



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

3/6/2013

Certified Mail

Mr. Jeffrey Malek
Avery Dennison Industrial Products Div
17700 Foltz Industrial Parkway
Strongsville, OH 44149

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

RE: FINALAIR POLLUTION PERMIT-TO-INSTALL AND OPERATE

Facility ID: 1318558062
Permit Number: P0109613
Permit Type: Renewal
County: Cuyahoga

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 Cleveland Division of Air Quality at (216)664-2297 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: CDAQ



FINAL

**Division of Air Pollution Control
Permit-to-Install and Operate
for
Avery Dennison Industrial Products Div**

Facility ID:	1318558062
Permit Number:	P0109613
Permit Type:	Renewal
Issued:	3/6/2013
Effective:	3/6/2013
Expiration:	3/6/2018



Division of Air Pollution Control
Permit-to-Install and Operate
for
Avery Dennison Industrial Products Div

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Authorization

Facility ID: 1318558062
Application Number(s): A0043179
Permit Number: P0109613
Permit Description: FEPTIO renewal permit for fourteen (14) narrow web continuous flexographic printing presses in order to transition the facility out of the Title V program. This FEPTIO permit will replace Synthetic Minor PTIs 13-03807 and 13-04574 that were both issued on 4/12/2007.
Permit Type: Renewal
Permit Fee: \$0.00
Issue Date: 3/6/2013
Effective Date: 3/6/2013
Expiration Date: 3/6/2018
Permit Evaluation Report (PER) Annual Date: Jan 1 - Dec 31, Due Feb 15

This document constitutes issuance to:

Avery Dennison Industrial Products Div
17700 Foltz Parkway
Strongsville, OH 44149

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

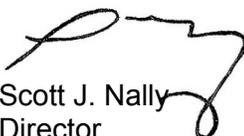
Ohio Environmental Protection Agency (EPA) District Office or local air agency responsible for processing and administering your permit:

Cleveland Division of Air Quality
2nd Floor
75 Erieview Plaza
Cleveland, OH 44114
(216)664-2297

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: P0109613

Permit Description: FEPTIO renewal permit for fourteen (14) narrow web continuous flexographic printing presses in order to transition the facility out of the Title V program. This FEPTIO permit will replace Synthetic Minor PTIs 13-03807 and 13-04574 that were both issued on 4/12/2007.

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

Emissions Unit ID:	K001
Company Equipment ID:	641
Superseded Permit Number:	13-03807
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	K004
Company Equipment ID:	662
Superseded Permit Number:	13-03807
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	K005
Company Equipment ID:	663
Superseded Permit Number:	13-03807
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	K007
Company Equipment ID:	668
Superseded Permit Number:	13-03807
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	K008
Company Equipment ID:	670
Superseded Permit Number:	13-03807
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	K009
Company Equipment ID:	671
Superseded Permit Number:	13-03807
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	K010
Company Equipment ID:	672
Superseded Permit Number:	13-03807
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	K011
Company Equipment ID:	673
Superseded Permit Number:	13-03807
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	K202
Company Equipment ID:	640
Superseded Permit Number:	13-04574
General Permit Category and Type:	Not Applicable



Final Permit-to-Install and Operate
Avery Dennison Industrial Products Div
Permit Number: P0109613
Facility ID: 1318558062
Effective Date: 3/6/2013

Emissions Unit ID:	K204
Company Equipment ID:	667
Superseded Permit Number:	13-04574
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	K205
Company Equipment ID:	669
Superseded Permit Number:	13-04574
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	K206
Company Equipment ID:	680 (a.k.a. 340)
Superseded Permit Number:	13-04574
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	K207
Company Equipment ID:	681 (a.k.a. 341)
Superseded Permit Number:	13-04574
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	K208
Company Equipment ID:	674 (a.k.a. 680)
Superseded Permit Number:	13-04574
General Permit Category and Type:	Not Applicable



Final Permit-to-Install and Operate
Avery Dennison Industrial Products Div
Permit Number: P0109613
Facility ID: 1318558062
Effective Date: 3/6/2013

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 Cleveland Division of Air Quality 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.

¹Permittees 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
Avery Dennison Industrial Products Div
Permit Number: P0109613
Facility ID: 1318558062
Effective Date: 3/6/2013

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) c)(1), c)(2),
 - c) Applicable Emission 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 emission limitations and/or control measures. 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 Emission Limitations/ Control Measures
a.	OAC rule 3745-31-05(D)(1) FEPTIO to avoid Title V	Volatile Organic Compound (VOC) emissions from the facility shall not exceed 99.5 tons per year. See b)(2)a. and b)(2)b. below.

- (2) Additional Terms and Conditions
 - a. The emission of Hazardous Air Pollutants (HAPs) from this facility shall not exceed 9.9 tons for any single HAP and 24.9 tons from any combination of HAPs based on a rolling, 12-month summation of the monthly HAP material usage rates.
 - b. The facility-wide VOC and HAP emission limitation shall include the following units: K001, K004, K005, K007, K008, K009, K010, K011, K202, K204, K205, K206, K207, K208, P002, P003, and P008.
- d) Operational Restrictions
 - (1) The maximum annual volatile organic material usage for all of the emission units listed in c)(2)b. shall not exceed 99.5 tons, based on a rolling, 12-month summation of the volatile organic material usage figures.



e) Monitoring and Recordkeeping Requirements

(1) The permittee shall collect and record the following information each month for the facility:

- a. the name and identification of each ink, coating, additive, adhesive, and cleanup material employed;
- b. the weight (lbs/month) of each ink, coating, additive, adhesive, and cleanup material employed, as applied;
- c. the VOC content of each ink, coating, additive, adhesive, and cleanup material as applied, in percent by weight;
- d. the total volatile material usage from all ink, coating, additive, adhesive, and cleanup materials calculated by summing the records of [(1)b. x (1)c.] for each coating, ink, and cleanup material (lbs/month);
- e. the total VOC emissions generated from all ink, coating, additive, adhesive, and cleanup materials employed calculated by summing the records of [(1)b. x (1)c.] for each ink, coating, adhesive, and cleanup material, and subtracting any recovered material (lbs/month);

If a credit for recovered materials is to be used to demonstrate compliance, and/or used in calculations for emission reports, records of the total amount (gallons or pounds) of the materials collected and added to the recovery tank/drum, shall be maintained as required in e)(2) below.

- f. the rolling, 12-month summation of volatile organic material usage and VOC emissions from all ink, coating, additive, adhesive, and cleanup materials, as applied, in tons;
- g. the individual and combined HAP content for each ink, coating, additive, adhesive, and cleanup material employed, as applied, in percent by weight.
- h. the total individual and combined HAP emissions generated from all ink, coating, additive, adhesive, and cleanup materials employed calculated by summing the records of [(1)b. x (1)g.] for each ink, coating, adhesive, and cleanup material (lbs/month);
- i. the rolling, 12-month summation of each individual and combined HAP material usage and emission rates from all ink, coating, additive, adhesive, and cleanup materials employed, in tons; and
- j. the rolling 12-month summation of coating and ink materials employed, in pounds or tons.

(2) If a credit for recovered materials is to be used to demonstrate compliance and/or used in calculations for emission reports, the permittee shall maintain the following records for the recovered materials and the recovery drum or tank serving the emission units:



- a. the date the materials from the recovery drum or tank were shipped off site;
- b. the amount of recovered material (gallons or pounds) from the recovery drum or tank shipped off site;
- c. the average density of the recovered material (pounds/gallon) from the recovery drum or tank (if the amount is recorded in gallons);
- d. the average VOC content for the recovered material, in percent weight; and
- e. the average VOC emissions from the recovered materials [(2)b. x (2)d], in pounds. Note the average VOC emissions, in pounds, from the recovered material is calculated as [(2)b. x (2)c. x (2)d.] if the material amount is recorded in gallons.

f) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports that identify:

- a. all deviations (excursions) of the following emission limitations, operational restrictions and/or control device operating parameter limitations that restrict the potential to emit (PTE) of any regulated air pollutant and have been detected by the monitoring, record keeping and/or testing requirements in this permit:
 - i. identification of each month during which the rolling, 12-month individual HAP material usage and emissions exceeded 9.9 tons/year;
 - ii. identification of each month during which the rolling, 12-month combined HAP material usage and emissions exceeded 24.9 tons, based on a rolling, 12-month summation;
 - iii. identification of each month during which the rolling, 12-month VOC material usage and emissions exceeded 99.5 tons, based on a rolling, 12-month summation.
- b. the probable cause of each deviation (excursion);
- c. any corrective actions that were taken to remedy the deviations (excursions) or prevent future deviations (excursions); and
- d. the magnitude and duration of each deviation (excursion).

If no deviations (excursions) occurred during a calendar quarter, the permittee shall submit a report that states that no deviations (excursions) occurred during the quarter.

The quarterly reports shall be submitted, electronically through Ohio EPA Air Services, each year by January 31 (covering October to December), April 30 (covering January to March), July 31 (covering April to June), and October 31 (covering July to September), unless an alternative schedule has been established and approved by the Director (the appropriate District Office or local air agency).



- (2) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.
- g) Testing Requirements:
- (1) Compliance with the emission limitation(s) in c) of these terms and conditions shall be determined in accordance with the following method(s):
- a. Emission Limitation:
- VOC emissions shall not exceed 99.5 tons per rolling 12-month period for this facility.
- Applicable Compliance Method:
- Compliance shall be determined based on the recordkeeping requirements specified in e)(1).
- b. Emission Limitation:
- Individual HAP emissions shall not exceed 9.9 tons per rolling 12-month period for this facility.
- Applicable Compliance Method:
- Compliance shall be determined based on the recordkeeping requirements specified in e)(1).
- c. Emission Limitation:
- Combined HAP emissions shall not exceed 24.9 tons per rolling 12-month period for this facility.
- Applicable Compliance Method:
- Compliance shall be determined based on the recordkeeping requirements specified in e)(1).



Final Permit-to-Install and Operate
Avery Dennison Industrial Products Div
Permit Number: P0109613
Facility ID: 1318558062
Effective Date: 3/6/2013

C. Emissions Unit Terms and Conditions



1. K001, 641

Operations, Property and/or Equipment Description:

Narrow web continuous flexographic printing press (641).

- 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. d)(4) through d)(7), and e)(4).
 - (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. b)(1)a., c)(2), d)(1), d)(2), and e)(1).
- 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 13-03807, issued 4/12/2007)	Volatile organic compound (VOC) emissions from this unit shall not exceed 21.17 lbs/hour and 8.3 tons of VOC per rolling 12-month period from all inks, coatings, and cleanup materials. The requirements of this rule also include compliance with the requirements of OAC rules 3745-21-09(Y)(2) and 3745-31-05(D). See b)(2)a. below.
b.	OAC rule 3745-21-09(Y)(2)(b) and (Y)(3)	See b)(2)b. below.
c.	OAC rule 3745-31-05(D)(1) FEPTIO to avoid Title V	See Section B.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
d.	OAC rule 3745-114-01	See d)(4) - (7) and e)(4) below.

(2) Additional Terms and Conditions

- a. The hourly VOC emission limitation was established to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop and maintain daily recordkeeping requirements to ensure compliance with the hourly VOC emission limit.
- b. The requirements of paragraph (Y)(1) of this rule shall not apply to any printing line which is located at a facility in which the total maximum usage of coatings and inks in all flexographic, packaging rotogravure and publication rotogravure printing lines is less than or equal to 148 tons per year; except as otherwise provided under paragraph (Y)(3) of this rule.

Once the requirements of paragraph (Y)(1) of this rule apply to a facility or a flexographic, packaging rotogravure and publication rotogravure printing line within the facility, the facility is not eligible for an exemption under paragraphs (Y)(2)(b) and (Y)(2)(d) of this rule.

c) Operational Restrictions

- (1) The maximum annual ink and coating usage in all flexographic, packaging rotogravure, and publication rotogravure printing lines located within the facility shall not exceed a combined total of 148 tons per year.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall collect and record the following information each month:
 - a. the name and identification number of each ink, coating, additive, adhesive, and cleanup material employed;
 - b. the weight in pounds or tons per month of each ink, coating, additive, adhesive, and cleanup material employed, as applied;
 - c. the VOC content of each ink, coating, additive, adhesive, and cleanup material employed, in percent weight;
 - d. the total volatile organic material usage and VOC emissions from all ink, additive, adhesive, and cleanup materials employed calculated by summing the records of [(1.b) x (1.c)] for each ink, coating, additive, adhesive, and cleanup material, and subtracting any recovered material (see d)(3) below) in pounds or tons per month;



- e. the rolling, 12-month summation of volatile organic material usage and VOC emissions from all ink, coating, additive, adhesive, and cleanup material employed, in pounds or tons; and
 - f. the rolling, 12-month summation of ink, coating, additive, adhesive, and cleanup material employed, in pounds or tons.
- (2) The permittee shall collect and record the following information for this emissions unit each month:
- a. the actual monthly press hours of operation, in hours per month; and
 - b. the rolling, 12-month summation of the operational press hours.

The permittee shall use this data to verify, upon request of the Cleveland DAQ, that the annual press allocation of material usage and emissions is valid.

- (3) If a credit for recovered materials is to be used to demonstrate compliance and/or used in calculations for emission reports, the permittee shall maintain the following records for the recovered materials and the recovery drum or tank serving this emissions unit:
- a. the date the materials from the recovery drum or tank were shipped off site;
 - b. the amount of recovered material (gallons or pounds) from the recovery drum or tank shipped off site;
 - c. the average density of the recovered material (pounds/gallon) from the recovery drum or tank (if the amount is recorded in gallons);
 - d. the average VOC content for the recovered material, in percent weight; and
 - e. the average VOC emissions from the recovered materials [(3)b. x (3)d], in pounds. Note the average VOC emissions, in pounds, from the recovered material is calculated as [(3)b. x (3)c. x (3)d.] if the material amount is recorded in gallons.
- (4) The FEPTIO permit for this emissions unit (K001) was evaluated based on the actual materials and the design parameters of the emission unit's exhaust system, as specified by the permittee. The "Toxic Air Contaminant Statute", ORC 3704.03(F) was applied to this emissions unit for each toxic air contaminant listed in OAC rule 3745-114-01, using data from the permit application and modeling was performed for each toxic air contaminant emitted at over one ton per year using an air dispersion model such as SCREEN3, AERMOD, or ISCST3, or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration results 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 emitted from the emissions unit (as determined from the raw materials



processed, and/or coatings or other materials applied) has been documents 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 was then adjusted to account for the duration of the exposure or the operation hours of the emissions unit, i.e. 24 hours per day and 7 days per week, from that of the 8 hours a day and five days per week. The resulting calculation was (and shall be) used to determine the Maximum Acceptable Ground-Level Concentration (MAGLC):

$$(TLV/10) \times (8/X) \times (5/Y) = 4TLV/XY = MAGLC$$

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

- i. Toxic Contaminants: n-propyl Alcohol, Heptane, ethanol, IPA, n-propyl acetate, ethyl acetate.

TLV (mg/m3): 492 (for n-propyl alcohol – lowest TLV for toxics identified above)

Maximum Hourly Emission Rate (lbs/hr): 165.7 (total for all emissions units)

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 8841

MAGLC (ug/m3): 11,714 (for n-propyl alcohol – lowest MAGLC for the toxic pollutants listed above).

- ii. Toxic Contaminant: Butanol

TLV (mg/m3): 303

Maximum Hourly Emission Rate (lb/hr): 0.35 (total for all emission units)



Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 26

MAGLC (ug/m3): 7,214

The permittee has demonstrated the emissions from this emissions unit K001, are calculated to be less than eighty percent of the maximum acceptable ground-level concentration (MAGLC); and new raw material or processing agent shall not be applied without evaluating each component of toxic air contaminant in accordance with the "Toxic Air Contaminant Statute", ORC 3704.03(F).

- (5) Prior to making any physical changes or changes in the method of operation of the emission unit 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 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 rule 3745-114-01, that was modeled from the initial (or last) application; and
 - c. physical changes to the emissions unit it exhaust stack 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 changes 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 "Toxic Air Contaminant Statute", ORC 3704.03(F) has been documented. If the changes meet the definition of a modification, the permittee shall apply for and obtain a final FEPTIO prior to the change. The Director may consider any significant departure from the operations of the emissions unit, described in the permit application, as a modification that results in greater emissions than the emissions rate modeled to determine the ground-level concentration; and he/she may require the permittee to submit a permit application for the increased emissions.

- (6) The permittee shall collect, record, and retain the following information for each toxic evaluation conducted to determine compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F):
- a. a description of the parameters/values used in each compliance demonstration and the parameters or values changed for any re-evaluation of the toxics 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 the "Toxic Air Contaminant Statute", ORC 3704.03(F);
 - c. a copy of the computer model runs that established the predicted 1-hour maximum ground-level concentration that demonstrated emissions units to be in compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), initially and for each change that requires re-evaluation of the toxic air contaminant emissions; and
 - d. documentation of the initial evaluation of compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), and documentation of any determination that was conducted to re-evaluate compliance due to a change made to the emissions units or the materials applied.
- (7) 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 the "Toxic Air Contaminant Statute", ORC 3704.03(F), through the predicted 1-hour maximum ground-level concentration. The record shall include the date and reasons for the change and if the change would increase the ground-level concentration.
- e) Reporting Requirements
- (1) The permittee shall notify Cleveland DAQ in writing of any monthly record showing that the rolling, twelve month summation of ink and coating usage in all flexographic, packaging rotogravure, and publication rotogravure printing lines located at this facility exceeded 148 tons. The notification shall include a copy of such record and shall be sent to the Cleveland DAQ within 30 days following the end of the calendar month during which they were identified.
 - (2) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.
 - (3) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be completed electronically and submitted via the Ohio EPA eBusiness Center: Air Services 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 12-months for each air contaminant source identified in this permit.
 - (4) The permittee shall include any changes made to a parameter or value 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 PER report. If no changes have been made, than the report shall include a statement to that effect.



f) Testing Requirements

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

a. Emission Limitation:

VOC emissions shall not exceed 21.17 lbs of VOC per hour from a combination of inks, coatings, additives, adhesives, and cleanup materials.

Applicable Compliance Method:

This emission limitation is based on the unit's potential to emit. The potential to emit calculations, as shown in the following equations, were derived using company-specified process data.

Press allocation = (annual press hours based on CY2005/2006 data) / (total press hours from K001 – K208 based on CY2005/2006 data).

Annual VOC emissions by press = (emissions units K001-K208 material restriction) x (press allocation) x (average VOC content of all materials from emissions units K001-K208).

Short term VOC emissions (lb/hr) = (annual VOC emissions by press) / (annual mean press).

Annual VOC emissions by press with safety factor #1 = (emissions unit K001 – K208 material restriction) x (press allocation based on CY2005/2006 data) x (average VOC content of all materials from emission units K001-K208 based on CY2005/2006 data) x (safety factor #1).

Short term VOC emissions with safety factor #2 = [(VOC emissions by press based on CY2005/2006 data) / (mean press hours based on CY2005/2006 data)] x (safety factor #2).

Safety factor # 1 considers the error associated with the presumed physical limitations in regards to the allocation of emissions units K001 – K208 ink usage by individual press. Propagation of error associated with the physical limitations determined from a historical review of the press allocation = (12%, based on historical fluctuation in operations hours) + (101% based on the number of possible print stations used during operation) + (30%, based on variation in product coverage over all product lines) = 143%; Therefore, the safety factor #1 of 1.43 was applied to determine worst case emissions.

Safety factor # 2 considers the error associated with the presumed physical limitations in regards to the allocation of emissions units K001-K208 ink usage by individual presses and the error associated with the VOC content of the coatings applied on a specific press. Propagation of error associated with the physical limitations determined from a historical review of the press allocation = (12%, based on historical fluctuation in operational hours) + (101%, based on the



number of possible print stations used during operation) + (30%, based on variation in product coverage over all product lines) + (141% based on possible range of VOC content per individual coating) = 284%; Therefore, the safety factor of 2.84 was applied to determine the worst case emissions.

b. Emission Limitation:

VOC emissions shall not exceed 8.32 tons per rolling, 12-month period from a combination of inks, coatings, additives, adhesives, and cleanup materials.

Applicable Compliance Method:

This emission limitation is based upon the unit's potential to emit. The potential to emit calculations, as shown in the following equations, were derived using company-specified process data.

Press allocation = (annual press hours based on CT2005/2006 data) / (total press hours for K001-K008, based on CY 2005/2006 data).

Annual VOC emissions by press = (emissions unit K001-K008 material restriction) x (press allocation) x (average VOC content of all materials from emission units K001-K008, based on CY2005/2006 data).

Annual VOC emissions by press with safety factor 1 = (emissions units K001-K008 material restriction) x (press allocation) x (average VOC content of all materials from emission units K001-K008, based on CY2005/2006 data) x (safety factor #1).

c. Operational Limitation:

The total maximum coating and ink usage in all flexographic, packaging rotogravure, and publication rotogravure printing lines located at this facility shall be less than or equal to 148 tons/year.

Applicable Compliance Method:

Compliance shall be based upon the recordkeeping requirements specified in d)(1).

g) Miscellaneous Requirements

- (1) The potential to emit calculations developed from a joint effort between the facility and the Cleveland Division of Air Quality reflect the presumed inherent physical limitations through a press allocation of the material usage restriction (148 tons/year) as found in OAC rule 3745-21-09(Y)(2)(b).



2. K004, 662

Operations, Property and/or Equipment Description:

Narrow web continuous flexographic printing press (662).

- 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. d)(4) through d)(7), and e)(4).
 - (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. b)(1)a., c)(2), d)(1), and e)(1).
- 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 13-03807 issued 4/12/2007)	Volatile organic compound (VOC) emissions from this emissions unit shall not exceed 22.24 lbs/hour and 8.74 tons per rolling, 12-month period from all inks, coatings, and cleanup materials. The requirements of this rule also include compliance with the requirements of OAC rule 3745-21-09(Y)(2) and 3745-31-05(D). See b)(2)a. below.
b.	OAC rule 3745-21-09(Y)(2)(b). and (Y)(3).	See b)(2)b. below.
c.	OAC rule 3745-31-05(D)(1) FEPTIO to avoid Title V	See Section B.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
d.	OAC rule 3745-114-01	See d)(4) - (7) and e)(4) below.

(2) Additional Terms and Conditions

- a. The hourly VOC emission limitation was established to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop and maintain daily recordkeeping requirements to ensure compliance with the hourly VOC emission limit.
- b. The requirements of paragraph (Y)(1) of OAC rule 3745-21-09 shall not apply to any printing line which is located at a facility in which the total maximum usage of coatings and inks in all flexographic, packaging rotogravure, and publication rotogravure printing lines is less than or equal to 148 tons per year; except as otherwise provided under paragraph (Y)(3) of this rule.

Once the requirements of paragraph (Y)(1) of this rule apply to a facility or a flexographic, packaging rotogravure, and publication rotogravure printing line within the facility, the facility is not eligible for an exemption under paragraphs (Y)(2)(b) and (Y)(2)(d) of this rule.

c) Operational Restrictions

- (1) The maximum annual ink and coating usage in all flexographic, packaging rotogravure, and publication rotogravure printing lines located within the facility shall not exceed a combined total of 148 tons per year.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall collect and record the following information each month:
 - a. the name and identification number of each ink, coating, additive, adhesive, and cleanup material employed;
 - b. the weight in pounds or tons per month of each ink, coating, additive, adhesive, and cleanup material employed, as applied;
 - c. the VOC content of each ink, coating, additive, adhesive, and cleanup material employed, in percent weight;
 - d. the total volatile organic material usage and VOC emissions from all ink, additive, adhesive, and cleanup materials employed calculated by summing the records of [(1.b) x (1.c)] for each ink, coating, additive, adhesive, and cleanup material, and subtracting any recovered material (see d)(3) below) in pounds or tons per month;



- e. the rolling, 12-month summation of volatile organic material usage and VOC emissions from all ink, coating, additive, adhesive, and cleanup material employed, in pounds or tons; and
 - f. the rolling, 12-month summation of ink, coating, additive, adhesive, and cleanup material employed, in pounds or tons.
- (2) The permittee shall collect and record the following information for this emissions unit each month:
- a. the actual monthly press hours of operation, in hours per month; and
 - b. the rolling, 12-month summation of the operational press hours.

The permittee shall use this data to verify, upon request of the Cleveland DAQ, that the annual press allocation of material usage and emissions is valid.

- (3) If a credit for recovered materials is to be used to demonstrate compliance and/or used in calculations for emission reports, the permittee shall maintain the following records for the recovered materials and the recovery drum or tank serving this emissions unit:
- a. the date the materials from the recovery drum or tank were shipped off site;
 - b. the amount of recovered material (gallons or pounds) from the recovery drum or tank shipped off site;
 - c. the average density of the recovered material (pounds/gallon) from the recovery drum or tank (if the amount is recorded in gallons);
 - d. the average VOC content for the recovered material, in percent weight; and
 - e. the average VOC emissions from the recovered materials [(3)b. x (3)d], in pounds. Note the average VOC emissions, in pounds, from the recovered material is calculated as [(3)b. x (3)c. x (3)d.] if the material amount is recorded in gallons.
- (4) The FEPTIO permit for this emissions unit (K004) was evaluated based on the actual materials and the design parameters of the emission unit's exhaust system, as specified by the permittee. The "Toxic Air Contaminant Statute", ORC 3704.03(F) was applied to this emissions unit for each toxic air contaminant listed in OAC rule 3745-114-01, using data from the permit application and modeling was performed for each toxic air contaminant emitted at over one ton per year using an air dispersion model such as SCREEN3, AERMOD, or ISCST3, or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration results 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 emitted from the emissions unit (as determined from the raw materials



processed, and/or coatings or other materials applied) has been documents 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 was then adjusted to account for the duration of the exposure or the operation hours of the emissions unit, i.e. 24 hours per day and 7 days per week, from that of the 8 hours a day and five days per week. The resulting calculation was (and shall be) used to determine the Maximum Acceptable Ground-Level Concentration (MAGLC):

$$(TLV/10) \times (8/X) \times (5/Y) = 4TLV/XY = MAGLC$$

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

- i. Toxic Contaminants: n-propyl Alcohol, Heptane, ethanol, IPA, n-propyl acetate, ethyl acetate.

TLV (mg/m3): 492 (for n-propyl alcohol – lowest TLV for toxics identified above)

Maximum Hourly Emission Rate (lbs/hr): 165.7 (total for all emissions units)

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 8841

MAGLC (ug/m3): 11,714 (for n-propyl alcohol – lowest MAGLC for the toxic pollutants listed above).

- ii. Toxic Contaminant: Butanol

TLV (mg/m3): 303

Maximum Hourly Emission Rate (lb/hr): 0.35 (total for all emission units)



Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 26

MAGLC (ug/m3): 7,214

The permittee has demonstrated the emissions from this emissions unit (K004), are calculated to be less than eighty percent of the maximum acceptable ground-level concentration (MAGLC); and new raw material or processing agent shall not be applied without evaluating each component of toxic air contaminant in accordance with the "Toxic Air Contaminant Statute", ORC 3704.03(F).

- (5) Prior to making any physical changes or changes in the method of operation of the emission unit 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 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 rule 3745-114-01, that was modeled from the initial (or last) application; and
 - c. physical changes to the emissions unit it exhaust stack parameters (e.g., increased/decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determined that the "Toxic Air Contaminant Statute" will be satisfied for the above changes, the Ohio EPA will not consider the changes 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 "Toxic Air Contaminant Statute", ORC 3704.03(F) has been documented. If the changes meet the definition of a modification, the permittee shall apply for and obtain a final FEPTIO prior to the change. The Director may consider any significant departure from the operations of the emissions unit, described in the permit application, as a modification that results in greater emissions than the emissions rate modeled to determine the ground-level concentration; and he/she may require the permittee to submit a permit application for the increased emissions.

- (6) The permittee shall collect, record, and retain the following information for each toxic evaluation conducted to determine compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F):
- a. a description of the parameters/values used in each compliance demonstration and the parameters or values changed for any re-evaluation of the toxics 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 the "Toxic Air Contaminant Statute", ORC 3704.03(F);
 - c. a copy of the computer model runs that established the predicted 1-hour maximum ground-level concentration that demonstrated emissions units to be in compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), initially and for each change that requires re-evaluation of the toxic air contaminant emissions; and
 - d. documentation of the initial evaluation of compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), and documentation of any determination that was conducted to re-evaluate compliance due to a change made to the emissions units or the materials applied.
- (7) 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 the "Toxic Air Contaminant Statute", ORC 3704.03(F), through the predicted 1-hour maximum ground-level concentration. The record shall include the date and reasons for the change and if the change would increase the ground-level concentration
- e) Reporting Requirements
- (1) The permittee shall notify Cleveland DAQ in writing of any monthly record showing that the rolling, twelve month summation of ink and coating usage in all flexographic, packaging rotogravure, and publication rotogravure printing lines located at this facility exceeded 148 tons. The notification shall include a copy of such record and shall be sent to the Cleveland DAQ within 30 days following the end of the calendar month during which they were identified.
 - (2) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.
 - (3) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be completed electronically and submitted via the Ohio EPA eBusiness Center: Air Services 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 12-months for each air contaminant source identified in this permit.
 - (4) The permittee shall include any changes made to a parameter or value 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 PER report. If no changes have been made, than the report shall include a statement to that effect.



f) Testing Requirements

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

a. Emission Limitation:

VOC emissions shall not exceed 22.24 lbs of VOC per hour from a combination of inks, coating, additives, adhesives, and cleanup materials.

Applicable Compliance Method:

This emission limitation is based on the unit's potential to emit. The potential to emit calculations, as shown in the following equations, were derived using company-specified process data.

Press allocation = (annual press hours based on CY2005/2006 data) / (total press hours from K001 – K208 based on CY2005/2006 data).

Annual VOC emissions by press = (emissions units K001-K208 material restriction) x (press allocation) x (average VOC content of all materials from emissions units K001-K208).

Short term VOC emissions (lb/hr) = (annual VOC emissions by press) / (annual mean press).

Annual VOC emissions by press with safety factor #1 = (emissions unit K001 – K208 material restriction) x (press allocation based on CY2005/2006 data) x (average VOC content of all materials from emission units K001-K208 based on CY2005/2006 data) x (safety factor #1).

Short term VOC emissions with safety factor #2 = [(VOC emissions by press based on CY2005/2006 data) / (mean press hours based on CY2005/2006 data)] x (safety factor #2).

Safety factor # 1 considers the error associated with the presumed physical limitations in regards to the allocation of emissions units K001 – K208 ink usage by individual press. Propagation of error associated with the physical limitations determined from a historical review of the press allocation = (12%, based on historical fluctuation in operations hours) + (101% based on the number of possible print stations used during operation) + (30%, based on variation in product coverage over all product lines) = 143%; Therefore, the safety factor #1 of 1.43 was applied to determine worst case emissions.

Safety factor # 2 considers the error associated with the presumed physical limitations in regards to the allocation of emissions units K001-K208 ink usage by individual presses and the error associated with the VOC content of the coatings applied on a specific press. Propagation of error associated with the physical limitations determined from a historical review of the press allocation = (12%, based on historical fluctuation in operational hours) + (101%, based on the



number of possible print stations used during operation) + (30%, based on variation in product coverage over all product lines) + (141% based on possible range of VOC content per individual coating) = 284%; Therefore, the safety factor of 2.84 was applied to determine the worst case emissions.

b. Emission Limitation:

VOC emissions shall not exceed 8.74 tons per rolling, 12-month period from a combination of inks, coatings, additives, adhesives, and cleanup materials.

Applicable Compliance Method:

This emission limitation is based upon the unit's potential to emit. The potential to emit calculations, as shown in the following equations, were derived using company-specified process data.

Press allocation = (annual press hours based on CT2005/2006 data) / (total press hours for K001-K008, based on CY 2005/2006 data).

Annual VOC emissions by press = (emissions unit K001-K008 material restriction) x (press allocation) x (average VOC content of all materials from emission units K001-K008, based on CY2005/2006 data).

Annual VOC emissions by press with safety factor 1 = (emissions units K001-K008 material restriction) x (press allocation) x (average VOC content of all materials from emission units K001-K008, based on CY2005/2006 data) x (safety factor #1).

c. Operational Limitation:

The total maximum coating and ink usage in all flexographic, packaging rotogravure, and publication rotogravure printing lines located at this facility shall be less than or equal to 148 tons/year.

Applicable Compliance Method:

Compliance shall be based upon the recordkeeping requirements specified in d)(1).

g) Miscellaneous Requirements

- (1) The potential to emit calculations developed from a joint effort between the facility and the Cleveland Division of Air Quality reflect the presumed inherent physical limitations through a press allocation of the material usage restriction (148 tons/year) as found in OAC rule 3745-21-09(Y)(2)(b).



3. K005, 663

Operations, Property and/or Equipment Description:

Narrow web continuous flexographic printing press (663).

- 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. d)(4) through d)(7).
 - (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. b)(1)a., c)(2), d)(1), and e)(1).
- 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 13-03807 issued 4/12/2007)	Volatile organic compound (VOC) emissions shall not exceed 13.25 lbs/hour and 5.21 tons per rolling, 12-month period from all inks, coatings, additives, adhesives and cleanup materials. The requirements of this rule also include compliance with the requirements of OAC rules 3745-21-09(Y)(2) and 3745-31-05(D). See b)(2)a. below.
b.	OAC rule 3745-21-09(Y)(2)	See b)(2)b. below.
c.	OAC rule 3745-31-05(D)(1) FEPTIO to avoid Title V	See Section B.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
d.	OAC rule 3745-114-01	See d)(4)-(7) and e)(4) below.

(2) Additional Terms and Conditions

- a. The hourly VOC emission limitation was established to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop and maintain daily recordkeeping requirements to ensure compliance with the hourly VOC emission limit.
- b. The requirements of paragraph (Y)(1) of this rule shall not apply to any printing line which is located at a facility in which the total maximum usage of coatings and inks in all flexographic, packaging rotogravure, and publication rotogravure printing lines is less than or equal to 148 tons per year; except as otherwise provided under paragraph (Y)(3) if this rule.

Once the requirements of paragraph (Y)(1) of this rule apply to a facility or a flexographic, packaging rotogravure, and publication rotogravure printing line within the facility, the facility is not eligible for an exemption under paragraphs (Y)(2)(b) and (Y)(2)(d) of this rule.

c) Operational Restrictions

- (1) The maximum annual ink and coating usage in all flexographic, packaging rotogravure, and publication rotogravure printing lines located within the facility shall not exceed a combined total of 148 tons per year.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall collect and record the following information each month:
 - a. the name and identification number of each ink, coating, additive, adhesive, and cleanup material employed;
 - b. the weight in pounds or tons per month of each ink, coating, additive, adhesive, and cleanup material employed, as applied;
 - c. the VOC content of each ink, coating, additive, adhesive, and cleanup material employed, in percent weight;
 - d. the total volatile organic material usage and VOC emissions from all ink, additive, adhesive, and cleanup materials employed calculated by summing the records of [(1.b) x (1.c)] for each ink, coating, additive, adhesive, and cleanup material, and subtracting any recovered material (see d)(3) below) in pounds or tons per month;



- e. the rolling, 12-month summation of volatile organic material usage and VOC emissions from all ink, coating, additive, adhesive, and cleanup material employed, in pounds or tons; and
 - f. the rolling, 12-month summation of ink, coating, additive, adhesive, and cleanup material employed, in pounds or tons.
- (2) The permittee shall collect and record the following information for this emissions unit each month:
- a. the actual monthly press hours of operation, in hours per month; and
 - b. the rolling, 12-month summation of the operational press hours.

The permittee shall use this data to verify, upon request of the Cleveland DAQ, that the annual press allocation of material usage and emissions is valid.

- (3) If a credit for recovered materials is to be used to demonstrate compliance and/or used in calculations for emission reports, the permittee shall maintain the following records for the recovered materials and the recovery drum or tank serving this emissions unit:
- a. the date the materials from the recovery drum or tank were shipped off site;
 - b. the amount of recovered material (gallons or pounds) from the recovery drum or tank shipped off site;
 - c. the average density of the recovered material (pounds/gallon) from the recovery drum or tank (if the amount is recorded in gallons);
 - d. the average VOC content for the recovered material, in percent weight; and
 - e. the average VOC emissions from the recovered materials [(3)b. x (3)d], in pounds. Note the average VOC emissions, in pounds, from the recovered material is calculated as [(3)b. x (3)c. x (3)d.] if the material amount is recorded in gallons.
- (4) The FEPTIO permit for this emissions unit (K005) was evaluated based on the actual materials and the design parameters of the emission unit's exhaust system, as specified by the permittee. The "Toxic Air Contaminant Statute", ORC 3704.03(F) was applied to this emissions unit for each toxic air contaminant listed in OAC rule 3745-114-01, using data from the permit application and modeling was performed for each toxic air contaminant emitted at over one ton per year using an air dispersion model such as SCREEN3, AERMOD, or ISCST3, or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration results 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 emitted from the emissions unit (as determined from the raw materials



processed, and/or coatings or other materials applied) has been documents 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 was then adjusted to account for the duration of the exposure or the operation hours of the emissions unit, i.e. 24 hours per day and 7 days per week, from that of the 8 hours a day and five days per week. The resulting calculation was (and shall be) used to determine the Maximum Acceptable Ground-Level Concentration (MAGLC):

$$(TLV/10) \times (8/X) \times (5/Y) = 4TLV/XY = MAGLC$$

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

- i. Toxic Contaminants: n-propyl Alcohol, Heptane, ethanol, IPA, n-propyl acetate, ethyl acetate.

TLV (mg/m3): 492 (for n-propyl alcohol – lowest TLV for toxics identified above)

Maximum Hourly Emission Rate (lbs/hr): 165.7 (total for all emissions units)

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 8841

MAGLC (ug/m3): 11,714 (for n-propyl alcohol – lowest MAGLC for the toxic pollutants listed above).

- ii. Toxic Contaminant: Butanol

TLV (mg/m3): 303

Maximum Hourly Emission Rate (lb/hr): 0.35 (total for all emission units)



Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 26

MAGLC (ug/m3): 7,214

The permittee has demonstrated the emissions from this emissions unit (K005), are calculated to be less than eighty percent of the maximum acceptable ground-level concentration (MAGLC); and new raw material or processing agent shall not be applied without evaluating each component of toxic air contaminant in accordance with the "Toxic Air Contaminant Statute", ORC 3704.03(F).

- (5) Prior to making any physical changes or changes in the method of operation of the emission unit 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 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 rule 3745-114-01, that was modeled from the initial (or last) application; and
 - c. physical changes to the emissions unit it exhaust stack parameters (e.g., increased/decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determined that the "Toxic Air Contaminant Statute" will be satisfied for the above changes, the Ohio EPA will not consider the changes 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 "Toxic Air Contaminant Statute", ORC 3704.03(F) has been documented. If the changes meet the definition of a modification, the permittee shall apply for and obtain a final FEPTIO prior to the change. The Director may consider any significant departure from the operations of the emissions unit, described in the permit application, as a modification that results in greater emissions than the emissions rate modeled to determine the ground-level concentration; and he/she may require the permittee to submit a permit application for the increased emissions.

- (6) The permittee shall collect, record, and retain the following information for each toxic evaluation conducted to determine compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F):
- a. a description of the parameters/values used in each compliance demonstration and the parameters or values changed for any re-evaluation of the toxics 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 the "Toxic Air Contaminant Statute", ORC 3704.03(F);
 - c. a copy of the computer model runs that established the predicted 1-hour maximum ground-level concentration that demonstrated emissions units to be in compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), initially and for each change that requires re-evaluation of the toxic air contaminant emissions; and
 - d. documentation of the initial evaluation of compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), and documentation of any determination that was conducted to re-evaluate compliance due to a change made to the emissions units or the materials applied.
- (7) 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 the "Toxic Air Contaminant Statute", ORC 3704.03(F), through the predicted 1-hour maximum ground-level concentration. The record shall include the date and reasons for the change and if the change would increase the ground-level concentration.
- e) Reporting Requirements
- (1) The permittee shall notify Cleveland DAQ in writing of any monthly record showing that the rolling, twelve month summation of ink and coating usage in all flexographic, packaging rotogravure, and publication rotogravure printing lines located at this facility exceeded 148 tons. The notification shall include a copy of such record and shall be sent to the Cleveland DAQ within 30 days following the end of the calendar month during which they were identified.
 - (2) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.
 - (3) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be completed electronically and submitted via the Ohio EPA eBusiness Center: Air Services 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 12-months for each air contaminant source identified in this permit.
 - (4) The permittee shall include any changes made to a parameter or value 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 PER report. If no changes have been made, than the report shall include a statement to that effect



f) Testing Requirements

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

a. Emission Limitation:

VOC emissions shall not exceed 13.25 lbs of VOC per hour from a combination of inks, coating, additives, adhesives, and cleanup materials.

Applicable Compliance Method:

This emission limitation is based on the unit's potential to emit. The potential to emit calculations, as shown in the following equations, were derived using company-specified process data.

Press allocation = (annual press hours based on CY2005/2006 data) / (total press hours from K001 – K208 based on CY2005/2006 data).

Annual VOC emissions by press = (emissions units K001-K208 material restriction) x (press allocation) x (average VOC content of all materials from emissions units K001-K208).

Short term VOC emissions (lb/hr) = (annual VOC emissions by press) / (annual mean press).

Annual VOC emissions by press with safety factor #1 = (emissions unit K001 – K208 material restriction) x (press allocation based on CY2005/2006 data) x (average VOC content of all materials from emission units K001-K208 based on CY2005/2006 data) x (safety factor #1).

Short term VOC emissions with safety factor #2 = [(VOC emissions by press based on CY2005/2006 data) / (mean press hours based on CY2005/2006 data)] x (safety factor #2).

Safety factor # 1 considers the error associated with the presumed physical limitations in regards to the allocation of emissions units K001 – K208 ink usage by individual press. Propagation of error associated with the physical limitations determined from a historical review of the press allocation = (12%, based on historical fluctuation in operations hours) + (101% based on the number of possible print stations used during operation) + (30%, based on variation in product coverage over all product lines) = 143%; Therefore, the safety factor #1 of 1.43 was applied to determine worst case emissions.

Safety factor # 2 considers the error associated with the presumed physical limitations in regards to the allocation of emissions units K001-K208 ink usage by individual presses and the error associated with the VOC content of the coatings applied on a specific press. Propagation of error associated with the physical limitations determined from a historical review of the press allocation = (12%, based on historical fluctuation in operational hours) + (101%, based on the



number of possible print stations used during operation) + (30%, based on variation in product coverage over all product lines) + (141% based on possible range of VOC content per individual coating) = 284%; Therefore, the safety factor of 2.84 was applied to determine the worst case emissions.

b. Emission Limitation:

VOC emissions shall not exceed 5.21 tons per rolling, 12-month period from a combination of inks, coatings, additives, adhesives, and cleanup materials.

Applicable Compliance Method:

This emission limitation is based upon the unit's potential to emit. The potential to emit calculations, as shown in the following equations, were derived using company-specified process data.

Press allocation = (annual press hours based on CT2005/2006 data) / (total press hours for K001-K008, based on CY 2005/2006 data).

Annual VOC emissions by press = (emissions unit K001-K008 material restriction) x (press allocation) x (average VOC content of all materials from emission units K001-K008, based on CY2005/2006 data).

Annual VOC emissions by press with safety factor 1 = (emissions units K001-K008 material restriction) x (press allocation) x (average VOC content of all materials from emission units K001-K008, based on CY2005/2006 data) x (safety factor #1).

c. Operational Limitation:

The total maximum coating and ink usage in all flexographic, packaging rotogravure, and publication rotogravure printing lines located at this facility shall be less than or equal to 148 tons/year.

Applicable Compliance Method:

Compliance shall be based upon the recordkeeping requirements specified in d)(1).

g) Miscellaneous Requirements

- (1) The potential to emit calculations developed from a joint effort between the facility and the Cleveland Division of Air Quality reflect the presumed inherent physical limitations through a press allocation of the material usage restriction (148 tons/year) as found in OAC rule 3745-21-09(Y)(2)(b).



4. K007, 668

Operations, Property and/or Equipment Description:

Narrow web flexographic printing press (668).

- 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. d)(4) through d)(7).
 - (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. b)(1)a., c)(2), d)(1), and e)(1).
- 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 13-03807, issued 4/12/2007)	Volatile organic compound (VOC) emissions from this unit shall not exceed 21.87 lbs/hour and 8.59 tons per rolling, 12-month period from all inks, coatings, additives, adhesives, and cleanup materials. The requirements of this rule also include compliance with the requirements of OAC rules 3745-21-09(Y)(2) and 3745-31-05(D). See b)(2)a. below.
b.	OAC rule 3745-21-09(Y)(2)(b) and (Y)(3)	See b)(2)b. below.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
c.	OAC rule 3745-31-05(D)(1) FEPTIO to avoid Title V	See Section B.
d.	OAC rule 3745-114-01	See d)(4)-(7) and e)(4) below.

(2) Additional Terms and Conditions

- a. The hourly VOC emission limitation was established to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop and maintain daily recordkeeping requirements to ensure compliance with the hourly VOC emission limit.
- b. The requirements of paragraph (Y)(1) of this rule shall not apply to any printing line which is located at a facility in which the total maximum usage of coatings and inks in all flexographic, packaging rotogravure and publication rotogravure printing lines is less than or equal to 148 tons per year; except as otherwise provided under paragraph (Y)(3) of this rule.

Once the requirements of paragraph (Y)(1) of this rule apply to a facility or a flexographic, packaging rotogravure and publication rotogravure printing line within the facility, the facility is not eligible for an exemption under paragraphs (Y)(2)(b) and (Y)(2)(d) of this rule.

c) Operational Restrictions

- (1) The maximum annual ink and coating usage in all flexographic, packaging rotogravure, and publication rotogravure printing lines located within the facility shall not exceed a combined total of 148 tons per year.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall collect and record the following information each month:
 - a. the name and identification number of each ink, coating, additive, adhesive, and cleanup material employed;
 - b. the weight in pounds or tons per month of each ink, coating, additive, adhesive, and cleanup material employed, as applied;
 - c. the VOC content of each ink, coating, additive, adhesive, and cleanup material employed, in percent weight;



- d. the total volatile organic material usage and VOC emissions from all ink, additive, adhesive, and cleanup materials employed calculated by summing the records of [(1.b) x (1.c)] for each ink, coating, additive, adhesive, and cleanup material, and subtracting any recovered material (see d)(3) below) in pounds or tons per month;
 - e. the rolling, 12-month summation of volatile organic material usage and VOC emissions from all ink, coating, additive, adhesive, and cleanup material employed, in pounds or tons; and
 - f. the rolling, 12-month summation of ink, coating, additive, adhesive, and cleanup material employed, in pounds or tons.
- (2) The permittee shall collect and record the following information for this emissions unit each month:
- a. the actual monthly press hours of operation, in hours per month; and
 - b. the rolling, 12-month summation of the operational press hours.

The permittee shall use this data to verify, upon request of the Cleveland DAQ, that the annual press allocation of material usage and emissions is valid.

- (3) If a credit for recovered materials is to be used to demonstrate compliance and/or used in calculations for emission reports, the permittee shall maintain the following records for the recovered materials and the recovery drum or tank serving this emissions unit:
- a. the date the materials from the recovery drum or tank were shipped off site;
 - b. the amount of recovered material (gallons or pounds) from the recovery drum or tank shipped off site;
 - c. the average density of the recovered material (pounds/gallon) from the recovery drum or tank (if the amount is recorded in gallons);
 - d. the average VOC content for the recovered material, in percent weight; and
 - e. the average VOC emissions from the recovered materials [(3)b. x (3)d], in pounds. Note the average VOC emissions, in pounds, from the recovered material is calculated as [(3)b. x (3)c. x (3)d.] if the material amount is recorded in gallons.
- (4) The permit to install for this emissions unit () was evaluated based on the actual materials and the design parameters of the emission unit's exhaust system, as specified by the permittee. The "Toxic Air Contaminant Statute", ORC 3704.03(F) was applied to this emissions unit for each toxic air contaminant listed in OAC rule 3745-114-01, using data from the permit application and modeling was performed for each toxic air contaminant emitted at over one ton per year using an air dispersion model such as SCREEN3, AERMOD, or ISCST3, or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration results 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 emitted from the emissions unit (as determined from the raw materials processed, and/or coatings or other materials applied) has been documents 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 was then adjusted to account for the duration of the exposure or the operation hours of the emissions unit, i.e. 24 hours per day and 7 days per week, from that of the 8 hours a day and five days per week. The resulting calculation was (and shall be) used to determine the Maximum Acceptable Ground-Level Concentration (MAGLC):
- (TLV/10) x (8/X) x (5/Y) = 4TLV/XY = MAGLC
- d. The following summarized the results of dispersion modeling for the significant toxic contaminants (emitted at 1 or more tons/year) or “worst case” toxic contaminants:

- i. Toxic Contaminants: n-propyl Alcohol, Heptane, ethanol, IPA, n-propyl acetate, ethyl acetate.

TLV (mg/m3): 492 (for n-propyl alcohol – lowest TLV for toxics identified above)

Maximum Hourly Emission Rate (lbs/hr): 165.7 (total for all emissions units)

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 8841

MAGLC (ug/m3): 11,714 (for n-propyl alcohol – lowest MAGLC for the toxic pollutants listed above).



ii. Toxic Contaminant: Butanol

TLV (mg/m³): 303

Maximum Hourly Emission Rate (lb/hr): 0.35 (total for all emission units)

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m³): 26

MAGLC (ug/m³): 7,214

The permittee has demonstrated the emissions from this emissions unit (K005), are calculated to be less than eighty percent of the maximum acceptable ground-level concentration (MAGLC); and new raw material or processing agent shall not be applied without evaluating each component of toxic air contaminant in accordance with the "Toxic Air Contaminant Statute", ORC 3704.03(F).

- (5) Prior to making any physical changes or changes in the method of operation of the emission unit 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 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 rule 3745-114-01, that was modeled from the initial (or last) application; and
 - c. physical changes to the emissions unit or exhaust stack parameters (e.g., increased/decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determined that the "Toxic Air Contaminant Statute" will be satisfied for the above changes, the Ohio EPA will not consider the changes 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 "Toxic Air Contaminant Statute", ORC 3704.03(F) has been documented. If the changes meet the definition of a modification, the permittee shall apply for and obtain a final FEPTIO prior to the change. The Director may consider any significant departure from the operations of the emissions unit, described in the permit application, as a modification that results in greater emissions than the emissions rate modeled to determine the ground-level concentration; and he/she may require the permittee to submit a permit application for the increased emissions.

- (6) The permittee shall collect, record, and retain the following information for each toxic evaluation conducted to determine compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F):



- a. a description of the parameters/values used in each compliance demonstration and the parameters or values changed for any re-evaluation of the toxics 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 the "Toxic Air Contaminant Statute", ORC 3704.03(F);
 - c. a copy of the computer model runs that established the predicted 1-hour maximum ground-level concentration that demonstrated emissions units to be in compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), initially and for each change that requires re-evaluation of the toxic air contaminant emissions; and
 - d. documentation of the initial evaluation of compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), and documentation of any determination that was conducted to re-evaluate compliance due to a change made to the emissions units or the materials applied.
- (7) 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 the "Toxic Air Contaminant Statute", ORC 3704.03(F), through the predicted 1-hour maximum ground-level concentration. The record shall include the date and reasons for the change and if the change would increase the ground-level concentration.
- e) Reporting Requirements
- (1) The permittee shall notify Cleveland DAQ in writing of any monthly record showing that the rolling, twelve month summation of ink and coating usage in all flexographic, packaging rotogravure, and publication rotogravure printing lines located at this facility exceeded 148 tons. The notification shall include a copy of such record and shall be sent to the Cleveland DAQ within 30 days following the end of the calendar month during which they were identified.
 - (2) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.
 - (3) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be completed electronically and submitted via the Ohio EPA eBusiness Center: Air Services 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 12-months for each air contaminant source identified in this permit.
 - (4) The permittee shall include any changes made to a parameter or value 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 PER report. If no changes have been made, than the report shall include a statement to that effect.



f) Testing Requirements

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

a. Emission Limitation:

VOC emissions shall not exceed 21.87 lbs of VOC per hour from a combination of inks, coating, additives, adhesives, and cleanup materials.

Applicable Compliance Method:

This emission limitation is based on the unit's potential to emit. The potential to emit calculations, as shown in the following equations, were derived using company-specified process data.

Press allocation = (annual press hours based on CY2005/2006 data) / (total press hours from K001 – K208 based on CY2005/2006 data).

Annual VOC emissions by press = (emissions units K001-K208 material restriction) x (press allocation) x (average VOC content of all materials from emissions units K001-K208).

Short term VOC emissions (lb/hr) = (annual VOC emissions by press) / (annual mean press).

Annual VOC emissions by press with safety factor #1 = (emissions unit K001 – K208 material restriction) x (press allocation based on CY2005/2006 data) x (average VOC content of all materials from emission units K001-K208 based on CY2005/2006 data) x (safety factor #1).

Short term VOC emissions with safety factor #2 = [(VOC emissions by press based on CY2005/2006 data) / (mean press hours based on CY2005/2006 data)] x (safety factor #2).

Safety factor # 1 considers the error associated with the presumed physical limitations in regards to the allocation of emissions units K001 – K208 ink usage by individual press. Propagation of error associated with the physical limitations determined from a historical review of the press allocation = (12%, based on historical fluctuation in operations hours) + (101% based on the number of possible print stations used during operation) + (30%, based on variation in product coverage over all product lines) = 143%; Therefore, the safety factor #1 of 1.43 was applied to determine worst case emissions.

Safety factor # 2 considers the error associated with the presumed physical limitations in regards to the allocation of emissions units K001-K208 ink usage by individual presses and the error associated with the VOC content of the coatings applied on a specific press. Propagation of error associated with the physical limitations determined from a historical review of the press allocation = (12%, based on historical fluctuation in operational hours) + (101%, based on the



number of possible print stations used during operation) + (30%, based on variation in product coverage over all product lines) + (141% based on possible range of VOC content per individual coating) = 284%; Therefore, the safety factor of 2.84 was applied to determine the worst case emissions.

b. Emission Limitation:

VOC emissions shall not exceed 8.59 tons per rolling, 12-month period from a combination of inks, coatings, additives, adhesives, and cleanup materials.

Applicable Compliance Method:

This emission limitation is based upon the unit's potential to emit. The potential to emit calculations, as shown in the following equations, were derived using company-specified process data.

Press allocation = (annual press hours based on CT2005/2006 data) / (total press hours for K001-K008, based on CY 2005/2006 data).

Annual VOC emissions by press = (emissions unit K001-K008 material restriction) x (press allocation) x (average VOC content of all materials from emission units K001-K008, based on CY2005/2006 data).

Annual VOC emissions by press with safety factor 1 = (emissions units K001-K008 material restriction) x (press allocation) x (average VOC content of all materials from emission units K001-K008, based on CY2005/2006 data) x (safety factor #1).

c. Operational Limitation:

The total maximum coating and ink usage in all flexographic, packaging rotogravure, and publication rotogravure printing lines located at this facility shall be less than or equal to 148 tons/year.

Applicable Compliance Method:

Compliance shall be based upon the recordkeeping requirements specified in d)(1).

g) Miscellaneous Requirements

- (1) The potential to emit calculations developed from a joint effort between the facility and the Cleveland Division of Air Quality reflect the presumed inherent physical limitations through a press allocation of the material usage restriction (148 tons/year) as found in OAC rule 3745-21-09(Y)(2)(b).



5. K008, 670

Operations, Property and/or Equipment Description:

Narrow web continuous flexographic printing press (670).

- 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. d)(4) through d)(7).
 - (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. b)(1)a., c)(2), d)(1), and e)(1).
- 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 13-03807, issued 4/12/2007)	Volatile organic compound (VOC) emissions from this unit shall not exceed 28.43 lbs/hour and 11.17 tons per rolling, 12-month period from all inks, coatings, additives, adhesives, and cleanup materials. The requirements of this rule also include compliance with the requirements of OAC rules 3745-21-09(Y)(2) and 3745-31-05(D). See b)(2)a. below.
b.	OAC rule 3745-21-09(Y)(2)(b) and (Y)(3)	See b)(2)b. below.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
c.	OAC rule 3745-31-05(D)(1) FEPTIO to avoid Title V	See Section B.
d.	OAC rule 3745-114-01	See d)(4) – (7) and e)(4) below.

(2) Additional Terms and Conditions

- a. The hourly VOC emission limitation was established to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop and maintain daily recordkeeping requirements to ensure compliance with the hourly VOC emission limit.
- b. The requirements of paragraph (Y)(1) of this rule shall not apply to any printing line which is located at a facility in which the total maximum usage of coatings and inks in all flexographic, packaging rotogravure and publication rotogravure printing lines is less than or equal to 148 tons per year; except as otherwise provided under paragraph (Y)(3) of this rule.

Once the requirements of paragraph (Y)(1) of this rule apply to a facility or a flexographic, packaging rotogravure and publication rotogravure printing line within the facility, the facility is not eligible for an exemption under paragraphs (Y)(2)(b) and (Y)(2)(d) of this rule.

c) Operational Restrictions

- (1) The maximum annual ink and coating usage in all flexographic, packaging rotogravure, and publication rotogravure printing lines located within the facility shall not exceed a combined total of 148 tons per year.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall collect and record the following information each month:
 - a. the name and identification number of each ink, coating, additive, adhesive, and cleanup material employed;
 - b. the weight in pounds or tons per month of each ink, coating, additive, adhesive, and cleanup material employed, as applied;
 - c. the VOC content of each ink, coating, additive, adhesive, and cleanup material employed, in percent weight;
 - d. the total volatile organic material usage and VOC emissions from all ink, additive, adhesive, and cleanup materials employed calculated by summing the records of



[(1.b) x (1.c)] for each ink, coating, additive, adhesive, and cleanup material, and subtracting any recovered material (see d)(3)below) in pounds or tons per month;

- e. the rolling, 12-month summation of volatile organic material usage and VOC emissions from all ink, coating, additive, adhesive, and cleanup material employed, in pounds or tons; and
 - f. the rolling, 12-month summation of ink, coating, additive, adhesive, and cleanup material employed, in pounds or tons.
- (2) The permittee shall collect and record the following information for this emissions unit each month:
- a. the actual monthly press hours of operation, in hours per month; and
 - b. the rolling, 12-month summation of the operational press hours.

The permittee shall use this data to verify, upon request of the Cleveland DAQ, that the annual press allocation of material usage and emissions is valid.

- (3) If a credit for recovered materials is to be used to demonstrate compliance and/or used in calculations for emission reports, the permittee shall maintain the following records for the recovered materials and the recovery drum or tank serving this emissions unit:
- a. the date the materials from the recovery drum or tank were shipped off site;
 - b. the amount of recovered material (gallons or pounds) from the recovery drum or tank shipped off site;
 - c. the average density of the recovered material (pounds/gallon) from the recovery drum or tank (if the amount is recorded in gallons);
 - d. the average VOC content for the recovered material, in percent weight; and
 - e. the average VOC emissions from the recovered materials [(3)b. x (3)d], in pounds. Note the average VOC emissions, in pounds, from the recovered material is calculated as [(3)b. x (3)c. x (3)d.] if the material amount is recorded in gallons.

- (4) The FEPTIO permit for this emissions unit (K008) was evaluated based on the actual materials and the design parameters of the emission unit's exhaust system, as specified by the permittee. The "Toxic Air Contaminant Statute", ORC 3704.03(F) was applied to this emissions unit for each toxic air contaminant listed in OAC rule 3745-114-01, using data from the permit application and modeling was performed for each toxic air contaminant emitted at over one ton per year using an air dispersion model such as SCREEN3, AERMOD, or ISCST3, or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration results 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 emitted from the emissions unit (as determined from the raw materials processed, and/or coatings or other materials applied) has been documents 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 was then adjusted to account for the duration of the exposure or the operation hours of the emissions unit, i.e. 24 hours per day and 7 days per week, from that of the 8 hours a day and five days per week. The resulting calculation was (and shall be) used to determine the Maximum Acceptable Ground-Level Concentration (MAGLC):
- $$(TLV/10) \times (8/X) \times (5/Y) = 4TLV/XY = MAGLC$$
- d. The following summarized the results of dispersion modeling for the significant toxic contaminants (emitted at 1 or more tons/year) or "worst case" toxic contaminants:
- i. Toxic Contaminants: n-propyl Alcohol, Heptane, ethanol, IPA, n-propyl acetate, ethyl acetate.

TLV (mg/m³): 492 (for n-propyl alcohol – lowest TLV for toxics identified above)

Maximum Hourly Emission Rate (lbs/hr): 165.7 (total for all emissions units)

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m³): 8841

MAGLC (ug/m³): 11,714 (for n-propyl alcohol – lowest MAGLC for the toxic pollutants listed above).
 - ii. Toxic Contaminant: Butanol

TLV (mg/m³): 303



Maximum Hourly Emission Rate (lb/hr): 0.35 (total for all emission units)

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 26

MAGLC (ug/m3): 7,214

The permittee has demonstrated the emissions from this emissions unit K001, are calculated to be less than eighty percent of the maximum acceptable ground-level concentration (MAGLC); and new raw material or processing agent shall not be applied without evaluating each component of toxic air contaminant in accordance with the "Toxic Air Contaminant Statute", ORC 3704.03(F).

- (5) Prior to making any physical changes or changes in the method of operation of the emission unit 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 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 rule 3745-114-01, that was modeled from the initial (or last) application; and
 - c. physical changes to the emissions unit or exhaust stack parameters (e.g., increased/decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determined that the "Toxic Air Contaminant Statute" will be satisfied for the above changes, the Ohio EPA will not consider the changes 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 "Toxic Air Contaminant Statute", ORC 3704.03(F) has been documented. If the changes meet the definition of a modification, the permittee shall apply for and obtain a final FEPTIO prior to the change. The Director may consider any significant departure from the operations of the emissions unit, described in the permit application, as a modification that results in greater emissions than the emissions rate modeled to determine the ground-level concentration; and he/she may require the permittee to submit a permit application for the increased emissions.

- (6) The permittee shall collect, record, and retain the following information for each toxic evaluation conducted to determine compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F):
- a. a description of the parameters/values used in each compliance demonstration and the parameters or values changed for any re-evaluation of the toxics



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 the "Toxic Air Contaminant Statute", ORC 3704.03(F);
 - c. a copy of the computer model runs that established the predicted 1-hour maximum ground-level concentration that demonstrated emissions units to be in compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), initially and for each change that requires re-evaluation of the toxic air contaminant emissions; and
 - d. documentation of the initial evaluation of compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), and documentation of any determination that was conducted to re-evaluate compliance due to a change made to the emissions units or the materials applied.
- (7) 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 the "Toxic Air Contaminant Statute", ORC 3704.03(F), through the predicted 1-hour maximum ground-level concentration. The record shall include the date and reasons for the change and if the change would increase the ground-level concentration.
- e) Reporting Requirements
- (1) The permittee shall notify Cleveland DAQ in writing of any monthly record showing that the rolling, twelve month summation of ink and coating usage in all flexographic, packaging rotogravure, and publication rotogravure printing lines located at this facility exceeded 148 tons. The notification shall include a copy of such record and shall be sent to the Cleveland DAQ within 30 days following the end of the calendar month during which they were identified.
 - (2) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.
 - (3) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be completed electronically and submitted via the Ohio EPA eBusiness Center: Air Services 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 12-months for each air contaminant source identified in this permit.
 - (4) The permittee shall include any changes made to a parameter or value 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 PER report. If no changes have been made, than the report shall include a statement to that effect.



f) Testing Requirements

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

a. Emission Limitation:

VOC emissions shall not exceed 28.43 lbs of VOC per hour from a combination of inks, coating, additives, adhesives, and cleanup materials.

Applicable Compliance Method:

This emission limitation is based on the unit's potential to emit. The potential to emit calculations, as shown in the following equations, were derived using company-specified process data.

Press allocation = (annual press hours based on CY2005/2006 data) / (total press hours from K001 – K208 based on CY2005/2006 data).

Annual VOC emissions by press = (emissions units K001-K208 material restriction) x (press allocation) x (average VOC content of all materials from emissions units K001-K208).

Short term VOC emissions (lb/hr) = (annual VOC emissions by press) / (annual mean press).

Annual VOC emissions by press with safety factor #1 = (emissions unit K001 – K208 material restriction) x (press allocation based on CY2005/2006 data) x (average VOC content of all materials from emission units K001-K208 based on CY2005/2006 data) x (safety factor #1).

Short term VOC emissions with safety factor #2 = [(VOC emissions by press based on CY2005/2006 data) / (mean press hours based on CY2005/2006 data)] x (safety factor #2).

Safety factor # 1 considers the error associated with the presumed physical limitations in regards to the allocation of emissions units K001 – K208 ink usage by individual press. Propagation of error associated with the physical limitations determined from a historical review of the press allocation = (12%, based on historical fluctuation in operations hours) + (101% based on the number of possible print stations used during operation) + (30%, based on variation in product coverage over all product lines) = 143%; Therefore, the safety factor #1 of 1.43 was applied to determine worst case emissions.

Safety factor # 2 considers the error associated with the presumed physical limitations in regards to the allocation of emissions units K001-K208 ink usage by individual presses and the error associated with the VOC content of the coatings applied on a specific press. Propagation of error associated with the physical limitations determined from a historical review of the press allocation = (12%, based on historical fluctuation in operational hours) + (101%, based on the



number of possible print stations used during operation) + (30%, based on variation in product coverage over all product lines) + (141% based on possible range of VOC content per individual coating) = 284%; Therefore, the safety factor of 2.84 was applied to determine the worst case emissions.

b. Emission Limitation:

VOC emissions shall not exceed 11.17 tons per rolling, 12-month period from a combination of inks, coatings, additives, adhesives, and cleanup materials.

Applicable Compliance Method:

This emission limitation is based upon the unit's potential to emit. The potential to emit calculations, as shown in the following equations, were derived using company-specified process data.

Press allocation = (annual press hours based on CT2005/2006 data) / (total press hours for K001-K008, based on CY 2005/2006 data).

Annual VOC emissions by press = (emissions unit K001-K008 material restriction) x (press allocation) x (average VOC content of all materials from emission units K001-K008, based on CY2005/2006 data).

Annual VOC emissions by press with safety factor 1 = (emissions units K001-K008 material restriction) x (press allocation) x (average VOC content of all materials from emission units K001-K008, based on CY2005/2006 data) x (safety factor #1).

c. Operational Limitation:

The total maximum coating and ink usage in all flexographic, packaging rotogravure, and publication rotogravure printing lines located at this facility shall be less than or equal to 148 tons/year.

Applicable Compliance Method:

Compliance shall be based upon the recordkeeping requirements specified in d)(1).

g) Miscellaneous Requirements

- (1) The potential to emit calculations developed from a joint effort between the facility and the Cleveland Division of Air Quality reflect the presumed inherent physical limitations through a press allocation of the material usage restriction (148 tons/year) as found in OAC rule 3745-21-09(Y)(2)(b).



6. K009, 671

Operations, Property and/or Equipment Description:

Narrow web continuous flexographic printing press (671).

- 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. d)(4) through d)(7).
 - (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. b)(1)a., c)(2), d)(1), and e)(1).
- 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 13-03807, issued 4/12/2007)	Volatile organic compound (VOC) emissions from this unit shall not exceed 26.63 lbs/hour and 10.36 tons per rolling 12-month period from all inks, coatings, additives, adhesives, and cleanup materials. The requirements of this rule also include compliance with the requirements of OAC rules 3745-21-09(Y)(2) and 3745-31-05(D). See b)(2)a. below.
b.	OAC rule 3745-21-09(Y)(2)(b) and (Y)(3)	See b)(2)b. below.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
c.	OAC rule 3745-31-05(D)(1) FEPTIO to avoid Title V	See Section B.
d.	OAC rule 3745-114-01	See d)(4) - (7) and e)(4) below.

(2) Additional Terms and Conditions

- a. The hourly VOC emission limitation was established to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop and maintain daily recordkeeping requirements to ensure compliance with the hourly VOC emission limit.
- b. The requirements of paragraph (Y)(1) of this rule shall not apply to any printing line which is located at a facility in which the total maximum usage of coatings and inks in all flexographic, packaging rotogravure and publication rotogravure printing lines is less than or equal to 148 tons per year; except as otherwise provided under paragraph (Y)(3) of this rule.

Once the requirements of paragraph (Y)(1) of this rule apply to a facility or a flexographic, packaging rotogravure and publication rotogravure printing line within the facility, the facility is not eligible for an exemption under paragraphs (Y)(2)(b) and (Y)(2)(d) of this rule.

c) Operational Restrictions

- (1) The maximum annual ink and coating usage in all flexographic, packaging rotogravure, and publication rotogravure printing lines located within the facility shall not exceed a combined total of 148 tons per year.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall collect and record the following information each month:
 - a. the name and identification number of each ink, coating, additive, adhesive, and cleanup material employed;
 - b. the weight in pounds or tons per month of each ink, coating, additive, adhesive, and cleanup material employed, as applied;
 - c. the VOC content of each ink, coating, additive, adhesive, and cleanup material employed, in percent weight;



- d. the total volatile organic material usage and VOC emissions from all ink, additive, adhesive, and cleanup materials employed calculated by summing the records of [(1.b) x (1.c)] for each ink, coating, additive, adhesive, and cleanup material, and subtracting any recovered material (see d)(3) below) in pounds or tons per month;
 - e. the rolling, 12-month summation of volatile organic material usage and VOC emissions from all ink, coating, additive, adhesive, and cleanup material employed, in pounds or tons; and
 - f. the rolling, 12-month summation of ink, coating, additive, adhesive, and cleanup material employed, in pounds or tons.
- (2) The permittee shall collect and record the following information for this emissions unit each month:
- a. the actual monthly press hours of operation, in hours per month; and
 - b. the rolling, 12-month summation of the operational press hours.
- The permittee shall use this data to verify, upon request of the Cleveland DAQ, that the annual press allocation of material usage and emissions is valid.
- (3) If a credit for recovered materials is to be used to demonstrate compliance and/or used in calculations for emission reports, the permittee shall maintain the following records for the recovered materials and the recovery drum or tank serving this emissions unit:
- a. the date the materials from the recovery drum or tank were shipped off site;
 - b. the amount of recovered material (gallons or pounds) from the recovery drum or tank shipped off site;
 - c. the average density of the recovered material (pounds/gallon) from the recovery drum or tank (if the amount is recorded in gallons);
 - d. the average VOC content for the recovered material, in percent weight; and
 - e. the average VOC emissions from the recovered materials [(3)b. x (3)d], in pounds. Note the average VOC emissions, in pounds, from the recovered material is calculated as [(3)b. x (3)c. x (3)d.] if the material amount is recorded in gallons.
- (4) The FEPTIO permit for this emissions unit (K009) was evaluated based on the actual materials and the design parameters of the emission unit's exhaust system, as specified by the permittee. The "Toxic Air Contaminant Statute", ORC 3704.03(F) was applied to this emissions unit for each toxic air contaminant listed in OAC rule 3745-114-01, using data from the permit application and modeling was performed for each toxic air contaminant emitted at over one ton per year using an air dispersion model such as SCREEN3, AERMOD, or ISCST3, or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration results 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 emitted from the emissions unit (as determined from the raw materials processed, and/or coatings or other materials applied) has been documents 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 was then adjusted to account for the duration of the exposure or the operation hours of the emissions unit, i.e. 24 hours per day and 7 days per week, from that of the 8 hours a day and five days per week. The resulting calculation was (and shall be) used to determine the Maximum Acceptable Ground-Level Concentration (MAGLC):
$$(TLV/10) \times (8/X) \times (5/Y) = 4TLV/XY = MAGLC$$
- d. The following summarized the results of dispersion modeling for the significant toxic contaminants (emitted at 1 or more tons/year) or “worst case” toxic contaminants:
 - i. Toxic Contaminants: n-propyl Alcohol, Heptane, ethanol, IPA, n-propyl acetate, ethyl acetate.

TLV (mg/m3): 492 (for n-propyl alcohol – lowest TLV for toxics identified above)

Maximum Hourly Emission Rate (lbs/hr): 165.7 (total for all emissions units)

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 8841

MAGLC (ug/m3): 11,714 (for n-propyl alcohol – lowest MAGLC for the toxic pollutants listed above).



ii. Toxic Contaminant: Butanol

TLV (mg/m³): 303

Maximum Hourly Emission Rate (lb/hr): 0.35 (total for all emission units)

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m³): 26

MAGLC (ug/m³): 7,214

The permittee has demonstrated the emissions from this emissions unit K001, are calculated to be less than eighty percent of the maximum acceptable ground-level concentration (MAGLC); and new raw material or processing agent shall not be applied without evaluating each component of toxic air contaminant in accordance with the "Toxic Air Contaminant Statute", ORC 3704.03(F).

- (5) Prior to making any physical changes or changes in the method of operation of the emission unit 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 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 rule 3745-114-01, that was modeled from the initial (or last) application; and
 - c. physical changes to the emissions unit or exhaust stack parameters (e.g., increased/decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determined that the "Toxic Air Contaminant Statute" will be satisfied for the above changes, the Ohio EPA will not consider the changes 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 "Toxic Air Contaminant Statute", ORC 3704.03(F) has been documented. If the changes meet the definition of a modification, the permittee shall apply for and obtain a final FEPTIO prior to the change. The Director may consider any significant departure from the operations of the emissions unit, described in the permit application, as a modification that results in greater emissions than the emissions rate modeled to determine the ground-level concentration; and he/she may require the permittee to submit a permit application for the increased emissions.

- (6) The permittee shall collect, record, and retain the following information for each toxic evaluation conducted to determine compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F):



- a. a description of the parameters/values used in each compliance demonstration and the parameters or values changed for any re-evaluation of the toxics 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 the "Toxic Air Contaminant Statute", ORC 3704.03(F);
 - c. a copy of the computer model runs that established the predicted 1-hour maximum ground-level concentration that demonstrated emissions units to be in compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), initially and for each change that requires re-evaluation of the toxic air contaminant emissions; and
 - d. documentation of the initial evaluation of compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), and documentation of any determination that was conducted to re-evaluate compliance due to a change made to the emissions units or the materials applied.
- (7) 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 the "Toxic Air Contaminant Statute", ORC 3704.03(F), through the predicted 1-hour maximum ground-level concentration. The record shall include the date and reasons for the change and if the change would increase the ground-level concentration.
- e) Reporting Requirements
- (1) The permittee shall notify Cleveland DAQ in writing of any monthly record showing that the rolling, twelve month summation of ink and coating usage in all flexographic, packaging rotogravure, and publication rotogravure printing lines located at this facility exceeded 148 tons. The notification shall include a copy of such record and shall be sent to the Cleveland DAQ within 30 days following the end of the calendar month during which they were identified.
 - (2) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.
 - (3) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be completed electronically and submitted via the Ohio EPA eBusiness Center: Air Services 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 12-months for each air contaminant source identified in this permit.
 - (4) The permittee shall include any changes made to a parameter or value 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 PER report. If no changes have been made, than the report shall include a statement to that effect.



f) Testing Requirements

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

a. Emission Limitation:

VOC emissions shall not exceed 26.63 lbs of VOC per hour from a combination of inks, coating, additives, adhesives, and cleanup materials.

Applicable Compliance Method:

This emission limitation is based on the unit's potential to emit. The potential to emit calculations, as shown in the following equations, were derived using company-specified process data.

Press allocation = (annual press hours based on CY2005/2006 data) / (total press hours from K001 – K208 based on CY2005/2006 data).

Annual VOC emissions by press = (emissions units K001-K208 material restriction) x (press allocation) x (average VOC content of all materials from emissions units K001-K208).

Short term VOC emissions (lb/hr) = (annual VOC emissions by press) / (annual mean press).

Annual VOC emissions by press with safety factor #1 = (emissions unit K001 – K208 material restriction) x (press allocation based on CY2005/2006 data) x (average VOC content of all materials from emission units K001-K208 based on CY2005/2006 data) x (safety factor #1).

Short term VOC emissions with safety factor #2 = [(VOC emissions by press based on CY2005/2006 data) / (mean press hours based on CY2005/2006 data)] x (safety factor #2).

Safety factor # 1 considers the error associated with the presumed physical limitations in regards to the allocation of emissions units K001 – K208 ink usage by individual press. Propagation of error associated with the physical limitations determined from a historical review of the press allocation = (12%, based on historical fluctuation in operations hours) + (101% based on the number of possible print stations used during operation) + (30%, based on variation in product coverage over all product lines) = 143%; Therefore, the safety factor #1 of 1.43 was applied to determine worst case emissions.

Safety factor # 2 considers the error associated with the presumed physical limitations in regards to the allocation of emissions units K001-K208 ink usage by individual presses and the error associated with the VOC content of the coatings applied on a specific press. Propagation of error associated with the physical limitations determined from a historical review of the press allocation = (12%, based on historical fluctuation in operational hours) + (101%, based on the



number of possible print stations used during operation) + (30%, based on variation in product coverage over all product lines) + (141% based on possible range of VOC content per individual coating) = 284%; Therefore, the safety factor of 2.84 was applied to determine the worst case emissions.

b. Emission Limitation:

VOC emissions shall not exceed 10.36 tons per rolling, 12-month period from a combination of inks, coatings, additives, adhesives, and cleanup materials.

Applicable Compliance Method:

This emission limitation is based upon the unit's potential to emit. The potential to emit calculations, as shown in the following equations, were derived using company-specified process data.

Press allocation = (annual press hours based on CT2005/2006 data) / (total press hours for K001-K008, based on CY 2005/2006 data).

Annual VOC emissions by press = (emissions unit K001-K008 material restriction) x (press allocation) x (average VOC content of all materials from emission units K001-K008, based on CY2005/2006 data).

Annual VOC emissions by press with safety factor 1 = (emissions units K001-K008 material restriction) x (press allocation) x (average VOC content of all materials from emission units K001-K008, based on CY2005/2006 data) x (safety factor #1).

c. Operational Limitation:

The total maximum coating and ink usage in all flexographic, packaging rotogravure, and publication rotogravure printing lines located at this facility shall be less than or equal to 148 tons/year.

Applicable Compliance Method:

Compliance shall be based upon the recordkeeping requirements specified in d)(1).

g) Miscellaneous Requirements

- (1) The potential to emit calculations developed from a joint effort between the facility and the Cleveland Division of Air Quality reflect the presumed inherent physical limitations through a press allocation of the material usage restriction (148 tons/year) as found in OAC rule 3745-21-09(Y)(2)(b).



7. K010, 672

Operations, Property and/or Equipment Description:

Narrow web continuous flexographic printing press (672).

- 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. d)(4) through d)(7).
 - (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. b)(1)a., c)(2), d)(1), and e)(1).
- 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 13-03807, issued 4/12/2007)	Volatile organic compound (VOC) emissions from this unit shall not exceed 19.61 lbs/hour and 7.71 tons per rolling, 12-month period from all inks, coatings, additives, adhesives, and cleanup materials. The requirements of this rule also include compliance with the requirements of OAC rules 3745-21-09(Y)(2) and 3745-31-05(D). See b)(2)a. below.
b.	OAC rule 3745-21-09(Y)(2)(b) and (Y)(3)	See b)(2)b. below.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
c.	OAC rule 3745-31-05(D)(1) FEPTIO to avoid Title V	See Section B.
d.	OAC rule 3745-114-01	See d)(4) - (7) and e)(4) below.

(2) Additional Terms and Conditions

- a. The hourly VOC emission limitation was established to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop and maintain daily recordkeeping requirements to ensure compliance with the hourly VOC emission limit.
- b. The requirements of paragraph (Y)(1) of this rule shall not apply to any printing line which is located at a facility in which the total maximum usage of coatings and inks in all flexographic, packaging rotogravure and publication rotogravure printing lines is less than or equal to 148 tons per year; except as otherwise provided under paragraph (Y)(3) of this rule.

Once the requirements of paragraph (Y)(1) of this rule apply to a facility or a flexographic, packaging rotogravure and publication rotogravure printing line within the facility, the facility is not eligible for an exemption under paragraphs (Y)(2)(b) and (Y)(2)(d) of this rule.

c) Operational Restrictions

- (1) The maximum annual ink and coating usage in all flexographic, packaging rotogravure, and publication rotogravure printing lines located within the facility shall not exceed a combined total of 148 tons per year.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall collect and record the following information each month:
 - a. the name and identification number of each ink, coating, additive, adhesive, and cleanup material employed;
 - b. the weight in pounds or tons per month of each ink, coating, additive, adhesive, and cleanup material employed, as applied;
 - c. the VOC content of each ink, coating, additive, adhesive, and cleanup material employed, in percent weight;
 - d. the total volatile organic material usage and VOC emissions from all ink, additive, adhesive, and cleanup materials employed calculated by summing the records of [(1.b) x (1.c)] for each ink, coating, additive, adhesive, and cleanup material, and



subtracting any recovered material (see d)(3) below) in pounds or tons per month;

- e. the rolling, 12-month summation of volatile organic material usage and VOC emissions from all ink, coating, additive, adhesive, and cleanup material employed, in pounds or tons; and
- f. the rolling, 12-month summation of ink, coating, additive, adhesive, and cleanup material employed, in pounds or tons.

(2) The permittee shall collect and record the following information for this emissions unit each month:

- a. the actual monthly press hours of operation, in hours per month; and
- b. the rolling, 12-month summation of the operational press hours.

The permittee shall use this data to verify, upon request of the Cleveland DAQ, that the annual press allocation of material usage and emissions is valid.

(3) If a credit for recovered materials is to be used to demonstrate compliance and/or used in calculations for emission reports, the permittee shall maintain the following records for the recovered materials and the recovery drum or tank serving this emissions unit:

- a. the date the materials from the recovery drum or tank were shipped off site;
- b. the amount of recovered material (gallons or pounds) from the recovery drum or tank shipped off site;
- c. the average density of the recovered material (pounds/gallon) from the recovery drum or tank (if the amount is recorded in gallons);
- d. the average VOC content for the recovered material, in percent weight; and
- e. the average VOC emissions from the recovered materials [(3)b. x (3)d], in pounds. Note the average VOC emissions, in pounds, from the recovered material is calculated as [(3)b. x (3)c. x (3)d.] if the material amount is recorded in gallons.

(4) The FEPTIO permit for this emissions unit (K010) was evaluated based on the actual materials and the design parameters of the emission unit's exhaust system, as specified by the permittee. The "Toxic Air Contaminant Statute", ORC 3704.03(F) was applied to this emissions unit for each toxic air contaminant listed in OAC rule 3745-114-01, using data from the permit application and modeling was performed for each toxic air contaminant emitted at over one ton per year using an air dispersion model such as SCREEN3, AERMOD, or ISCST3, or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration results 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 emitted from the emissions unit (as determined from the raw materials processed, and/or coatings or other materials applied) has been documents 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 was then adjusted to account for the duration of the exposure or the operation hours of the emissions unit, i.e. 24 hours per day and 7 days per week, from that of the 8 hours a day and five days per week. The resulting calculation was (and shall be) used to determine the Maximum Acceptable Ground-Level Concentration (MAGLC):
- $$(TLV/10) \times (8/X) \times (5/Y) = 4TLV/XY = MAGLC$$
- d. The following summarized the results of dispersion modeling for the significant toxic contaminants (emitted at 1 or more tons/year) or "worst case" toxic contaminants:
- i. Toxic Contaminants: n-propyl Alcohol, Heptane, ethanol, IPA, n-propyl acetate, ethyl acetate.

TLV (mg/m³): 492 (for n-propyl alcohol – lowest TLV for toxics identified above)

Maximum Hourly Emission Rate (lbs/hr): 165.7 (total for all emissions units)

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m³): 8841

MAGLC (ug/m³): 11,714 (for n-propyl alcohol – lowest MAGLC for the toxic pollutants listed above).
 - ii. Toxic Contaminant: Butanol

TLV (mg/m³): 303



Maximum Hourly Emission Rate (lb/hr): 0.35 (total for all emission units)

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 26

MAGLC (ug/m3): 7,214

The permittee has demonstrated the emissions from this emissions unit K001, are calculated to be less than eighty percent of the maximum acceptable ground-level concentration (MAGLC); and new raw material or processing agent shall not be applied without evaluating each component of toxic air contaminant in accordance with the "Toxic Air Contaminant Statute", ORC 3704.03(F).

- (5) Prior to making any physical changes or changes in the method of operation of the emission unit 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 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 rule 3745-114-01, that was modeled from the initial (or last) application; and
 - c. physical changes to the emissions unit or exhaust stack parameters (e.g., increased/decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determined that the "Toxic Air Contaminant Statute" will be satisfied for the above changes, the Ohio EPA will not consider the changes 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 "Toxic Air Contaminant Statute", ORC 3704.03(F) has been documented. If the changes meet the definition of a modification, the permittee shall apply for and obtain a final FEPTIO prior to the change. The Director may consider any significant departure from the operations of the emissions unit, described in the permit application, as a modification that results in greater emissions than the emissions rate modeled to determine the ground-level concentration; and he/she may require the permittee to submit a permit application for the increased emissions.

- (6) The permittee shall collect, record, and retain the following information for each toxic evaluation conducted to determine compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F):
- a. a description of the parameters/values used in each compliance demonstration and the parameters or values changed for any re-evaluation of the toxics



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 the "Toxic Air Contaminant Statute", ORC 3704.03(F);
 - c. a copy of the computer model runs that established the predicted 1-hour maximum ground-level concentration that demonstrated emissions units to be in compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), initially and for each change that requires re-evaluation of the toxic air contaminant emissions; and
 - d. documentation of the initial evaluation of compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), and documentation of any determination that was conducted to re-evaluate compliance due to a change made to the emissions units or the materials applied.
- (7) 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 the "Toxic Air Contaminant Statute", ORC 3704.03(F), through the predicted 1-hour maximum ground-level concentration. The record shall include the date and reasons for the change and if the change would increase the ground-level concentration.
- e) Reporting Requirements
- (1) The permittee shall notify Cleveland DAQ in writing of any monthly record showing that the rolling, twelve month summation of ink and coating usage in all flexographic, packaging rotogravure, and publication rotogravure printing lines located at this facility exceeded 148 tons. The notification shall include a copy of such record and shall be sent to the Cleveland DAQ within 30 days following the end of the calendar month during which they were identified.
 - (2) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.
 - (3) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be completed electronically and submitted via the Ohio EPA eBusiness Center: Air Services 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 12-months for each air contaminant source identified in this permit.
 - (4) The permittee shall include any changes made to a parameter or value 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 PER report. If no changes have been made, than the report shall include a statement to that effect.



f) Testing Requirements

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

a. Emission Limitation:

VOC emissions shall not exceed 19.61 lbs of VOC per hour from a combination of inks, coating, additives, adhesives, and cleanup materials.

Applicable Compliance Method:

This emission limitation is based on the unit's potential to emit. The potential to emit calculations, as shown in the following equations, were derived using company-specified process data.

Press allocation = (annual press hours based on CY2005/2006 data) / (total press hours from K001 – K208 based on CY2005/2006 data).

Annual VOC emissions by press = (emissions units K001-K208 material restriction) x (press allocation) x (average VOC content of all materials from emissions units K001-K208).

Short term VOC emissions (lb/hr) = (annual VOC emissions by press) / (annual mean press).

Annual VOC emissions by press with safety factor #1 = (emissions unit K001 – K208 material restriction) x (press allocation based on CY2005/2006 data) x (average VOC content of all materials from emission units K001-K208 based on CY2005/2006 data) x (safety factor #1).

Short term VOC emissions with safety factor #2 = [(VOC emissions by press based on CY2005/2006 data) / (mean press hours based on CY2005/2006 data)] x (safety factor #2).

Safety factor # 1 considers the error associated with the presumed physical limitations in regards to the allocation of emissions units K001 – K208 ink usage by individual press. Propagation of error associated with the physical limitations determined from a historical review of the press allocation = (12%, based on historical fluctuation in operations hours) + (101% based on the number of possible print stations used during operation) + (30%, based on variation in product coverage over all product lines) = 143%; Therefore, the safety factor #1 of 1.43 was applied to determine worst case emissions.

Safety factor # 2 considers the error associated with the presumed physical limitations in regards to the allocation of emissions units K001-K208 ink usage by individual presses and the error associated with the VOC content of the coatings applied on a specific press. Propagation of error associated with the physical limitations determined from a historical review of the press allocation = (12%, based on historical fluctuation in operational hours) + (101%, based on the



number of possible print stations used during operation) + (30%, based on variation in product coverage over all product lines) + (141% based on possible range of VOC content per individual coating) = 284%; Therefore, the safety factor of 2.84 was applied to determine the worst case emissions.

b. Emission Limitation:

VOC emissions shall not exceed 7.71 tons per rolling, 12-month period from a combination of inks, coatings, additives, adhesives, and cleanup materials.

Applicable Compliance Method:

This emission limitation is based upon the unit's potential to emit. The potential to emit calculations, as shown in the following equations, were derived using company-specified process data.

Press allocation = (annual press hours based on CT2005/2006 data) / (total press hours for K001-K008, based on CY 2005/2006 data).

Annual VOC emissions by press = (emissions unit K001-K008 material restriction) x (press allocation) x (average VOC content of all materials from emission units K001-K008, based on CY2005/2006 data).

Annual VOC emissions by press with safety factor 1 = (emissions units K001-K008 material restriction) x (press allocation) x (average VOC content of all materials from emission units K001-K008, based on CY2005/2006 data) x (safety factor #1).

c. Operational Limitation:

The total maximum coating and ink usage in all flexographic, packaging rotogravure, and publication rotogravure printing lines located at this facility shall be less than or equal to 148 tons/year.

Applicable Compliance Method:

Compliance shall be based upon the recordkeeping requirements specified in d)(1).

g) Miscellaneous Requirements

- (1) The potential to emit calculations developed from a joint effort between the facility and the Cleveland Division of Air Quality reflect the presumed inherent physical limitations through a press allocation of the material usage restriction (148 tons/year) as found in OAC rule 3745-21-09(Y)(2)(b).



8. K011, 673

Operations, Property and/or Equipment Description:

Narrow web continuous flexographic printing press (673).

- 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. d)(4) through d)(7).
 - (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. b)(1)a., c)(2), d)(1), and e)(1).
- 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 13-03807, issued 4/12/2007)	Volatile organic compound (VOC) emissions from this unit shall not exceed 26.40 lbs/hour and 10.38 tons per rolling, 12-month period from all inks, coatings, additives, adhesives, and cleanup materials. The requirements of this rule also include compliance with the requirements of OAC rules 3745-21-09(Y)(2) and 3745-31-05(D). See b)(2)a. below.
b.	OAC rule 3745-21-09(Y)(2)(b) and (Y)(3)	See b)(2)b. below.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
c.	OAC rule 3745-31-05(D)(1) FEPTIO to avoid Title V	See Section B.
d.	OAC rule 3745-114-01	See d)(4) - (7) and e)(4) below.

(2) Additional Terms and Conditions

- a. The hourly VOC emission limitation was established to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop and maintain daily recordkeeping requirements to ensure compliance with the hourly VOC emission limit.
- b. The requirements of paragraph (Y)(1) of this rule shall not apply to any printing line which is located at a facility in which the total maximum usage of coatings and inks in all flexographic, packaging rotogravure and publication rotogravure printing lines is less than or equal to 148 tons per year; except as otherwise provided under paragraph (Y)(3) of this rule.

Once the requirements of paragraph (Y)(1) of this rule apply to a facility or a flexographic, packaging rotogravure and publication rotogravure printing line within the facility, the facility is not eligible for an exemption under paragraphs (Y)(2)(b) and (Y)(2)(d) of this rule.

c) Operational Restrictions

- (1) The maximum annual ink and coating usage in all flexographic, packaging rotogravure, and publication rotogravure printing lines located within the facility shall not exceed a combined total of 148 tons per year.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall collect and record the following information each month:
 - a. the name and identification number of each ink, coating, additive, adhesive, and cleanup material employed;
 - b. the weight in pounds or tons per month of each ink, coating, additive, adhesive, and cleanup material employed, as applied;
 - c. the VOC content of each ink, coating, additive, adhesive, and cleanup material employed, in percent weight;



- d. the total volatile organic material usage and VOC emissions from all ink, additive, adhesive, and cleanup materials employed calculated by summing the records of [(1.b) x (1.c)] for each ink, coating, additive, adhesive, and cleanup material, and subtracting any recovered material (see d)(3) below) in pounds or tons per month;
 - e. the rolling, 12-month summation of volatile organic material usage and VOC emissions from all ink, coating, additive, adhesive, and cleanup material employed, in pounds or tons; and
 - f. the rolling, 12-month summation of ink, coating, additive, adhesive, and cleanup material employed, in pounds or tons.
- (2) The permittee shall collect and record the following information for this emissions unit each month:
- a. the actual monthly press hours of operation, in hours per month; and
 - b. the rolling, 12-month summation of the operational press hours.
- The permittee shall use this data to verify, upon request of the Cleveland DAQ, that the annual press allocation of material usage and emissions is valid.
- (3) If a credit for recovered materials is to be used to demonstrate compliance and/or used in calculations for emission reports, the permittee shall maintain the following records for the recovered materials and the recovery drum or tank serving this emissions unit:
- a. the date the materials from the recovery drum or tank were shipped off site;
 - b. the amount of recovered material (gallons or pounds) from the recovery drum or tank shipped off site;
 - c. the average density of the recovered material (pounds/gallon) from the recovery drum or tank (if the amount is recorded in gallons);
 - d. the average VOC content for the recovered material, in percent weight; and
 - e. the average VOC emissions from the recovered materials [(3)b. x (3)d], in pounds. Note the average VOC emissions, in pounds, from the recovered material is calculated as [(3)b. x (3)c. x (3)d.] if the material amount is recorded in gallons.
- (4) The FEPTIO permit for this emissions unit (K011) was evaluated based on the actual materials and the design parameters of the emission unit's exhaust system, as specified by the permittee. The "Toxic Air Contaminant Statute", ORC 3704.03(F) was applied to this emissions unit for each toxic air contaminant listed in OAC rule 3745-114-01, using data from the permit application and modeling was performed for each toxic air contaminant emitted at over one ton per year using an air dispersion model such as SCREEN3, AERMOD, or ISCST3, or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration results 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 emitted from the emissions unit (as determined from the raw materials processed, and/or coatings or other materials applied) has been documents 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 was then adjusted to account for the duration of the exposure or the operation hours of the emissions unit, i.e. 24 hours per day and 7 days per week, from that of the 8 hours a day and five days per week. The resulting calculation was (and shall be) used to determine the Maximum Acceptable Ground-Level Concentration (MAGLC):
$$(TLV/10) \times (8/X) \times (5/Y) = 4TLV/XY = MAGLC$$
- d. The following summarized the results of dispersion modeling for the significant toxic contaminants (emitted at 1 or more tons/year) or “worst case” toxic contaminants:
 - i. Toxic Contaminants: n-propyl Alcohol, Heptane, ethanol, IPA, n-propyl acetate, ethyl acetate.

TLV (mg/m3): 492 (for n-propyl alcohol – lowest TLV for toxics identified above)

Maximum Hourly Emission Rate (lbs/hr): 165.7 (total for all emissions units)

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 8841

MAGLC (ug/m3): 11,714 (for n-propyl alcohol – lowest MAGLC for the toxic pollutants listed above).



ii. Toxic Contaminant: Butanol

TLV (mg/m³): 303

Maximum Hourly Emission Rate (lb/hr): 0.35 (total for all emission units)

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m³): 26

MAGLC (ug/m³): 7,214

The permittee has demonstrated the emissions from this emissions unit K001, are calculated to be less than eighty percent of the maximum acceptable ground-level concentration (MAGLC); and new raw material or processing agent shall not be applied without evaluating each component of toxic air contaminant in accordance with the "Toxic Air Contaminant Statute", ORC 3704.03(F).

- (5) Prior to making any physical changes or changes in the method of operation of the emission unit 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 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 rule 3745-114-01, that was modeled from the initial (or last) application; and
 - c. physical changes to the emissions unit or exhaust stack parameters (e.g., increased/decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determined that the "Toxic Air Contaminant Statute" will be satisfied for the above changes, the Ohio EPA will not consider the changes 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 "Toxic Air Contaminant Statute", ORC 3704.03(F) has been documented. If the changes meet the definition of a modification, the permittee shall apply for and obtain a final FEPTIO prior to the change. The Director may consider any significant departure from the operations of the emissions unit, described in the permit application, as a modification that results in greater emissions than the emissions rate modeled to determine the ground-level concentration; and he/she may require the permittee to submit a permit application for the increased emissions.

- (6) The permittee shall collect, record, and retain the following information for each toxic evaluation conducted to determine compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F):



- a. a description of the parameters/values used in each compliance demonstration and the parameters or values changed for any re-evaluation of the toxics 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 the "Toxic Air Contaminant Statute", ORC 3704.03(F);
 - c. a copy of the computer model runs that established the predicted 1-hour maximum ground-level concentration that demonstrated emissions units to be in compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), initially and for each change that requires re-evaluation of the toxic air contaminant emissions; and
 - d. documentation of the initial evaluation of compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), and documentation of any determination that was conducted to re-evaluate compliance due to a change made to the emissions units or the materials applied.
- (7) 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 the "Toxic Air Contaminant Statute", ORC 3704.03(F), through the predicted 1-hour maximum ground-level concentration. The record shall include the date and reasons for the change and if the change would increase the ground-level concentration.
- e) Reporting Requirements
- (1) The permittee shall notify Cleveland DAQ in writing of any monthly record showing that the rolling, twelve month summation of ink and coating usage in all flexographic, packaging rotogravure, and publication rotogravure printing lines located at this facility exceeded 148 tons. The notification shall include a copy of such record and shall be sent to the Cleveland DAQ within 30 days following the end of the calendar month during which they were identified.
 - (2) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.
 - (3) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be completed electronically and submitted via the Ohio EPA eBusiness Center: Air Services 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 12-months for each air contaminant source identified in this permit.
 - (4) The permittee shall include any changes made to a parameter or value 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 PER report. If no changes have been made, than the report shall include a statement to that effect.



f) Testing Requirements

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

a. Emission Limitation:

VOC emissions shall not exceed 26.40 lbs of VOC per hour from a combination of inks, coating, additives, adhesives, and cleanup materials.

Applicable Compliance Method:

This emission limitation is based on the unit's potential to emit. The potential to emit calculations, as shown in the following equations, were derived using company-specified process data.

Press allocation = (annual press hours based on CY2005/2006 data) / (total press hours from K001 – K208 based on CY2005/2006 data).

Annual VOC emissions by press = (emissions units K001-K208 material restriction) x (press allocation) x (average VOC content of all materials from emissions units K001-K208).

Short term VOC emissions (lb/hr) = (annual VOC emissions by press) / (annual mean press).

Annual VOC emissions by press with safety factor #1 = (emissions unit K001 – K208 material restriction) x (press allocation based on CY2005/2006 data) x (average VOC content of all materials from emission units K001-K208 based on CY2005/2006 data) x (safety factor #1).

Short term VOC emissions with safety factor #2 = [(VOC emissions by press based on CY2005/2006 data) / (mean press hours based on CY2005/2006 data)] x (safety factor #2).

Safety factor # 1 considers the error associated with the presumed physical limitations in regards to the allocation of emissions units K001 – K208 ink usage by individual press. Propagation of error associated with the physical limitations determined from a historical review of the press allocation = (12%, based on historical fluctuation in operations hours) + (101% based on the number of possible print stations used during operation) + (30%, based on variation in product coverage over all product lines) = 143%; Therefore, the safety factor #1 of 1.43 was applied to determine worst case emissions.

Safety factor # 2 considers the error associated with the presumed physical limitations in regards to the allocation of emissions units K001-K208 ink usage by individual presses and the error associated with the VOC content of the coatings applied on a specific press. Propagation of error associated with the physical limitations determined from a historical review of the press allocation = (12%, based on historical fluctuation in operational hours) + (101%, based on the



number of possible print stations used during operation) + (30%, based on variation in product coverage over all product lines) + (141% based on possible range of VOC content per individual coating) = 284%; Therefore, the safety factor of 2.84 was applied to determine the worst case emissions.

b. Emission Limitation:

VOC emissions shall not exceed 10.38 tons per rolling, 12-month period from a combination of inks, coatings, additives, adhesives, and cleanup materials.

Applicable Compliance Method:

This emission limitation is based upon the unit's potential to emit. The potential to emit calculations, as shown in the following equations, were derived using company-specified process data.

Press allocation = (annual press hours based on CT2005/2006 data) / (total press hours for K001-K008, based on CY 2005/2006 data).

Annual VOC emissions by press = (emissions unit K001-K008 material restriction) x (press allocation) x (average VOC content of all materials from emission units K001-K008, based on CY2005/2006 data).

Annual VOC emissions by press with safety factor 1 = (emissions units K001-K008 material restriction) x (press allocation) x (average VOC content of all materials from emission units K001-K008, based on CY2005/2006 data) x (safety factor #1).

c. Operational Limitation:

The total maximum coating and ink usage in all flexographic, packaging rotogravure, and publication rotogravure printing lines located at this facility shall be less than or equal to 148 tons/year.

Applicable Compliance Method:

Compliance shall be based upon the recordkeeping requirements specified in d)(1).

g) Miscellaneous Requirements

- (1) The potential to emit calculations developed from a joint effort between the facility and the Cleveland Division of Air Quality reflect the presumed inherent physical limitations through a press allocation of the material usage restriction (148 tons/year) as found in OAC rule 3745-21-09(Y)(2)(b).



9. K202, 640

Operations, Property and/or Equipment Description:

Webtron Press continuous narrow web press (640).

- 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. d)(4) through d)(7).
 - (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. b)(1)a., c)(2), d)(1), and e)(1).
- 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 13-04574, issued 4/12/2007)	Volatile organic compound (VOC) emissions from this unit shall not exceed 15.03 lbs/hour and 5.91 tons per rolling, 12-month period from all inks, coatings, additives, adhesives, and cleanup materials. The requirements of this rule also include compliance with the requirements of OAC rules 3745-21-09(Y)(2) and 3745-31-05(D). See b)(2)a. below.
b.	OAC rule 3745-21-09(Y)(2)(b) and (Y)(3)	See b)(2)b. below.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
c.	OAC rule 3745-31-05(D)(1) FEPTIO to avoid Title V	See Section B.
d.	OAC rule 3745-114-01	See d)(4) - (7) and e)(4) below.

(2) Additional Terms and Conditions

- a. The hourly VOC emission limitation was established to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop and maintain daily recordkeeping requirements to ensure compliance with the hourly VOC emission limit.
- b. The requirements of paragraph (Y)(1) of this rule shall not apply to any printing line which is located at a facility in which the total maximum usage of coatings and inks in all flexographic, packaging rotogravure and publication rotogravure printing lines is less than or equal to 148 tons per year; except as otherwise provided under paragraph (Y)(3) of this rule.

Once the requirements of paragraph (Y)(1) of this rule apply to a facility or a flexographic, packaging rotogravure and publication rotogravure printing line within the facility, the facility is not eligible for an exemption under paragraphs (Y)(2)(b) and (Y)(2)(d) of this rule.

c) Operational Restrictions

- (1) The maximum annual ink and coating usage in all flexographic, packaging rotogravure, and publication rotogravure printing lines located within the facility shall not exceed a combined total of 148 tons per year.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall collect and record the following information each month:
 - a. the name and identification number of each ink, coating, additive, adhesive, and cleanup material employed;
 - b. the weight in pounds or tons per month of each ink, coating, additive, adhesive, and cleanup material employed, as applied;
 - c. the VOC content of each ink, coating, additive, adhesive, and cleanup material employed, in percent weight;



- d. the total volatile organic material usage and VOC emissions from all ink, additive, adhesive, and cleanup materials employed calculated by summing the records of [(1.b) x (1.c)] for each ink, coating, additive, adhesive, and cleanup material, and subtracting any recovered material (see d)(3) below) in pounds or tons per month;
 - e. the rolling, 12-month summation of volatile organic material usage and VOC emissions from all ink, coating, additive, adhesive, and cleanup material employed, in pounds or tons; and
 - f. the rolling, 12-month summation of ink, coating, additive, adhesive, and cleanup material employed, in pounds or tons.
- (2) The permittee shall collect and record the following information for this emissions unit each month:
- a. the actual monthly press hours of operation, in hours per month; and
 - b. the rolling, 12-month summation of the operational press hours.
- The permittee shall use this data to verify, upon request of the Cleveland DAQ, that the annual press allocation of material usage and emissions is valid.
- (3) If a credit for recovered materials is to be used to demonstrate compliance and/or used in calculations for emission reports, the permittee shall maintain the following records for the recovered materials and the recovery drum or tank serving this emissions unit:
- a. the date the materials from the recovery drum or tank were shipped off site;
 - b. the amount of recovered material (gallons or pounds) from the recovery drum or tank shipped off site;
 - c. the average density of the recovered material (pounds/gallon) from the recovery drum or tank (if the amount is recorded in gallons);
 - d. the average VOC content for the recovered material, in percent weight; and
 - e. the average VOC emissions from the recovered materials [(3)b. x (3)d], in pounds. Note the average VOC emissions, in pounds, from the recovered material is calculated as [(3)b. x (3)c. x (3)d.] if the material amount is recorded in gallons.
- (4) The FEPTIO permit for this emissions unit (K011) was evaluated based on the actual materials and the design parameters of the emission unit's exhaust system, as specified by the permittee. The "Toxic Air Contaminant Statute", ORC 3704.03(F) was applied to this emissions unit for each toxic air contaminant listed in OAC rule 3745-114-01, using data from the permit application and modeling was performed for each toxic air contaminant emitted at over one ton per year using an air dispersion model such as SCREEN3, AERMOD, or ISCST3, or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration results 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 emitted from the emissions unit (as determined from the raw materials processed, and/or coatings or other materials applied) has been documents 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 was then adjusted to account for the duration of the exposure or the operation hours of the emissions unit, i.e. 24 hours per day and 7 days per week, from that of the 8 hours a day and five days per week. The resulting calculation was (and shall be) used to determine the Maximum Acceptable Ground-Level Concentration (MAGLC):
- (TLV/10) x (8/X) x (5/Y) = 4TLV/XY = MAGLC
- d. The following summarized the results of dispersion modeling for the significant toxic contaminants (emitted at 1 or more tons/year) or “worst case” toxic contaminants:

- i. Toxic Contaminants: Ethanol
TLV (mg/m3): 1,884.25
Maximum Hourly Emission Rate (lbs/hr): 21.9
Maximum Hourly Emission Rate (lbs/hr): 175.23 (total for emissions units K201-K208)
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 281.2
MAGLC (ug/m3): 44,863.18



- ii. Toxic Contaminant: N-Propyl Alcohol
TLV (mg/m³): 491.53
Maximum Hourly Emission Rate (lbs/hr): 21.9
Maximum Hourly Emission Rate (lbs/hr): 175.23 (total for emissions units K201-K208)
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m³): 281.2
MAGLC (ug/m³): 11,703.18
- iii. Toxic Contaminant: Isopropyl Alcohol
TLV (mg/m³): 983.07
Maximum Hourly Emission Rate (lbs/hr): 21.9
Maximum Hourly Emission Rate (lbs/hr): 175.23 (total for emissions units K201-K208)
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m³): 281.2
MAGLC (ug/m³): 23,406.37
- iv. Toxic Contaminant: N-Propyl Acetate
TLV (mg/m³): 835.42
Maximum Hourly Emission Rate (lbs/hr): 21.9
Maximum Hourly Emission Rate (lbs/hr): 175.23 (total for emissions units K201-K208)
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m³): 281.2
MAGLC (ug/m³): 19,890.93
- v. Toxic Contaminant: Ethyl Acetate
TLV (mg/m³): 1,441.31
Maximum Hourly Emission Rate (lbs/hr): 6.35
Maximum Hourly Emission Rate (lbs/hr): 175.23 (total for emissions units K201-K208)
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m³): 81.62
MAGLC (ug/m³): 34,316.88



The permittee has demonstrated the emissions from this emissions unit K202, are calculated to be less than eighty percent of the maximum acceptable ground-level concentration (MAGLC); and new raw material or processing agent shall not be applied without evaluating each component of toxic air contaminant in accordance with the "Toxic Air Contaminant Statute", ORC 3704.03(F).

- (5) Prior to making any physical changes or changes in the method of operation of the emission unit 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 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 rule 3745-114-01, that was modeled from the initial (or last) application; and
 - c. physical changes to the emissions unit it exhaust stack parameters (e.g., increased/decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determined that the "Toxic Air Contaminant Statute" will be satisfied for the above changes, the Ohio EPA will not consider the changes 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 "Toxic Air Contaminant Statute", ORC 3704.03(F) has been documented. If the changes meet the definition of a modification, the permittee shall apply for and obtain a final FEPTIO prior to the change. The Director may consider any significant departure from the operations of the emissions unit, described in the permit application, as a modification that results in greater emissions than the emissions rate modeled to determine the ground-level concentration; and he/she may require the permittee to submit a permit application for the increased emissions.

- (6) The permittee shall collect, record, and retain the following information for each toxic evaluation conducted to determine compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F):
- a. a description of the parameters/values used in each compliance demonstration and the parameters or values changed for any re-evaluation of the toxics 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 the "Toxic Air Contaminant Statute", ORC 3704.03(F);



- c. a copy of the computer model runs that established the predicted 1-hour maximum ground-level concentration that demonstrated emissions units to be in compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), initially and for each change that requires re-evaluation of the toxic air contaminant emissions; and
 - d. documentation of the initial evaluation of compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), and documentation of any determination that was conducted to re-evaluate compliance due to a change made to the emissions units or the materials applied.
- (7) 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 the "Toxic Air Contaminant Statute", ORC 3704.03(F), through the predicted 1-hour maximum ground-level concentration. The record shall include the date and reasons for the change and if the change would increase the ground-level concentration.
- e) Reporting Requirements
 - (1) The permittee shall notify Cleveland DAQ in writing of any monthly record showing that the rolling, twelve month summation of ink and coating usage in all flexographic, packaging rotogravure, and publication rotogravure printing lines located at this facility exceeded 148 tons. The notification shall include a copy of such record and shall be sent to the Cleveland DAQ within 30 days following the end of the calendar month during which they were identified.
 - (2) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.
 - (3) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be completed electronically and submitted via the Ohio EPA eBusiness Center: Air Services 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 12-months for each air contaminant source identified in this permit.
 - (4) The permittee shall include any changes made to a parameter or value 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 PER report. If no changes have been made, than the report shall include a statement to that effect.
- f) Testing Requirements
 - (1) Compliance with the Emissions Limitations and/or Control Requirements specified in b) of these terms and conditions shall be determined in accordance with the following methods:



a. Emission Limitation:

VOC emissions shall not exceed 15.03 lbs of VOC per hour from a combination of inks, coating, additives, adhesives, and cleanup materials.

Applicable Compliance Method:

This emission limitation is based on the unit's potential to emit. The potential to emit calculations, as shown in the following equations, were derived using company-specified process data.

Press allocation = (annual press hours based on CY2005/2006 data) / (total press hours from K001 – K208 based on CY2005/2006 data).

Annual VOC emissions by press = (emissions units K001-K208 material restriction) x (press allocation) x (average VOC content of all materials from emissions units K001-K208).

Short term VOC emissions (lb/hr) = (annual VOC emissions by press) / (annual mean press).

Annual VOC emissions by press with safety factor #1 = (emissions unit K001 – K208 material restriction) x (press allocation based on CY2005/2006 data) x (average VOC content of all materials from emission units K001-K208 based on CY2005/2006 data) x (safety factor #1).

Short term VOC emissions with safety factor #2 = [(VOC emissions by press based on CY2005/2006 data) / (mean press hours based on CY2005/2006 data)] x (safety factor #2).

Safety factor # 1 considers the error associated with the presumed physical limitations in regards to the allocation of emissions units K001 – K208 ink usage by individual press. Propagation of error associated with the physical limitations determined from a historical review of the press allocation = (12%, based on historical fluctuation in operations hours) + (101% based on the number of possible print stations used during operation) + (30%, based on variation in product coverage over all product lines) = 143%; Therefore, the safety factor #1 of 1.43 was applied to determine worst case emissions.

Safety factor # 2 considers the error associated with the presumed physical limitations in regards to the allocation of emissions units K001-K208 ink usage by individual presses and the error associated with the VOC content of the coatings applied on a specific press. Propagation of error associated with the physical limitations determined from a historical review of the press allocation = (12%, based on historical fluctuation in operational hours) + (101%, based on the number of possible print stations used during operation) + (30%, based on variation in product coverage over all product lines) + (141% based on possible range of VOC content per individual coating) = 284%; Therefore, the safety factor of 2.84 was applied to determine the worst case emissions.



b. Emission Limitation:

VOC emissions shall not exceed 5.91 tons per rolling, 12-month period from a combination of inks, coatings, additives, adhesives, and cleanup materials.

Applicable Compliance Method:

This emission limitation is based upon the unit's potential to emit. The potential to emit calculations, as shown in the following equations, were derived using company-specified process data.

Press allocation = (annual press hours based on CT2005/2006 data) / (total press hours for K001-K008, based on CY 2005/2006 data).

Annual VOC emissions by press = (emissions unit K001-K008 material restriction) x (press allocation) x (average VOC content of all materials from emission units K001-K008, based on CY2005/2006 data).

Annual VOC emissions by press with safety factor 1 = (emissions units K001-K008 material restriction) x (press allocation) x (average VOC content of all materials from emission units K001-K008, based on CY2005/2006 data) x (safety factor #1).

c. Operational Limitation:

The total maximum coating and ink usage in all flexographic, packaging rotogravure, and publication rotogravure printing lines located at this facility shall be less than or equal to 148 tons/year.

Applicable Compliance Method:

Compliance shall be based upon the recordkeeping requirements specified in d)(1).

g) Miscellaneous Requirements

- (1) The potential to emit calculations developed from a joint effort between the facility and the Cleveland Division of Air Quality reflect the presumed inherent physical limitations through a press allocation of the material usage restriction (148 tons/year) as found in OAC rule 3745-21-09(Y)(2)(b).



10. K204, 667

Operations, Property and/or Equipment Description:

M Andy Press continuous narrow web flexographic press with 6 print stations (667).

- 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. d)(4) through d)(7).
 - (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. b)(1)a., c)(2), d)(1), and e)(1).
- 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 13-04574, issued 4/12/2007)	Volatile organic compound (VOC) emissions from this unit shall not exceed 20.43 lbs/hour and 8.03 tons per rolling, 12-month period from all inks, coatings, additives, adhesives, and cleanup materials. The requirements of this rule also include compliance with the requirements of OAC rules 3745-21-09(Y)(2) and 3745-31-05(D). See b)(2)a. below.
b.	OAC rule 3745-21-09(Y)(2)(b) and (Y)(3)	See b)(2)b. below.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
c.	OAC rule 3745-31-05(D)(1) FEPTIO to avoid Title V	See Section B.
d.	OAC rule 3745-114-01	See d)(4) - (7) and e)(4) below.

(2) Additional Terms and Conditions

- a. The hourly VOC emission limitation was established to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop and maintain daily recordkeeping requirements to ensure compliance with the hourly VOC emission limit.
- b. The requirements of paragraph (Y)(1) of this rule shall not apply to any printing line which is located at a facility in which the total maximum usage of coatings and inks in all flexographic, packaging rotogravure and publication rotogravure printing lines is less than or equal to 148 tons per year; except as otherwise provided under paragraph (Y)(3) of this rule.

Once the requirements of paragraph (Y)(1) of this rule apply to a facility or a flexographic, packaging rotogravure and publication rotogravure printing line within the facility, the facility is not eligible for an exemption under paragraphs (Y)(2)(b) and (Y)(2)(d) of this rule.

c) Operational Restrictions

- (1) The maximum annual ink and coating usage in all flexographic, packaging rotogravure, and publication rotogravure printing lines located within the facility shall not exceed a combined total of 148 tons per year.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall collect and record the following information each month:
 - a. the name and identification number of each ink, coating, additive, adhesive, and cleanup material employed;
 - b. the weight in pounds or tons per month of each ink, coating, additive, adhesive, and cleanup material employed, as applied;
 - c. the VOC content of each ink, coating, additive, adhesive, and cleanup material employed, in percent weight;



- d. the total volatile organic material usage and VOC emissions from all ink, additive, adhesive, and cleanup materials employed calculated by summing the records of [(1.b) x (1.c)] for each ink, coating, additive, adhesive, and cleanup material, and subtracting any recovered material (see d)(3) below) in pounds or tons per month;
 - e. the rolling, 12-month summation of volatile organic material usage and VOC emissions from all ink, coating, additive, adhesive, and cleanup material employed, in pounds or tons; and
 - f. the rolling, 12-month summation of ink, coating, additive, adhesive, and cleanup material employed, in pounds or tons.
- (2) The permittee shall collect and record the following information for this emissions unit each month:
- a. the actual monthly press hours of operation, in hours per month; and
 - b. the rolling, 12-month summation of the operational press hours.
- The permittee shall use this data to verify, upon request of the Cleveland DAQ, that the annual press allocation of material usage and emissions is valid.
- (3) If a credit for recovered materials is to be used to demonstrate compliance and/or used in calculations for emission reports, the permittee shall maintain the following records for the recovered materials and the recovery drum or tank serving this emissions unit:
- a. the date the materials from the recovery drum or tank were shipped off site;
 - b. the amount of recovered material (gallons or pounds) from the recovery drum or tank shipped off site;
 - c. the average density of the recovered material (pounds/gallon) from the recovery drum or tank (if the amount is recorded in gallons);
 - d. the average VOC content for the recovered material, in percent weight; and
 - e. the average VOC emissions from the recovered materials [(3)b. x (3)d], in pounds. Note the average VOC emissions, in pounds, from the recovered material is calculated as [(3)b. x (3)c. x (3)d.] if the material amount is recorded in gallons.
- (4) The FEPTIO permit for this emissions unit (K011) was evaluated based on the actual materials and the design parameters of the emission unit's exhaust system, as specified by the permittee. The "Toxic Air Contaminant Statute", ORC 3704.03(F) was applied to this emissions unit for each toxic air contaminant listed in OAC rule 3745-114-01, using data from the permit application and modeling was performed for each toxic air contaminant emitted at over one ton per year using an air dispersion model such as SCREEN3, AERMOD, or ISCST3, or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration results 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 emitted from the emissions unit (as determined from the raw materials processed, and/or coatings or other materials applied) has been documents 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 was then adjusted to account for the duration of the exposure or the operation hours of the emissions unit, i.e. 24 hours per day and 7 days per week, from that of the 8 hours a day and five days per week. The resulting calculation was (and shall be) used to determine the Maximum Acceptable Ground-Level Concentration (MAGLC):
- (TLV/10) x (8/X) x (5/Y) = 4TLV/XY = MAGLC
- d. The following summarized the results of dispersion modeling for the significant toxic contaminants (emitted at 1 or more tons/year) or “worst case” toxic contaminants:

i. Toxic Contaminants: Ethanol

TLV (mg/m3): 1,884.25

Maximum Hourly Emission Rate (lbs/hr): 21.9

Maximum Hourly Emission Rate (lbs/hr): 175.23 (total for emissions units K201-K208)

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 281.2

MAGLC (ug/m3): 44,863.18



- ii. Toxic Contaminant: N-Propyl Alcohol
TLV (mg/m³): 491.53
Maximum Hourly Emission Rate (lbs/hr): 21.9
Maximum Hourly Emission Rate (lbs/hr): 175.23 (total for emissions units K201-K208)
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m³): 281.2
MAGLC (ug/m³): 11,703.18
- iii. Toxic Contaminant: Isopropyl Alcohol
TLV (mg/m³): 983.07
Maximum Hourly Emission Rate (lbs/hr): 21.9
Maximum Hourly Emission Rate (lbs/hr): 175.23 (total for emissions units K201-K208)
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m³): 281.2
MAGLC (ug/m³): 23,406.37
- iv. Toxic Contaminant: N-Propyl Acetate
TLV (mg/m³): 835.42
Maximum Hourly Emission Rate (lbs/hr): 21.9
Maximum Hourly Emission Rate (lbs/hr): 175.23 (total for emissions units K201-K208)
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m³): 281.2
MAGLC (ug/m³): 19,890.93
- v. Toxic Contaminant: Ethyl Acetate
TLV (mg/m³): 1,441.31
Maximum Hourly Emission Rate (lbs/hr): 6.35
Maximum Hourly Emission Rate (lbs/hr): 175.23 (total for emissions units K201-K208)
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m³): 81.62
MAGLC (ug/m³): 34,316.88



The permittee has demonstrated the emissions from this emissions unit K202, are calculated to be less than eighty percent of the maximum acceptable ground-level concentration (MAGLC); and new raw material or processing agent shall not be applied without evaluating each component of toxic air contaminant in accordance with the "Toxic Air Contaminant Statute", ORC 3704.03(F).

- (5) Prior to making any physical changes or changes in the method of operation of the emission unit 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 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 rule 3745-114-01, that was modeled from the initial (or last) application; and
 - c. physical changes to the emissions unit it exhaust stack parameters (e.g., increased/decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determined that the "Toxic Air Contaminant Statute" will be satisfied for the above changes, the Ohio EPA will not consider the changes 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 "Toxic Air Contaminant Statute", ORC 3704.03(F) has been documented. If the changes meet the definition of a modification, the permittee shall apply for and obtain a final FEPTIO prior to the change. The Director may consider any significant departure from the operations of the emissions unit, described in the permit application, as a modification that results in greater emissions than the emissions rate modeled to determine the ground-level concentration; and he/she may require the permittee to submit a permit application for the increased emissions.

- (6) The permittee shall collect, record, and retain the following information for each toxic evaluation conducted to determine compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F):
- a. a description of the parameters/values used in each compliance demonstration and the parameters or values changed for any re-evaluation of the toxics 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 the "Toxic Air Contaminant Statute", ORC 3704.03(F);



- c. a copy of the computer model runs that established the predicted 1-hour maximum ground-level concentration that demonstrated emissions units to be in compliance with the “Toxic Air Contaminant Statute”, ORC 3704.03(F), initially and for each change that requires re-evaluation of the toxic air contaminant emissions; and
 - d. documentation of the initial evaluation of compliance with the “Toxic Air Contaminant Statute”, ORC 3704.03(F), and documentation of any determination that was conducted to re-evaluate compliance due to a change made to the emissions units or the materials applied.
- (7) 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 the “Toxic Air Contaminant Statute”, ORC 3704.03(F), through the predicted 1-hour maximum ground-level concentration. The record shall include the date and reasons for the change and if the change would increase the ground-level concentration.
- e) Reporting Requirements
 - (1) The permittee shall notify Cleveland DAQ in writing of any monthly record showing that the rolling, twelve month summation of ink and coating usage in all flexographic, packaging rotogravure, and publication rotogravure printing lines located at this facility exceeded 148 tons. The notification shall include a copy of such record and shall be sent to the Cleveland DAQ within 30 days following the end of the calendar month during which they were identified.
 - (2) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA’s eBusiness Center: Air Services online web portal.
 - (3) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be completed electronically and submitted via the Ohio EPA eBusiness Center: Air Services 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 12-months for each air contaminant source identified in this permit.
 - (4) The permittee shall include any changes made to a parameter or value 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 PER report. If no changes have been made, than the report shall include a statement to that effect.
- f) Testing Requirements
 - (1) Compliance with the Emissions Limitations and/or Control Requirements specified in b) of these terms and conditions shall be determined in accordance with the following methods:



a. Emission Limitation:

VOC emissions shall not exceed 20.43 lbs of VOC per hour from a combination of inks, coating, additives, adhesives, and cleanup materials.

Applicable Compliance Method:

This emission limitation is based on the unit's potential to emit. The potential to emit calculations, as shown in the following equations, were derived using company-specified process data.

Press allocation = (annual press hours based on CY2005/2006 data) / (total press hours from K001 – K208 based on CY2005/2006 data).

Annual VOC emissions by press = (emissions units K001-K208 material restriction) x (press allocation) x (average VOC content of all materials from emissions units K001-K208).

Short term VOC emissions (lb/hr) = (annual VOC emissions by press) / (annual mean press).

Annual VOC emissions by press with safety factor #1 = (emissions unit K001 – K208 material restriction) x (press allocation based on CY2005/2006 data) x (average VOC content of all materials from emission units K001-K208 based on CY2005/2006 data) x (safety factor #1).

Short term VOC emissions with safety factor #2 = [(VOC emissions by press based on CY2005/2006 data) / (mean press hours based on CY2005/2006 data)] x (safety factor #2).

Safety factor # 1 considers the error associated with the presumed physical limitations in regards to the allocation of emissions units K001 – K208 ink usage by individual press. Propagation of error associated with the physical limitations determined from a historical review of the press allocation = (12%, based on historical fluctuation in operations hours) + (101% based on the number of possible print stations used during operation) + (30%, based on variation in product coverage over all product lines) = 143%; Therefore, the safety factor #1 of 1.43 was applied to determine worst case emissions.

Safety factor # 2 considers the error associated with the presumed physical limitations in regards to the allocation of emissions units K001-K208 ink usage by individual presses and the error associated with the VOC content of the coatings applied on a specific press. Propagation of error associated with the physical limitations determined from a historical review of the press allocation = (12%, based on historical fluctuation in operational hours) + (101%, based on the number of possible print stations used during operation) + (30%, based on variation in product coverage over all product lines) + (141% based on possible range of VOC content per individual coating) = 284%; Therefore, the safety factor of 2.84 was applied to determine the worst case emissions.



b. Emission Limitation:

VOC emissions shall not exceed 8.03 tons per rolling, 12-month period from a combination of inks, coatings, additives, adhesives, and cleanup materials.

Applicable Compliance Method:

This emission limitation is based upon the unit's potential to emit. The potential to emit calculations, as shown in the following equations, were derived using company-specified process data.

Press allocation = (annual press hours based on CT2005/2006 data) / (total press hours for K001-K008, based on CY 2005/2006 data).

Annual VOC emissions by press = (emissions unit K001-K008 material restriction) x (press allocation) x (average VOC content of all materials from emission units K001-K008, based on CY2005/2006 data).

Annual VOC emissions by press with safety factor 1 = (emissions units K001-K008 material restriction) x (press allocation) x (average VOC content of all materials from emission units K001-K008, based on CY2005/2006 data) x (safety factor #1).

c. Operational Limitation:

The total maximum coating and ink usage in all flexographic, packaging rotogravure, and publication rotogravure printing lines located at this facility shall be less than or equal to 148 tons/year.

Applicable Compliance Method:

Compliance shall be based upon the recordkeeping requirements specified in d)(1).

g) Miscellaneous Requirements

- (1) The potential to emit calculations developed from a joint effort between the facility and the Cleveland Division of Air Quality reflect the presumed inherent physical limitations through a press allocation of the material usage restriction (148 tons/year) as found in OAC rule 3745-21-09(Y)(2)(b).



11. K205, 669

Operations, Property and/or Equipment Description:

M Andy Press continuous narrow web flexographic press with 6 print stations (669).

- 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. d)(4) through d)(7).
 - (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. b)(1)a., c)(2), d)(1), and e)(1).
- 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 13-04574, issued 4/12/2007)	Volatile organic compound (VOC) emissions from this unit shall not exceed 22.62 lbs/hour and 8.89 tons per rolling, 12-month period from all inks, coatings, additives, adhesives, and cleanup materials. The requirements of this rule also include compliance with the requirements of OAC rules 3745-21-09(Y)(2) and 3745-31-05(D). See b)(2)a. below.
b.	OAC rule 3745-21-09(Y)(2)(b) and (Y)(3)	See b)(2)b. below.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
c.	OAC rule 3745-31-05(D)(1) FEPTIO to avoid Title V	See Section B.
d.	OAC rule 3745-114-01	See d)(4) - (7) and e)(4) below.

(2) Additional Terms and Conditions

- a. The hourly VOC emission limitation was established to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop and maintain daily recordkeeping requirements to ensure compliance with the hourly VOC emission limit.
- b. The requirements of paragraph (Y)(1) of this rule shall not apply to any printing line which is located at a facility in which the total maximum usage of coatings and inks in all flexographic, packaging rotogravure and publication rotogravure printing lines is less than or equal to 148 tons per year; except as otherwise provided under paragraph (Y)(3) of this rule.

Once the requirements of paragraph (Y)(1) of this rule apply to a facility or a flexographic, packaging rotogravure and publication rotogravure printing line within the facility, the facility is not eligible for an exemption under paragraphs (Y)(2)(b) and (Y)(2)(d) of this rule.

c) Operational Restrictions

- (1) The maximum annual ink and coating usage in all flexographic, packaging rotogravure, and publication rotogravure printing lines located within the facility shall not exceed a combined total of 148 tons per year.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall collect and record the following information each month:
 - a. the name and identification number of each ink, coating, additive, adhesive, and cleanup material employed;
 - b. the weight in pounds or tons per month of each ink, coating, additive, adhesive, and cleanup material employed, as applied;
 - c. the VOC content of each ink, coating, additive, adhesive, and cleanup material employed, in percent weight;
 - d. the total volatile organic material usage and VOC emissions from all ink, additive, adhesive, and cleanup materials employed calculated by summing the records of [(1.b) x (1.c)] for each ink, coating, additive, adhesive, and cleanup material, and



subtracting any recovered material (see d)(3) below) in pounds or tons per month;

- e. the rolling, 12-month summation of volatile organic material usage and VOC emissions from all ink, coating, additive, adhesive, and cleanup material employed, in pounds or tons; and
- f. the rolling, 12-month summation of ink, coating, additive, adhesive, and cleanup material employed, in pounds or tons.

(2) The permittee shall collect and record the following information for this emissions unit each month:

- a. the actual monthly press hours of operation, in hours per month; and
- b. the rolling, 12-month summation of the operational press hours.

The permittee shall use this data to verify, upon request of the Cleveland DAQ, that the annual press allocation of material usage and emissions is valid.

(3) If a credit for recovered materials is to be used to demonstrate compliance and/or used in calculations for emission reports, the permittee shall maintain the following records for the recovered materials and the recovery drum or tank serving this emissions unit:

- a. the date the materials from the recovery drum or tank were shipped off site;
- b. the amount of recovered material (gallons or pounds) from the recovery drum or tank shipped off site;
- c. the average density of the recovered material (pounds/gallon) from the recovery drum or tank (if the amount is recorded in gallons);
- d. the average VOC content for the recovered material, in percent weight; and
- e. the average VOC emissions from the recovered materials [(3)b. x (3)d], in pounds. Note the average VOC emissions, in pounds, from the recovered material is calculated as [(3)b. x (3)c. x (3)d.] if the material amount is recorded in gallons.

(4) The FEPTIO permit for this emissions unit (K011) was evaluated based on the actual materials and the design parameters of the emission unit's exhaust system, as specified by the permittee. The "Toxic Air Contaminant Statute", ORC 3704.03(F) was applied to this emissions unit for each toxic air contaminant listed in OAC rule 3745-114-01, using data from the permit application and modeling was performed for each toxic air contaminant emitted at over one ton per year using an air dispersion model such as SCREEN3, AERMOD, or ISCST3, or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration results 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 emitted from the emissions unit (as determined from the raw materials processed, and/or coatings or other materials applied) has been documents 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 was then adjusted to account for the duration of the exposure or the operation hours of the emissions unit, i.e. 24 hours per day and 7 days per week, from that of the 8 hours a day and five days per week. The resulting calculation was (and shall be) used to determine the Maximum Acceptable Ground-Level Concentration (MAGLC):
- $$(TLV/10) \times (8/X) \times (5/Y) = 4TLV/XY = MAGLC$$
- d. The following summarized the results of dispersion modeling for the significant toxic contaminants (emitted at 1 or more tons/year) or "worst case" toxic contaminants:
- i. Toxic Contaminants: Ethanol
TLV (mg/m³): 1,884.25
Maximum Hourly Emission Rate (lbs/hr): 21.9
Maximum Hourly Emission Rate (lbs/hr): 175.23 (total for emissions units K201-K208)
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m³): 281.2
MAGLC (ug/m³): 44,863.18
 - ii. Toxic Contaminant: N-Propyl Alcohol
TLV (mg/m³): 491.53
Maximum Hourly Emission Rate (lbs/hr): 21.9



Maximum Hourly Emission Rate (lbs/hr): 175.23 (total for emissions units K201-K208)

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 281.2

MAGLC (ug/m3): 11,703.18

iii. Toxic Contaminant: Isopropyl Alcohol

TLV (mg/m3): 983.07

Maximum Hourly Emission Rate (lbs/hr): 21.9

Maximum Hourly Emission Rate (lbs/hr): 175.23 (total for emissions units K201-K208)

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 281.2

MAGLC (ug/m3): 23,406.37

iv. Toxic Contaminant: N-Propyl Acetate

TLV (mg/m3): 835.42

Maximum Hourly Emission Rate (lbs/hr): 21.9

Maximum Hourly Emission Rate (lbs/hr): 175.23 (total for emissions units K201-K208)

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 281.2

MAGLC (ug/m3): 19,890.93

v. Toxic Contaminant: Ethyl Acetate

TLV (mg/m3): 1,441.31

Maximum Hourly Emission Rate (lbs/hr): 6.35

Maximum Hourly Emission Rate (lbs/hr): 175.23 (total for emissions units K201-K208)

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 81.62

MAGLC (ug/m3): 34,316.88

The permittee has demonstrated the emissions from this emissions unit K202, are calculated to be less than eighty percent of the maximum acceptable ground-level concentration (MAGLC); and new raw material or processing agent shall not be applied without evaluating each component of toxic air contaminant in accordance with the "Toxic Air Contaminant Statute", ORC 3704.03(F).



- (5) Prior to making any physical changes or changes in the method of operation of the emission unit 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 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 rule 3745-114-01, that was modeled from the initial (or last) application; and
 - c. physical changes to the emissions unit or exhaust stack parameters (e.g., increased/decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determined that the "Toxic Air Contaminant Statute" will be satisfied for the above changes, the Ohio EPA will not consider the changes 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 "Toxic Air Contaminant Statute", ORC 3704.03(F) has been documented. If the changes meet the definition of a modification, the permittee shall apply for and obtain a final FEPTIO prior to the change. The Director may consider any significant departure from the operations of the emissions unit, described in the permit application, as a modification that results in greater emissions than the emissions rate modeled to determine the ground-level concentration; and he/she may require the permittee to submit a permit application for the increased emissions.

- (6) The permittee shall collect, record, and retain the following information for each toxic evaluation conducted to determine compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F):
- a. a description of the parameters/values used in each compliance demonstration and the parameters or values changed for any re-evaluation of the toxics 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 the "Toxic Air Contaminant Statute", ORC 3704.03(F);
 - c. a copy of the computer model runs that established the predicted 1-hour maximum ground-level concentration that demonstrated emissions units to be in compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), initially and for each change that requires re-evaluation of the toxic air contaminant emissions; and



d. documentation of the initial evaluation of compliance with the “Toxic Air Contaminant Statute”, ORC 3704.03(F), and documentation of any determination that was conducted to re-evaluate compliance due to a change made to the emissions units or the materials applied.

(7) 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 the “Toxic Air Contaminant Statute”, ORC 3704.03(F), through the predicted 1-hour maximum ground-level concentration. The record shall include the date and reasons for the change and if the change would increase the ground-level concentration.

e) Reporting Requirements

(1) The permittee shall notify Cleveland DAQ in writing of any monthly record showing that the rolling, twelve month summation of ink and coating usage in all flexographic, packaging rotogravure, and publication rotogravure printing lines located at this facility exceeded 148 tons. The notification shall include a copy of such record and shall be sent to the Cleveland DAQ within 30 days following the end of the calendar month during which they were identified.

(2) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA’s eBusiness Center: Air Services online web portal.

(3) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be completed electronically and submitted via the Ohio EPA eBusiness Center: Air Services 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 12-months for each air contaminant source identified in this permit.

(4) The permittee shall include any changes made to a parameter or value 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 PER report. If no changes have been made, than the report shall include a statement to that effect.

f) Testing Requirements

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

a. Emission Limitation:

VOC emissions shall not exceed 22.62 lbs of VOC per hour from a combination of inks, coating, additives, adhesives, and cleanup materials.



Applicable Compliance Method:

This emission limitation is based on the unit's potential to emit. The potential to emit calculations, as shown in the following equations, were derived using company-specified process data.

Press allocation = (annual press hours based on CY2005/2006 data) / (total press hours from K001 – K208 based on CY2005/2006 data).

Annual VOC emissions by press = (emissions units K001-K208 material restriction) x (press allocation) x (average VOC content of all materials from emissions units K001-K208).

Short term VOC emissions (lb/hr) = (annual VOC emissions by press) / (annual mean press).

Annual VOC emissions by press with safety factor #1 = (emissions unit K001 – K208 material restriction) x (press allocation based on CY2005/2006 data) x (average VOC content of all materials from emission units K001-K208 based on CY2005/2006 data) x (safety factor #1).

Short term VOC emissions with safety factor #2 = [(VOC emissions by press based on CY2005/2006 data) / (mean press hours based on CY2005/2006 data)] x (safety factor #2).

Safety factor # 1 considers the error associated with the presumed physical limitations in regards to the allocation of emissions units K001 – K208 ink usage by individual press. Propagation of error associated with the physical limitations determined from a historical review of the press allocation = (12%, based on historical fluctuation in operations hours) + (101% based on the number of possible print stations used during operation) + (30%, based on variation in product coverage over all product lines) = 143%; Therefore, the safety factor #1 of 1.43 was applied to determine worst case emissions.

Safety factor # 2 considers the error associated with the presumed physical limitations in regards to the allocation of emissions units K001-K208 ink usage by individual presses and the error associated with the VOC content of the coatings applied on a specific press. Propagation of error associated with the physical limitations determined from a historical review of the press allocation = (12%, based on historical fluctuation in operational hours) + (101%, based on the number of possible print stations used during operation) + (30%, based on variation in product coverage over all product lines) + (141% based on possible range of VOC content per individual coating) = 284%; Therefore, the safety factor of 2.84 was applied to determine the worst case emissions.

b. Emission Limitation:

VOC emissions shall not exceed 8.89 tons per rolling, 12-month period from a combination of inks, coatings, additives, adhesives, and cleanup materials.



Applicable Compliance Method:

This emission limitation is based upon the unit's potential to emit. The potential to emit calculations, as shown in the following equations, were derived using company-specified process data.

Press allocation = (annual press hours based on CT2005/2006 data) / (total press hours for K001-K008, based on CY 2005/2006 data).

Annual VOC emissions by press = (emissions unit K001-K008 material restriction) x (press allocation) x (average VOC content of all materials from emission units K001-K008, based on CY2005/2006 data).

Annual VOC emissions by press with safety factor 1 = (emissions units K001-K008 material restriction) x (press allocation) x (average VOC content of all materials from emission units K001-K008, based on CY2005/2006 data) x (safety factor #1).

c. Operational Limitation:

The total maximum coating and ink usage in all flexographic, packaging rotogravure, and publication rotogravure printing lines located at this facility shall be less than or equal to 148 tons/year.

Applicable Compliance Method:

Compliance shall be based upon the recordkeeping requirements specified in d)(1).

g) Miscellaneous Requirements

- (1) The potential to emit calculations developed from a joint effort between the facility and the Cleveland Division of Air Quality reflect the presumed inherent physical limitations through a press allocation of the material usage restriction (148 tons/year) as found in OAC rule 3745-21-09(Y)(2)(b).



12. K206, 680 (a.k.a. 340)

Operations, Property and/or Equipment Description:

Arsoma Press continuous narrow web flexographic press with 6 print stations (680).

- 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. d)(4) through d)(7).
 - (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. b)(1)a., c)(2), d)(1), and e)(1).
- 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 13-04574, issued 4/12/2007)	Volatile organic compound (VOC) emissions from this unit shall not exceed 17.41 lbs/hour and 6.84 tons per rolling, 12-month period from all inks, coatings, additives, adhesives, and cleanup materials. The requirements of this rule also include compliance with the requirements of OAC rules 3745-21-09(Y)(2) and 3745-31-05(D). See b)(2)a. below.
b.	OAC rule 3745-21-09(Y)(2)(b) and (Y)(3)	See b)(2)b. below.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
c.	OAC rule 3745-31-05(D)(1) FEPTIO to avoid Title V	See Section B.
d.	OAC rule 3745-114-01	See d)(4) - (7) and e)(4) below.

(2) Additional Terms and Conditions

- a. The hourly VOC emission limitation was established to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop and maintain daily recordkeeping requirements to ensure compliance with the hourly VOC emission limit.
- b. The requirements of paragraph (Y)(1) of this rule shall not apply to any printing line which is located at a facility in which the total maximum usage of coatings and inks in all flexographic, packaging rotogravure and publication rotogravure printing lines is less than or equal to 148 tons per year; except as otherwise provided under paragraph (Y)(3) of this rule.

Once the requirements of paragraph (Y)(1) of this rule apply to a facility or a flexographic, packaging rotogravure and publication rotogravure printing line within the facility, the facility is not eligible for an exemption under paragraphs (Y)(2)(b) and (Y)(2)(d) of this rule.

c) Operational Restrictions

- (1) The maximum annual ink and coating usage in all flexographic, packaging rotogravure, and publication rotogravure printing lines located within the facility shall not exceed a combined total of 148 tons per year.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall collect and record the following information each month:
 - a. the name and identification number of each ink, coating, additive, adhesive, and cleanup material employed;
 - b. the weight in pounds or tons per month of each ink, coating, additive, adhesive, and cleanup material employed, as applied;
 - c. the VOC content of each ink, coating, additive, adhesive, and cleanup material employed, in percent weight;
 - d. the total volatile organic material usage and VOC emissions from all ink, additive, adhesive, and cleanup materials employed calculated by summing the records of [(1.b) x (1.c)] for each ink, coating, additive, adhesive, and cleanup material, and



subtracting any recovered material (see d)(3) below) in pounds or tons per month;

- e. the rolling, 12-month summation of volatile organic material usage and VOC emissions from all ink, coating, additive, adhesive, and cleanup material employed, in pounds or tons; and
- f. the rolling, 12-month summation of ink, coating, additive, adhesive, and cleanup material employed, in pounds or tons.

(2) The permittee shall collect and record the following information for this emissions unit each month:

- a. the actual monthly press hours of operation, in hours per month; and
- b. the rolling, 12-month summation of the operational press hours.

The permittee shall use this data to verify, upon request of the Cleveland DAQ, that the annual press allocation of material usage and emissions is valid.

(3) If a credit for recovered materials is to be used to demonstrate compliance and/or used in calculations for emission reports, the permittee shall maintain the following records for the recovered materials and the recovery drum or tank serving this emissions unit:

- a. the date the materials from the recovery drum or tank were shipped off site;
- b. the amount of recovered material (gallons or pounds) from the recovery drum or tank shipped off site;
- c. the average density of the recovered material (pounds/gallon) from the recovery drum or tank (if the amount is recorded in gallons);
- d. the average VOC content for the recovered material, in percent weight; and
- e. the average VOC emissions from the recovered materials [(3)b. x (3)d], in pounds. Note the average VOC emissions, in pounds, from the recovered material is calculated as [(3)b. x (3)c. x (3)d.] if the material amount is recorded in gallons.

(4) The FEPTIO permit for this emissions unit (K011) was evaluated based on the actual materials and the design parameters of the emission unit's exhaust system, as specified by the permittee. The "Toxic Air Contaminant Statute", ORC 3704.03(F) was applied to this emissions unit for each toxic air contaminant listed in OAC rule 3745-114-01, using data from the permit application and modeling was performed for each toxic air contaminant emitted at over one ton per year using an air dispersion model such as SCREEN3, AERMOD, or ISCST3, or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration results 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 emitted from the emissions unit (as determined from the raw materials processed, and/or coatings or other materials applied) has been documents 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 was then adjusted to account for the duration of the exposure or the operation hours of the emissions unit, i.e. 24 hours per day and 7 days per week, from that of the 8 hours a day and five days per week. The resulting calculation was (and shall be) used to determine the Maximum Acceptable Ground-Level Concentration (MAGLC):
$$(TLV/10) \times (8/X) \times (5/Y) = 4TLV/XY = MAGLC$$
- d. The following summarized the results of dispersion modeling for the significant toxic contaminants (emitted at 1 or more tons/year) or "worst case" toxic contaminants:
 - i. Toxic Contaminants: Ethanol
TLV (mg/m³): 1,884.25
Maximum Hourly Emission Rate (lbs/hr): 21.9
Maximum Hourly Emission Rate (lbs/hr): 175.23 (total for emissions units K201-K208)
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m³): 281.2
MAGLC (ug/m³): 44,863.18
 - ii. Toxic Contaminant: N-Propyl Alcohol
TLV (mg/m³): 491.53
Maximum Hourly Emission Rate (lbs/hr): 21.9



Maximum Hourly Emission Rate (lbs/hr): 175.23 (total for emissions units K201-K208)

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 281.2

MAGLC (ug/m3): 11,703.18

iii. Toxic Contaminant: Isopropyl Alcohol

TLV (mg/m3): 983.07

Maximum Hourly Emission Rate (lbs/hr): 21.9

Maximum Hourly Emission Rate (lbs/hr): 175.23 (total for emissions units K201-K208)

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 281.2

MAGLC (ug/m3): 23,406.37

iv. Toxic Contaminant: N-Propyl Acetate

TLV (mg/m3): 835.42

Maximum Hourly Emission Rate (lbs/hr): 21.9

Maximum Hourly Emission Rate (lbs/hr): 175.23 (total for emissions units K201-K208)

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 281.2

MAGLC (ug/m3): 19,890.93

v. Toxic Contaminant: Ethyl Acetate

TLV (mg/m3): 1,441.31

Maximum Hourly Emission Rate (lbs/hr): 6.35

Maximum Hourly Emission Rate (lbs/hr): 175.23 (total for emissions units K201-K208)

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 81.62

MAGLC (ug/m3): 34,316.88

The permittee has demonstrated the emissions from this emissions unit K202, are calculated to be less than eighty percent of the maximum acceptable ground-level concentration (MAGLC); and new raw material or processing agent shall not be applied without evaluating each component of toxic air contaminant in accordance with the "Toxic Air Contaminant Statute", ORC 3704.03(F).



- (5) Prior to making any physical changes or changes in the method of operation of the emission unit 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 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 rule 3745-114-01, that was modeled from the initial (or last) application; and
 - c. physical changes to the emissions unit or exhaust stack parameters (e.g., increased/decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determined that the "Toxic Air Contaminant Statute" will be satisfied for the above changes, the Ohio EPA will not consider the changes 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 "Toxic Air Contaminant Statute", ORC 3704.03(F) has been documented. If the changes meet the definition of a modification, the permittee shall apply for and obtain a final FEPTIO prior to the change. The Director may consider any significant departure from the operations of the emissions unit, described in the permit application, as a modification that results in greater emissions than the emissions rate modeled to determine the ground-level concentration; and he/she may require the permittee to submit a permit application for the increased emissions.

- (6) The permittee shall collect, record, and retain the following information for each toxic evaluation conducted to determine compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F):
- a. a description of the parameters/values used in each compliance demonstration and the parameters or values changed for any re-evaluation of the toxics 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 the "Toxic Air Contaminant Statute", ORC 3704.03(F);
 - c. a copy of the computer model runs that established the predicted 1-hour maximum ground-level concentration that demonstrated emissions units to be in compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), initially and for each change that requires re-evaluation of the toxic air contaminant emissions; and



- d. documentation of the initial evaluation of compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), and documentation of any determination that was conducted to re-evaluate compliance due to a change made to the emissions units or the materials applied.
- (7) 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 the "Toxic Air Contaminant Statute", ORC 3704.03(F), through the predicted 1-hour maximum ground-level concentration. The record shall include the date and reasons for the change and if the change would increase the ground-level concentration.
- e) Reporting Requirements
- (1) The permittee shall notify Cleveland DAQ in writing of any monthly record showing that the rolling, twelve month summation of ink and coating usage in all flexographic, packaging rotogravure, and publication rotogravure printing lines located at this facility exceeded 148 tons. The notification shall include a copy of such record and shall be sent to the Cleveland DAQ within 30 days following the end of the calendar month during which they were identified.
 - (2) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.
 - (3) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be completed electronically and submitted via the Ohio EPA eBusiness Center: Air Services 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 12-months for each air contaminant source identified in this permit.
 - (4) The permittee shall include any changes made to a parameter or value 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 PER report. If no changes have been made, than the report shall include a statement to that effect.
- f) Testing Requirements
- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in b) of these terms and conditions shall be determined in accordance with the following methods:
 - a. Emission Limitation:

VOC emissions shall not exceed 17.41 lbs of VOC per hour from a combination of inks, coating, additives, adhesives, and cleanup materials.



Applicable Compliance Method:

This emission limitation is based on the unit's potential to emit. The potential to emit calculations, as shown in the following equations, were derived using company-specified process data.

Press allocation = (annual press hours based on CY2005/2006 data) / (total press hours from K001 – K208 based on CY2005/2006 data).

Annual VOC emissions by press = (emissions units K001-K208 material restriction) x (press allocation) x (average VOC content of all materials from emissions units K001-K208).

Short term VOC emissions (lb/hr) = (annual VOC emissions by press) / (annual mean press).

Annual VOC emissions by press with safety factor #1 = (emissions unit K001 – K208 material restriction) x (press allocation based on CY2005/2006 data) x (average VOC content of all materials from emission units K001-K208 based on CY2005/2006 data) x (safety factor #1).

Short term VOC emissions with safety factor #2 = [(VOC emissions by press based on CY2005/2006 data) / (mean press hours based on CY2005/2006 data)] x (safety factor #2).

Safety factor # 1 considers the error associated with the presumed physical limitations in regards to the allocation of emissions units K001 – K208 ink usage by individual press. Propagation of error associated with the physical limitations determined from a historical review of the press allocation = (12%, based on historical fluctuation in operations hours) + (101% based on the number of possible print stations used during operation) + (30%, based on variation in product coverage over all product lines) = 143%; Therefore, the safety factor #1 of 1.43 was applied to determine worst case emissions.

Safety factor # 2 considers the error associated with the presumed physical limitations in regards to the allocation of emissions units K001-K208 ink usage by individual presses and the error associated with the VOC content of the coatings applied on a specific press. Propagation of error associated with the physical limitations determined from a historical review of the press allocation = (12%, based on historical fluctuation in operational hours) + (101%, based on the number of possible print stations used during operation) + (30%, based on variation in product coverage over all product lines) + (141% based on possible range of VOC content per individual coating) = 284%; Therefore, the safety factor of 2.84 was applied to determine the worst case emissions.

b. Emission Limitation:

VOC emissions shall not exceed 6.84 tons per rolling, 12-month period from a combination of inks, coatings, additives, adhesives, and cleanup materials.



Applicable Compliance Method:

This emission limitation is based upon the unit's potential to emit. The potential to emit calculations, as shown in the following equations, were derived using company-specified process data.

Press allocation = (annual press hours based on CT2005/2006 data) / (total press hours for K001-K008, based on CY 2005/2006 data).

Annual VOC emissions by press = (emissions unit K001-K008 material restriction) x (press allocation) x (average VOC content of all materials from emission units K001-K008, based on CY2005/2006 data).

Annual VOC emissions by press with safety factor 1 = (emissions units K001-K008 material restriction) x (press allocation) x (average VOC content of all materials from emission units K001-K008, based on CY2005/2006 data) x (safety factor #1).

c. Operational Limitation:

The total maximum coating and ink usage in all flexographic, packaging rotogravure, and publication rotogravure printing lines located at this facility shall be less than or equal to 148 tons/year.

Applicable Compliance Method:

Compliance shall be based upon the recordkeeping requirements specified in d)(1).

g) Miscellaneous Requirements

- (1) The potential to emit calculations developed from a joint effort between the facility and the Cleveland Division of Air Quality reflect the presumed inherent physical limitations through a press allocation of the material usage restriction (148 tons/year) as found in OAC rule 3745-21-09(Y)(2)(b).



13. K207, 681 (a.k.a. 341)

Operations, Property and/or Equipment Description:

Arsoma Press continuous narrow web flexographic press with 6 print stations (681).

- 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. d)(4) through d)(7).
 - (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. b)(1)a., c)(2), d)(1), and e)(1).
- 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 13-04574, issued 4/12/2007)	<p>Volatile organic compound (VOC) emissions from this unit shall not exceed 13.97 lbs/hour and 5.49 tons per rolling 12-month period from all inks, coatings, additives, adhesives, and cleanup materials.</p> <p>The requirements of this rule also include compliance with the requirements of OAC rules 3745-21-09(Y)(2) and 3745-31-05(D).</p> <p>See b)(2)a. below.</p>
b.	OAC rule 3745-21-09(Y)(2)(b) and (Y)(3)	See b)(2)b. below.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
c.	OAC rule 3745-31-05(D)(1) FEPTIO to avoid Title V	See Section B.
d.	OAC rule 3745-114-01	See d)(4) - (7) and e)(4) below.

(2) Additional Terms and Conditions

- a. The hourly VOC emission limitation was established to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop and maintain daily recordkeeping requirements to ensure compliance with the hourly VOC emission limit.
- b. The requirements of paragraph (Y)(1) of this rule shall not apply to any printing line which is located at a facility in which the total maximum usage of coatings and inks in all flexographic, packaging rotogravure and publication rotogravure printing lines is less than or equal to 148 tons per year; except as otherwise provided under paragraph (Y)(3) of this rule.

Once the requirements of paragraph (Y)(1) of this rule apply to a facility or a flexographic, packaging rotogravure and publication rotogravure printing line within the facility, the facility is not eligible for an exemption under paragraphs (Y)(2)(b) and (Y)(2)(d) of this rule.

c) Operational Restrictions

- (1) The maximum annual ink and coating usage in all flexographic, packaging rotogravure, and publication rotogravure printing lines located within the facility shall not exceed a combined total of 148 tons per year.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall collect and record the following information each month:
 - a. the name and identification number of each ink, coating, additive, adhesive, and cleanup material employed;
 - b. the weight in pounds or tons per month of each ink, coating, additive, adhesive, and cleanup material employed, as applied;
 - c. the VOC content of each ink, coating, additive, adhesive, and cleanup material employed, in percent weight;
 - d. the total volatile organic material usage and VOC emissions from all ink, additive, adhesive, and cleanup materials employed calculated by summing the records of [(1.b) x (1.c)] for each ink, coating, additive, adhesive, and cleanup material, and



subtracting any recovered material (see d)(3) below) in pounds or tons per month;

- e. the rolling, 12-month summation of volatile organic material usage and VOC emissions from all ink, coating, additive, adhesive, and cleanup material employed, in pounds or tons; and
- f. the rolling, 12-month summation of ink, coating, additive, adhesive, and cleanup material employed, in pounds or tons.

(2) The permittee shall collect and record the following information for this emissions unit each month:

- a. the actual monthly press hours of operation, in hours per month; and
- b. the rolling, 12-month summation of the operational press hours.

The permittee shall use this data to verify, upon request of the Cleveland DAQ, that the annual press allocation of material usage and emissions is valid.

(3) If a credit for recovered materials is to be used to demonstrate compliance and/or used in calculations for emission reports, the permittee shall maintain the following records for the recovered materials and the recovery drum or tank serving this emissions unit:

- a. the date the materials from the recovery drum or tank were shipped off site;
- b. the amount of recovered material (gallons or pounds) from the recovery drum or tank shipped off site;
- c. the average density of the recovered material (pounds/gallon) from the recovery drum or tank (if the amount is recorded in gallons);
- d. the average VOC content for the recovered material, in percent weight; and
- e. the average VOC emissions from the recovered materials [(3)b. x (3)d], in pounds. Note the average VOC emissions, in pounds, from the recovered material is calculated as [(3)b. x (3)c. x (3)d.] if the material amount is recorded in gallons.

(4) The FEPTIO permit for this emissions unit (K011) was evaluated based on the actual materials and the design parameters of the emission unit's exhaust system, as specified by the permittee. The "Toxic Air Contaminant Statute", ORC 3704.03(F) was applied to this emissions unit for each toxic air contaminant listed in OAC rule 3745-114-01, using data from the permit application and modeling was performed for each toxic air contaminant emitted at over one ton per year using an air dispersion model such as SCREEN3, AERMOD, or ISCST3, or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration results 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 emitted from the emissions unit (as determined from the raw materials processed, and/or coatings or other materials applied) has been documents 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 was then adjusted to account for the duration of the exposure or the operation hours of the emissions unit, i.e. 24 hours per day and 7 days per week, from that of the 8 hours a day and five days per week. The resulting calculation was (and shall be) used to determine the Maximum Acceptable Ground-Level Concentration (MAGLC):
- $$(TLV/10) \times (8/X) \times (5/Y) = 4TLV/XY = MAGLC$$
- d. The following summarized the results of dispersion modeling for the significant toxic contaminants (emitted at 1 or more tons/year) or "worst case" toxic contaminants:
- i. Toxic Contaminants: Ethanol
TLV (mg/m³): 1,884.25
Maximum Hourly Emission Rate (lbs/hr): 21.9
Maximum Hourly Emission Rate (lbs/hr): 175.23 (total for emissions units K201-K208)
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m³): 281.2
MAGLC (ug/m³): 44,863.18
 - ii. Toxic Contaminant: N-Propyl Alcohol
TLV (mg/m³): 491.53
Maximum Hourly Emission Rate (lbs/hr): 21.9



Maximum Hourly Emission Rate (lbs/hr): 175.23 (total for emissions units K201-K208)

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 281.2

MAGLC (ug/m3): 11,703.18

iii. Toxic Contaminant: Isopropyl Alcohol

TLV (mg/m3): 983.07

Maximum Hourly Emission Rate (lbs/hr): 21.9

Maximum Hourly Emission Rate (lbs/hr): 175.23 (total for emissions units K201-K208)

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 281.2

MAGLC (ug/m3): 23,406.37

iv. Toxic Contaminant: N-Propyl Acetate

TLV (mg/m3): 835.42

Maximum Hourly Emission Rate (lbs/hr): 21.9

Maximum Hourly Emission Rate (lbs/hr): 175.23 (total for emissions units K201-K208)

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 281.2

MAGLC (ug/m3): 19,890.93

v. Toxic Contaminant: Ethyl Acetate

TLV (mg/m3): 1,441.31

Maximum Hourly Emission Rate (lbs/hr): 6.35

Maximum Hourly Emission Rate (lbs/hr): 175.23 (total for emissions units K201-K208)

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 81.62

MAGLC (ug/m3): 34,316.88

The permittee has demonstrated the emissions from this emissions unit K202, are calculated to be less than eighty percent of the maximum acceptable ground-level concentration (MAGLC); and new raw material or processing agent shall not be applied without evaluating each component of toxic air contaminant in accordance with the "Toxic Air Contaminant Statute", ORC 3704.03(F).



- (5) Prior to making any physical changes or changes in the method of operation of the emission unit 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 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 rule 3745-114-01, that was modeled from the initial (or last) application; and
 - c. physical changes to the emissions unit or exhaust stack parameters (e.g., increased/decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determined that the "Toxic Air Contaminant Statute" will be satisfied for the above changes, the Ohio EPA will not consider the changes 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 "Toxic Air Contaminant Statute", ORC 3704.03(F) has been documented. If the changes meet the definition of a modification, the permittee shall apply for and obtain a final FEPTIO prior to the change. The Director may consider any significant departure from the operations of the emissions unit, described in the permit application, as a modification that results in greater emissions than the emissions rate modeled to determine the ground-level concentration; and he/she may require the permittee to submit a permit application for the increased emissions.

- (6) The permittee shall collect, record, and retain the following information for each toxic evaluation conducted to determine compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F):
- a. a description of the parameters/values used in each compliance demonstration and the parameters or values changed for any re-evaluation of the toxics 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 the "Toxic Air Contaminant Statute", ORC 3704.03(F);
 - c. a copy of the computer model runs that established the predicted 1-hour maximum ground-level concentration that demonstrated emissions units to be in compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), initially and for each change that requires re-evaluation of the toxic air contaminant emissions; and



d. documentation of the initial evaluation of compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), and documentation of any determination that was conducted to re-evaluate compliance due to a change made to the emissions units or the materials applied.

(7) 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 the "Toxic Air Contaminant Statute", ORC 3704.03(F), through the predicted 1-hour maximum ground-level concentration. The record shall include the date and reasons for the change and if the change would increase the ground-level concentration.

e) Reporting Requirements

(1) The permittee shall notify Cleveland DAQ in writing of any monthly record showing that the rolling, twelve month summation of ink and coating usage in all flexographic, packaging rotogravure, and publication rotogravure printing lines located at this facility exceeded 148 tons. The notification shall include a copy of such record and shall be sent to the Cleveland DAQ within 30 days following the end of the calendar month during which they were identified.

(2) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.

(3) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be completed electronically and submitted via the Ohio EPA eBusiness Center: Air Services 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 12-months for each air contaminant source identified in this permit.

(4) The permittee shall include any changes made to a parameter or value 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 PER report. If no changes have been made, than the report shall include a statement to that effect.

f) Testing Requirements

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

a. Emission Limitation:

VOC emissions shall not exceed 13.97 lbs of VOC per hour from a combination of inks, coating, additives, adhesives, and cleanup materials.



Applicable Compliance Method:

This emission limitation is based on the unit's potential to emit. The potential to emit calculations, as shown in the following equations, were derived using company-specified process data.

Press allocation = (annual press hours based on CY2005/2006 data) / (total press hours from K001 – K208 based on CY2005/2006 data).

Annual VOC emissions by press = (emissions units K001-K208 material restriction) x (press allocation) x (average VOC content of all materials from emissions units K001-K208).

Short term VOC emissions (lb/hr) = (annual VOC emissions by press) / (annual mean press).

Annual VOC emissions by press with safety factor #1 = (emissions unit K001 – K208 material restriction) x (press allocation based on CY2005/2006 data) x (average VOC content of all materials from emission units K001-K208 based on CY2005/2006 data) x (safety factor #1).

Short term VOC emissions with safety factor #2 = [(VOC emissions by press based on CY2005/2006 data) / (mean press hours based on CY2005/2006 data)] x (safety factor #2).

Safety factor # 1 considers the error associated with the presumed physical limitations in regards to the allocation of emissions units K001 – K208 ink usage by individual press. Propagation of error associated with the physical limitations determined from a historical review of the press allocation = (12%, based on historical fluctuation in operations hours) + (101% based on the number of possible print stations used during operation) + (30%, based on variation in product coverage over all product lines) = 143%; Therefore, the safety factor #1 of 1.43 was applied to determine worst case emissions.

Safety factor # 2 considers the error associated with the presumed physical limitations in regards to the allocation of emissions units K001-K208 ink usage by individual presses and the error associated with the VOC content of the coatings applied on a specific press. Propagation of error associated with the physical limitations determined from a historical review of the press allocation = (12%, based on historical fluctuation in operational hours) + (101%, based on the number of possible print stations used during operation) + (30%, based on variation in product coverage over all product lines) + (141% based on possible range of VOC content per individual coating) = 284%; Therefore, the safety factor of 2.84 was applied to determine the worst case emissions.

b. Emission Limitation:

VOC emissions shall not exceed 5.49 tons per rolling, 12-month period from a combination of inks, coatings, additives, adhesives, and cleanup materials.



Applicable Compliance Method:

This emission limitation is based upon the unit's potential to emit. The potential to emit calculations, as shown in the following equations, were derived using company-specified process data.

Press allocation = (annual press hours based on CT2005/2006 data) / (total press hours for K001-K008, based on CY 2005/2006 data).

Annual VOC emissions by press = (emissions unit K001-K008 material restriction) x (press allocation) x (average VOC content of all materials from emission units K001-K008, based on CY2005/2006 data).

Annual VOC emissions by press with safety factor 1 = (emissions units K001-K008 material restriction) x (press allocation) x (average VOC content of all materials from emission units K001-K008, based on CY2005/2006 data) x (safety factor #1).

c. Operational Limitation:

The total maximum coating and ink usage in all flexographic, packaging rotogravure, and publication rotogravure printing lines located at this facility shall be less than or equal to 148 tons/year.

Applicable Compliance Method:

Compliance shall be based upon the recordkeeping requirements specified in d)(1).

g) Miscellaneous Requirements

- (1) The potential to emit calculations developed from a joint effort between the facility and the Cleveland Division of Air Quality reflect the presumed inherent physical limitations through a press allocation of the material usage restriction (148 tons/year) as found in OAC rule 3745-21-09(Y)(2)(b).



14. K208, 674 (a.k.a. 680)

Operations, Property and/or Equipment Description:

Arsoma Press continuous narrow web flexographic press with 7 print stations (674).

- 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. d)(4) through d)(7).
 - (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. b)(1)a., c)(2), d)(1), and e)(1).
- 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 13-04574, issued 4/12/2007)	Volatile organic compound (VOC) emissions from this unit shall not exceed 25.08 lbs/hour and 9.86 tons per rolling 12-month period from all inks, coatings, additives, adhesives, and cleanup materials. The requirements of this rule also include compliance with the requirements of OAC rules 3745-21-09(Y)(2) and 3745-31-05(D). See b)(2)a. below.
b.	OAC rule 3745-21-09(Y)(2)(b) and (Y)(3)	See b)(2)b. below.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
c.	OAC rule 3745-31-05(D)(1) FEPTIO to avoid Title V	See Section B.
d.	OAC rule 3745-114-01	See d)(4) - (7) and e)(4) below.

(2) Additional Terms and Conditions

- a. The hourly VOC emission limitation was established to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop and maintain daily recordkeeping requirements to ensure compliance with the hourly VOC emission limit.
- b. The requirements of paragraph (Y)(1) of this rule shall not apply to any printing line which is located at a facility in which the total maximum usage of coatings and inks in all flexographic, packaging rotogravure and publication rotogravure printing lines is less than or equal to 148 tons per year; except as otherwise provided under paragraph (Y)(3) of this rule.

Once the requirements of paragraph (Y)(1) of this rule apply to a facility or a flexographic, packaging rotogravure and publication rotogravure printing line within the facility, the facility is not eligible for an exemption under paragraphs (Y)(2)(b) and (Y)(2)(d) of this rule.

c) Operational Restrictions

- (1) The maximum annual ink and coating usage in all flexographic, packaging rotogravure, and publication rotogravure printing lines located within the facility shall not exceed a combined total of 148 tons per year.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall collect and record the following information each month:
 - a. the name and identification number of each ink, coating, additive, adhesive, and cleanup material employed;
 - b. the weight in pounds or tons per month of each ink, coating, additive, adhesive, and cleanup material employed, as applied;
 - c. the VOC content of each ink, coating, additive, adhesive, and cleanup material employed, in percent weight;
 - d. the total volatile organic material usage and VOC emissions from all ink, additive, adhesive, and cleanup materials employed calculated by summing the records of [(1.b) x (1.c)] for each ink, coating, additive, adhesive, and cleanup material, and



subtracting any recovered material (see d)(3) below) in pounds or tons per month;

- e. the rolling, 12-month summation of volatile organic material usage and VOC emissions from all ink, coating, additive, adhesive, and cleanup material employed, in pounds or tons; and
- f. the rolling, 12-month summation of ink, coating, additive, adhesive, and cleanup material employed, in pounds or tons.

(2) The permittee shall collect and record the following information for this emissions unit each month:

- a. the actual monthly press hours of operation, in hours per month; and
- b. the rolling, 12-month summation of the operational press hours.

The permittee shall use this data to verify, upon request of the Cleveland DAQ, that the annual press allocation of material usage and emissions is valid.

(3) If a credit for recovered materials is to be used to demonstrate compliance and/or used in calculations for emission reports, the permittee shall maintain the following records for the recovered materials and the recovery drum or tank serving this emissions unit:

- a. the date the materials from the recovery drum or tank were shipped off site;
- b. the amount of recovered material (gallons or pounds) from the recovery drum or tank shipped off site;
- c. the average density of the recovered material (pounds/gallon) from the recovery drum or tank (if the amount is recorded in gallons);
- d. the average VOC content for the recovered material, in percent weight; and
- e. the average VOC emissions from the recovered materials [(3)b. x (3)d], in pounds. Note the average VOC emissions, in pounds, from the recovered material is calculated as [(3)b. x (3)c. x (3)d.] if the material amount is recorded in gallons.

(4) The FEPTIO permit for this emissions unit (K011) was evaluated based on the actual materials and the design parameters of the emission unit's exhaust system, as specified by the permittee. The "Toxic Air Contaminant Statute", ORC 3704.03(F) was applied to this emissions unit for each toxic air contaminant listed in OAC rule 3745-114-01, using data from the permit application and modeling was performed for each toxic air contaminant emitted at over one ton per year using an air dispersion model such as SCREEN3, AERMOD, or ISCST3, or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration results 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 emitted from the emissions unit (as determined from the raw materials processed, and/or coatings or other materials applied) has been documents 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 was then adjusted to account for the duration of the exposure or the operation hours of the emissions unit, i.e. 24 hours per day and 7 days per week, from that of the 8 hours a day and five days per week. The resulting calculation was (and shall be) used to determine the Maximum Acceptable Ground-Level Concentration (MAGLC):
- $$(TLV/10) \times (8/X) \times (5/Y) = 4TLV/XY = MAGLC$$
- d. The following summarized the results of dispersion modeling for the significant toxic contaminants (emitted at 1 or more tons/year) or "worst case" toxic contaminants:
- i. Toxic Contaminants: Ethanol
TLV (mg/m³): 1,884.25
Maximum Hourly Emission Rate (lbs/hr): 21.9
Maximum Hourly Emission Rate (lbs/hr): 175.23 (total for emissions units K201-K208)
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m³): 281.2
MAGLC (ug/m³): 44,863.18
 - ii. Toxic Contaminant: N-Propyl Alcohol
TLV (mg/m³): 491.53
Maximum Hourly Emission Rate (lbs/hr): 21.9



Maximum Hourly Emission Rate (lbs/hr): 175.23 (total for emissions units K201-K208)

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 281.2

MAGLC (ug/m3): 11,703.18

iii. Toxic Contaminant: Isopropyl Alcohol

TLV (mg/m3): 983.07

Maximum Hourly Emission Rate (lbs/hr): 21.9

Maximum Hourly Emission Rate (lbs/hr): 175.23 (total for emissions units K201-K208)

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 281.2

MAGLC (ug/m3): 23,406.37

iv. Toxic Contaminant: N-Propyl Acetate

TLV (mg/m3): 835.42

Maximum Hourly Emission Rate (lbs/hr): 21.9

Maximum Hourly Emission Rate (lbs/hr): 175.23 (total for emissions units K201-K208)

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 281.2

MAGLC (ug/m3): 19,890.93

v. Toxic Contaminant: Ethyl Acetate

TLV (mg/m3): 1,441.31

Maximum Hourly Emission Rate (lbs/hr): 6.35

Maximum Hourly Emission Rate (lbs/hr): 175.23 (total for emissions units K201-K208)

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 81.62

MAGLC (ug/m3): 34,316.88

The permittee has demonstrated the emissions from this emissions unit K202, are calculated to be less than eighty percent of the maximum acceptable ground-level concentration (MAGLC); and new raw material or processing agent shall not be applied without evaluating each component of toxic air contaminant in accordance with the "Toxic Air Contaminant Statute", ORC 3704.03(F).



- (5) Prior to making any physical changes or changes in the method of operation of the emission unit 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 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 rule 3745-114-01, that was modeled from the initial (or last) application; and
 - c. physical changes to the emissions unit or exhaust stack parameters (e.g., increased/decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determined that the "Toxic Air Contaminant Statute" will be satisfied for the above changes, the Ohio EPA will not consider the changes 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 "Toxic Air Contaminant Statute", ORC 3704.03(F) has been documented. If the changes meet the definition of a modification, the permittee shall apply for and obtain a final FEPTIO prior to the change. The Director may consider any significant departure from the operations of the emissions unit, described in the permit application, as a modification that results in greater emissions than the emissions rate modeled to determine the ground-level concentration; and he/she may require the permittee to submit a permit application for the increased emissions.

- (6) The permittee shall collect, record, and retain the following information for each toxic evaluation conducted to determine compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F):
- a. a description of the parameters/values used in each compliance demonstration and the parameters or values changed for any re-evaluation of the toxics 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 the "Toxic Air Contaminant Statute", ORC 3704.03(F);
 - c. a copy of the computer model runs that established the predicted 1-hour maximum ground-level concentration that demonstrated emissions units to be in compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), initially and for each change that requires re-evaluation of the toxic air contaminant emissions; and



- d. documentation of the initial evaluation of compliance with the “Toxic Air Contaminant Statute”, ORC 3704.03(F), and documentation of any determination that was conducted to re-evaluate compliance due to a change made to the emissions units or the materials applied.
- (7) 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 the “Toxic Air Contaminant Statute”, ORC 3704.03(F), through the predicted 1-hour maximum ground-level concentration. The record shall include the date and reasons for the change and if the change would increase the ground-level concentration.
- e) Reporting Requirements
- (1) The permittee shall notify Cleveland DAQ in writing of any monthly record showing that the rolling, twelve month summation of ink and coating usage in all flexographic, packaging rotogravure, and publication rotogravure printing lines located at this facility exceeded 148 tons. The notification shall include a copy of such record and shall be sent to the Cleveland DAQ within 30 days following the end of the calendar month during which they were identified.
 - (2) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA’s eBusiness Center: Air Services online web portal.
 - (3) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be completed electronically and submitted via the Ohio EPA eBusiness Center: Air Services 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 12-months for each air contaminant source identified in this permit.
 - (4) The permittee shall include any changes made to a parameter or value 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 PER report. If no changes have been made, than the report shall include a statement to that effect.
- f) Testing Requirements
- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in b) of these terms and conditions shall be determined in accordance with the following methods:
 - a. Emission Limitation:

VOC emissions shall not exceed 25.08 lbs of VOC per hour from a combination of inks, coating, additives, adhesives, and cleanup materials.



Applicable Compliance Method:

This emission limitation is based on the unit's potential to emit. The potential to emit calculations, as shown in the following equations, were derived using company-specified process data.

Press allocation = (annual press hours based on CY2005/2006 data) / (total press hours from K001 – K208 based on CY2005/2006 data).

Annual VOC emissions by press = (emissions units K001-K208 material restriction) x (press allocation) x (average VOC content of all materials from emissions units K001-K208).

Short term VOC emissions (lb/hr) = (annual VOC emissions by press) / (annual mean press).

Annual VOC emissions by press with safety factor #1 = (emissions unit K001 – K208 material restriction) x (press allocation based on CY2005/2006 data) x (average VOC content of all materials from emission units K001-K208 based on CY2005/2006 data) x (safety factor #1).

Short term VOC emissions with safety factor #2 = [(VOC emissions by press based on CY2005/2006 data) / (mean press hours based on CY2005/2006 data)] x (safety factor #2).

Safety factor # 1 considers the error associated with the presumed physical limitations in regards to the allocation of emissions units K001 – K208 ink usage by individual press. Propagation of error associated with the physical limitations determined from a historical review of the press allocation = (12%, based on historical fluctuation in operations hours) + (101% based on the number of possible print stations used during operation) + (30%, based on variation in product coverage over all product lines) = 143%; Therefore, the safety factor #1 of 1.43 was applied to determine worst case emissions.

Safety factor # 2 considers the error associated with the presumed physical limitations in regards to the allocation of emissions units K001-K208 ink usage by individual presses and the error associated with the VOC content of the coatings applied on a specific press. Propagation of error associated with the physical limitations determined from a historical review of the press allocation = (12%, based on historical fluctuation in operational hours) + (101%, based on the number of possible print stations used during operation) + (30%, based on variation in product coverage over all product lines) + (141% based on possible range of VOC content per individual coating) = 284%; Therefore, the safety factor of 2.84 was applied to determine the worst case emissions.

b. Emission Limitation:

VOC emissions shall not exceed 9.86 tons per rolling, 12-month period from a combination of inks, coatings, additives, adhesives, and cleanup materials.



Applicable Compliance Method:

This emission limitation is based upon the unit's potential to emit. The potential to emit calculations, as shown in the following equations, were derived using company-specified process data.

Press allocation = (annual press hours based on CT2005/2006 data) / (total press hours for K001-K008, based on CY 2005/2006 data).

Annual VOC emissions by press = (emissions unit K001-K008 material restriction) x (press allocation) x (average VOC content of all materials from emission units K001-K008, based on CY2005/2006 data).

Annual VOC emissions by press with safety factor 1 = (emissions units K001-K008 material restriction) x (press allocation) x (average VOC content of all materials from emission units K001-K008, based on CY2005/2006 data) x (safety factor #1).

c. Operational Limitation:

The total maximum coating and ink usage in all flexographic, packaging rotogravure, and publication rotogravure printing lines located at this facility shall be less than or equal to 148 tons/year.

Applicable Compliance Method:

Compliance shall be based upon the recordkeeping requirements specified in d)(1).

g) Miscellaneous Requirements

- (1) The potential to emit calculations developed from a joint effort between the facility and the Cleveland Division of Air Quality reflect the presumed inherent physical limitations through a press allocation of the material usage restriction (148 tons/year) as found in OAC rule 3745-21-09(Y)(2)(b).