



John R. Kasich, Governor
Mary Taylor, Lt. Governor
Scott J. Nally, Director

12/31/2012

Mr. Gary Hartman
AMERICAN COLOR GRAPHICS INC. MEDINA
620 East Smith Rd
Medina, OH 44256

RE: FINALAIR POLLUTION PERMIT-TO-INSTALL AND OPERATE
Facility ID: 1652050075
Permit Number: P0110467
Permit Type: Renewal
County: Medina

Certified Mail

No	TOXIC REVIEW
No	SYNTHETIC MINOR TO AVOID MAJOR NSR
No	CEMS
No	MACT/GACT
No	NSPS
No	NESHAPS
No	NETTING
No	MODELING SUBMITTED
No	SYNTHETIC MINOR TO AVOID TITLE V
No	FEDERALLY ENFORCABLE PTIO (FEPTIO)
No	SYNTHETIC MINOR TO AVOID MAJOR GHG

Dear Permit Holder:

Enclosed please find a final Ohio Environmental Protection Agency (EPA) Air Pollution Permit-to-Install and Operate (PTIO) which will allow you to install, modify, and/or operate the described emissions unit(s) in the manner indicated in the permit. Because this permit contains conditions and restrictions, please read it very carefully. In this letter you will find the information on the following topics:

- **How to appeal this permit**
- **How to save money, reduce pollution and reduce energy consumption**
- **How to give us feedback on your permitting experience**
- **How to get an electronic copy of your permit**

How to appeal this permit

The issuance of this PTIO is a final action of the Director 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, made payable to "Ohio Treasurer Josh Mandel," 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
77 South High Street, 17th Floor
Columbus, OH 43215

How to save money, reduce pollution and reduce energy consumption

The Ohio EPA is encouraging 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 Compliance Assistance and Pollution Prevention at (614) 644-3469. Additionally, all or a portion of the capital expenditures related to installing air pollution control equipment under this permit may be eligible for financing and State tax exemptions through the Ohio Air Quality Development Authority (OAQDA) under Ohio Revised Code Section 3706. For more information, see the OAQDA website: www.ohioairquality.org/clean_air

How to give us feedback on your permitting experience

Please complete a survey at www.epa.ohio.gov/dapc/permitsurvey.aspx and give us feedback on your permitting experience. We value your opinion.

How to get an electronic copy of your permit

This permit can be accessed electronically via the eBusiness Center: Air Services in Microsoft Word format or in Adobe PDF on the Division of Air Pollution Control (DAPC) Web page, www.epa.ohio.gov/dapc by clicking the "Search for Permits" link under the Permitting topic on the Programs tab.

If you have any questions, please contact Akron Regional Air Quality Management District at (330)375-2480 or the Office of Compliance Assistance and Pollution Prevention at (614) 644-3469.

Sincerely,



Michael W. Ahern, Manager

Permit Issuance and Data Management Section, DAPC

Cc: ARAQMD



FINAL

**Division of Air Pollution Control
Permit-to-Install and Operate
for
AMERICAN COLOR GRAPHICS INC. MEDINA**

Facility ID:	1652050075
Permit Number:	P0110467
Permit Type:	Renewal
Issued:	12/31/2012
Effective:	12/31/2012
Expiration:	12/31/2022



Division of Air Pollution Control
Permit-to-Install and Operate
for
AMERICAN COLOR GRAPHICS INC. MEDINA

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Final Permit-to-Install and Operate
AMERICAN COLOR GRAPHICS INC. MEDINA
Permit Number: P0110467
Facility ID: 1652050075
Effective Date: 12/31/2012

Authorization

Facility ID: 1652050075
Application Number(s): A0045038
Permit Number: P0110467
Permit Description: Renewal PTIO for Two Heatset Web Offset Printing Presses (K002 and K005). Facility is transitioning from SMTV to NTV permitting status due to the new control requirement in OAC rule 3745-21-22.
Permit Type: Renewal
Permit Fee: \$0.00
Issue Date: 12/31/2012
Effective Date: 12/31/2012
Expiration Date: 12/31/2022
Permit Evaluation Report (PER) Annual Date: July 1 - June 30, Due Aug 15

This document constitutes issuance to:

AMERICAN COLOR GRAPHICS INC. MEDINA
620 East Smith Rd
Medina, OH 44256

of a Permit-to-Install and Operate for the emissions unit(s) identified on the following page.

Ohio Environmental Protection Agency (EPA) District Office or local air agency responsible for processing and administering your permit:

Akron Regional Air Quality Management District
146 South High Street, Room 904
Akron, OH 44308
(330)375-2480

The above named entity is hereby granted this Permit-to-Install and Operate for the air contaminant source(s) (emissions unit(s)) listed in this section 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 described emissions unit(s) will operate in compliance with applicable State and federal laws and regulations.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency


Scott J. Nally
Director



Authorization (continued)

Permit Number: P0110467

Permit Description: Renewal PTIO for Two Heatset Web Offset Printing Presses (K002 and K005). Facility is transitioning from SMTV to NTV permitting status due to the new control requirement in OAC rule 3745-21-22.

Permits for the following Emissions Unit(s) or groups of Emissions Units are in this document as indicated below:

Group Name: Heatset Web Offset Printing

Emissions Unit ID:	K002
Company Equipment ID:	C500 Press
Superseded Permit Number:	16-02191
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	K005
Company Equipment ID:	G14 Press
Superseded Permit Number:	16-02191
General Permit Category and Type:	Not Applicable



Final Permit-to-Install and Operate
AMERICAN COLOR GRAPHICS INC. MEDINA
Permit Number: P0110467
Facility ID: 1652050075
Effective Date: 12/31/2012

A. Standard Terms and Conditions



1. What does this permit-to-install and operate ("PTIO") allow me to do?

This permit allows you to install and operate the emissions unit(s) identified in this PTIO. You must install and operate the unit(s) in accordance with the application you submitted and all the terms and conditions contained in this PTIO, including emission limits and those terms that ensure compliance with the emission limits (for example, operating, recordkeeping and monitoring requirements).

2. Who is responsible for complying with this permit?

The person identified on the "Authorization" page, above, is responsible for complying with this permit until the permit is revoked, terminated, or transferred. "Person" means a person, firm, corporation, association, or partnership. The words "you," "your," or "permittee" refer to the "person" identified on the "Authorization" page above.

The permit applies only to the emissions unit(s) identified in the permit. If you install or modify any other equipment that requires an air permit, you must apply for an additional PTIO(s) for these sources.

3. What records must I keep under this permit?

You must keep all records required by this permit, including monitoring data, test results, strip-chart recordings, calibration data, maintenance records, and any other record required by this permit for five years from the date the record was created. You can keep these records electronically, provided they can be made available to Ohio EPA during an inspection at the facility. Failure to make requested records available to Ohio EPA upon request is a violation of this permit requirement.

4. What are my permit fees and when do I pay them?

There are two fees associated with permitted air contaminant sources in Ohio:

- PTIO fee. This one-time fee is based on a fee schedule in accordance with Ohio Revised Code (ORC) section 3745.11, or based on a time and materials charge for permit application review and permit processing if required by the Director.

You will be sent an invoice for this fee after you receive this PTIO and payment is due within 30 days of the invoice date. You are required to pay the fee for this PTIO even if you do not install or modify your operations as authorized by this permit.

- Annual emissions fee. Ohio EPA will assess a separate fee based on the total annual emissions from your facility. You self-report your emissions in accordance with Ohio Administrative Code (OAC) Chapter 3745-78. This fee assessed is based on a fee schedule in ORC section 3745.11 and funds Ohio EPA's permit compliance oversight activities. Unless otherwise specified, facilities subject to one or more synthetic minor restrictions must use Ohio EPA's "Air Services" to submit annual emissions associated with this permit requirement. Ohio EPA will notify you when it is time to report your emissions and to pay your annual emission fees.

5. When does my PTIO expire, and when do I need to submit my renewal application?

This permit expires on the date identified at the beginning of this permit document (see "Authorization" page above) and you must submit a renewal application to renew the permit. Ohio EPA will send a renewal notice to you approximately six months prior to the expiration date of this permit. However, it is



very important that you submit a complete renewal permit application (postmarked prior to expiration of this permit) even if you do not receive the renewal notice.

If a complete renewal application is submitted before the expiration date, Ohio EPA considers this a timely application for purposes of ORC section 119.06, and you are authorized to continue operating the emissions unit(s) covered by this permit beyond the expiration date of this permit until final action is taken by Ohio EPA on the renewal application.

6. What happens to this permit if my project is delayed or I do not install or modify my source?

This PTIO expires 18 months after the issue date identified on the "Authorization" page above unless otherwise specified if you have not (1) started constructing the new or modified emission sources identified in this permit, or (2) entered into a binding contract to undertake such construction. This deadline can be extended by up to 12 months, provided you apply to Ohio EPA for this extension within a reasonable time before the 18-month period has ended and you can show good cause for any such extension.

7. What reports must I submit under this permit?

An annual permit evaluation report (PER) is required in addition to any malfunction reporting required by OAC rule 3745-15-06 or other specific rule-based reporting requirement identified in this permit. Your PER due date is identified in the Authorization section of this permit.

8. If I am required to obtain a Title V operating permit in the future, what happens to the operating provisions and PER obligations under this permit?

If you are required to obtain a Title V permit under OAC Chapter 3745-77 in the future, the permit-to-operate portion of this permit will be superseded by the issued Title V permit. From the effective date of the Title V permit forward, this PTIO will effectively become a PTI (permit-to-install) in accordance with OAC rule 3745-31-02(B). The following terms and conditions will no longer be applicable after issuance of the Title V permit: Section B, Term 1.b) and Section C, for each emissions unit, Term a)(2).

The PER requirements in this permit remain effective until the date the Title V permit is issued and is effective, and cease to apply after the effective date of the Title V permit. The final PER obligation will cover operations up to the effective date of the Title V permit and must be submitted on or before the submission deadline identified in this permit on the last day prior to the effective date of the Title V permit.

9. What are my obligations when I perform scheduled maintenance on air pollution control equipment?

You must perform scheduled maintenance of air pollution control equipment in accordance with OAC rule 3745-15-06(A). If scheduled maintenance requires shutting down or bypassing any air pollution control equipment, you must also shut down the emissions unit(s) served by the air pollution control equipment during maintenance, unless the conditions of OAC rule 3745-15-06(A)(3) are met. Any emissions that exceed permitted amount(s) under this permit (unless specifically exempted by rule) must be reported as deviations in the annual permit evaluation report (PER), including nonexempt excess emissions that occur during approved scheduled maintenance.



10. Do I have to report malfunctions of emissions units or air pollution control equipment? If so, how must I report?

If you have a reportable malfunction of any emissions unit(s) or any associated air pollution control system, you must report this to the Akron Regional Air Quality Management District in accordance with OAC rule 3745-15-06(B). Malfunctions that must be reported are those that result in emissions that exceed permitted emission levels. It is your responsibility to evaluate control equipment breakdowns and operational upsets to determine if a reportable malfunction has occurred.

If you have a malfunction, but determine that it is not a reportable malfunction under OAC rule 3745-15-06(B), it is recommended that you maintain records associated with control equipment breakdown or process upsets. Although it is not a requirement of this permit, Ohio EPA recommends that you maintain records for non-reportable malfunctions.

11. Can Ohio EPA or my local air agency inspect the facility where the emission unit(s) is/are located?

Yes. Under Ohio law, the Director or his authorized representative may inspect the facility, conduct tests, examine records or reports to determine compliance with air pollution laws and regulations and the terms and conditions of this permit. You must provide, within a reasonable time, any information Ohio EPA requests either verbally or in writing.

12. What happens if one or more emissions units operated under this permit is/are shut down permanently?

Ohio EPA can terminate the permit terms associated with any permanently shut down emissions unit. "Shut down" means the emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31.

You should notify Ohio EPA of any emissions unit that is permanently shut down by submitting¹ a certification that identifies the date on which the emissions unit was permanently shut down. The certification must be submitted by an authorized official from the facility. You cannot continue to operate an emissions unit once the certification has been submitted to Ohio EPA by the authorized official.

You must comply with all recordkeeping and reporting for any permanently shut down emissions unit in accordance with the provisions of the permit, regulations or laws that were enforceable during the period of operation, such as the requirement to submit a PER, air fee emission report, or malfunction report. You must also keep all records relating to any permanently shutdown emissions unit, generated while the emissions unit was in operation, for at least five years from the date the record was generated.

Again, you cannot resume operation of any emissions unit certified by the authorized official as being permanently shut down without first applying for and obtaining a permit pursuant to OAC Chapter 3745-31.

¹ Permittees that use Ohio EPA's "Air Services" can mark the affected emissions unit(s) as "permanently shutdown" in the facility profile along with the date the emissions unit(s) was permanently removed and/or disabled. Submitting the facility profile update will constitute notifying of the permanent shutdown of the affected emissions unit(s).



13. Can I transfer this permit to a new owner or operator?

You can transfer this permit to a new owner or operator. If you transfer the permit, you must follow the procedures in OAC Chapter 3745-31, including notifying Ohio EPA or the local air agency of the change in ownership or operator. Any transferee of this permit must assume the responsibilities of the transferor permit holder.

14. Does compliance with this permit constitute compliance with OAC rule 3745-15-07, "air pollution nuisance"?

This permit and OAC rule 3745-15-07 prohibit operation of the air contaminant source(s) regulated under this permit in a manner that causes a nuisance. Ohio EPA can require additional controls or modification of the requirements of this permit through enforcement orders or judicial enforcement action if, upon investigation, Ohio EPA determines existing operations are causing a nuisance.

15. What happens if a portion of this permit is determined to be invalid?

If a portion of this permit is determined to be invalid, the remainder of the terms and conditions remain valid and enforceable. The exception is where the enforceability of terms and conditions are dependent on the term or condition that was declared invalid.



Final Permit-to-Install and Operate
AMERICAN COLOR GRAPHICS INC. MEDINA
Permit Number: P0110467
Facility ID: 1652050075
Effective Date: 12/31/2012

B. Facility-Wide Terms and Conditions



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



Final Permit-to-Install and Operate
AMERICAN COLOR GRAPHICS INC. MEDINA
Permit Number: P0110467
Facility ID: 1652050075
Effective Date: 12/31/2012

C. Emissions Unit Terms and Conditions



1. Emissions Unit Group - Heatset Web Offset Printing: K002, K005

EU ID	Operations, Property and/or Equipment Description
K002	8-unit Goss C-500 Heatset Web Offset Printing Press - C500 Press
K005	8-unit Baker-Perkins (Goss) G-14 Heatset Web Offset Printing Press with Automatic Blanket Washers - G14 Press

- a) 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.
- b) Applicable Emissions Limitations and/or Control Requirements
- (1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3) (PTI 16-02191 modification issued on September 8, 2005)	Volatile organic compound (VOC) emissions from each emissions unit shall not exceed 6.76 pounds per hour. The control (destruction) efficiency of the thermal oxidizer shall be at least 90%, by weight for VOC. See b)(2)a. below. There shall be no visible emissions of particulates from any building ventilation (i.e., doors, windows, vents, etc.).
b.	OAC rule 3745-21-07(M)(3)(c)(vi)	Exempt.
c.	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from any stack shall not exceed twenty per cent opacity, as a six-minute average, except as provided by rule.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
d.	OAC rule 3745-17-11(B)(1)	Particulate emissions shall not exceed 0.65 lb/hr.
e.	OAC rule 3745-21-22(D)	The control requirement specified by this rule also includes compliance with the control requirement established pursuant to OAC rule 3745-31-05(A)(3). See b)(2)c. through b)(2)f. below.
f.	ORC 3704.03(F)(4)(b) OAC rule 3745-114-01	See d)(10) through d)(12) and e)(4).

(2) Additional Terms and Conditions

- a. The VOC emissions from the emissions units listed above shall be vented to the L&E RTO thermal oxidizer* or the Thermo-Electron thermal oxidizer** at all times the emissions unit(s) is/are in operation.

*During the compliance testing performed on October 10, 2012, the L&E RTO (thermal oxidizer) demonstrated an average destruction efficiency of 96.0% controlling the VOC emissions from emissions units K002 and K005 combined. This unit is the primary control for all VOC emissions from emissions units K002 and K005.

**During the compliance testing performed September 23, 2003 the Thermo-Electron thermal oxidizer controlled the VOC emissions from emissions units K002 and K005 and demonstrated an average destruction efficiency of 92.9%. This unit is used as standby backup control only for the VOC emissions from emissions units K002 and K005 during periods when the primary control device is down for scheduled maintenance or breakdown.

- b. For emissions units K002 and K005, the hourly VOC emissions limitations regulated per OAC rule 3745-31-05(A)(3) are based on the emissions unit's potential to emit. Therefore, no record keeping or reporting is required to demonstrate compliance with this emissions limitation.

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 increases the potential emissions of any air pollutant, then the permittee shall apply for and obtain either an administrative modification or a chapter 31 modification to the permit to install and operate (PTIO) prior to the change(s).

- c. The permittee shall maintain the as-applied VOC content of the fountain solution at or below 5.0 per cent, by weight and use no alcohol in the fountain solution.
- d. For each cleaning solution used for cleaning on the press, the permittee shall maintain the as-applied VOC content at or below seventy percent, by weight, or



maintain the as-applied VOC composite partial vapor pressure at or below ten mm Hg at twenty degrees Celsius (sixty-eight degrees Fahrenheit).

- e. The permittee shall keep all solvent containers closed at all times unless filling, draining, or performing cleanup operations.
- f. The permittee shall keep all solvent-laden shop towels in closed containers when not being used.

c) Operational Restrictions

- (1) The dryer(s) for this emissions unit shall only employ natural gas.
- (2) The permittee shall keep solvent containers closed at all times, except where filling or draining the container or performing cleanup operations; and all solvent-laden shop towels shall be kept in closed containers when not being used.

d) Monitoring and/or Recordkeeping Requirements

- (1) In order to maintain compliance with the applicable emission limitation(s) contained in this permit, the acceptable combustion temperature within the L&E RTO or the Thermo-Electron thermal oxidizer during any period of time when the emissions unit(s) is/are in operation and being controlled by either the L&E RTO or the Thermo-Electron thermal oxidizer, shall not be more than 50 degrees Fahrenheit below the average temperature measured during the most recent performance test that demonstrated the emissions unit(s) was/were in compliance.
- (2) The permittee shall install and operate continuous temperature monitoring and recording equipment that measures and records temperature data at least once every fifteen minutes, and shall collect and record the following information and maintain the information at the facility for a period of five years:
 - a. A log or record of any time when the control device and/or, monitoring equipment, are not in operation when any associated press is in operation; and
 - b. For thermal oxidizers all three-hour periods of operation during which the average combustion temperature was more than fifty degrees Fahrenheit below the average combustion temperature during the most recent emission test that demonstrated that the press was in compliance.
- (3) Whenever the monitored average combustion temperature within the thermal oxidizer deviates from the range or limit established in accordance with 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:

- 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 performance tests that demonstrate compliance with the allowable emission rate(s) for the controlled pollutant(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.

- (4) The permittee shall maintain monthly records of the following information:
 - a. The number of hours the L&E RTO was used as the primary control for this emissions unit;
 - b. The number of hours the Thermo-Electron thermal oxidizer was used as the primary control for this emissions unit; and
 - c. The number of hours the emissions unit was in operation when all emissions control systems were down.
- (5) The VOC content of the as-applied fountain solution shall be determined by one of the following methods:



- a. USEPA Method 24 shall be used to determine the VOC content of the as-applied fountain solution;
 - b. If diluted prior to use, a calculation shall be performed for VOC content that combines USEPA Method 24 analytical data for the concentrated materials used to prepare the as-applied fountain solution and the proportions in which they are mixed to make the as-applied fountain solution. The analysis of the concentrated material(s) may be performed by the supplier(s) of those material(s). The analytical data may be derived from a material safety data sheet (MSDS) or equivalent information from the supplier as long as it is based on USEPA Method 24 results; or
 - c. If not diluted prior to use, the permittee shall use formulation information provided by the supplier, such as a MSDS sheet or equivalent information from the supplier. In the event of a dispute between information provided by the supplier and data obtained by USEPA Method 24, the data obtained by USEPA Method 24 shall be employed.
- (6) The VOC content of cleaning solutions subject to the requirements of OAC rule 3745-21-22(D)(6)(a) shall be determined by one of the following methods:
- a. USEPA Method 24 shall be used to determine the VOC content of the cleaning solution;
 - b. If diluted prior to use, a calculation shall be performed for VOC content that combines USEPA method 24 analytical data for the concentrated materials used to prepare the cleaning solution and the proportions in which they are mixed to make the as-applied cleaning solution. The analysis of the concentrated material(s) may be performed by the supplier(s) of those material(s). The analytical data may be derived from a material safety data sheet (MSDS) or equivalent information from the supplier as long as it is based on USEPA method 24 results; or
 - c. If not diluted prior to use, the owner or operator shall use formulation information provided by the supplier, such as MSDS sheet or equivalent information from the supplier. In the event of a dispute between information provided by the supplier and data obtained by USEPA method 24, the data obtained by USEPA method 24 shall be employed.
- (7) The VOC composite partial vapor pressure of cleaning solutions subject to the requirements of OAC rule 3745-21-22(D)(6)(b) shall be determined by one of the following methods:
- a. If diluted prior to use, calculate the VOC composite vapor pressure of the as-applied solvent by using the formula for "VOC composite vapor pressure" as follows:
 - i. Determine the identity and quantity of each compound in a blended organic solvent by using ASTM D2306, or by using ASTM E260 for



organics and ASTM D3792 for water content, if applicable, or the manufacturer's product formulation data.

- ii. Determine the vapor pressure of each pure VOC component by using ASTM D2879 or publications such as "Perry's Chemical Engineer's Handbook, CRC Handbook of Chemistry and Physics, or Lange's Handbook of Chemistry."
- iii. Calculate the VOC composite partial pressure of the solvent by using the formula for "VOC composite partial pressure." For the purpose of this calculation, the blended solvent shall be assumed to be an ideal solution where "Raoult's Law" applies. The partial vapor pressures of each compound at twenty degrees Celsius (sixty-eight degrees Fahrenheit) shall be used in the formula. The VOC composite partial pressure shall be calculated as follows:

$$PP_c = \sum_{i=1}^n \frac{\frac{(W_i)(VP_i)}{MW_i}}{\frac{W_w}{MW_w} + \frac{W_e}{MW_e} + \sum_{i=1}^n \frac{W_i}{MW_i}}$$

Where:

W_i = Weight of the "i"th VOC compound, in grams.

W_w = Weight of water, in grams.

W_e = Weight of exempt compound, in grams.

MW_i = Molecular weight of the "i"th VOC compound, in grams per gram-mole.

MW_w = Molecular weight of water, in grams per gram-mole.

MW_e = Molecular weight of the "e"th exempt compound, in grams per gram-mole.

PP_c = VOC composite partial vapor pressure at twenty degrees Celsius (sixty-eight degrees Fahrenheit), in mmHg.

VP_i = Vapor pressure of the "i"th VOC compound at twenty degrees Celsius (sixty-eight degrees Fahrenheit), in mmHg.

- b. If not diluted prior to use, the permittee shall use formulation information provided by the supplier, such as a MSDS or equivalent information from the supplier as long as it is based on results determined in accordance with the procedure under d)(10)a. above.
- (8) The permittee shall maintain records, for a period of five years, of one of the following for fountain solution preparation:



- a. For a permittee maintaining a recipe log for each batch of fountain solution prepared for use in the press(es):
 - i. A recipe log that identifies all recipes used to prepare the as-applied fountain solution. Each recipe shall be maintained in the recipe log for a period of five years from the date the recipe was last prepared for a press. Each recipe shall clearly identify the following:
 - (a) VOC content of each concentrated alcohol substitute, added to make the batch of fountain solution, based upon the manufacturer's laboratory analysis using USEPA Method 24.
 - (b) The proportions in which the fountain solution is mixed, including the addition of alcohol and/or water. The proportion may be identified as a volume when preparing a discrete batch or may be identified as the settings when an automatic mixing unit is employed.
 - (c) The calculated VOC content of the final, mixed recipe.
 - ii. Identification of the recipe used to prepare each batch of fountain solution for use in the press(es).
 - iii. The date and time when the batch was prepared.
 - iv. An affirmation the batch was prepared in accordance with the recipe.
- b. For a permittee not maintaining a recipe log in accordance with paragraph d)(11)(a) above, for each batch of fountain solution prepared for use in the press(es):
 - i. The volume and VOC content of each concentrated alcohol substitute, added to make the batch of fountain solution, based upon the manufacturer's laboratory analysis using USEPA Method 24.
 - ii. The volume of alcohol added to make the batch of fountain solution.
 - iii. The volume of water added to make the batch of fountain solution.
 - iv. The calculated VOC content of the final, mixed batch.
 - v. The date and time the batch was prepared.

For purposes of d)(11)(a) and d)(11)(b) above, a fountain solution that is continuously blended with an automatic mixing unit is considered to be the same batch until such time that the recipe or mix ratio is changed.

- (9) The permittee shall maintain records, for a period of five years, of one of the following for all cleaning solutions employed in all the offset lithographic and letterpress printing operations:



- a. For a permittee maintaining a recipe log for each batch of cleaning solution prepared:
 - i. A recipe log that identifies all recipes used to prepare the as-applied cleaning solution. Each recipe shall be maintained in the recipe log for a period of five years from the date the recipe was last prepared. Each recipe shall clearly identify the following:
 - (a) The VOC content of each cleaning solution, based upon the manufacturer's laboratory analysis using USEPA method 24; or
 - (b) The VOC composite partial vapor pressure of each cleaning solution, based upon the method under paragraph d)(10) above.
 - ii. Identification of the recipe used to prepare each batch of cleaning solution.
 - iii. The date and time when the batch was prepared.
 - iv. An affirmation the batch was prepared in accordance with the recipe.
 - b. For a permittee not maintaining a recipe log in accordance with d)(12)(a) above, for each batch of cleaning solution prepared, records of the VOC composite partial vapor pressure and the date and time the batch was prepared.
- (10) The permit to install for emissions units K002 and K005 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 for each pollutant emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: ethylene glycol (CAS 107-21-1)

TLV (mg/m3): 100 (based on STEL)

Maximum Hourly Emission Rate (lbs/hr): 0.91

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 124

MAGLC (ug/m3): 2,381

Pollutant: ethylene glycol monobutyl ether (CAS 111-76-2)

TLV (mg/m3): 96.6 (based on TWA)

Maximum Hourly Emission Rate (lbs/hr): 1.77



Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 241.51

MAGLC (ug/m3): 2,300

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

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

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

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



e) Reporting Requirements

- (1) The permittee shall notify the director of any of the following exceedances of the applicable requirements:
 - a. Each calculated VOC content that exceeds the VOC content limitation specified in b)(2)f. above;
 - b. An exceedance of the VOC content or VOC composite partial vapor pressure specified in b)(2)g. above for cleaning solutions; and
 - c. All three-hour blocks of time during which the average combustion temperature within the L&E RTO or the Thermo-Electron thermal oxidizer was below the temperature limitation specified in d)(3) and d)(4) above.

Each notification shall be submitted to the director within forty-five days after the instance occurs, and it shall include a copy of the record showing the instance.

- (2) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA District Office or Local Air Agency by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit. It is recommended that the PER is submitted electronically through the Ohio EPA's "e-Business Center: Air Services" although PERs can be submitted via U.S. postal service or can be hand delivered.
- (3) The permittee shall identify in the annual permit evaluation report the following information concerning the operations of the thermal oxidizer during the 12-month reporting period for this/these emissions unit(s):
 - a. each three-hour block of time (start time and date, and end time and date) when the average combustion temperature within the thermal oxidizer was outside of the acceptable range;
 - b. any period of time (start time and date, and end time and date) when the emissions unit(s) was/were in operation and the process emissions were not vented to the thermal oxidizer;
 - c. each incident of deviation described in "a" or "b" (above) where a prompt investigation was not conducted;
 - d. each incident of deviation described in "a" or "b" where prompt corrective action, that would bring the emissions unit(s) into compliance and/or the temperature within the thermal oxidizer into compliance with the acceptable range, was determined to be necessary and was not taken; and
 - e. each incident of deviation described in "a" or "b" where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and record keeping requirements of this permit.



- (4) The permittee shall include any changes made to a parameter or value used in the dispersion model, that was used to demonstrate compliance with the Toxic Air Contaminant Statute, ORC 3704.03(F), through the predicted 1-hour maximum ground-level concentration, in the annual Permit Evaluation Report (PER). If no changes to the emissions, emissions unit(s), or the exhaust stack have been made, then the report shall include a statement to this effect.

f) Testing Requirements

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitation:

The thermal oxidizer shall have a destruction efficiency of not less than 90%, by weight.

Applicable Compliance Method:

Compliance shall be demonstrated through the stack testing requirements found in Section f)(2).

b. Emission Limitation:

VOC emissions from each emissions unit shall not exceed 6.76 pounds per hour for each emissions unit.

Applicable Compliance Method:

Compliance shall be demonstrated by using the following equation from Engineering Guide #56 for stack emissions:

$$E_T = S + F$$

Where:

$$S = \text{stack emissions} = (1 - \text{DRE}) \times [0.8(P) + A_d(\text{FS}) + B_d(\text{BW}_a)];$$

$$F = \text{fugitive emissions} = A_f(\text{FS}) + B_f(\text{BW}_a) + C_f(\text{BW}_m);$$

DRE = destruction efficiency of the thermal oxidizer, expressed as a decimal or percent, which was determined during the most recent performance test which demonstrated compliance with the pound per hour emission limitation from the stack;

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

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



$FS = (\text{fountain solution usage rate, gal/hr}) \times (\text{fountain solution VOC content, lbs VOC/gal});$

$BW_a = (\text{automatic blanket wash usage rate, gal/hr or rolls/hr}) \times (\text{automatic blanket wash VOC content, lbs VOC/gal or lbs VOC/roll});$

$BW_m = (\text{manual blanket wash usage rate, gal/hr}) \times (\text{manual blanket wash VOC content, lbs VOC/gal});$

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

$B_d = \text{mass fraction of cleanup solvent routed to dryer and control device} = 0.4 \text{ for automatic blanket washing systems [if solvent vapor pressure } < 10 \text{ mm hg at } 20 \text{ degrees Celsius (68 degrees Fahrenheit)}];$

$A_f = \text{mass fraction of fountain solution emitted as fugitive} = 0.3 \text{ for alcohol substitutes};$

$B_f = \text{mass fraction of cleanup solvent emitted as fugitive} = 0.6 \text{ for automatic blanket washing systems [if solvent vapor pressure } < 10 \text{ mm hg at } 20 \text{ degrees Celsius (68 degrees Fahrenheit)}]; \text{ and}$

$C_f = \text{mass fraction of cleanup solvent emitted as fugitive} = 0.5 \text{ for manual blanket washing systems [if solvent vapor pressure } < 10 \text{ mm hg at } 20 \text{ degrees Celsius (68 degrees Fahrenheit)}].$

- (2) The permittee shall conduct, or have conducted, emission testing for the emissions units listed above in accordance with the following requirements:
- a. The emission testing shall be conducted within 6 months prior to the permit expiration.
 - b. The emission testing shall be conducted to demonstrate compliance with the control efficiency for VOC and the emissions control requirements of paragraph (D)(1) of OAC rule 3745-21-22.
 - c. Compliance shall be determined by performing emission tests in accordance with the following:
 - i. The emissions units listed above shall be run at typical operating conditions and flow rates compatible with scheduled production during any emission testing.
 - ii. The negative dryer pressure shall be established during the initial test using an airflow direction indicator, such as a smoke stick or aluminum ribbons, or differential pressure gauge. Capture efficiency and continuous dryer air flow monitoring is not required.



- iii. The following USEPA test methods (in 40 CFR Part 60, Appendix A) shall be used to demonstrate compliance with the applicable emission control requirement in paragraph (D)(1) of OAC rule 3745-21-22:
- (a) USEPA Method 1 or 1A, as appropriate, shall be used to select the sampling sites.
 - (b) USEPA Method 2, 2A, 2C or 2D, as appropriate, shall be used to determine the velocity and volumetric flow rate of the exhaust stream.
 - (c) USEPA Method 3 or 3A, as appropriate, shall be used to determine the concentration of O₂ and CO₂.
 - (d) USEPA Method 4 shall be used to determine moisture content.
 - (e) USEPA Method 18, 25 or 25A shall be used to determine the VOC concentration of the exhaust stream entering and exiting the control device, unless the alternate limit of twenty ppmv as specified in paragraphs (D)(1)(a) and (D)(1)(b) of OAC rule 3745-21-22 is being met, in which case only the VOC concentration of the exit exhaust shall be determined. In cases where the anticipated outlet VOC concentration of the control device is less than fifty ppmv as carbon, USEPA Method 25A shall be used.
 - (i) If the average concentrations in the outlet of a thermal or catalytic oxidizer measured by USEPA Method 25A are found to be greater than fifty ppmv as carbon, USEPA Method 18 or 25 may be used to determine non-VOC components (methane and ethane) to correct the outlet VOC readings, unless the director determines that the uncorrected USEPA Method 25A results are acceptable.
 - (ii) A compliance test shall consist of up to three separate runs, each lasting a minimum of sixty minutes, unless the director determines that process variables dictate shorter sampling times.
 - (iii) USEPA Method 25 specifies a minimum probe temperature of two hundred sixty-five degrees Fahrenheit. To prevent condensation, the probe should be heated to at least the gas stream temperature, typically close to three hundred fifty degrees Fahrenheit.
 - (iv) USEPA Method 25A specifies a minimum temperature of two hundred twenty degrees Fahrenheit for the sampling components leading to the analyzer. To prevent condensation when testing heatset web offset presses, the sampling components and flame ionization detector block



should be heated to at least the gas stream temperature, typically close to three hundred fifty degrees Fahrenheit.

- (v) The use of an adaptation to any of the analytical methods specified above shall be approved by the director and USEPA on a case-by-case basis. The owner or operator shall submit sufficient documentation for the director and USEPA to find that the analytical methods specified above will yield inaccurate results and that the proposed adaptation is appropriate.
- (3) Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).
 - (4) Personnel from the appropriate Ohio EPA District Office or local air agency 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.
 - (5) A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.
- g) **Miscellaneous Requirements**
 - (1) None.