Facility ID: 1652010054 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 R002
Go to Part II for Emissions Unit R003
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Go to Part II for Emissions Unit R005

Facility ID: 1652010054 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.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
Sheetfed & non continuous roll fed web (including vinyl, textiles, paper, corrugate, and other substrates) silk screen printing line employing solvent inks dried by a natural gas-fired oven with a maximum heat input of less than 0.5 mmBtu/hour & UV inks cured by an ultraviolet radiation oven; air emissions of organic compounds (OCs) uncontrolled and vented from ovens to a stack.	OAC rule 3745-31-05(A)(3) (PTI 16-02342)	OC emissions from inks, as applied after final thinning, and cleanup shall not exceed 86.5 lbs/day & 15.8 tpy. No photochemically reactive materials (PRMs), as defined in OAC rule 3745-21-01(C)(5), shall be employed in this emissions unit. The requirements of OAC rule 3745-31-05(A)(3) also include compliance with the requirements of OAC rule 3745-35-07(B), and Part II, Sections A.2 and B.1 below.
	OAC rule 3745-35-07(B)	The facility shall limit emissions of any individual hazardous air pollutant (HAP) to no more than 9.5 tpy, based upon a rolling, 12-month summation of the monthly emissions, per the federally enforceable material usage restrictions of Part II, Section B.1 below.
	OAC rule 3745-21-07(G)	Exempt from the requirements of OAC rule 3745-21-07(G)(2) per OAC rule 3745-21-07(G)(9).

2. **Additional Terms and Conditions**

   (a) The OC emissions limitations established pursuant to OAC rule 3745-31-05(A)(3) reflect the potential to emit for this emissions unit. Therefore, no monitoring, record keeping, or reporting requirements are necessary to ensure ongoing compliance with these emissions limits.

   However, if any proposed change(s), such as with production capacity, the types and/or quantities of materials used or processed, or anything else that increase(s) the potential emissions of any air pollutant, then the permittee shall apply for and obtain either a modification to the permit to install or a new final permit to install prior to the change(s).
   As a way to reduce air emissions, all inks, coatings, thinners, cleanup solvents/rags, and all other organic solvent containing materials shall be properly identified and held in tightly closed containers at all times when not in use or waiting for appropriate off-site disposal.

B. **Operational Restrictions**

1. The maximum annual individual HAP material usage* (from inks, coatings, thinners, and cleanup materials) for the facility (R001 through R005 and the two Indigo Digital Print Presses, the Narrow Web Hot Melt Coater, and the R&D Lab) shall not exceed 9.5 tons, based upon a rolling, 12-month summation of the monthly individual HAP material usage figures.

*Annual individual HAP material usage rate (input) is equivalent to an annual individual HAP emissions rate and is based upon the solvent in the materials employed or applied being emitted.

C. **Monitoring and/or Record Keeping Requirements**

1. On any day the permittee employs any photochemically reactive material(s) in this emissions unit, as defined in OAC rule 3745-21-01(C)(5), the following information shall be collected and recorded:

   a. the company identification of each liquid organic material, excluding non photochemically reactive cleanup materials, employed in the emissions unit during each such day;

   b. the total quantity of liquid organic material(s) emitted, in pounds, excluding non photochemically reactive cleanup materials, from the emissions unit during each such day;

   c. the actual number of hours of operation of the emissions unit during each such day; and

   d. the average hourly rate of liquid organic material(s) emitted, in pounds/hour, excluding non photochemically reactive cleanup materials, from the emissions unit during each such day, i.e., d = b/c.

2. The permittee shall collect/record the following information each month for the facility (R001 through R005, the two Indigo Digital Print Presses, the Narrow Web Hot Melt Coater, and the R&D Lab):

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

   b. the weight, in pounds per month, of each ink, as applied;

   c. the weight, in pounds per month, of each coating, as applied;

   d. the weight, in pounds per month, of each thinner, as applied;

   e. the weight, in pounds per month, of each cleanup material, as applied;

   f. the individual HAP content for each HAP of each ink, as applied, in percent by weight;

   g. the individual HAP content for each HAP of each coating, as applied, in percent by weight;

   h. the individual HAP content for each HAP of each thinner, as applied, in percent by weight;

   i. the individual HAP content for each HAP of each cleanup material, as applied, in percent by weight;

   j. the total individual HAP material usage for each HAP of all inks, as applied, in pounds per month, i.e., j = sum[b x f] for all inks;

   k. the total individual HAP material usage for each HAP of all coatings, as applied, in pounds per month, i.e., k = sum[c x g] for all coatings;

   l. the total individual HAP material usage for each HAP of all thinners, as applied, in pounds per month, i.e., l = sum[d x h] for all thinners;

   m. the total individual HAP material usage for each HAP of all cleanup materials, as applied, in pounds per month, i.e., m = sum[e x i] for all cleanup materials;

   n. the total individual HAP material usage for each HAP of all inks, coatings, thinners, and cleanup materials, as applied, in tons per month, i.e., n = [j + k + l + m]/2000;
   o. the total individual HAP emissions for each HAP of all inks, coatings, thinners, and cleanup materials, as applied, in tons per month, i.e., o = n, since emissions rate equals usage rate;

   p. the rolling, 12-month summation of the monthly individual HAP material usage rates for each HAP of all inks, coatings, thinners, and cleanup materials, as applied, in tons per year;

   q. the rolling, 12-month summation of the monthly individual HAP emissions rates for each HAP of all inks, coatings, thinners, and cleanup materials, as applied, in tons per year, i.e., q = p, since emissions rate equals usage rate.

3. The permit to install for this emissions unit was evaluated based on the actual 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 to this emissions unit for each toxic pollutant, using data from the permit to install application, and modeling was performed for the toxic pollutant(s) emitted at over a ton per year using the SCREEN 3.0 model or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the use of the SCREEN 3.0 (or other approved) model, was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC), calculated as required in Engineering Guide #70. The following summarizes the results of the modeling for the "worst case" pollutant(s):

   Pollutant: ethylene glycol monobutyl ether (CAS 111-76-2)
   TLV (ug/m3): 100,000
   Maximum Hourly Emission Rate (lbs/hr): 3.55
   Predicted 1-Hour Maximum Ground-Level Concentration at 39 m (ug/m3): 804
   MAGLC (ug/m3): 2381

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

a. changes in the composition of the materials used or the use of new materials, that would result in the emission of a compound or chemical with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled, as documented in the most current version of the American Conference of Governmental Industrial Hygienists' (ACGIH's) handbook entitled "TLVs and BEIs" ("Threshold Limit Values for Chemical Substances and Physical Agents, Biological Exposure Indices");

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.).

5. 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) meet(s) the definition of a "modification" under other provisions of the rule, then the permittee shall obtain a final permit to install prior to the change.

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

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

b. documentation of the evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and

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

D. **Reporting Requirements**

1. The permittee shall submit deviation (excursion) reports which identify the days during which photochemically reactive materials were employed in the emissions unit. Each report shall identify the cause for the use of the photochemically reactive material(s) and the estimated total quantity of material(s) emitted in pounds, hourly and daily, during each such day.

2. The permittee shall submit deviation (excursion) reports that identify all exceedances of the facility 9.5 tpy individual HAP material usage restriction using the methodology specified in Section C.2 above, as well as the corrective actions that were taken to achieve compliance.

3. The permittee shall submit deviation (excursion) reports that identify all exceedances of the facility 9.5 tpy individual HAP emissions limitation using the methodology specified in Section C.2 above, as well as the corrective actions that were taken to achieve compliance.

4. The deviation (excursion) reports shall be submitted in accordance with the requirements specified in Part I - General Terms and Conditions of this permit.

E. **Testing Requirements**

1. Compliance with the emission limitations in Section A.1 of these terms and conditions shall be determined in accordance with the following methods:
Emissions Limitations: 86.5 lbs/day & 15.8 tpy of OCs (emissions unit)

Applicable Compliance Method: The above emissions limitations were established based on the unrestricted/uncontrolled potential to emit, as shown in the following equations, using company-specified process data:

D = P*I*H*E + M; and
Y = D*T*W

Where,

D = 86.5 pounds/day of OCs [unrestricted/uncontrolled daily potential to emit];
Y = 15.8 tons/year of OCs [unrestricted/uncontrolled yearly potential to emit];
P = 420,000 square inches web/hour [maximum production capacity];
I = 0.000008278 pound ink/square inch web [maximum process factor];
H = 24 hours/day [continuous operations];
E = 1 pound OC emissions/pound ink usage [emissions rate equals usage rate];
M = 3 pounds/day OCs from cleanup [maximum cleanup material usage per maximum web production, assumes OC emissions rate equals cleanup material usage rate];
T = 365 days/year [unrestricted operating schedule]; and
W = 1 ton/2000 pounds [weight conversion].
Emissions Limitation: 9.5 tpy individual HAPs, based upon a rolling, 12-month summation of the monthly emissions from this facility (R001 through R005, the two Indigo Digital Print Presses, the Narrow Web Hot Melt Coater, and the R&D Lab)

Applicable Compliance Method: Compliance shall be based upon the record keeping requirements of section C.2 above.

F. **Miscellaneous Requirements**

1. None

Facility ID: 1652010054 Emissions Unit ID: R002 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.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
Sheetfed & non continuous roll fed web (including vinyl, textiles, paper, corrugate, and other substrates) silk screen printing line employing solvent inks dried by a natural gas-fired oven with a maximum heat input of less than 0.5 mmBtu/hour & UV inks cured by an ultraviolet radiation oven; air emissions of organic compounds (OCs) uncontrolled and vented from ovens to a stack.	OAC rule 3745-31-05(A)(3) (PTI 16-02342)	OC emissions from inks, as applied after final thinning, and cleanup shall not exceed 86.5 lbs/day & 15.8 tpy. No photochemically reactive materials (PRMs), as defined in OAC rule 3745-21-01(C)(5), shall be employed in this emissions unit. The requirements of OAC rule 3745-31-05(A)(3) also include compliance with the requirements of OAC rule 3745-35-07(B), and Part II, Sections A.2 and B.1 below.
	OAC rule 3745-35-07(B)	The facility shall limit emissions of any individual hazardous air pollutant (HAP) to no more than 9.5 tpy, based upon a rolling, 12-month summation of the monthly emissions, per the federally enforceable material usage restrictions of Part II, Section B.1 below.
	OAC rule 3745-21-07(G)	Exempt from the requirements of OAC rule 3745-21-07(G)(2) per OAC rule 3745-21-07(G)(9).

2. **Additional Terms and Conditions**

(a) The OC emissions limitations established pursuant to OAC rule 3745-31-05(A)(3) reflect the potential to emit for this emissions unit. Therefore, no monitoring, record keeping, or reporting requirements are necessary to ensure ongoing compliance with these emissions limits.

However, if any proposed change(s), such as with production capacity, the types and/or quantities of materials used or processed, or anything else that increase(s) the potential emissions of any air pollutant, then the permittee shall apply for and obtain either a modification to the permit to install or a new final permit to install prior to the change(s).
As a way to reduce air emissions, all inks, coatings, thinners, cleanup solvents/rags, and all other organic solvent containing materials shall be properly identified and held in tightly closed containers at all times when not in use or waiting for appropriate off-site disposal.

B. **Operational Restrictions**

1. The maximum annual individual HAP material usage* (from inks, coatings, thinners, and cleanup materials) for the facility (R001 through R005 and the two Indigo Digital Print Presses, the Narrow Web Hot Melt Coater, and the R&D Lab) shall not exceed 9.5 tons, based upon a rolling, 12-month summation of the monthly individual HAP material usage figures.

*Annual individual HAP material usage rate (input) is equivalent to an annual individual HAP emissions rate and is based upon the solvent in the materials employed or applied being emitted.

C. **Monitoring and/or Record Keeping Requirements**

1. On any day the permittee employs any photochemically reactive material(s) in this emissions unit, as defined in OAC rule 3745-21-01(C)(5), the following information shall be collected and recorded:

a. the company identification of each liquid organic material, excluding non photochemically reactive cleanup materials, employed in the emissions unit during each such day;

b. the total quantity of liquid organic material(s) emitted, in pounds, excluding non photochemically reactive cleanup materials, from the emissions unit during each such day;

c. the actual number of hours of operation of the emissions unit during each such day; and

d. the average hourly rate of liquid organic material(s) emitted, in pounds/hour, excluding non photochemically reactive cleanup materials, from the emissions unit during each such day, i.e., d = b/c.

2. The permittee shall collect/record the following information each month for the facility (R001 through R005, the two Indigo Digital Print Presses, the Narrow Web Hot Melt Coater, and the R&D Lab):

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

b. the weight, in pounds per month, of each ink, as applied;

c. the weight, in pounds per month, of each coating, as applied;

d. the weight, in pounds per month, of each thinner, as applied;

e. the weight, in pounds per month, of each cleanup material, as applied;

f. the individual HAP content for each HAP of each ink, as applied, in percent by weight;

g. the individual HAP content for each HAP of each coating, as applied, in percent by weight;

h. the individual HAP content for each HAP of each thinner, as applied, in percent by weight;

i. the individual HAP content for each HAP of each cleanup material, as applied, in percent by weight;

j. the total individual HAP material usage for each HAP of all inks, as applied, in pounds per month, i.e., j = sum[b x f] for all inks;

k. the total individual HAP material usage for each HAP of all coatings, as applied, in pounds per month, i.e., k = sum[c x g] for all coatings;

l. the total individual HAP material usage for each HAP of all thinners, as applied, in pounds per month, i.e., l = sum[d x h] for all thinners;

m. the total individual HAP material usage for each HAP of all cleanup materials, as applied, in pounds per month, i.e., m = sum[e x i] for all cleanup materials;

n. the total individual HAP material usage for each HAP of all inks, coatings, thinners, and cleanup materials, as applied, in tons per month, i.e., n = [j + k + l + m]/2000;
o. the total individual HAP emissions for each HAP of all inks, coatings, thinners, and cleanup materials, as applied, in tons per month, i.e., o = n, since emissions rate equals usage rate;

p. the rolling, 12-month summation of the monthly individual HAP material usage rates for each HAP of all inks, coatings, thinners, and cleanup materials, as applied, in tons per year;

q. the rolling, 12-month summation of the monthly individual HAP emissions rates for each HAP of all inks, coatings, thinners, and cleanup materials, as applied, in tons per year, i.e., q = p, since emissions rate equals usage rate.

3. The permit to install for this emissions unit was evaluated based on the actual 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 to this emissions unit for each toxic pollutant, using data from the permit to install application, and modeling was performed for the toxic pollutant(s) emitted at over a ton per year using the SCREEN 3.0 model or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the use of the SCREEN 3.0 (or other approved) model, was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC), calculated as required in Engineering Guide #70. The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: ethylene glycol monobutyl ether (CAS 111-76-2)
TLV (ug/m3): 100,000
Maximum Hourly Emission Rate (lbs/hr): 3.55
Predicted 1-Hour Maximum Ground-Level Concentration at 39 m (ug/m3): 804
MAGLC (ug/m3): 2381

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

a. changes in the composition of the materials used or the use of new materials, that would result in the emission of a compound or chemical with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled, as documented in the most current version of the American Conference of Governmental Industrial Hygienists' (ACGIH's) handbook entitled "TLVs and BEIs" ("Threshold Limit Values for Chemical Substances and Physical Agents, Biological Exposure Indices");

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.).

5. 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) meet(s) the definition of a "modification" under other provisions of the rule, then the permittee shall obtain a final permit to install prior to the change.

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

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

   b. documentation of the evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and

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

D. **Reporting Requirements**

1. The permittee shall submit deviation (excursion) reports which identify the days during which photochemically reactive materials were employed in the emissions unit. Each report shall identify the cause for the use of the photochemically reactive material(s) and the estimated total quantity of material(s) emitted in pounds, hourly and daily, during each such day.

2. The permittee shall submit deviation (excursion) reports that identify all exceedances of the facility 9.5 tpy individual HAP material usage restriction using the methodology specified in Section C.2 above, as well as the corrective actions that were taken to achieve compliance.

3. The permittee shall submit deviation (excursion) reports that identify all exceedances of the facility 9.5 tpy individual HAP emissions limitation using the methodology specified in Section C.2 above, as well as the corrective actions that were taken to achieve compliance.

4. The deviation (excursion) reports shall be submitted in accordance with the requirements specified in Part I - General Terms and Conditions of this permit.

E. **Testing Requirements**

1. Compliance with the emission limitations in Section A.1 of these terms and conditions shall be determined in accordance with the following methods:
   Emissions Limitations: 86.5 lbs/day & 15.8 tpy of OCs (emissions unit)

   Applicable Compliance Method: The above emissions limitations were established based on the unrestricted/uncontrolled potential to emit, as shown in the following equations, using company-specified process data:

   D = P*I*H*E + M; and
   Y = D*T*W

   Where,

   D = 86.5 pounds/day of OCs [unrestricted/uncontrolled daily potential to emit];
   Y = 15.8 tons/year of OCs [unrestricted/uncontrolled yearly potential to emit];
   P = 420,000 square inches web/hour [maximum production capacity];
   I = 0.000008278 pound ink/square inch web [maximum process factor];
   H = 24 hours/day [continuous operations];
   E = 1 pound OC emissions/pound ink usage [emissions rate equals usage rate];
   M = 3 pounds/day OCs from cleanup [maximum cleanup material usage per maximum web production, assumes OC emissions rate equals cleanup material usage rate];
   T = 365 days/year [unrestricted operating schedule]; and
   W = 1 ton/2000 pounds [weight conversion].
   Emissions Limitation: 9.5 tpy individual HAPs, based upon a rolling, 12-month summation of the monthly emissions from this facility (R001 through R005, the two Indigo Digital Print Presses, the Narrow Web Hot Melt Coater, and the R&D Lab)

   Applicable Compliance Method: Compliance shall be based upon the record keeping requirements of section C.2 above.

F. **Miscellaneous Requirements**

1. None

Facility ID: 1652010054 Emissions Unit ID: R003 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.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
Sheetfed & non continuous roll fed web (including vinyl, textiles, paper, corrugate, and other substrates) silk screen printing line employing solvent inks dried by a natural gas-fired oven with a maximum heat input of less than 0.5 mmBtu/hour & UV inks cured by an ultraviolet radiation oven; air emissions of organic compounds (OCs) uncontrolled and vented from ovens to a stack.	OAC rule 3745-31-05(A)(3) (PTI 16-02342)	OC emissions from inks, as applied after final thinning, and cleanup shall not exceed 85.8 lbs/day & 15.7 tpy. No photochemically reactive materials (PRMs), as defined in OAC rule 3745-21-01(C)(5), shall be employed in this emissions unit. The requirements of OAC rule 3745-31-05(A)(3) also include compliance with the requirements of OAC rule 3745-35-07(B), and Part II, Sections A.2 and B.1 below.
	OAC rule 3745-35-07(B)	The facility shall limit emissions of any individual hazardous air pollutant (HAP) to no more than 9.5 tpy, based upon a rolling, 12-month summation of the monthly emissions, per the federally enforceable material usage restrictions of Part II, Section B.1 below.
	OAC rule 3745-21-07(G)	Exempt from the requirements of OAC rule 3745-21-07(G)(2) per OAC rule 3745-21-07(G)(9).

2. **Additional Terms and Conditions**

   (a) The OC emissions limitations established pursuant to OAC rule 3745-31-05(A)(3) reflect the potential to emit for this emissions unit. Therefore, no monitoring, record keeping, or reporting requirements are necessary to ensure ongoing compliance with these emissions limits.

   However, if any proposed change(s), such as with production capacity, the types and/or quantities of materials used or processed, or anything else that increase(s) the potential emissions of any air pollutant, then the permittee shall apply for and obtain either a modification to the permit to install or a new final permit to install prior to the change(s).
   As a way to reduce air emissions, all inks, coatings, thinners, cleanup solvents/rags, and all other organic solvent containing materials shall be properly identified and held in tightly closed containers at all times when not in use or waiting for appropriate off-site disposal.

B. **Operational Restrictions**

1. The maximum annual individual HAP material usage* (from inks, coatings, thinners, and cleanup materials) for the facility (R001 through R005 and the two Indigo Digital Print Presses, the Narrow Web Hot Melt Coater, and the R&D Lab) shall not exceed 9.5 tons, based upon a rolling, 12-month summation of the monthly individual HAP material usage figures.

   *Annual individual HAP material usage rate (input) is equivalent to an annual individual HAP emissions rate and is based upon the solvent in the materials employed or applied being emitted.

C. **Monitoring and/or Record Keeping Requirements**

1. On any day the permittee employs any photochemically reactive material(s) in this emissions unit, as defined in OAC rule 3745-21-01(C)(5), the following information shall be collected and recorded:

   a. the company identification of each liquid organic material, excluding non photochemically reactive cleanup materials, employed in the emissions unit during each such day;

   b. the total quantity of liquid organic material(s) emitted, in pounds, excluding non photochemically reactive cleanup materials, from the emissions unit during each such day;

   c. the actual number of hours of operation of the emissions unit during each such day; and

   d. the average hourly rate of liquid organic material(s) emitted, in pounds/hour, excluding non photochemically reactive cleanup materials, from the emissions unit during each such day, i.e., d = b/c.

2. The permittee shall collect/record the following information each month for the facility (R001 through R005, the two Indigo Digital Print Presses, the Narrow Web Hot Melt Coater, and the R&D Lab):

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

b. the weight, in pounds per month, of each ink, as applied;

c. the weight, in pounds per month, of each coating, as applied;

d. the weight, in pounds per month, of each thinner, as applied;

e. the weight, in pounds per month, of each cleanup material, as applied;

f. the individual HAP content for each HAP of each ink, as applied, in percent by weight;

g. the individual HAP content for each HAP of each coating, as applied, in percent by weight;

h. the individual HAP content for each HAP of each thinner, as applied, in percent by weight;

i. the individual HAP content for each HAP of each cleanup material, as applied, in percent by weight;

j. the total individual HAP material usage for each HAP of all inks, as applied, in pounds per month, i.e., j = sum[b x f] for all inks;

k. the total individual HAP material usage for each HAP of all coatings, as applied, in pounds per month, i.e., k = sum[c x g] for all coatings;

l. the total individual HAP material usage for each HAP of all thinners, as applied, in pounds per month, i.e., l = sum[d x h] for all thinners;

m. the total individual HAP material usage for each HAP of all cleanup materials, as applied, in pounds per month, i.e., m = sum[e x i] for all cleanup materials;

n. the total individual HAP material usage for each HAP of all inks, coatings, thinners, and cleanup materials, as applied, in tons per month, i.e., n = [j + k + l + m]/2000;
o. the total individual HAP emissions for each HAP of all inks, coatings, thinners, and cleanup materials, as applied, in tons per month, i.e., o = n, since emissions rate equals usage rate;

p. the rolling, 12-month summation of the monthly individual HAP material usage rates for each HAP of all inks, coatings, thinners, and cleanup materials, as applied, in tons per year;

q. the rolling, 12-month summation of the monthly individual HAP emissions rates for each HAP of all inks, coatings, thinners, and cleanup materials, as applied, in tons per year, i.e., q = p, since emissions rate equals usage rate.

3. The permit to install for this emissions unit was evaluated based on the actual 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 to this emissions unit for each toxic pollutant, using data from the permit to install application, and modeling was performed for the toxic pollutant(s) emitted at over a ton per year using the SCREEN 3.0 model or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the use of the SCREEN 3.0 (or other approved) model, was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC), calculated as required in Engineering Guide #70. The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: ethylene glycol monobutyl ether (CAS 111-76-2)
TLV (ug/m3): 100,000
Maximum Hourly Emission Rate (lbs/hr): 3.55
Predicted 1-Hour Maximum Ground-Level Concentration at 39 m (ug/m3): 804
MAGLC (ug/m3): 2381

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

a. changes in the composition of the materials used or the use of new materials, that would result in the emission of a compound or chemical with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled, as documented in the most current version of the American Conference of Governmental Industrial Hygienists' (ACGIH's) handbook entitled "TLVs and BEIs" ("Threshold Limit Values for Chemical Substances and Physical Agents, Biological Exposure Indices");

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.).

5. 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) meet(s) the definition of a "modification" under other provisions of the rule, then the permittee shall obtain a final permit to install prior to the change.

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

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

b. documentation of the evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and

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

D. **Reporting Requirements**

1. The permittee shall submit deviation (excursion) reports which identify the days during which photochemically reactive materials were employed in the emissions unit. Each report shall identify the cause for the use of the photochemically reactive material(s) and the estimated total quantity of material(s) emitted in pounds, hourly and daily, during each such day.

2. The permittee shall submit deviation (excursion) reports that identify all exceedances of the facility 9.5 tpy individual HAP material usage restriction using the methodology specified in Section C.2 above, as well as the corrective actions that were taken to achieve compliance.

3. The permittee shall submit deviation (excursion) reports that identify all exceedances of the facility 9.5 tpy individual HAP emissions limitation using the methodology specified in Section C.2 above, as well as the corrective actions that were taken to achieve compliance.

4. The deviation (excursion) reports shall be submitted in accordance with the requirements specified in Part I - General Terms and Conditions of this permit.

E. **Testing Requirements**

1. Compliance with the emission limitations in Section A.1 of these terms and conditions shall be determined in accordance with the following methods:
Emissions Limitations: 85.8 lbs/day & 15.7 tpy of OCs (emissions unit)

Applicable Compliance Method: The above emissions limitations were established based on the unrestricted/uncontrolled potential to emit, as shown in the following equations, using company-specified process data:

D = P*I*H*E + M; and
Y = D*T*W

Where,

D = 85.8 pounds/day of OCs [unrestricted/uncontrolled daily potential to emit];
Y = 15.7 tons/year of OCs [unrestricted/uncontrolled yearly potential to emit];
P = 518,400 square inches web/hour [maximum production capacity];
I = 0.000006898 pound ink/square inch web [maximum process factor];
H = 24 hours/day [continuous operations];
E = 1 pound OC emissions/pound ink usage [emissions rate equals usage rate];
M = 3 pounds/day OCs from cleanup [maximum cleanup material usage per maximum web production, assumes OC emissions rate equals cleanup material usage rate];
T = 365 days/year [unrestricted operating schedule]; and
W = 1 ton/2000 pounds [weight conversion].
Emissions Limitation: 9.5 tpy individual HAPs, based upon a rolling, 12-month summation of the monthly emissions from this facility (R001 through R005, the two Indigo Digital Print Presses, the Narrow Web Hot Melt Coater, and the R&D Lab)

Applicable Compliance Method: Compliance shall be based upon the record keeping requirements of section C.2 above.

F. **Miscellaneous Requirements**

1. None

Facility ID: 1652010054 Emissions Unit ID: R004 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.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
Sheetfed & non continuous roll fed web (including vinyl, textiles, paper, corrugate, and other substrates) silk screen printing line employing solvent inks dried by a natural gas-fired oven with a maximum heat input of less than 0.5 mmBtu/hour & UV inks cured by an ultraviolet radiation oven; air emissions of organic compounds (OCs) uncontrolled and vented from ovens to a stack.	OAC rule 3745-31-05(A)(3) (PTI 16-02342)	OC emissions from inks, as applied after final thinning, and cleanup shall not exceed 85.8 lbs/day & 15.7 tpy. No photochemically reactive materials (PRMs), as defined in OAC rule 3745-21-01(C)(5), shall be employed in this emissions unit. The requirements of OAC rule 3745-31-05(A)(3) also include compliance with the requirements of OAC rule 3745-35-07(B), and Part II, Sections A.2 and B.1 below.
	OAC rule 3745-35-07(B)	The facility shall limit emissions of any individual hazardous air pollutant (HAP) to no more than 9.5 tpy, based upon a rolling, 12-month summation of the monthly emissions, per the federally enforceable material usage restrictions of Part II, Section B.1 below.
	OAC rule 3745-21-07(G)	Exempt from the requirements of OAC rule 3745-21-07(G)(2) per OAC rule 3745-21-07(G)(9).

2. **Additional Terms and Conditions**

(a) The OC emissions limitations established pursuant to OAC rule 3745-31-05(A)(3) reflect the potential to emit for this emissions unit. Therefore, no monitoring, record keeping, or reporting requirements are necessary to ensure ongoing compliance with these emissions limits.

However, if any proposed change(s), such as with production capacity, the types and/or quantities of materials used or processed, or anything else that increase(s) the potential emissions of any air pollutant, then the permittee shall apply for and obtain either a modification to the permit to install or a new final permit to install prior to the change(s).
As a way to reduce air emissions, all inks, coatings, thinners, cleanup solvents/rags, and all other organic solvent containing materials shall be properly identified and held in tightly closed containers at all times when not in use or waiting for appropriate off-site disposal.

B. **Operational Restrictions**

1. The maximum annual individual HAP material usage* (from inks, coatings, thinners, and cleanup materials) for the facility (R001 through R005 and the two Indigo Digital Print Presses, the Narrow Web Hot Melt Coater, and the R&D Lab) shall not exceed 9.5 tons, based upon a rolling, 12-month summation of the monthly individual HAP material usage figures.

*Annual individual HAP material usage rate (input) is equivalent to an annual individual HAP emissions rate and is based upon the solvent in the materials employed or applied being emitted.

C. **Monitoring and/or Record Keeping Requirements**

1. On any day the permittee employs any photochemically reactive material(s) in this emissions unit, as defined in OAC rule 3745-21-01(C)(5), the following information shall be collected and recorded:

a. the company identification of each liquid organic material, excluding non photochemically reactive cleanup materials, employed in the emissions unit during each such day;

b. the total quantity of liquid organic material(s) emitted, in pounds, excluding non photochemically reactive cleanup materials, from the emissions unit during each such day;

c. the actual number of hours of operation of the emissions unit during each such day; and

d. the average hourly rate of liquid organic material(s) emitted, in pounds/hour, excluding non photochemically reactive cleanup materials, from the emissions unit during each such day, i.e., d = b/c.

2. The permittee shall collect/record the following information each month for the facility (R001 through R005, the two Indigo Digital Print Presses, the Narrow Web Hot Melt Coater, and the R&D Lab):

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

b. the weight, in pounds per month, of each ink, as applied;

c. the weight, in pounds per month, of each coating, as applied;

d. the weight, in pounds per month, of each thinner, as applied;

e. the weight, in pounds per month, of each cleanup material, as applied;

f. the individual HAP content for each HAP of each ink, as applied, in percent by weight;

g. the individual HAP content for each HAP of each coating, as applied, in percent by weight;

h. the individual HAP content for each HAP of each thinner, as applied, in percent by weight;

i. the individual HAP content for each HAP of each cleanup material, as applied, in percent by weight;

j. the total individual HAP material usage for each HAP of all inks, as applied, in pounds per month, i.e., j = sum[b x f] for all inks;

k. the total individual HAP material usage for each HAP of all coatings, as applied, in pounds per month, i.e., k = sum[c x g] for all coatings;

l. the total individual HAP material usage for each HAP of all thinners, as applied, in pounds per month, i.e., l = sum[d x h] for all thinners;

m. the total individual HAP material usage for each HAP of all cleanup materials, as applied, in pounds per month, i.e., m = sum[e x i] for all cleanup materials;

n. the total individual HAP material usage for each HAP of all inks, coatings, thinners, and cleanup materials, as applied, in tons per month, i.e., n = [j + k + l + m]/2000;
o. the total individual HAP emissions for each HAP of all inks, coatings, thinners, and cleanup materials, as applied, in tons per month, i.e., o = n, since emissions rate equals usage rate;

p. the rolling, 12-month summation of the monthly individual HAP material usage rates for each HAP of all inks, coatings, thinners, and cleanup materials, as applied, in tons per year;

q. the rolling, 12-month summation of the monthly individual HAP emissions rates for each HAP of all inks, coatings, thinners, and cleanup materials, as applied, in tons per year, i.e., q = p, since emissions rate equals usage rate.

3. The permit to install for this emissions unit was evaluated based on the actual 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 to this emissions unit for each toxic pollutant, using data from the permit to install application, and modeling was performed for the toxic pollutant(s) emitted at over a ton per year using the SCREEN 3.0 model or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the use of the SCREEN 3.0 (or other approved) model, was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC), calculated as required in Engineering Guide #70. The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: ethylene glycol monobutyl ether (CAS 111-76-2)
TLV (ug/m3): 100,000
Maximum Hourly Emission Rate (lbs/hr): 3.55
Predicted 1-Hour Maximum Ground-Level Concentration at 39 m (ug/m3): 804
MAGLC (ug/m3): 2381

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

a. changes in the composition of the materials used or the use of new materials, that would result in the emission of a compound or chemical with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled, as documented in the most current version of the American Conference of Governmental Industrial Hygienists' (ACGIH's) handbook entitled "TLVs and BEIs" ("Threshold Limit Values for Chemical Substances and Physical Agents, Biological Exposure Indices");

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.).

5. 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) meet(s) the definition of a "modification" under other provisions of the rule, then the permittee shall obtain a final permit to install prior to the change.

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

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

b. documentation of the evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and

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

D. **Reporting Requirements**

1. The permittee shall submit deviation (excursion) reports which identify the days during which photochemically reactive materials were employed in the emissions unit. Each report shall identify the cause for the use of the photochemically reactive material(s) and the estimated total quantity of material(s) emitted in pounds, hourly

and daily, during each such day.

2. The permittee shall submit deviation (excursion) reports that identify all exceedances of the facility 9.5 tpy individual HAP material usage restriction using the methodology specified in Section C.2 above, as well as the corrective actions that were taken to achieve compliance.

3. The permittee shall submit deviation (excursion) reports that identify all exceedances of the facility 9.5 tpy individual HAP emissions limitation using the methodology specified in Section C.2 above, as well as the corrective actions that were taken to achieve compliance.

4. The deviation (excursion) reports shall be submitted in accordance with the requirements specified in Part I - General Terms and Conditions of this permit.

E. **Testing Requirements**

1. Compliance with the emission limitations in Section A.1 of these terms and conditions shall be determined in accordance with the following methods:
Emissions Limitations: 85.8 lbs/day & 15.7 tpy of OCs (emissions unit)

Applicable Compliance Method: The above emissions limitations were established based on the unrestricted/uncontrolled potential to emit, as shown in the following equations, using company-specified process data:

D = P*I*H*E + M; and
Y = D*T*W

Where,

D = 85.8 pounds/day of OCs [unrestricted/uncontrolled daily potential to emit];
Y = 15.7 tons/year of OCs [unrestricted/uncontrolled yearly potential to emit];
P = 518,400 square inches web/hour [maximum production capacity];
I = 0.000006898 pound ink/square inch web [maximum process factor];
H = 24 hours/day [continuous operations];
E = 1 pound OC emissions/pound ink usage [emissions rate equals usage rate];
M = 3 pounds/day OCs from cleanup [maximum cleanup material usage per maximum web production, assumes OC emissions rate equals cleanup material usage rate];
T = 365 days/year [unrestricted operating schedule]; and
W = 1 ton/2000 pounds [weight conversion].
Emissions Limitation: 9.5 tpy individual HAPs, based upon a rolling, 12-month summation of the monthly emissions from this facility (R001 through R005, the two Indigo Digital Print Presses, the Narrow Web Hot Melt Coater, and the R&D Lab)

Applicable Compliance Method: Compliance shall be based upon the record keeping requirements of section C.2 above.

F. **Miscellaneous Requirements**

1. None

Facility ID: 1652010054 Emissions Unit ID: R005 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.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
Sheetfed & non continuous roll fed web (including vinyl, textiles, paper, corrugate, and other substrates) silk screen printing line employing solvent inks dried by a natural	OAC rule 3745-31-05(A)(3) (PTI 16-02342)	OC emissions from inks, as applied after final thinning, and cleanup shall not exceed 85.2 lbs/day & 15.6 tpy.

gas-fired oven with a maximum heat input of less than 0.5 mmBtu/hour & UV inks cured by an ultraviolet radiation oven; air emissions of organic compounds (OCs) uncontrolled and vented from ovens to a stack.		No photochemically reactive materials (PRMs), as defined in OAC rule 3745-21-01(C)(5), shall be employed in this emissions unit. The requirements of OAC rule 3745-31-05(A)(3) also include compliance with the requirements of OAC rule 3745-35-07(B), and Part II, Sections A.2 and B.1 below.
	OAC rule 3745-35-07(B)	The facility shall limit emissions of any individual hazardous air pollutant (HAP) to no more than 9.5 tpy, based upon a rolling, 12-month summation of the monthly emissions, per the federally enforceable material usage restrictions of Part II, Section B.1 below.
	OAC rule 3745-21-07(G)	Exempt from the requirements of OAC rule 3745-21-07(G)(2) per OAC rule 3745-21-07(G)(9).

2. **Additional Terms and Conditions**

(a) The OC emissions limitations established pursuant to OAC rule 3745-31-05(A)(3) reflect the potential to emit for this emissions unit. Therefore, no monitoring, record keeping, or reporting requirements are necessary to ensure ongoing compliance with these emissions limits.

However, if any proposed change(s), such as with production capacity, the types and/or quantities of materials used or processed, or anything else that increase(s) the potential emissions of any air pollutant, then the permittee shall apply for and obtain either a modification to the permit to install or a new final permit to install prior to the change(s).
As a way to reduce air emissions, all inks, coatings, thinners, cleanup solvents/rags, and all other organic solvent containing materials shall be properly identified and held in tightly closed containers at all times when not in use or waiting for appropriate off-site disposal.

B. **Operational Restrictions**

1. The maximum annual individual HAP material usage* (from inks, coatings, thinners, and cleanup materials) for the facility (R001 through R005 and the two Indigo Digital Print Presses, the Narrow Web Hot Melt Coater, and the R&D Lab) shall not exceed 9.5 tons, based upon a rolling, 12-month summation of the monthly individual HAP material usage figures.

*Annual individual HAP material usage rate (input) is equivalent to an annual individual HAP emissions rate and is based upon the solvent in the materials employed or applied being emitted.

C. **Monitoring and/or Record Keeping Requirements**

1. On any day the permittee employs any photochemically reactive material(s) in this emissions unit, as defined in OAC rule 3745-21-01(C)(5), the following information shall be collected and recorded:

a. the company identification of each liquid organic material, excluding non photochemically reactive cleanup materials, employed in the emissions unit during each such day;

b. the total quantity of liquid organic material(s) emitted, in pounds, excluding non photochemically reactive cleanup materials, from the emissions unit during each such day;

c. the actual number of hours of operation of the emissions unit during each such day; and

d. the average hourly rate of liquid organic material(s) emitted, in pounds/hour, excluding non photochemically reactive cleanup materials, from the emissions unit during each such day, i.e., d = b/c.

2. The permittee shall collect/record the following information each month for the facility (R001 through R005, the two Indigo Digital Print Presses, the Narrow Web Hot Melt Coater, and the R&D Lab):

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

b. the weight, in pounds per month, of each ink, as applied;

c. the weight, in pounds per month, of each coating, as applied;

d. the weight, in pounds per month, of each thinner, as applied;

e. the weight, in pounds per month, of each cleanup material, as applied;

f. the individual HAP content for each HAP of each ink, as applied, in percent by weight;

g. the individual HAP content for each HAP of each coating, as applied, in percent by weight;

h. the individual HAP content for each HAP of each thinner, as applied, in percent by weight;

i. the individual HAP content for each HAP of each cleanup material, as applied, in percent by weight;

j. the total individual HAP material usage for each HAP of all inks, as applied, in pounds per month, i.e., j = sum[b x f] for all inks;

k. the total individual HAP material usage for each HAP of all coatings, as applied, in pounds per month, i.e., k = sum[c x g] for all coatings;

l. the total individual HAP material usage for each HAP of all thinners, as applied, in pounds per month, i.e., l =

sum[d x h] for all thinners;

m. the total individual HAP material usage for each HAP of all cleanup materials, as applied, in pounds per month, i.e., m = sum[e x i] for all cleanup materials;

n. the total individual HAP material usage for each HAP of all inks, coatings, thinners, and cleanup materials, as applied, in tons per month, i.e., n = [j + k + l + m]/2000;
o. the total individual HAP emissions for each HAP of all inks, coatings, thinners, and cleanup materials, as applied, in tons per month, i.e., o = n, since emissions rate equals usage rate;

p. the rolling, 12-month summation of the monthly individual HAP material usage rates for each HAP of all inks, coatings, thinners, and cleanup materials, as applied, in tons per year;

q. the rolling, 12-month summation of the monthly individual HAP emissions rates for each HAP of all inks, coatings, thinners, and cleanup materials, as applied, in tons per year, i.e., q = p, since emissions rate equals usage rate.

3. The permit to install for this emissions unit was evaluated based on the actual 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 to this emissions unit for each toxic pollutant, using data from the permit to install application, and modeling was performed for the toxic pollutant(s) emitted at over a ton per year using the SCREEN 3.0 model or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the use of the SCREEN 3.0 (or other approved) model, was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC), calculated as required in Engineering Guide #70. The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: ethylene glycol monobutyl ether (CAS 111-76-2)
TLV (ug/m3): 100,000
Maximum Hourly Emission Rate (lbs/hr): 3.55
Predicted 1-Hour Maximum Ground-Level Concentration at 39 m (ug/m3): 804
MAGLC (ug/m3): 2381

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

a. changes in the composition of the materials used or the use of new materials, that would result in the emission of a compound or chemical with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled, as documented in the most current version of the American Conference of Governmental Industrial Hygienists' (ACGIH's) handbook entitled "TLVs and BEIs" ("Threshold Limit Values for Chemical Substances and Physical Agents, Biological Exposure Indices");

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.).

5. 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) meet(s) the definition of a "modification" under other provisions of the rule, then the permittee shall obtain a final permit to install prior to the change.

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

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

b. documentation of the evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and

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

D. **Reporting Requirements**

1. The permittee shall submit deviation (excursion) reports which identify the days during which photochemically reactive materials were employed in the emissions unit. Each report shall identify the cause for the use of the photochemically reactive material(s) and the estimated total quantity of material(s) emitted in pounds, hourly and daily, during each such day.

2. The permittee shall submit deviation (excursion) reports that identify all exceedances of the facility 9.5 tpy individual HAP material usage restriction using the methodology specified in Section C.2 above, as well as the corrective actions that were taken to achieve compliance.

3. The permittee shall submit deviation (excursion) reports that identify all exceedances of the facility 9.5 tpy individual HAP emissions limitation using the methodology specified in Section C.2 above, as well as the corrective actions that were taken to achieve compliance.

4. The deviation (excursion) reports shall be submitted in accordance with the requirements specified in Part I -

General Terms and Conditions of this permit.

E. **Testing Requirements**

1. Compliance with the emission limitations in Section A.1 of these terms and conditions shall be determined in accordance with the following methods:
Emissions Limitations: 85.2 lbs/day & 15.6 tpy of OCs (emissions unit)

Applicable Compliance Method: The above emissions limitations were established based on the unrestricted/uncontrolled potential to emit, as shown in the following equations, using company-specified process data:

D = P*I*H*E + M; and
Y = D*T*W

Where,

D = 85.2 pounds/day of OCs [unrestricted/uncontrolled daily potential to emit];
Y = 15.6 tons/year of OCs [unrestricted/uncontrolled yearly potential to emit];
P = 514,800 square inches web/hour [maximum production capacity];
I = 0.000006898 pound ink/square inch web [maximum process factor];
H = 24 hours/day [continuous operations];
E = 1 pound OC emissions/pound ink usage [emissions rate equals usage rate];
M = 3 pounds/day OCs from cleanup [maximum cleanup material usage per maximum web production, assumes OC emissions rate equals cleanup material usage rate];
T = 365 days/year [unrestricted operating schedule]; and
W = 1 ton/2000 pounds [weight conversion].
Emissions Limitation: 9.5 tpy individual HAPs, based upon a rolling, 12-month summation of the monthly emissions from this facility (R001 through R005, the two Indigo Digital Print Presses, the Narrow Web Hot Melt Coater, and the R&D Lab)

Applicable Compliance Method: Compliance shall be based upon the record keeping requirements of section C.2 above.

F. **Miscellaneous Requirements**

1. None