



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

1/17/2013

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

RE: DRAFT AIR POLLUTION PERMIT-TO-INSTALL

Facility ID: 1318558062
Permit Number: P0109613
Permit Type: Administrative Modification
County: Cuyahoga

Dear Permit Holder:

A draft of the Ohio Administrative Code (OAC) Chapter 3745-31 Air Pollution Permit-to-Install for the referenced facility has been issued for the emissions unit(s) listed in the Authorization section of the enclosed draft permit. This draft action is not an authorization to begin construction or modification of your emissions unit(s). The purpose of this draft is to solicit public comments on the permit. A public notice will appear in the Ohio Environmental Protection Agency (EPA) Weekly Review and the local newspaper, The Plain Dealer. A copy of the public notice and the draft permit are enclosed. This permit can be accessed electronically 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. Comments will be accepted as a marked-up copy of the draft permit or in narrative format. Any comments must be sent to the following:

Andrew Hall
Permit Review/Development Section
Ohio EPA, DAPC
50 West Town Street, Suite 700
P.O. Box 1049
Columbus, Ohio 43216-1049

and Cleveland Division of Air Quality
2nd Floor
75 Erieview Plaza
Cleveland, OH 44114

Comments and/or a request for a public hearing will be accepted within 30 days of the date the notice is published in the newspaper. You will be notified in writing if a public hearing is scheduled. A decision on issuing a final permit-to-install will be made after consideration of comments received and oral testimony if a public hearing is conducted. Any permit fee that will be due upon issuance of a final Permit-to-Install is indicated in the Authorization section. Please do not submit any payment now. If you have any questions, please contact Cleveland Division of Air Quality at (216)664-2297.

Sincerely,

Michael W. Ahern
Michael W. Ahern, Manager
Permit Issuance and Data Management Section, DAPC

Cc: U.S. EPA Region 5 -Via E-Mail Notification
CDAQ; Pennsylvania; Canada

Certified Mail

No	TOXIC REVIEW
No	PSD
No	SYNTHETIC MINOR TO AVOID MAJOR NSR
No	CEMS
No	MACT/GACT
No	NSPS
No	NESHAPS
No	NETTING
No	MAJOR NON-ATTAINMENT
No	MODELING SUBMITTED
No	MAJOR GHG
No	SYNTHETIC MINOR TO AVOID MAJOR GHG



Permit Strategy Write-Up

1. Check all that apply:

Synthetic Minor Determination (FEPTIO to avoid Title V)

Netting Determination

2. Source Description:

Avery Dennison is a printing operation that uses narrow web flexographic printing presses. The facility was previously included in the Title V program and has asked to drop out of Title V due to a decrease in emissions. The facility has transitioned from solvent-based to water-based inks, thus reducing the facility-wide emissions significantly.

Due to the variety of printing jobs performed, the facility has asked that the hourly and ton/year limits from the previous PTIs (13-03807 and 13-04574) remain the same to allow flexibility from press to press, but have accepted facility-wide limits for VOC and HAPs to remain below Title V thresholds.

3. Facility Emissions and Attainment Status:

Cuyahoga County is currently non-attainment for ozone, $PM_{2.5}$, and partial non-attainment for lead. This facility has the potential to emit VOCs and HAPs from ink, adhesive, and cleanup material usage that exceeds the Title V major thresholds. Due to the switch to water-based inks, the actual emissions of HAPs and VOCs are well below the Title V major source thresholds.

4. Source Emissions:

The facility has proposed to restrict facility-wide VOC emissions from all inks, coatings, adhesives, and cleanup materials to less than 99.5 tons per rolling 12-month period. The single HAP emissions will be limited to less than 9.9 tons per rolling, 12-month period and combined HAPs to less than 24.9 tons per rolling 12-month period.

The facility will maintain monthly records of the amount of coating, inks, additives, adhesives, and cleanup materials employed in K001, K004, K005, K007, K008, K009, K010, K011, K202, K204, K205, K206, K207, K208, L001, P002, P003, and P008 along with the corresponding VOC and HAP content to determine the rolling 12-month summation of VOC and HAPs.

5. Conclusion:

Through the facility-wide VOC restriction of 99.5 tons per rolling 12-month period, single HAP emissions to 9.5 tons per rolling 12-month period, and combined HAPs below 24.9 tons per rolling 12-month period, emissions will be restricted below Title V thresholds.

6. Please provide additional notes or comments as necessary:

None.

7. Total Permit Allowable Emissions Summary (for informational purposes only):

<u>Pollutant</u>	<u>Tons Per Year</u>
VOC	99.5
Single/Combined HAP	9.9 and 24.9

PUBLIC NOTICE
Issuance of Draft Air Pollution Permit-To-Install
Avery Dennison Industrial Products Div

Issue Date: 1/17/2013

Permit Number: P0109613

Permit Type: Administrative Modification

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.

Facility ID: 1318558062

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

Facility Description: Other Commercial Printing

The Director of the Ohio Environmental Protection Agency issued the draft permit above. The permit and complete instructions for requesting information or submitting comments may be obtained at: <http://epa.ohio.gov/dapc/permitsonline.aspx> by entering the permit # or: David Hearne, Cleveland Division of Air Quality, 2nd Floor 75 Erieview Plaza, Cleveland, OH 44114. Ph: (216)664-2297



DRAFT

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

Facility ID:	1318558062
Permit Number:	P0109613
Permit Type:	Administrative Modification
Issued:	1/17/2013
Effective:	To be entered upon final issuance



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

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Draft Permit-to-Install
Avery Dennison Industrial Products Div
Permit Number: P0109613
Facility ID: 1318558062
Effective Date: To be entered upon final issuance

Authorization

Facility ID: 1318558062
Facility Description: Printing Operation
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: Administrative Modification
Permit Fee: \$0.00 *DO NOT send payment at this time, subject to change before final issuance*
Issue Date: 1/17/2013
Effective Date: To be entered upon final issuance

This document constitutes issuance to:

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

of a Permit-to-Install 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 a Permit-to-Install for the 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 emissions unit(s) of environmental pollutants will operate in compliance with applicable State and Federal laws and regulations, and does not constitute expressed or implied assurance that if constructed or modified in accordance with those plans and specifications, the above described emissions unit(s) of pollutants will be granted the necessary permits to operate (air) or NPDES permits as applicable.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

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



Draft Permit-to-Install
Avery Dennison Industrial Products Div
Permit Number: P0109613
Facility ID: 1318558062

Effective Date: To be entered upon final issuance

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



Draft Permit-to-Install
Avery Dennison Industrial Products Div
Permit Number: P0109613
Facility ID: 1318558062
Effective Date: To be entered upon final issuance

A. Standard Terms and Conditions



1. Federally Enforceable Standard Terms and Conditions

- a) All Standard Terms and Conditions are federally enforceable, with the exception of those listed below which are enforceable under State law only:
 - (1) Standard Term and Condition A.2.a), Severability Clause
 - (2) Standard Term and Condition A.3.c) through A. 3.e) General Requirements
 - (3) Standard Term and Condition A.6.c) and A. 6.d), Compliance Requirements
 - (4) Standard Term and Condition A.9., Reporting Requirements
 - (5) Standard Term and Condition A.10., Applicability
 - (6) Standard Term and Condition A.11.b) through A.11.e), Construction of New Source(s) and Authorization to Install
 - (7) Standard Term and Condition A.14., Public Disclosure
 - (8) Standard Term and Condition A.15., Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations
 - (9) Standard Term and Condition A.16., Fees
 - (10) Standard Term and Condition A.17., Permit Transfers

2. Severability Clause

- a) A determination that any term or condition of this permit is invalid shall not invalidate the force or effect of any other term or condition thereof, except to the extent that any other term or condition depends in whole or in part for its operation or implementation upon the term or condition declared invalid.
- b) All terms and conditions designated in parts B and C of this permit are federally enforceable as a practical matter, if they are required under the Act, or any of its applicable requirements, including relevant provisions designed to limit the potential to emit of a source, are enforceable by the Administrator of the U.S. EPA and the State and by citizens (to the extent allowed by section 304 of the Act) under the Act. Terms and conditions in parts B and C of this permit shall not be federally enforceable and shall be enforceable under State law only, only if specifically identified in this permit as such.

3. General Requirements

- a) The permittee must comply with all terms and conditions of this permit. Any noncompliance with the federally enforceable terms and conditions of this permit constitutes a violation of the Act, and is grounds for enforcement action or for permit revocation, revocation and re-issuance, or modification.



- b) It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the federally enforceable terms and conditions of this permit.
- c) This permit may be modified, revoked, or revoked and reissued, for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or revocation, or of a notification of planned changes or anticipated noncompliance does not stay any term and condition of this permit.
- d) This permit does not convey any property rights of any sort, or any exclusive privilege.
- e) The permittee shall furnish to the Director of the Ohio EPA, or an authorized representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying or revoking this permit or to determine compliance with this permit. Upon request, the permittee shall also furnish to the Director or an authorized representative of the Director, copies of records required to be kept by this permit. For information claimed to be confidential in the submittal to the Director, if the Administrator of the U.S. EPA requests such information, the permittee may furnish such records directly to the Administrator along with a claim of confidentiality.

4. Monitoring and Related Record Keeping and Reporting Requirements

- a) Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall maintain records that include the following, where applicable, for any required monitoring under this permit:
 - (1) The date, place (as defined in the permit), and time of sampling or measurements.
 - (2) The date(s) analyses were performed.
 - (3) The company or entity that performed the analyses.
 - (4) The analytical techniques or methods used.
 - (5) The results of such analyses.
 - (6) The operating conditions existing at the time of sampling or measurement.
- b) Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include, but not be limited to all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.
- c) Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall submit required reports in the following manner:
 - (1) Reports of any required monitoring and/or recordkeeping of federally enforceable information shall be submitted to the Cleveland Division of Air Quality.



- (2) Quarterly written reports of (i) any deviations from federally enforceable emission limitations, operational restrictions, and control device operating parameter limitations, excluding deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06, that have been detected by the testing, monitoring and recordkeeping requirements specified in this permit, (ii) the probable cause of such deviations, and (iii) any corrective actions or preventive measures taken, shall be made to the Cleveland Division of Air Quality. The written reports shall be submitted (i.e., postmarked) quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. See A.15. below if no deviations occurred during the quarter.
 - (3) Written reports, which identify any deviations from the federally enforceable monitoring, recordkeeping, and reporting requirements contained in this permit shall be submitted (i.e., postmarked) to the Cleveland Division of Air Quality every six months, by January 31 and July 31 of each year for the previous six calendar months. If no deviations occurred during a six-month period, the permittee shall submit a semi-annual report, which states that no deviations occurred during that period.
 - (4) This permit is for an emissions unit located at a Title V facility. Each written report shall be signed by a responsible official certifying that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.
- d) The permittee shall report actual emissions pursuant to OAC Chapter 3745-78 for the purpose of collecting Air Pollution Control Fees.

5. Scheduled Maintenance/Malfunction Reporting

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction, i.e., upset, of any emissions units or any associated air pollution control system(s) shall be reported to the Cleveland Division of Air Quality in accordance with paragraph (B) of OAC rule 3745-15-06. (The definition of an upset condition shall be the same as that used in OAC rule 3745-15-06(B)(1) for a malfunction.) The verbal and written reports shall be submitted pursuant to OAC rule 3745-15-06.

Except as provided in that rule, any scheduled maintenance or malfunction necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emission unit(s) that is (are) served by such control system(s).

6. Compliance Requirements

- a) The emissions unit(s) identified in this Permit shall remain in full compliance with all applicable State laws and regulations and the terms and conditions of this permit.
- b) Any document (including reports) required to be submitted and required by a federally applicable requirement in this permit shall include a certification by a responsible official that, based on information and belief formed after reasonable inquiry, the statements in the document are true, accurate, and complete.



- c) Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Director of the Ohio EPA or an authorized representative of the Director to:
 - (1) At reasonable times, enter upon the permittee's premises where a source is located or the emissions-related activity is conducted, or where records must be kept under the conditions of this permit.
 - (2) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit, subject to the protection from disclosure to the public of confidential information consistent with ORC section 3704.08.
 - (3) Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.
 - (4) As authorized by the Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit and applicable requirements.
- d) The permittee shall submit progress reports to the Cleveland Division of Air Quality concerning any schedule of compliance for meeting an applicable requirement. Progress reports shall be submitted semiannually or more frequently if specified in the applicable requirement or by the Director of the Ohio EPA. Progress reports shall contain the following:
 - (1) Dates for achieving the activities, milestones, or compliance required in any schedule of compliance, and dates when such activities, milestones, or compliance were achieved.
 - (2) An explanation of why any dates in any schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.

7. Best Available Technology

As specified in OAC Rule 3745-31-05, new sources that must employ Best Available Technology (BAT) shall comply with the Applicable Emission Limitations/Control Measures identified as BAT for each subject emissions unit.

8. Air Pollution Nuisance

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

9. Reporting Requirements

The permittee shall submit required reports in the following manner:

- a) Reports of any required monitoring and/or recordkeeping of state-only enforceable information shall be submitted to the Cleveland Division of Air Quality.
- b) Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursions) from state-only required emission limitations, operational restrictions, and control device operating parameter limitations that have



been detected by the testing, monitoring, and recordkeeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the Cleveland Division of Air Quality. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted (i.e., postmarked) quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

10. Applicability

This Permit-to-Install is applicable only to the emissions unit(s) identified in the Permit-to-Install. Separate application must be made to the Director for the installation or modification of any other emissions unit(s).

11. Construction of New Sources(s) and Authorization to Install

- a) This permit does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. This permit does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the application and terms and conditions of this permit. The action of beginning and/or completing construction prior to obtaining the Director's approval constitutes a violation of OAC rule 3745-31-02. Furthermore, issuance of this permit does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Issuance of this permit is not to be construed as a waiver of any rights that the Ohio Environmental Protection Agency (or other persons) may have against the applicant for starting construction prior to the effective date of the permit. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed facilities cannot meet the requirements of this permit or cannot meet applicable standards.
- b) If applicable, authorization to install any new emissions unit included in this permit shall terminate within eighteen months of the effective date of the permit if the owner or operator has not undertaken a continuing program of installation or has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation. This deadline may be extended by up to 12 months if application is made to the Director within a reasonable time before the termination date and the party shows good cause for any such extension.
- c) The permittee may notify Ohio EPA of any emissions unit that is permanently shut down (i.e., 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) by submitting a certification from the authorized official that identifies the date on which the emissions unit was permanently shut down. Authorization to operate the affected emissions unit shall cease upon the date certified by the authorized official that the emissions unit was permanently shut down. At a minimum, notification of permanent shut down shall be made or confirmed by marking the affected emissions unit(s) as "permanently shut down" in Ohio EPA's "Air Services" 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).



- d) The provisions of this permit shall cease to be enforceable for each affected emissions unit after the date on which an emissions unit is permanently shut down (i.e., 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). All records relating to any permanently shutdown emissions unit, generated while the emissions unit was in operation, must be maintained in accordance with law. All reports required by this permit must be submitted for any period an affected emissions unit operated prior to permanent shut down. At a minimum, the permit requirements must be evaluated as part of the reporting requirements identified in this permit covering the last period the emissions unit operated.

No emissions unit certified by the authorized official as being permanently shut down may resume operation without first applying for and obtaining a permit pursuant to OAC Chapter 3745-31.

- e) The permittee shall comply with any residual requirements related to this permit, such as the requirement to submit a deviation report, air fee emission report, or other any reporting required by this permit for the period the operating provisions of this permit were enforceable, or as required by regulation or law. All reports shall be submitted in a form and manner prescribed by the Director. All records relating to this permit must be maintained in accordance with law.

12. Permit-To-Operate Application

The permittee is required to apply for a Title V permit pursuant to OAC Chapter 3745-77. The permittee shall submit a complete Title V permit application or a complete Title V permit modification application within twelve (12) months after commencing operation of the emissions units covered by this permit. However, if the proposed new or modified source(s) would be prohibited by the terms and conditions of an existing Title V permit, a Title V permit modification must be obtained before the operation of such new or modified source(s) pursuant to OAC rule 3745-77-04(D) and OAC rule 3745-77-08(C)(3)(d).

13. Construction Compliance Certification

The applicant shall identify the following dates in the online facility profile for each new emissions unit identified in this permit.

- a) Completion of initial installation date shall be entered upon completion of construction and prior to start-up.
- b) Commence operation after installation or latest modification date shall be entered within 90 days after commencing operation of the applicable emissions unit.

14. Public Disclosure

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



15. Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations

If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly (i.e., postmarked), by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters.

16. Fees

The permittee shall pay fees to the Director of the Ohio EPA in accordance with ORC section 3745.11 and OAC Chapter 3745-78. The permittee shall pay all applicable permit-to-install fees within 30 days after the issuance of any permit-to-install. The permittee shall pay all applicable permit-to-operate fees within thirty days of the issuance of the invoice.

17. Permit Transfers

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The new owner must update and submit the ownership information via the "Owner/Contact Change" functionality in Air Services once the transfer is legally completed. The change must be submitted through Air Services within thirty days of the ownership transfer date.

18. Risk Management Plans

If the permittee is required to develop and register a risk management plan pursuant to section 112(r) of the Clean Air Act, as amended, 42 U.S.C. 7401 et seq. ("Act"), the permittee shall comply with the requirement to register such a plan.

19. Title IV Provisions

If the permittee is subject to the requirements of 40 CFR Part 72 concerning acid rain, the permittee shall ensure that any affected emissions unit complies with those requirements. Emissions exceeding any allowances that are lawfully held under Title IV of the Act, or any regulations adopted thereunder, are prohibited.



Draft Permit-to-Install
Avery Dennison Industrial Products Div
Permit Number: P0109613
Facility ID: 1318558062
Effective Date: To be entered upon final issuance

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).



Draft Permit-to-Install
Avery Dennison Industrial Products Div
Permit Number: P0109613
Facility ID: 1318558062
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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.



	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 (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) 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 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).



Draft Permit-to-Install

Avery Dennison Industrial Products Div

Permit Number: P0109613

Facility ID: 1318558062

Effective Date: To be entered upon final issuance

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.



	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 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 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 22.24 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).



Draft Permit-to-Install

Avery Dennison Industrial Products Div

Permit Number: P0109613

Facility ID: 1318558062

Effective Date: To be entered upon final issuance

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.



	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) 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).



Draft Permit-to-Install

Avery Dennison Industrial Products Div

Permit Number: P0109613

Facility ID: 1318558062

Effective Date: To be entered upon final issuance

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):
$$(TLV/10) \times (8/X) \times (5/Y) = 4TLV/XY = MAGLC$$
- 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 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 no 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 al 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 al 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).



Draft Permit-to-Install

Avery Dennison Industrial Products Div

Permit Number: P0109613

Facility ID: 1318558062

Effective Date: To be entered upon final issuance

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 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 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).



Draft Permit-to-Install

Avery Dennison Industrial Products Div

Permit Number: P0109613

Facility ID: 1318558062

Effective Date: To be entered upon final issuance

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 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 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).



Draft Permit-to-Install

Avery Dennison Industrial Products Div

Permit Number: P0109613

Facility ID: 1318558062

Effective Date: To be entered upon final issuance

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).



Draft Permit-to-Install

Avery Dennison Industrial Products Div

Permit Number: P0109613

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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).



Draft Permit-to-Install

Avery Dennison Industrial Products Div

Permit Number: P0109613

Facility ID: 1318558062

Effective Date: To be entered upon final issuance

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):

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

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 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):

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

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 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 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 22.62 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 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 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)	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. 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 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 13.97 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 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 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).