State of Ohio Environmental Protection Agency

Street Address:
Lazarus Gov. Center
50 West Town Street, Suite 700
Columbus, OH 43215

TELE: (614) 644-3020 **FAX:** (614) 644-2329

Mailing Address:
Lazarus Gov. Center
P.O. Box 1049
Columbus, OH 43216-1049

RE: FINAL PERMIT TO INSTALL
CUYAHOGA COUNTY
Application No: 13-04726
Fac ID: 1318558632

DATE: 1/8/2008

CERTIFIED MAIL

Y	TOXIC REVIEW
	PSD
Y	SYNTHETIC MINOR
	CEMS
	MACT
	NSPS
	NESHAPS
	NETTING
	MAJOR NON-ATTAINMENT
Y	MODELING SUBMITTED
	GASOLINE DISPENSING FACILITY

All Foils, Incorporated
Mike Fienberg
16100 Imperial Parkway
Strongsville, OH 44149-0600

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

The Ohio EPA is urging companies to investigate pollution prevention and energy conservation. Not only will this reduce pollution and energy consumption, but it can also save you money. If you would like to learn ways you can save money while protecting the environment, please contact our Office of Pollution Prevention at (614) 644-3469.

You are hereby notified that this action of the Director is final and may be appealed to the Environmental Review Appeals Commission pursuant to Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. The appeal must be filed with the Commission within thirty (30) days after notice of the Director's action. The appeal must be accompanied by a filing fee of $70.00 which the Commission, in its discretion, may reduce if by affidavit you demonstrate that payment of the full amount of the fee would cause extreme hardship. Notice of the filing of the appeal shall be filed with the Director within three (3) days of filing with the Commission. Ohio EPA requests that a copy of the appeal be served upon the Ohio Attorney General's Office, Environmental Enforcement Section. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

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

Sincerely,

Michael W. Ahern

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

CC: **USEPA** **CLAA**

STATE OF OHIO ENVIRONMENTAL PROTECTION AGENCY

Permit To Install	**Issue Date: 1/8/2008**
Terms and Conditions	**Effective Date: 1/8/2008**

FINAL PERMIT TO INSTALL

13-04726

Application Number:	13-04726
Facility ID:	1318558632
Permit Fee:	**$400**
Name of Facility:	All Foils, Incorporated
Person to Contact:	Mike Fienberg
Address:	16100 Imperial Parkway Strongsville, OH 441490600

Location of proposed air contaminant source(s) [emissions unit(s)]:
16100 Imperial Parkway
Strongsville, **Ohio**

Description of proposed emissions unit(s):
Genick Rotogravure/flexographic printing line for metal and plastic substrates -- K002. Includes installation of RTO on K001 and K002.

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

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Chris Korleski
Director

Part I - GENERAL TERMS AND CONDITIONS

A. Permit to Install General Terms and Conditions

1. Compliance Requirements

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

2. Reporting Requirements

The permittee shall submit required reports in the following manner:

a. Reports of any required monitoring and/or recordkeeping information shall be submitted to the appropriate Ohio EPA District Office or local air agency.

b. Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursions) from emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and recordkeeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the appropriate Ohio EPA District Office or local air agency. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted (i.e., postmarked) quarterly by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

3. Records Retention Requirements

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

4. Inspections and Information Requests

The Director of the Ohio EPA, or an authorized representative of the Director, may, subject to the safety requirements of the permittee and without undue delay, enter upon the premises of this source at any reasonable time for purposes of making inspections, conducting tests, examining records or reports pertaining to any emission of air

contaminants, and determining compliance with any applicable State air pollution laws and regulations and the terms and conditions of this permit. The permittee shall furnish to the Director of the Ohio EPA, or an authorized representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying, reopening or revoking this permit or to determine compliance with this permit. Upon verbal or written request, the permittee shall also furnish to the Director of the Ohio EPA, or an authorized representative of the Director, copies of records required to be kept by this permit.

5. Scheduled Maintenance/Malfunction Reporting

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

6. Permit Transfers

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

7. Air Pollution Nuisance

The air contaminants emitted by the emissions units covered by this permit shall not cause a public nuisance, in violation of OAC rule 3745-15-07.

8. Termination of Permit to Install

This Permit to Install shall terminate within eighteen months of the effective date of the Permit to Install if the owner or operator has not undertaken a continuing program of installation or modification or has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation or modification. This deadline may be extended by up to 12 months if application is made to the Director within a reasonable time before the termination date and the party shows good cause for any such extension.

9. Construction of New Sources(s)

The proposed emissions unit(s) shall be constructed in strict accordance with the plans and application submitted for this permit to the Director of the Ohio Environmental

Protection Agency. There may be no deviation from the approved plans without the express, written approval of the Agency. Any deviations from the approved plans or the above conditions may lead to such sanctions and penalties as provided under Ohio law. Approval of these plans does not constitute an assurance that the proposed facilities will operate in compliance with all Ohio laws and regulations. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed sources cannot meet the requirements of this permit or cannot meet applicable standards.

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

10. Public Disclosure

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

11. Applicability

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

12. Best Available Technology

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

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

This facility is permitted to operate each source described by this Permit to Install for a period of up to one year from the date the source commenced operation. This permission to operate is granted only if the facility complies with all requirements contained in this permit and all applicable air pollution laws, regulations, and policies. Pursuant to OAC Chapter 3745-35, the permittee shall submit a complete operating permit application within ninety (90) days after commencing operation of the emissions unit(s) covered by this permit.

14. Construction Compliance Certification

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

15. Fees

The permittee shall pay fees to the Director of the Ohio EPA in accordance with ORC section 3745.11 and OAC Chapter 3745-78. The permittee shall pay all applicable Permit to Install fees within 30 days after the issuance of this Permit to Install.

B. Permit to Install Summary of Allowable Emissions

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

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

Pollutant	Tons Per Year
VOC	49.4
Single HAP	9.9
Combined HAPs	24.9

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

A. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment -(K001) - Line 1-Genick rotogravure/flexographic printing line for metal and plastic substrates with a 0.4 mm BTU drying oven and a regenerative thermal oxidizer (RTO)

Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
OAC rule 3745-31-05 (A)(3) Modified The terms and conditions of this permit supersede those of PTI 13-04721 issued 10/9/2007.	VOC emissions shall not exceed 12.36 lbs/hr from all coatings/ inks. The permittee shall employ a permanent total enclosure to achieve 100% capture of VOC emissions from coatings/inks from this emissions unit and vented to the RTO. See Sections A.2.a, A.2.b, A.2.c, and A.2.d below. The requirements of this rule include compliance with the requirements of OAC rule 3745-31-05(C).
OAC rule 3745-21-09(Y)	The requirements of this rule are less stringent than the requirements established pursuant to OAC rule 3745-31-05(A)(3).
OAC rule 3745-31-05(C) Synthetic Minor to avoid Title V, MACT Subpart(s) KK and JJJJ and Non-attainment New Source Review	VOC emissions from all coatings/inks shall not exceed 28.4 tpy (combined for K001 and K002) based on a rolling, 12-month summation of emissions. Uncontrolled VOC emissions from all clean up materials shall not exceed summation of emissions. HAP emissions shall not exceed 9.9 tpy for any single HAP and 24.9 tpy from any combined HAP based on a rolling, 12-month summation of emissions.

2. Additional Terms and Conditions

2.a The pound per hour (lb/hr) emission limit was established at potential to emit (PTE) based on 100% capture and 92% control of VOC emissions from coatings/inks; therefore, monitoring, record keeping and reporting are not required to determine compliance with this limit.

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2.b The permittee shall operate the thermal oxidizer whenever this emissions unit is in operation.

2.c A permanent total enclosure shall be constructed to totally enclose the application stations, coating reservoirs, and all areas from the application station to the oven and the control device. If it can be demonstrated that there is no leakage between the coating application, the oven, and the control device and that the oven and control device are operated under negative pressure, they do not need to be enclosed.

The permanent total enclosure shall be maintained under negative pressure whenever the emissions unit is in operation, and shall be designed and maintained to have an average facial velocity of air through each natural draft opening of at least 200 feet per minute (3,600 m/hr). Compliance with the average facial velocity shall be demonstrated during the compliance test, by either using an air flow monitor or a differential pressure gauge at each natural draft opening, and maintaining the required facial velocity or the corresponding negative pressure. The permanent total enclosure shall meet all of the following criteria if the capture efficiency of the enclosure and control device is to be assumed to be 100%:

i. any natural draft opening shall be at least four equivalent opening diameters, or 4 times the diameter of the opening, from each VOC emitting point;

ii. the total area of all natural draft openings shall not exceed 5 percent of the surface area of the enclosure's four walls, floor, and ceiling;

iii. the direction of air flow through all natural draft openings shall be into the enclosure, with an average facial velocity of no less than 200 feet per minute (3,600 m/hr) or a pressure drop of 0.013 mm Hg (0.007 in. H2O);

iv. all access doors and windows to the enclosure that do not meet the requirements of a natural draft opening and whose surface areas are not included in the 5 percent surface area determination in "b", shall be completely closed to any air movement during process operations; and

v. all VOC emissions shall be captured and contained for discharge through the control device.

2.d The permanent total enclosure (PTE) serving this emissions unit shall be maintained in such a manner as to meet the criteria established for a permanent total enclosure in 40 CFR, Part 51, Appendix M, Reference Method 204, and shall capture all of the VOC emissions from this emissions unit.

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B. Operational Restrictions

1. The maximum annual coating/ink usage rate for emissions units K001 and K002 shall not exceed 69,000 gals/yr, based upon a rolling 12-month summation of the coating usage rates.

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

Month	Maximum Allowable Cumulative Coating Usage
1	5750
1-2	11500
1-3	17250
1-4	23000
1-5	28750
1-6	34500
1-7	40250
1-8	46000
1-9	51750
1-10	57500
1-11	63250
1-12	69000

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

2. The maximum annual cleanup material usage rate for the facility shall not exceed 6,240 gals/yr, based upon a rolling 12-month summation of the cleanup usage rates.

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

Month	Maximum Allowable Cumulative clean up Usage
1	520
1-2	1040
1-3	1560
1-4	2080
1-5	2600
1-6	3120
1-7	3640

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1-8	4160
1-9	4680
1-10	5200
1-11	5720
1-12	6240

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

3. The permanent total enclosure shall be maintained under negative pressure, at a minimum pressure differential that is not less than 0.013 mm Hg (0.007 in. H2O), whenever the emissions unit is in operation.

4. The permanent total enclosure shall be maintained under negative pressure whenever the emissions unit is in operation. Negative pressure shall be visually monitored using streamers, plastic flow indicating strips, string, or other visually noticeable flow indicating device that shows the direction of air flow through each natural draft opening to be into the enclosure.

C. Monitoring and/or Record keeping Requirements

1. The permittee shall collect and record the following information each month for the printing line:

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

   b. the volume, in gallons, of each coating employed;

   c. the volume, in gallons, of clean up material employed;

   d. the VOC content of each coating and clean up material, in pounds per gallon (lbs/gal), as applied;

   e. the total VOC emissions from all coatings employed, in pounds [summation of (b*d) x (1 - overall control efficiency) for each coating employed], where the overall control efficiency shall be determined from the most recent stack test that demonstrated compliance;

   f. the total VOC emissions from all cleanup material employed, in pounds [summation of (c*d) for each cleanup material employed];

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g. the name and/or identification of each individual HAP contained in each coating and cleanup material employed and each individual HAP content, in lbs HAP/gallon, of each coating and cleanup material employed;

h. for each individual HAP, the controlled HAP emissions from the coating operations for the month, in ton(s), i.e., for each individual HAP [summation of (g*b) x (1 - overall control efficiency) divided by 2,000 pounds] for each coating applied, where the overall control efficiency shall be determined from the most recent stack test that demonstrated compliance;

i. the controlled combined HAP emissions for all the coatings employed, in ton(s) [summation of all the individual HAP emissions from "h" above];

j. for each individual HAP, the uncontrolled HAP emissions from the cleanup materials employed, in ton(s) [summation of (g*c) divided by 2,000 pounds] for all of the cleanup material employed;

k. the uncontrolled combined HAP emissions for all the cleanup material employed, in ton(s) [summation of all the individual HAP emissions from "j" above];

l. the total individual HAP emissions determined by summing the controlled individual HAP emissions from "h" above for coatings plus the uncontrolled individual HAP emission from "j" above for cleanup materials, in ton(s);

m. the total combined HAP emissions from coatings and cleanup material determined by summing the total emissions of each of the individual HAP emission rates calculated in "l" above;

n. for each individual HAP, the calculated total emissions during the rolling, 12-month period [summation of the individual HAP emissions as recorded in "l" above] for the present month plus the previous 11 months of operation, in ton(s); and

o. the calculated total combined HAP emissions during the rolling 12-month period [summation of all HAP emissions as recorded in "m" above] for the present month plus the previous 11 months of operation, ton(s).

A listing of the HAPs can be found in Section 112(b) of the Clean Air Act, or can be obtained by contacting the Cleveland Division of Air Quality. Material Safety Data Sheets typically include a listing of the solvents contained in the coatings and cleanup materials.

2. The permittee shall maintain monthly records of the following information for K001 and K002 combined:

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a. the coating usage rate and clean up usage rate for each month in gallons; and

b. beginning after the first 12 calendar months of operation following the issuance of this permit, the rolling, 12-month summation of the coating and clean up usage rates, in gallons.

Also, during the first 12 calendar months of operation following the issuance of this permit, the permittee shall record the cumulative coating usage rate and the clean up usage rate for each calendar month.

3. The permittee shall collect and record the total VOC, single HAP, and combined HAP emissions from all coatings and clean up materials employed, in tons, calculated from the monthly records in Section C.1 above, for this emissions unit for the purpose of determining annual VOC, single HAP, and combined HAP emissions based on a rolling, 12-month summation of emissions.

4. The permittee shall measure, document/calculate, and maintain a permanent record of the following information for the permanent total enclosure, which may be the same record documented during the compliance test(s):

a. the measured diameter of each natural draft opening;

b. the distance measured from each natural draft opening to each VOC emitting point;

c. the total calculated surface area of all natural draft openings and the surface area of the enclosure's four walls, floor, and ceiling;

d. the calculation or demonstration that the distance from each VOC emitting point to each natural draft opening is at least 4 times the diameter of the opening; and

e. the calculation demonstrating that the sum of the surface areas of all of the natural draft openings to the enclosure is not more than 5 percent of the sum of the surface areas of the enclosure's four walls, floor, and ceiling.

5. The permittee shall install, operate, and maintain monitoring devices and a recorder that continuously monitor and record the differential pressure between the inside and outside of the permanent total enclosure when the emissions unit is in operation. The monitoring and recording devices shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals, with any modifications deemed necessary by the permittee.

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

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a. all three-hour blocks of time during which the difference in pressure between the permanent total enclosure and the surrounding areas is not maintained at or above the minimum pressure differential of 0.007 inches of water, as a three-hour average; and

b. a log or record of downtime for the capture (collection) system when the emissions unit was in operation.

6. In order to maintain compliance with the applicable emission limitation(s) contained in this permit, the acceptable average combustion temperature within the thermal oxidizer, for any 3-hour block of time when the emissions unit(s) controlled by the thermal oxidizer is/are in operation, shall not be more than 50 degrees Fahrenheit below the average temperature measured during the most recent emissions test that demonstrated the emissions unit(s) was/were in compliance. The thermal oxidizer shall be operated and maintained in accordance with the manufacturer's recommendations, instructions, and the operating manual.

7. The permittee shall properly install, operate, and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal oxidizer when the emissions unit(s) is/are in operation. Units shall be in degrees Fahrenheit. The accuracy for each thermocouple, monitor, and recorder shall be guaranteed by the manufacturer to be within $\pm$ 1 percent of the temperature being measured or $\pm$ 5 degrees Fahrenheit, whichever is greater. The temperature monitor and recorder shall be installed, calibrated, operated, and maintained in accordance with the manufacturer’s recommendations, instructions, and the operating manuals. The permittee shall collect and calculate the average combustion temperature within the thermal oxidizer, each of the eight, 3-hour blocks of time during each day of operation, and shall record and maintain the following information each day:

a. all 3-hour blocks of time, when the emissions unit(s) controlled by the thermal oxidizer was/were in operation, during which the average combustion temperature within the thermal oxidizer was more than 50 degrees Fahrenheit below the average temperature measured during the most recent emissions test that demonstrated the emissions unit(s) was/were in compliance; and

b. a log or record of the operating time for the capture (collection) system, thermal oxidizer, monitoring equipment, and the associated emissions unit(s).

These records shall be maintained at the facility for a period of three years.

8. Whenever the monitored average combustion temperature within the thermal oxidizer deviates from the range/limit specified in this permit, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:

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a. the date and time the deviation began;
b. the magnitude of the deviation at that time;
c. the date the investigation was conducted;
d. the name(s) of the personnel who conducted the investigation; and
e. the findings and recommendations.

In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable range/limit specified in this permit, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken:

f. a description of the corrective action;
g. the date corrective action was completed;
h. the date and time the deviation ended;
i. the total period of time (in minutes) during which there was a deviation;
j. the temperature readings immediately after the corrective action was implemented; and
k. the name(s) of the personnel who performed the work.

Investigation and records required by this paragraph do not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

The temperature range/limit is effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the appropriate Ohio EPA District Office or local air agency. The permittee may request revisions to the permitted temperature range/limit based upon information obtained during future emission tests that demonstrate compliance with the allowable VOC emission rate for the controlled emissions unit(s). In addition, approved revisions to the temperature range/limit will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of an administrative modification.

9. The permit to install for these emissions units K001-K002 was evaluated based on the actual materials and the design parameters of the emissions unit's(s') exhaust system, as specified by the permittee in the permit application. The Ohio EPA's "Toxic Air Contaminant Statute", ORC 3704.03(F), was applied to this/these emissions unit(s) for each toxic air contaminant listed in OAC 3745-114-01, using data from the permit application; and modeling was performed for each toxic air contaminant(s) emitted at over one ton per year using an air dispersion model such as SCREEN 3.0, AERMOD, or ISCST3, or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the approved air dispersion model, was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC),

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calculated as described in the Ohio EPA guidance document entitled "Review of New Sources of Air Toxic Emissions, Option A", as follows:

a. the exposure limit, expressed as a time-weighted average concentration for a conventional 8-hour workday and a 40-hour workweek, for each toxic compound(s) emitted from the emissions unit(s), (as determined from the raw materials processed and/or coatings or other materials applied) has been documented from one of the following sources and in the following order of preference (TLV was and shall be used, if the chemical is listed):

   i. threshold limit value (TLV) from the American Conference of Governmental Industrial Hygienists' (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices"; or

   ii. STEL (short term exposure limit) or the ceiling value from the American Conference of Governmental Industrial Hygienists' (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices"; the STEL or ceiling value is multiplied by 0.737 to convert the 15-minute exposure limit to an equivalent 8-hour TLV.

b. The TLV is divided by ten to adjust the standard from the working population to the general public (TLV/10).

c. This standard is/was then adjusted to account for the duration of the exposure or the operating hours of the emissions unit(s), i.e., "X" hours per day and "Y" days per week, from that of 8 hours per day and 5 days per week. The resulting calculation was (and shall be) used to determine the Maximum Acceptable Ground-Level Concentration (MAGLC):

$$\frac{TLV}{10} \times \frac{8}{X} \times \frac{5}{Y} = 4\,\frac{TLV}{XY} = MAGLC$$

d. The following summarizes the results of dispersion modeling for the significant toxic contaminants (emitted at 1 or more tons/year) or "worst case" toxic contaminant(s):

   Pollutant: Toluene
   TLV (mg/m3): 188.40
   Maximum Hourly Emission Rate (lbs/hr): 12.96 lbs/hr
   Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 1834
   MAGLC (ug/m3): 4485.83 $\mu g/m^3$

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Pollutant: Xylene
TLV (mg/m3): 434.19
Maximum Hourly Emission Rate (lbs/hr): 8.10 lbs/hr
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 1146
MAGLC (ug/m3): 10338 µg/m^3

Pollutant: Ethyl Benzene
TLV (mg/m3): 434.19
Maximum Hourly Emission Rate (lbs/hr): 2.34 lbs/hr
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 331
MAGLC (ug/m3): 10338 µg/m^3

The permittee, has demonstrated that emissions of Toluene, Xylene, and Ethyl Benzene from emissions units K001-K002 are calculated to be less than eighty per cent of the maximum acceptable ground level concentration (MAGLC); any new raw material or processing agent shall not be applied without evaluating each component toxic contaminant in accordance with ORC 3704.03(F).

10. Prior to making any physical changes to or changes in the method of operation of the emissions unit(s), that could impact the parameters or values that were used in the predicted 1-hour maximum ground-level concentration", the permittee shall re-model the change(s) to demonstrate that the MAGLC has not been exceeded. Changes that can affect the parameters/values used in determining the 1-hour maximum ground-level concentration include, but are not limited to, 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 new toxic air contaminant with a lower Threshold Limit Value (TLV) than the lowest TLV 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 toxic air contaminant listed in OAC 3745-114-01, that was modeled from the initial (or last) application; and

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

    If the permittee determines that the "Toxic Air Contaminant Statute" 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 a non-restrictive change to a parameter or process operation, where compliance with the ORC 3704.03(F), the statute, has been documented. If the change(s) meet(s) the definition of a "modification" or if a new toxic is emitted, or the modeled toxic(s) is/are expected to exceed the previous permitted level(s), then the permittee shall apply for and obtain a final permit-to-install prior to the change. The director may consider any significant departure from the operations of the

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emissions unit, described in the permit-to-install application, as a modification that results in greater emissions than the emissions rate modeled to determine the ground level concentration; and may require the permittee to submit a permit-to-install application for the increased emissions.

11. The permittee shall collect, record, and retain the following information for each toxic evaluation conducted to determine compliance with the "Toxic Air Contaminant Statute":

    a. a description of the parameters/values used in each compliance demonstration and the parameters or values changed for any re-evaluation of the toxic(s) modeled (the composition of materials, new toxic contaminants emitted, change in stack/exhaust parameters, etc.);

    b. the Maximum Acceptable Ground-Level Concentration (MAGLC) for each significant toxic contaminant or worst-case contaminant, calculated in accordance with ORC 3704.03(F);

    c. a copy of the computer model run(s), that established the predicted 1-hour maximum ground-level concentration that demonstrated the emissions unit(s) to be in compliance with ORC 3704.03(F), initially and for each change that requires re-evaluation of the toxic air contaminant emissions; and

    d. the documentation of the initial evaluation of compliance with ORC 3704.03(F) and documentation of any determination that was conducted to re-evaluate compliance due to a change made to the emissions unit(s) or the materials applied.

12. The permittee shall maintain a record of any change made to a parameter or value used in the dispersion model, used to demonstrate compliance with ORC 3704.03(F) through the predicted 1-hour maximum ground-level concentration. The record shall include the date and reason(s) for the change and if the change would increase the ground-level concentration.

D. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports that identify all exceedances of the rolling, 12-month coating/ink and cleanup usage rate limitations in Section B and, for the first 12 calendar months of operation following the issuance of this permit, all exceedances of the maximum allowable cumulative usage limits. The notification shall include a copy of such record and shall be sent to the Cleveland Division of Air Quality (CDAQ) within 45 days after the exceedance occurs.

2. The permittee shall notify CDAQ in writing if the calculated yearly VOC emission rate from K001-K002 due to coating usage exceeds the allowable yearly emissions

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limitation of 28.4 tons VOC/rolling 12-months. The notification shall include a copy of such record and shall be sent to CDAQ within 45 days after the exceedance occurs.

3. The permittee shall notify CDAQ in writing if the calculated yearly VOC clean up material emission rate from K001-K002 exceeds the allowable yearly emissions limitation of 21.0 tons VOC/rolling 12-months. The notification shall include a copy of such record and shall be sent to CDAQ within 45 days after the exceedance occurs.

4. The permittee shall notify CDAQ in writing if the calculated yearly single or combined HAP emission rate from K001-K002 exceed the allowable yearly emissions limitation of 9.9 tons/rolling 12-months and 24.9 tons/rolling 12-months respectively. The notification shall include a copy of such record and shall be sent to CDAQ within 45 days after the exceedance occurs.

5. The permittee shall submit quarterly deviation (excursion) reports to CDAQ that identify all three-hour blocks of time, when the emissions unit was in operation, during which the permanent total enclosure was not maintained at the minimum pressure differential of 0.007 inches of water.

6. The permittee shall submit quarterly reports to CDAQ that identify the following information concerning the operation of the thermal oxidizer during the operation of the emissions unit(s):

   a. each period of time when the average combustion temperature within the thermal oxidizer was outside of the range specified by the manufacturer and outside of the acceptable range following any required compliance demonstration;

   b. an identification of each incident of deviation described in “a” (above) where a prompt investigation was not conducted;

   c. an identification of each incident of deviation described in “a” where prompt corrective action, that would bring the temperature into compliance with the acceptable range, was determined to be necessary and was not taken; and

   d. an identification of each incident of deviation described in “a” where proper records were not maintained for the investigation and/or the corrective action(s).

   These quarterly reports shall be submitted (i.e., postmarked) by January 31, April 30, July 31, and October 31 of each year; and each report shall cover the previous calendar quarter.

7. The permittee shall submit annual reports to the Cleveland DAQ documenting any changes made to a parameter or value used in the dispersion model, that was used to

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demonstrate compliance with ORC 3704.03(F) through the predicted 1-hour maximum ground-level concentration. If no changes to the emissions unit(s) or the exhaust stack have been made, then the report shall include a statement to this effect. This report shall be postmarked or delivered no later than January 31 following the end of each calendar year.

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 method(s):

a. **Emission Limitation**

VOC emissions shall not exceed 12.36 lbs/hr from coatings/inks with 100% capture of VOC emissions to the RTO.

Applicable Compliance Method

Compliance shall be determined from the testing requirements in Section E.2 below by performing a stack test using U.S. EPA Methods 1 through 4, 25 or 25A as applicable, of 40 CFR Part 60, Appendix A and U.S. EPA Method 204 for capture efficiency, of 40 CFR Part 51 Appendix M.

The pound per hour limit is the maximum PTE for this emissions unit determined from the worst case coating as follows:

(15 gals/hr)(10.3 lbs VOC/gal)(1 - 0.92) = 12.36 lbs VOC/hr

b. **Emission Limitation**

VOC emissions shall not exceed 28.4 tons per rolling, 12-month period combined for K001 and K002

Applicable Compliance Method

Compliance shall be determined by the monitoring and record keeping requirements specified in Section C.

c. **Emission Limitation**

VOC emissions shall not exceed 21.0 tons per rolling, 12-month period from all clean up materials combined for K001 and K002.

Applicable Compliance Method

Compliance shall be determined by the monitoring and record keeping requirements specified in Section C.

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d. **Emission Limitation**

9.9 tpy for any single HAP for the entire facility based on a rolling, 12-month summation of material usage.

Applicable Compliance Method

Compliance shall be determined by the monitoring and record keeping requirements specified in Section C.

e. **Emission Limitation**

24.9 tpy for total combined HAPs for the entire facility based on a rolling, 12-month summation of material usage.

Applicable Compliance Method

Compliance shall be determined by the by the monitoring and record keeping requirements specified in Section C.

2. 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 60 days after achieving the maximum production rate at which the emissions unit will be operated, but not later than 180 days after initial startup of the emissions unit:

b. The emission testing shall be conducted to demonstrate compliance with the emissions limitation and capture efficiency limitation for volatile organic compounds.

c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s) for organic compounds:

Methods 1 through 4 and 25 or 25A, as applicable, of 40 CFR Part 60, Appendix A, as appropriate.

The control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) shall be determined in accordance with the test methods and procedures specified in 3745-21-10 or an alternative test protocol approved by the Ohio EPA. The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration and on a consideration of the potential presence of interfering gases.

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

d. The emission testing shall be conducted to demonstrate compliance with the 100% capture efficiency requirement for the permanent total enclosure. The following test methods shall be employed:

Method 204 from 40 CFR Part 51 Appendix M; and
Method 2 from 40 CFR Part 60, Appendix A.

e. During the compliance demonstration for the permanent total enclosure, monitoring devices shall be installed to measure the average facial velocity of the air flow through each natural draft opening.

f. Method 2 from 40 CFR Part 60, Appendix A shall be conducted to determine the volumetric flow rate of the exhaust stream(s) exiting the permanent total enclosure, corrected to standard conditions. If the building is being used as the permanent total enclosure, it may be necessary to measure the volumetric flow, corrected to standard conditions, of each gas stream entering the "enclosure" through a forced makeup air duct, using Method 2. The facial velocity (FV) shall be calculated using the following equation:

$$FV = (Q_o - Q_i) / A_n$$

where:

Q_o is the sum of the volumetric flow from all gas streams exiting the enclosure through an exhaust duct or hood;

Q_i is the sum of the volumetric flow from all gas streams into the enclosure through a forced makeup air duct, and is equal to zero if there is no forced makeup air into the enclosure; and

A_n is the total area of all natural draft openings in the enclosure.

g. If the average facial velocity is measured at greater than 500 feet per minute (9,000 m/hr), the direction of air flow shall be assumed to be inward at all times during the compliance demonstration. If the average facial velocity is measured at less than 500 feet per minute, the continuous inward flow of air shall be verified at least once every 10 minutes for a minimum of 1 hour during the compliance demonstration, either by checking the flow or pressure meter(s) or

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through the use of streamers, smoke tubes, or tracer gases. All closed access doors and windows that are not considered natural draft openings shall also be checked once during the compliance demonstration for leakage around their perimeters using smoke tubes or tracer gases.

h. The permittee shall also measure and record the following information for the permanent total enclosure and each natural draft opening:

i. the diameter of each natural draft opening;

ii. the distance measured from each natural draft opening to each VOC emitting point in the process;

iii. the distance measured from each exhaust duct or hood in the enclosure to each natural draft opening;

iv. the total surface area of each natural draft opening and the surface area of the enclosure's four walls, floor, and ceiling; and

v. the ratio of the total surface area (sum) of all natural draft openings to the total surface area of the permanent total enclosure.

i. 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 Cleveland Division of Air Quality (CDAQ).

j. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the CDAQ. 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 CDAQ's refusal to accept the results of the emission test(s).

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

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l. 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 CDAQ within 30 days following the 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 CDAQ.

3. Formulation data or U.S. EPA Method 24 (40 CFR Part 60, Appendix A) shall be used to determine the VOC content of the coatings/adhesives and cleanup materials. The CDAQ or Ohio EPA may require that U.S. EPA Method 24 be used to determine the VOC content of the coatings/adhesives and cleanup materials. If an owner or operator determines that Method 24 cannot be used for a particular coating/adhesive or cleanup material, the permittee shall so notify the administrator of the U.S. EPA and shall use formulation data for that coating, adhesive, or cleanup material to demonstrate compliance until the U.S. EPA provides alternative analytical procedures or alternative precision statements for Method 24.

F. Miscellaneous Requirements

None

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

A. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment -(K002) - Line 2-Genick rotogravure/flexographic printing line for metal and plastic substrates with a 1.5 mm BTU drying oven and a regenerative thermal oxidizer (RTO)

Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
OAC rule 3745-31-05(A)(3)	VOC emissions shall not exceed 24.72 lbs/hr from all coatings/inks. The permittee shall employ a permanent total enclosure to achieve 100% capture of VOC emissions from coatings/inks from this emissions unit and vented to the RTO. See Sections A.2.a, A.2.b, A.2.c, and A.2.d below. The requirements of this rule include compliance with the requirements of OAC rule 3745-31-05(C).
OAC rule 3745-21-09(Y)	The requirements of this rule are less stringent than the requirements established pursuant to OAC rule 3745-31-05(A)(3).
OAC rule 3745-31-05(C) Synthetic Minor to avoid Title V, MACT Subpart(s) KK and JJJJ and Non-attainment New Source Review	VOC emissions from all coatings/inks shall not exceed 28.4 tpy (combined for K001 and K002) based on a rolling, 12-month summation of emissions. Uncontrolled VOC emissions from all clean up materials shall not exceed 21.0 tpy (combined for K001 and K002) based on a rolling, 12-month summation of emissions. HAP emissions shall not exceed 9.9 tpy from any single HAP and 24.9 tpy from any combined HAP based on a rolling, 12-month summation of emissions.

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2. Additional Terms and Conditions

2.a The pound per hour (lb/hr) emission limit was established at potential to emit (PTE) based on 100% capture and 92% control of VOC emissions from coatings; therefore, monitoring, record keeping and reporting are not required to determine compliance with this limit.

2.b The permittee shall operate the thermal oxidizer whenever this emissions unit is in operation.

2.c A permanent total enclosure shall be constructed to totally enclose the application stations, coating reservoirs, and all areas from the application station to the oven and the control device. If it can be demonstrated that there is no leakage between the coating application, the oven, and the control device and that the oven and control device are operated under negative pressure, they do not need to be enclosed.

The permanent total enclosure shall be maintained under negative pressure whenever the emissions unit is in operation, and shall be designed and maintained to have an average facial velocity of air through each natural draft opening of at least 200 feet per minute (3,600 m/hr). Compliance with the average facial velocity shall be demonstrated during the compliance test, by either using an air flow monitor or a differential pressure gauge at each natural draft opening, and maintaining the required facial velocity or the corresponding negative pressure. The permanent total enclosure shall meet all of the following criteria if the capture efficiency of the enclosure and control device is to be assumed to be 100%:

i. any natural draft opening shall be at least four equivalent opening diameters, or 4 times the diameter of the opening, from each VOC emitting point;

ii. the total area of all natural draft openings shall not exceed 5 percent of the surface area of the enclosure's four walls, floor, and ceiling;

iii. the direction of air flow through all natural draft openings shall be into the enclosure, with an average facial velocity of no less than 200 feet per minute (3,600 m/hr) or a pressure drop of 0.013 mm Hg (0.007 in. H2O);

iv. all access doors and windows to the enclosure that do not meet the requirements of a natural draft opening and whose surface areas are not

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included in the 5 percent surface area determination in “b”, shall be completely closed to any air movement during process operations; and

v. all VOC emissions shall be captured and contained for discharge through the control device.

2.d The permanent total enclosure (PTE) serving this emissions unit shall be maintained in such a manner as to meet the criteria established for a permanent total enclosure in 40 CFR, Part 51, Appendix M, Reference Method 204, and shall capture all of the VOC emissions from this emissions unit.

B. Operational Restrictions

1. The maximum annual coating/ink usage rate for emissions units K001 and K002 shall not exceed 69,000 gals/yr, based upon a rolling 12-month summation of the coating usage rates.

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

Month	Maximum Allowable Cumulative Coating Usage
1	5750
1-2	11500
1-3	17250
1-4	23000
1-5	28750
1-6	34500
1-7	40250
1-8	46000
1-9	51750
1-10	57500
1-11	63250
1-12	69000

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

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2. The maximum annual cleanup material usage rate for the facility shall not exceed 6,240 gals/yr, based upon a rolling 12-month summation of the cleanup usage rates.

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

Month	Maximum Allowable Cumulative clean up Usage
1	520
1-2	1040
1-3	1560
1-4	2080
1-5	2600
1-6	3120
1-7	3640
1-8	4160
1-9	4680
1-10	5200
1-11	5720
1-12	6240

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

3. The permanent total enclosure shall be maintained under negative pressure, at a minimum pressure differential that is not less than 0.013 mm Hg (0.007 in. H2O), whenever the emissions unit is in operation.

4. The permanent total enclosure shall be maintained under negative pressure whenever the emissions unit is in operation. Negative pressure shall be visually monitored using streamers, plastic flow indicating strips, string, or other visually noticeable flow indicating device that shows the direction of air flow through each natural draft opening to be into the enclosure.

C. Monitoring and/or Record keeping Requirements

1. The permittee shall collect and record the following information each month for the printing line:

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

b. the volume, in gallons, of each coating employed;

c. the volume, in gallons, of clean up material employed;

d. the VOC content of each coating and clean up material, in pounds per gallon (lbs/gal), as applied;

e. the total VOC emissions from all coatings employed, in pounds [summation of (b*d) x (1 - overall control efficiency) for each coating employed], where the overall control efficiency shall be determined from the most recent stack test that demonstrated compliance;

f. the total VOC emissions from all cleanup material employed, in pounds [summation of (c*d) for each cleanup material employed];

g. the name and/or identification of each individual HAP contained in each coating and cleanup material employed and each individual HAP content, in lbs HAP/gallon, of each coating and cleanup material employed;

h. for each individual HAP, the controlled HAP emissions from the coating operations for the month, in ton(s), i.e., for each individual HAP [summation of (g*b) x (1 - overall control efficiency) divided by 2,000 pounds] for each coating applied, where the overall control efficiency shall be determined from the most recent stack test that demonstrated compliance;

i. the controlled combined HAP emissions for all the coatings employed, in ton(s) [summation of all the individual HAP emissions from "h" above];

j. for each individual HAP, the uncontrolled HAP emissions from the cleanup materials employed, in ton(s) [summation of (g*c) divided by 2,000 pounds] for all of the cleanup material employed;

k. the uncontrolled combined HAP emissions for all the cleanup material employed, in ton(s) [summation of all the individual HAP emissions from "j" above];

l. the total individual HAP emissions determined by summing the controlled individual HAP emissions from "h" above for coatings plus the uncontrolled individual HAP emission from "j" above for cleanup materials, in ton(s);

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m. the total combined HAP emissions from coatings and cleanup material determined by summing the total emissions of each of the individual HAP emission rates calculated in "l" above;

n. for each individual HAP, the calculated total emissions during the rolling, 12-month period [summation of the individual HAP emissions as recorded in "l" above] for the present month plus the previous 11 months of operation, in ton(s); and

o. the calculated total combined HAP emissions during the rolling 12-month period [summation of all HAP emissions as recorded in "m" above] for the present month plus the previous 11 months of operation, ton(s).

A listing of the HAPs can be found in Section 112(b) of the Clean Air Act, or can be obtained by contacting the Cleveland Division of Air Quality. Material Safety Data Sheets typically include a listing of the solvents contained in the coatings and cleanup materials.

2. The permittee shall maintain monthly records of the following information for K001 and K002 combined:

a. the coating usage rate and clean up usage rate for each month in gallons; and

b. beginning after the first 12 calendar months of operation following the issuance of this permit, the rolling, 12-month summation of the coating and clean up usage rates, in gallons.

Also, during the first 12 calendar months of operation following the issuance of this permit, the permittee shall record the cumulative coating usage rate and the clean up usage rate for each calendar month.

3. The permittee shall collect and record the total VOC, single HAP, and combined HAP emissions from all coatings and clean up materials employed, in tons, calculated from the monthly records in Section C.1 above, for this emissions unit for the purpose of determining annual VOC, single HAP, and combined HAP emissions based on a rolling, 12-month summation of emissions.

4. The permittee shall measure, document/calculate, and maintain a permanent record of the following information for the permanent total enclosure, which may be the same record documented during the compliance test(s):

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a. the measured diameter of each natural draft opening;

b. the distance measured from each natural draft opening to each VOC emitting point;

c. the total calculated surface area of all natural draft openings and the surface area of the enclosure's four walls, floor, and ceiling;

d. the calculation or demonstration that the distance from each VOC emitting point to each natural draft opening is at least 4 times the diameter of the opening; and

e. the calculation demonstrating that the sum of the surface areas of all of the natural draft openings to the enclosure is not more than 5 percent of the sum of the surface areas of the enclosure's four walls, floor, and ceiling.

5. The permittee shall install, operate, and maintain monitoring devices and a recorder that continuously monitor and record the differential pressure between the inside and outside of the permanent total enclosure when the emissions unit is in operation. The monitoring and recording devices shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals, with any modifications deemed necessary by the permittee.

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

   a. all three-hour blocks of time during which the difference in pressure between the permanent total enclosure and the surrounding areas is not maintained at or above the minimum pressure differential of 0.007 inches of water, as a three-hour average; and

   b. a log or record of downtime for the capture (collection) system when the emissions unit was in operation.

6. In order to maintain compliance with the applicable emission limitation(s) contained in this permit, the acceptable average combustion temperature within the thermal oxidizer, for any 3-hour block of time when the emissions unit(s) controlled by the thermal oxidizer is/are in operation, shall not be more than 50 degrees Fahrenheit below the average temperature measured during the most recent emissions test that demonstrated the emissions unit(s) was/were in compliance. The thermal oxidizer shall be operated and maintained in accordance with the manufacturer's recommendations, instructions, and the operating manual.

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7. The permittee shall properly install, operate, and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal oxidizer when the emissions unit(s) is/are in operation. Units shall be in degrees Fahrenheit. The accuracy for each thermocouple, monitor, and recorder shall be guaranteed by the manufacturer to be within ± 1 percent of the temperature being measured or ± 5 degrees Fahrenheit, whichever is greater. The temperature monitor and recorder shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and the operating manuals. The permittee shall collect and calculate the average combustion temperature within the thermal oxidizer, each of the eight, 3-hour blocks of time during each day of operation, and shall record and maintain the following information each day:

   a. all 3-hour blocks of time, when the emissions unit(s) controlled by the thermal oxidizer was/were in operation, during which the average combustion temperature within the thermal oxidizer was more than 50 degrees Fahrenheit below the average temperature measured during the most recent emissions test that demonstrated the emissions unit(s) was/were in compliance; and

   b. a log or record of the operating time for the capture (collection) system, thermal oxidizer, monitoring equipment, and the associated emissions unit(s).

   These records shall be maintained at the facility for a period of three years.

8. Whenever the monitored average combustion temperature within the thermal oxidizer deviates from the range/limit specified in this permit, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:

   a. the date and time the deviation began;
   b. the magnitude of the deviation at that time;
   c. the date the investigation was conducted;
   d. the name(s) of the personnel who conducted the investigation; and
   e. the findings and recommendations.

   In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable range/limit specified in this permit, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken:

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f. a description of the corrective action;
g. the date corrective action was completed;
h. the date and time the deviation ended;
i. the total period of time (in minutes) during which there was a deviation;
j. the temperature readings immediately after the corrective action was implemented; and
k. the name(s) of the personnel who performed the work.

Investigation and records required by this paragraph do not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

The temperature range/limit is effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the appropriate Ohio EPA District Office or local air agency. The permittee may request revisions to the permitted temperature range/limit based upon information obtained during future emission tests that demonstrate compliance with the allowable VOC emission rate for the controlled emissions unit(s). In addition, approved revisions to the temperature range/limit will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of an administrative modification.

9. The permit to install for these emissions units K001-K002 was evaluated based on the actual materials and the design parameters of the emissions unit's(s') exhaust system, as specified by the permittee in the permit application. The Ohio EPA's "Toxic Air Contaminant Statute", ORC 3704.03(F), was applied to this/these emissions unit(s) for each toxic air contaminant listed in OAC 3745-114-01, using data from the permit application; and modeling was performed for each toxic air contaminant(s) emitted at over one ton per year using an air dispersion model such as SCREEN 3.0, AERMOD, or ISCST3, or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the approved air dispersion model, was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC), calculated as described in the Ohio EPA guidance document entitled "Review of New Sources of Air Toxic Emissions, Option A", as follows:

a. the exposure limit, expressed as a time-weighted average concentration for a conventional 8-hour workday and a 40-hour workweek, for each toxic compound(s) emitted from the emissions unit(s), (as determined from the raw materials processed and/or coatings or other materials applied) has been documented from one of the following sources and in the following order of preference (TLV was and shall be used, if the chemical is listed):

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i. threshold limit value (TLV) from the American Conference of Governmental Industrial Hygienists' (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices"; or

ii. STEL (short term exposure limit) or the ceiling value from the American Conference of Governmental Industrial Hygienists' (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices"; the STEL or ceiling value is multiplied by 0.737 to convert the 15-minute exposure limit to an equivalent 8-hour TLV.

b. The TLV is divided by ten to adjust the standard from the working population to the general public (TLV/10).

c. This standard is/was then adjusted to account for the duration of the exposure or the operating hours of the emissions unit(s), i.e., "X" hours per day and "Y" days per week, from that of 8 hours per day and 5 days per week. The resulting calculation was (and shall be) used to determine the Maximum Acceptable Ground-Level Concentration (MAGLC):

$$\frac{TLV}{10} \times \frac{8}{X} \times \frac{5}{Y} = 4\,\frac{TLV}{XY} = MAGLC$$

d. The following summarizes the results of dispersion modeling for the significant toxic contaminants (emitted at 1 or more tons/year) or "worst case" toxic contaminant(s):

Pollutant: Toluene
TLV (mg/m3): 188.40
Maximum Hourly Emission Rate (lbs/hr): 12.96 lbs/hr
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 1834
MAGLC (ug/m3): 4485.83 $\mu g/m^3$

Pollutant: Xylene
TLV (mg/m3): 434.19
Maximum Hourly Emission Rate (lbs/hr): 8.10 lbs/hr
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 1146
MAGLC (ug/m3): 10338 $\mu g/m^3$

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Pollutant: Ethyl Benzene
TLV (mg/m3): 434.19
Maximum Hourly Emission Rate (lbs/hr): 2.34 lbs/hr
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 331
MAGLC (ug/m3): 10338 $\mu g/m^3$

The permittee, has demonstrated that emissions of Toluene, Xylene, and Ethyl Benzene from emissions units K001-K002 are calculated to be less than eighty per cent of the maximum acceptable ground level concentration (MAGLC); any new raw material or processing agent shall not be applied without evaluating each component toxic contaminant in accordance with ORC 3704.03(F).

10. Prior to making any physical changes to or changes in the method of operation of the emissions unit(s), that could impact the parameters or values that were used in the predicted 1-hour maximum ground-level concentration", the permittee shall re-model the change(s) to demonstrate that the MAGLC has not been exceeded. Changes that can affect the parameters/values used in determining the 1-hour maximum ground-level concentration include, but are not limited to, 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 new toxic air contaminant with a lower Threshold Limit Value (TLV) than the lowest TLV 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 toxic air contaminant listed in OAC 3745-114-01, that was modeled from the initial (or last) application; and

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

    If the permittee determines that the "Toxic Air Contaminant Statute" 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 a non-restrictive change to a parameter or process operation, where compliance with the ORC 3704.03(F), the statute, has been documented. If the change(s) meet(s) the definition of a "modification" or if a new toxic is emitted, or the modeled toxic(s) is/are expected to exceed the previous permitted level(s), then the permittee shall apply for and obtain a final permit-to-install prior to the change. The director may consider any significant departure from the operations of the emissions unit, described in the permit-to-install application, as a modification that results in greater emissions than the emissions rate modeled to determine the ground

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level concentration; and may require the permittee to submit a permit-to-install application for the increased emissions.

11. The permittee shall collect, record, and retain the following information for each toxic evaluation conducted to determine compliance with the "Toxic Air Contaminant Statute":

    a. a description of the parameters/values used in each compliance demonstration and the parameters or values changed for any re-evaluation of the toxic(s) modeled (the composition of materials, new toxic contaminants emitted, change in stack/exhaust parameters, etc.);

    b. the Maximum Acceptable Ground-Level Concentration (MAGLC) for each significant toxic contaminant or worst-case contaminant, calculated in accordance with ORC 3704.03(F);

    c. a copy of the computer model run(s), that established the predicted 1-hour maximum ground-level concentration that demonstrated the emissions unit(s) to be in compliance with ORC 3704.03(F), initially and for each change that requires re-evaluation of the toxic air contaminant emissions; and

    d. the documentation of the initial evaluation of compliance with ORC 3704.03(F) and documentation of any determination that was conducted to re-evaluate compliance due to a change made to the emissions unit(s) or the materials applied.

12. The permittee shall maintain a record of any change made to a parameter or value used in the dispersion model, used to demonstrate compliance with ORC 3704.03(F) through the predicted 1-hour maximum ground-level concentration. The record shall include the date and reason(s) for the change and if the change would increase the ground-level concentration.

D. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports that identify all exceedances of the rolling, 12-month coating/ink and cleanup usage rate limitations in Section B and, for the first 12 calendar months of operation following the issuance of this permit, all exceedances of the maximum allowable cumulative usage limits. The notification shall include a copy of such record and shall be sent to the Cleveland Division of Air Quality (CDAQ) within 45 days after the exceedance occurs.

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2. The permittee shall notify CDAQ in writing if the calculated yearly VOC emission rate from K001-K002 due to coating usage exceeds the allowable yearly emissions limitation of 28.4 tons VOC/rolling 12-months. The notification shall include a copy of such record and shall be sent to CDAQ within 45 days after the exceedance occurs.

3. The permittee shall notify CDAQ in writing if the calculated yearly VOC clean up material emission rate from K001-K002 exceeds the allowable yearly emissions limitation of 21.0 tons VOC/rolling 12-months. The notification shall include a copy of such record and shall be sent to CDAQ within 45 days after the exceedance occurs.

4. The permittee shall notify CDAQ in writing if the calculated yearly single or combined HAP emission rate from K001-K002 exceed the allowable yearly emissions limitation of 9.9 tons/rolling 12-months and 24.9 tons/rolling 12-months respectively. The notification shall include a copy of such record and shall be sent to CDAQ within 45 days after the exceedance occurs.

5. The permittee shall submit quarterly deviation (excursion) reports to CDAQ that identify all three-hour blocks of time, when the emissions unit was in operation, during which the permanent total enclosure was not maintained at the minimum pressure differential of 0.007 inches of water.

6. The permittee shall submit quarterly reports to CDAQ that identify the following information concerning the operation of the thermal oxidizer during the operation of the emissions unit(s):

   a. each period of time when the average combustion temperature within the thermal oxidizer was outside of the range specified by the manufacturer and outside of the acceptable range following any required compliance demonstration;

   b. an identification of each incident of deviation described in “a” (above) where a prompt investigation was not conducted;

   c. an identification of each incident of deviation described in “a” where prompt corrective action, that would bring the temperature into compliance with the acceptable range, was determined to be necessary and was not taken; and

   d. an identification of each incident of deviation described in “a” where proper records were not maintained for the investigation and/or the corrective action(s).

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These quarterly reports shall be submitted (i.e., postmarked) by January 31, April 30, July 31, and October 31 of each year; and each report shall cover the previous calendar quarter.

7. The permittee shall submit annual reports to the Cleveland DAQ documenting any changes made to a parameter or value used in the dispersion model, that was used to demonstrate compliance with ORC 3704.03(F) through the predicted 1-hour maximum ground-level concentration. If no changes to the emissions unit(s) or the exhaust stack have been made, then the report shall include a statement to this effect. This report shall be postmarked or delivered no later than January 31 following the end of each calendar year.

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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 method(s):

a. **Emission Limitation**

VOC emissions from coatings/inks shall not exceed 24.72 lbs/hr with 100% capture of VOC emissions to the RTO.

Applicable Compliance Method

Compliance shall be determined from the testing requirements in Section E.2 below by performing a stack test using U.S. EPA Methods 1 through 4, 25 or 25A as applicable, of 40 CFR Part 60, Appendix A and U.S. EPA Method 204 for capture efficiency, of 40 CFR Part 51 Appendix M.

The pound per hour limit is the maximum PTE for this emissions unit determined from the worst case coating as follows:

(30 gals/hr)(10.3 lbs VOC/gal)(1 - 0.92) = 24.72 lbs VOC/hr

b. **Emission Limitation**

VOC emissions shall not exceed 28.4 tons per rolling, 12-month period combined for K001 and K002

Applicable Compliance Method

Compliance shall be determined by the monitoring and record keeping requirements specified in Section C.

c. **Emission Limitation**

VOC emissions shall not exceed 21.0 tons per rolling, 12-month period from all clean up materials combined for K001 and K002.

Applicable Compliance Method

Compliance shall be determined by the monitoring and record keeping requirements specified in Section C.

d. **Emission Limitation**

9.9 tpy for any single HAP for the entire facility based on a rolling, 12-month summation of material usage.

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Applicable Compliance Method

Compliance shall be determined by the monitoring and record keeping requirements specified in Section C.

e. **Emission Limitation**

24.9 tpy for total combined HAPs for the entire facility based on a rolling, 12-month summation of material usage.

Applicable Compliance Method

Compliance shall be determined by the by the monitoring and record keeping requirements specified in Section C.

2. 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 60 days after achieving the maximum production rate at which the emissions unit will be operated, but not later than 180 days after initial startup of the emissions unit:

b. The emission testing shall be conducted to demonstrate compliance with the emissions limitation and capture efficiency limitation for volatile organic compounds.

c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s) for organic compounds:

Methods 1 through 4 and 25 or 25A, as applicable, of 40 CFR Part 60, Appendix A, as appropriate.

The control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) shall be determined in accordance with the test methods and procedures specified in 3745-21-10 or an alternative test protocol approved by the Ohio EPA. The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration and on a consideration of the potential presence of interfering gases.

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

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d. The emission testing shall be conducted to demonstrate compliance with the 100% capture efficiency requirement for the permanent total enclosure. The following test methods shall be employed:

Method 204 from 40 CFR Part 51 Appendix M; and
Method 2 from 40 CFR Part 60, Appendix A.

e. During the compliance demonstration for the permanent total enclosure, monitoring devices shall be installed to measure the average facial velocity of the air flow through each natural draft opening.

f. Method 2 from 40 CFR Part 60, Appendix A shall be conducted to determine the volumetric flow rate of the exhaust stream(s) exiting the permanent total enclosure, corrected to standard conditions. If the building is being used as the permanent total enclosure, it may be necessary to measure the volumetric flow, corrected to standard conditions, of each gas stream entering the "enclosure" through a forced makeup air duct, using Method 2. The facial velocity (FV) shall be calculated using the following equation:

$$FV = (Q_o - Q_i) / A_n$$

where:

Q_o is the sum of the volumetric flow from all gas streams exiting the enclosure through an exhaust duct or hood;

Q_i is the sum of the volumetric flow from all gas streams into the enclosure through a forced makeup air duct, and is equal to zero if there is no forced makeup air into the enclosure; and

A_n is the total area of all natural draft openings in the enclosure.

g. If the average facial velocity is measured at greater than 500 feet per minute (9,000 m/hr), the direction of air flow shall be assumed to be inward at all times during the compliance demonstration. If the average facial velocity is measured at less than 500 feet per minute, the continuous inward flow of air shall be verified at least once every 10 minutes for a minimum of 1 hour during the compliance demonstration, either by checking the flow or pressure meter(s) or through the use of streamers, smoke tubes, or tracer gases. All closed access doors and windows that are not considered natural draft openings shall also be

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checked once during the compliance demonstration for leakage around their perimeters using smoke tubes or tracer gases.

h. The permittee shall also measure and record the following information for the permanent total enclosure and each natural draft opening:

i. the diameter of each natural draft opening;

ii. the distance measured from each natural draft opening to each VOC emitting point in the process;

iii. the distance measured from each exhaust duct or hood in the enclosure to each natural draft opening;

iv. the total surface area of each natural draft opening and the surface area of the enclosure's four walls, floor, and ceiling; and

v. the ratio of the total surface area (sum) of all natural draft openings to the total surface area of the permanent total enclosure.

i. 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 Cleveland Division of Air Quality (CDAQ).

j. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the CDAQ. 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 CDAQ's refusal to accept the results of the emission test(s).

k. Personnel from the CDAQ 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.

l. 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 CDAQ within 30 days following the completion of the test(s). The permittee may

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request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate CDAQ.

3. Formulation data or U.S. EPA Method 24 (40 CFR Part 60, Appendix A) shall be used to determine the VOC content of the coatings/adhesives and cleanup materials. The CDAQ or Ohio EPA may require that U.S. EPA Method 24 be used to determine the VOC content of the coatings/adhesives and cleanup materials. If an owner or operator determines that Method 24 cannot be used for a particular coating/adhesive or cleanup material, the permittee shall so notify the administrator of the U.S. EPA and shall use formulation data for that coating, adhesive, or cleanup material to demonstrate compliance until the U.S. EPA provides alternative analytical procedures or alternative precision statements for Method 24.

F. Miscellaneous Requirements

None

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