum annual ink usage rate = 400,000 lbs/year.
 B = maximum OC content in percent by weight expressed as a decimal = 0.45 lb of OC/lb of ink.
 C = ink retention factor from OEPA Engineering Guide #56 of 20 percent expressed as a decimal = 0.20.
 D = control efficiency of thermal oxidizer of 92.5% expressed as a decimal = 0.925.
 E = maximum annual fountain solution usage rate = 120,000 gallons/year.
 F = maximum OC content in lbs/gallon = 0.65 lb of OC/gallon of fountain solution.
 G = fountain solution capture factor from EPA Guideline Series Control of Volatile Organic Compound Emissions from Offset Lithographic Printing Section 2.2.2.4 of 50 percent captured and ducted to control device expressed as a decimal = 0.50.
 H = fountain solution fugitive factor from EPA Guideline Series Control of Volatile Organic Compound Emissions from Offset Lithographic Printing Section 2.2.2.4 of 50 percent expressed as a decimal = 0.50.
 I = maximum annual cleanup solvent usage rate = 3000 gallons/year.
 J = maximum OC content in lbs/gallon = 6.6 lbs of OC/gallon of cleanup solvent.
 K = automatic blanket wash factor from OEPA Engineering Guide #56 of 40 percent captured and ducted to control device expressed as a decimal = 0.40.
 L = automatic blanket wash fugitive factor from OEPA Engineering Guide #56 of 60 percent expressed as a decimal = 0.60.

Compliance with the rolling, 12-month annual limitation shall be based upon the record keeping requirements specified in Section C.3.

Note: Fountain solution factors for G and H were the factors used to calculate the emissions limitations in PTI 14-4841 issued 3/29/00. When calculating emissions to demonstrate compliance, the factors found in OEPA Engineering Guide #56 should be used. This would be 70% captured and ducted to control device for G and 30% fugitive for H.

3. Emission Limitations:

Particulate emissions (PE) and particulate matter emissions 10 microns and less in diameter (PM10) shall not exceed 0.551 lb/hr and 2.41 TPY.

Applicable Compliance Method:

According to OEPA Engineering Guide #56, the allowable emission rate from Table 1 of OAC rule 3745-17-11 should be used to determine PE emission rate. PTI 14-04841 used the more stringent minimum process weight of 100 lbs/hr to set the lb/hr emission rate of 0.551 lb/hr as BAT. PM10 emissions are assumed to be equal to PE emissions.

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: Methods 1- 5, 40 CFR Part 60, Appendix A.

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.

4. Compliance with the 12-month rolling HAP limitations outlined in term A.2.a shall be demonstrated by the record keeping in section C.1.

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

Method 24 or 24A can be performed by the permittee or other party (i.e., the permittee's coating supplier).

6. Compliance with the annual usage rate limitations for inks, fountain solution and cleanup materials shall be based upon the record keeping requirements specified in section C.3.

7. 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.

8. Visible Emission Limitation:

Visible particulate emissions from any stack shall not exceed 20 percent opacity, as a six-minute average.

Applicable Compliance Method:

Compliance shall be determined through visible emission observations performed in accordance with 40 CFR Part 60 ("Standards of Performance for New Stationary Sources"), Appendix A, U.S. EPA Reference Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

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

- a. The emission testing shall be conducted within 6 months after issuance of this permit to operate.
- b. The emission testing shall be conducted to demonstrate compliance with the overall control efficiency limitation for organic compounds.
- c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission

rate:

Method 25 of 40 CFR Part 60, Appendix A.

Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency.

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

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

g. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

F. Miscellaneous Requirements

1. The following Sections of this permit are federally enforceable: A, B, C.1 thru C.5, D, and E.