



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

5/24/2013

Mr. Chris Stenger
SUN CHEMICAL CORP CINCINNATI INK
1506 Bushy Park Road
Goose Creek, SC 29483

RE: FINALAIR POLLUTION PERMIT-TO-INSTALL AND OPERATE

Facility ID: 1431480237
Permit Number: P0113484
Permit Type: Renewal
County: Hamilton

Certified Mail

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

Dear Permit Holder:

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

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

How to appeal this permit

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

Environmental Review Appeals Commission
77 South High Street, 17th Floor
Columbus, OH 43215

How to save money, reduce pollution and reduce energy consumption

The Ohio EPA is encouraging companies to investigate pollution prevention and energy conservation. Not only will this reduce pollution and energy consumption, but it can also save you money. If you would like to learn ways you can save money while protecting the environment, please contact our Office of Compliance Assistance and Pollution Prevention at (614) 644-3469. Additionally, all or a portion of the capital expenditures related to installing air pollution control equipment under this permit may be eligible for financing and State tax exemptions through the Ohio Air Quality Development Authority (OAQDA) under Ohio Revised Code Section 3706. For more information, see the OAQDA website: www.ohioairquality.org/clean_air

How to give us feedback on your permitting experience

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

How to get an electronic copy of your permit

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

If you have any questions, please contact Southwest Ohio Air Quality Agency at (513)946-7777 or the Office of Compliance Assistance and Pollution Prevention at (614) 644-3469.

Sincerely,



Michael W. Ahern, Manager

Permit Issuance and Data Management Section, DAPC

Cc: SWOAQA



FINAL

**Division of Air Pollution Control
Permit-to-Install and Operate
for
SUN CHEMICAL CORP CINCINNATI INK**

| | |
|----------------|------------|
| Facility ID: | 1431480237 |
| Permit Number: | P0113484 |
| Permit Type: | Renewal |
| Issued: | 5/24/2013 |
| Effective: | 5/24/2013 |
| Expiration: | 5/24/2018 |



Division of Air Pollution Control
Permit-to-Install and Operate
for
SUN CHEMICAL CORP CINCINNATI INK

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Authorization

Facility ID: 1431480237
Application Number(s): A0046080
Permit Number: P0113484
Permit Description: PTIO renewal for seven liquid ink mixers (P022, P023, P024, P026, P027, P031, and P032), two air mixers (P029 and P030) and one liquid ink dispenser (P033).
Permit Type: Renewal
Permit Fee: \$0.00
Issue Date: 5/24/2013
Effective Date: 5/24/2013
Expiration Date: 5/24/2018
Permit Evaluation Report (PER) Annual Date: Jan 1 - Dec 31, Due Feb 15

This document constitutes issuance to:

SUN CHEMICAL CORP CINCINNATI INK
12049 CENTRON PLACE
CINCINNATI, OH 45246

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

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

Southwest Ohio Air Quality Agency
250 William Howard Taft Rd.
Cincinnati, OH 45219
(513)946-7777

The above named entity is hereby granted this Permit-to-Install and Operate for the air contaminant source(s) (emissions unit(s)) listed in this section pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this permit does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the described emissions unit(s) will operate in compliance with applicable State and federal laws and regulations.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency


Scott J. Nally
Director



Authorization (continued)

Permit Number: P0113484
Permit Description: PTIO renewal for seven liquid ink mixers (P022, P023, P024, P026, P027, P031, and P032), two air mixers (P029 and P030) and one liquid ink dispenser (P033).

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

Emissions Unit ID: P022
Company Equipment ID: Liquid Ink Mixer 1
Superseded Permit Number: P0100313
General Permit Category and Type: Not Applicable

Emissions Unit ID: P023
Company Equipment ID: Liquid Ink Mixer 2
Superseded Permit Number: P0100313
General Permit Category and Type: Not Applicable

Emissions Unit ID: P024
Company Equipment ID: Liquid Ink Mixer 3
Superseded Permit Number: P0100313
General Permit Category and Type: Not Applicable

Emissions Unit ID: P026
Company Equipment ID: Liquid Ink Mixer 5
Superseded Permit Number: P0100313
General Permit Category and Type: Not Applicable

Emissions Unit ID: P027
Company Equipment ID: Liquid Ink Mixer 6
Superseded Permit Number: P0100313
General Permit Category and Type: Not Applicable

Emissions Unit ID: P029
Company Equipment ID: Liquid Ink Mixer
Superseded Permit Number: P0100313
General Permit Category and Type: Not Applicable

Emissions Unit ID: P030
Company Equipment ID: Liquid Ink Mixer
Superseded Permit Number: P0100313
General Permit Category and Type: Not Applicable

Emissions Unit ID: P031
Company Equipment ID: Liquid Ink Mixer 10
Superseded Permit Number: P0100313
General Permit Category and Type: Not Applicable

Emissions Unit ID: P032
Company Equipment ID: Liquid Ink Mixer 11
Superseded Permit Number: P0100313
General Permit Category and Type: Not Applicable

Emissions Unit ID: P033
Company Equipment ID: Liquid Ink Dispenser
Superseded Permit Number: P0100313
General Permit Category and Type: Not Applicable



Final Permit-to-Install and Operate
SUN CHEMICAL CORP CINCINNATI INK
Permit Number: P0113484
Facility ID: 1431480237
Effective Date: 5/24/2013

A. Standard Terms and Conditions



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

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

2. Who is responsible for complying with this permit?

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

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

3. What records must I keep under this permit?

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

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

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

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

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

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

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

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



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

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

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

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

7. What reports must I submit under this permit?

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

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

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

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

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

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



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

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

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

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

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

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

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

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

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

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

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



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

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

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

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

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

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



Final Permit-to-Install and Operate
SUN CHEMICAL CORP CINCINNATI INK
Permit Number: P0113484
Facility ID: 1431480237
Effective Date: 5/24/2013

B. Facility-Wide Terms and Conditions



1. This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).
 - a) For the purpose of a permit-to-install document, the facility-wide terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
 - (1) None.
 - b) For the purpose of a permit-to-operate document, the facility-wide terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
 - (1) 2., 3., 4. and 5.
2. The actual emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title III of the Clean Air Act from emissions units P003 (Paste Ink Mixer 1), P004 (Paste Ink Mixer 2), P005 (Paste Ink Mixer 3), P006 (Paste Ink Mixer 4), P007 (Paste Ink Mixer 5), P008 (Paste Ink Mixer 6), P009 (Paste Ink Mixer 7), P014 (3-Roll Mill 1), P016 (3-Roll Mill 3), P019 (3-Roll Mill 6), P022 (Liquid Ink Mixer 1), P023 (Liquid Ink Mixer 2), P024 (Liquid Ink Mixer 3), P026 (Liquid Ink Mixer 5), P027 (Liquid Ink Mixer 6), P029 (Liquid Ink Mixer 8), P030 (Liquid Ink Mixer 9), P031 (Liquid Ink Mixer 10), P032 (Liquid Ink Mixer 11), P033 (one air mixer), seven 2 HP Paste Mixers (deminimus), two 3 HP Paste Mixer (deminimus), on 3-Roll Laboratory Mill (exempt), other deminimus air contaminant sources, as defined in OAC rule 3475-15-05 and other air contaminant sources exempt from the requirement to obtain a permit to install pursuant to OAC rule 3745-31-03 installed subsequent to the issuance of this permit combined shall not exceed 9.9 TPY for an single HAP and 24.9 TPY for any combinations of HAPs. Compliance with the above limitations shall be based on a rolling, 12-month summation.
3. The permittee shall collect and record the following information each month for all materials containing any hazardous air pollutant (HAP) that are applied in the emissions unit:
 - a) The name and identification number/code of each batch of ink produced;
 - b) The number of pounds of each batch of ink produced;
 - c) The individual Hazardous Air Pollutant (HAP) content for each HAP per pound of ink produced in pounds of individual HAP per pound of ink;
 - d) The total combined HAP content of each ink in pounds of combined HAPs per pound of ink (sum of all the individual HAP contents from "c")
 - e) For each individual HAP, the total emissions from all inks employed, in pounds or tons per month, i.e., for each individual HAP, the summation of the products of (b) times (1.17 percent for liquid mixers and dispenser; 0.087 percent for paste ink mixers; 0.93 percent for paste ink mills) times (c);
 - f) The total combined HAPs emissions from all inks employed in pounds or tons per month, i.e., the summation of (b) times (1.17 percent for liquid mixers and dispenser; 0.087 percent for paste ink mixers; 0.93 percent for paste ink mills) times (d);



- g) For each individual HAP, the total emissions during the rolling, 12-month period, i.e., the summation of the individual HAP emissions, as recorded in "e" above, for the present month plus the previous 11 months of operation, in ton(s); and
- h) The total combined HAP emissions during the rolling 12-month period, i.e., the summation of all HAP emissions, as recorded in "f" above, for the present month plus the previous 11 months of operation, in ton(s).

A listing of the HAPs can be found in Section 112(b) of the Clean Air Act, or can be obtained by contacting your Ohio EPA District Office or local air agency contact. Material Safety Data Sheets typically include a listing of the solvents contained in the coatings and cleanup materials.

4. The permittee shall submit quarterly deviation (excursion) reports which identify:
- a) Any exceedance of the rolling, 12-month HAP emission limitations outlined in 2. above;
 - 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 reports shall be submitted to the Director (the Hamilton County Department of Environmental Services) by February 15, May 15, August 15, and November 15 of each year and shall cover the previous three calendar months (October through December, January through March, April through June and July through September, respectively).

5. Compliance with the emission limitations in 2. of these terms and conditions shall be determined in accordance with the following method(s) identified below:

- a) Emission Limitations:

The allowable emissions of Hazardous Air Pollutants (HAPs) as identified in Section 112(b) of Title III of the Clean Air Act from emissions units as specified in 2. above, shall not exceed 9.9 TPY for any single HAP and 24.9 TPY for any combination of HAPs as specified in 2. above. Compliance with the above limitations shall be determined based upon a rolling, 12-month summation.

Applicable Compliance Method:

Compliance with the HAP emission limitations shall be demonstrated by the methods outlined in the recordkeeping requirements in 3. above.



Final Permit-to-Install and Operate
SUN CHEMICAL CORP CINCINNATI INK
Permit Number: P0113484
Facility ID: 1431480237
Effective Date: 5/24/2013

C. Emissions Unit Terms and Conditions



1. P022, Liquid Ink Mixer 1

Operations, Property and/or Equipment Description:

Liquid ink mixer 1 with cover and baghouse

- 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. g)(1)
 - (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. See b)(1)c., b)(1)d., b)(2)c., b)(2)d., b)(2)e., d)(3)d., d)(4), e)(1), e)(3), f)(1)c., f)(1)h., f)(1)i. and f)(1)j.
- 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), as effective 11/30/01 | Organic compound (OC) emissions from the mixer shall not exceed 2.46 pounds per hour. See b)(2)e. Particulate emissions (PE), particulate emissions ten microns and less in diameter (PM10) and particulate emissions 2.5 microns and less in diameter (PM2.5) shall not exceed 0.42 pound per hour and 0.65 ton per year. See b)(2)a. The requirements of this rule also include compliance with the requirements of OAC rules 3745-31-05(D), 3745-17-07(A)(1), |



| | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|----|--|--|
| | | 3745-17-07(B)(1), 3745-17-08(B)(3), and OAC rule 3745-17-11(B). |
| b. | OAC rule 3745-31-05(A)(3)(b), as effective 12/01/06 | See b)(2)b. |
| c. | OAC rule 3745-31-05(D), as effective 12/01/06 Synthetic Minor to avoid being a major stationary source for purposes of non-attainment review and Title V. | Organic compound (OC) emissions from emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined shall not exceed 53.0 tons per year, based on a rolling, 12-month summation. See b)(2)c., b)(2)d. and b)(2)e. |
| d. | OAC rule 3745-31-05(D) (to avoid being subject to Title V permitting requirements and OAC rule 3745-31-28) | See Section B.2. |
| e. | OAC rule 3745-17-07(A)(1) | Visible particulate emissions from any stack shall not exceed 20% opacity, as a 6-minute average, except as specified by rule. |
| f. | OAC rule 3745-17-07(B)(1) | Fugitive visible particulate emissions shall not exceed 20% opacity, as a 3-minute average, except as specified by rule. |
| g. | OAC rule 3745-17-08(B)(3) | The particulate emission rate at the control device outlet shall not exceed 0.030 grain of particulate emissions per dry standard cubic foot of exhaust gas or no visible particulate emissions from the exhaust stack, whichever is less stringent. See b)(2)f. |
| h. | OAC rule 3745-17-11(B) | Particulate emissions (PE) shall not exceed 1.44 pounds per hour. This rule based limitation is less stringent than BAT as effective 11/30/01. This rule base PE limitation will become the more stringent limitation when U.S. EPA approves the 12/1/06 revisions to OAC rule 3745-31-05. |

(2) Additional Terms and Conditions

- a. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to Ohio Administrative Code (OAC) paragraph 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph



(A)(3) of OAC rule 3745-31-05 was revised to conform to the Ohio Revised Code (ORC) changes effective August 3, 2006 (Senate Bill 265 changes), such that BAT is no longer required by State regulations for National Ambient Air Quality Standards (NAAQS) pollutant(s) less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then these emission limitations/control measures no longer apply.

- b. This rule paragraph applies once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the State Implementation Plan.

The BAT requirements under OAC rule 3745-31-05(A)(3) do not apply to the PE/PM10/PM2.5 emissions from this emissions unit since the controlled potential to emit is less than ten tons per year.

- c. The maximum annual production rate for emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined shall not exceed 17,170,000 pounds of ink per year, based upon a rolling, 12-month summation of the production rates.
- d. The maximum annual operating hours for this emissions unit shall not exceed 3120 hours, based upon a rolling, 12-month summation.
- e. The OC content of the inks mixed in this emissions unit shall not exceed 35% by weight.
- f. The fugitive dust from this emissions unit shall be controlled by the use of reasonably available control measures adequate to minimize or eliminate visible particulate emissions.
- g. The hourly emission limitations outlined are based upon the emission unit's potential to emit (PTE). Therefore, no records are required to demonstrate compliance with this limitation.

c) Operational Restrictions

- (1) None.

d) Monitoring and/or Recordkeeping Requirements

- (1) In order to maintain compliance with the applicable emission limitation(s) contained in this permit, the acceptable range established for the pressure drop across the baghouse is between 2 to 6.5 psi.
- (2) The permittee shall properly install, operate, and maintain equipment to continuously monitor the pressure drop, in psi, across the baghouse when the controlled emissions unit is adding dry material. The permittee shall record the pressure drop across the baghouse on a daily basis. The monitoring equipment shall be installed, calibrated,



operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee.

Whenever the monitored value for the pressure drop deviates from the limit or range established in accordance with this permit, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:

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

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

- a. a description of the corrective action;
- b. the date corrective action was completed;
- c. the date and time the deviation ended;
- d. the total period of time (in minutes) during which there was a deviation;
- e. the pressure drop readings immediately after the corrective action was implemented; and
- f. the name(s) of the personnel who performed the work.

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

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



- (3) The permittee shall collect and record the following information each month for all organic compounds used in the formulation of finished inks for emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033:
- a. The name and identification number/code of each batch of ink produced;
 - b. The amount of each organic material used in the formulation of ink, in pounds;
 - c. The total combined monthly OC emissions, in tons per month. This calculation shall be based on the following equation:

The summation of [(b) x (0.0117 pound of OC emitted/pound of OC processed*)/2000] for each liquid organic material used in the formulation of inks.

*Emission factor derived from the National Association of Printing Ink Manufacturers (NAPIM) Guide to Estimating VOC Emission from Printing Ink Manufacturing;
 - d. The rolling, 12-month summation of OC emissions (the summation of the current month emission total and the previous eleven calendar months emission totals); and
 - e. The OC content, in percent by weight, for each batch.
- (4) The permittee shall maintain monthly records of the following information foremissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033:
- a. The production rate for each month, in pounds of ink;
 - b. The rolling, 12-month summation of the production rates, in pounds of ink;
 - c. The operating hours for this emissions unit for each month; and
 - d. The rolling, 12-month summation of the operating hours.
- (5) The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack and for any visible emissions of fugitive dust from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
- a. the location and color of the emissions;
 - b. whether the emissions are representative of normal operations;
 - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;



- d. the total duration of any visible emissions incident; and
- e. any corrective actions taken to minimize or eliminate the visible emissions.

If visible emissions are present, a visible emissions incident has occurred. The observer does not have to document the exact start and end times for the visible emissions incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible emissions incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

- (6) The permittee shall collect and record the added pigment amount, in percent by weight and in pounds of pigment added per pound of ink, for each batch.

e) 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. An identification of each month in which the ink production exceeded the rolling, 12-month limitation contained in this permit.
 - ii. An identification of each month in which the hours of operation of this emissions unit exceeded the rolling, 12-month limitation contained in this permit.
 - iii. An identification of each month in which the accumulative, rolling, 12-month OC emissions limitation(s) exceeded the limitation in this permit, in pounds or tons per rolling, 12-month period.
 - iv. An identification of each month in which the accumulative, rolling, 12-month HAP emissions limitation(s) exceeded the limitation in this permit, in pounds or tons per rolling, 12-month period.
 - 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) Annual Permit Evaluation Report (PER)forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit.The permit evaluation report shall identify:
 - a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit;
 - b. all days during which any visible emissions of fugitive dust were observed from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit; and
 - c. any corrective actions taken to minimize or eliminate the visible particulate emissions from the stack and/or visible emissions of fugitive dust.
- (3) The permittee shall submit annual reports which specify the total organic compound emissions from emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033. These reports shall be submitted by January 30 of each year and cover the previous calendar year.

f) Testing Requirements

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

- a. Emission Limitation:

Organic compound (OC) emissions from the mixer shall not exceed 2.46 pounds per hour.

Applicable Compliance Method:

The hourly OC emission rate is based on the emissions unit's potential to emit. The potential to emit was calculated by: (maximum production rate of 1200 pounds per batch) / (2 hours per batch) x (35 percent by weight OC content, in pounds of OC processed) x (0.0117 pound of OC emitted/pound of OC processed).

*Emission factor derived from the National Association of Printing Ink Manufacturers (NAPIM) Guide to Estimating VOC Emissions from Printing Ink Manufacturing.



b. Emission Limitation:

Particulate emissions (PE), particulate emissions ten microns and less in diameter (PM10) and particulate emissions 2.5 microns and less in diameter (PM2.5) shall not exceed 0.42 pound per hour and 0.65 ton per year.

Applicable Compliance Method:

The hourly PE-PM10-PM2.5 emission rate is based on this emission unit's uncontrolled potential to emit employing the concept that all emissions are emitted during the first hour of the making of a batch of product regardless of the number of hours to produce a batch of product.

The annual PE-PM10-PM2.5 emission rate was calculated by: [(1200 pounds of ink per hour) x (35% added pigment) x (0.1% facility supplied emission factor) x (3120 hours per year)/(2000)].

c. Emission Limitation:

53.0TPY of OC from emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined, based on a rolling 12-month summation.

Applicable Compliance Method:

Compliance with the rolling, 12-month emissions limitation for OC shall be based upon the record keeping requirements as specified in section d)(3)d.

The rolling 12-month OC emission rate shall be calculated by: (the actual rolling 12-month production rate) x (the actual percent by weight OC content, in pounds of OC processed) x (0.0117 pound of OC emitted/pound of OC processed).

*Emission factor derived from the National Association of Printing Ink Manufacturers (NAPIM) Guide to Estimating VOC Emissions from Printing Ink Manufacturing.

d. Emission Limitation:

Visible particulate emissions shall not exceed 20 percent opacity, as a six-minute average, except as provided by the rule.

Applicable Compliance Method:

Compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9, and the procedures specified in OAC rule 3745-17-03(B)(1).

e. Emission Limitation:

Fugitive visible particulate emissions shall not exceed 20 percent opacity, as a three-minute average, except as provided by the rule.



Applicable Compliance Method:

Compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, and the procedures specified in OAC rule 3745-17-03(B)(3).

f. Emission Limitation:

Particulate emissions (PE) from the mixer shall not exceed 1.44 pounds per hour.

Applicable Compliance Method:

The hourly PE emission rate is based on Table I in OAC rule 3745-17-11. The actual emissions shall be calculated by: [(maximum production rate of 1200 pounds per batch) x (35 percent by weight added pigment) x (0.1% lb of PE per pound of pigment AP-42 emission factor)].

(Note: The PE occur at the start of the batch cycle and do not extend over more than the first hour of the total batch cycle time, therefore the process weight rate is not divided by the length of the batch time. The weight of the liquid was not included in the process weight rate in the calculation of both the allowable PE and the actual PE because the liquid content in this process does not cause or result in the emission of particulate matter, following guidance per February 22, 2007 communication from Tom Kalman, Ohio EPA.)

g. Emission Limitation:

The particulate emission rate at the control device outlet shall not exceed 0.030 grain of particulate emissions per dry standard cubic foot of exhaust gas or no visible particulate emissions from the exhaust stack, whichever is less stringent.

Applicable Compliance Method:

Compliance shall be demonstrated via the design specifications of the dust collector and its collection system and the performance of daily visual inspections of source emissions.

If required, the permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

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

Method 5, 40 CFR Part 60, Appendix A

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



h. Usage Limitation:

The maximum annual production rate for emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined shall not exceed 17,170,000 pounds of ink per year, based upon a rolling, 12-month summation of the production rates.

Applicable Compliance Method:

Compliance with the production rate limitation in b)(2)c. shall be based upon the record keeping requirements as specified in d)(4)b.

i. Usage Limitation:

The maximum annual operating hours for this emissions unit shall not exceed 3120 hours, based upon a rolling, 12-month summation.

Compliance with the annual operating hour limitation in term b)(2)d. shall be based upon the record keeping requirements as specified in d)(4)d.

j. Usage Limitation:

The OC content of the inks mixed in this emissions unit shall not exceed 35% by weight.

Applicable Compliance Method:

Compliance with the OC content limitation in term b)(2)e. shall be based upon the record keeping requirements as specified in section d)(3)e.

g) Miscellaneous Requirements

- (1) Modeling to demonstrate compliance with, the "Toxic Air Contaminant Statute", ORC 3704.03(F)(4)(b), was not necessary because the emissions unit's maximum annual emissions for each toxic air contaminant, as defined in OAC rule 3745-114-01, will be less than 1.0 ton per year. OAC Chapter 3745-31 requires a permittee to apply for and obtain a new or modified permit-to-install and operate prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would cause the emissions of any toxic air contaminant to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new permit-to-install and operate.



2. P023, Liquid Ink Mixer 2

Operations, Property and/or Equipment Description:

Liquid ink mixer 2 with cover and baghouse

- 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. g)(1)
 - (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. See b)(1)c., b)(1)d., b)(2)c., b)(2)d., b)(2)e., d)(3)d., d)(4), e)(1), e)(3), f)(1)c., f)(1)h., f)(1)i. and f)(1)j.
- 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), as effective 11/30/01 | Organic compound (OC) emissions from the mixer shall not exceed 1.64 pounds per hour. See b)(2)e. Particulate emissions (PE), particulate emissions ten microns and less in diameter (PM10) and particulate emissions 2.5 microns and less in diameter (PM2.5) shall not exceed 0.14 pound per hour and 0.22 ton per year. See b)(2)a. The requirements of this rule also include compliance with the requirements of OAC rules 3745-31-05(D), 3745-17-07(A)(1), |



| | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|----|--|---|
| | | 3745-17-07(B)(1), 3745-17-08(B)(3), and OAC rule 3745-17-11(B). |
| b. | OAC rule 3745-31-05(A)(3)(b), as effective 12/01/06 | See b)(2)b. |
| c. | OAC rule 3745-31-05(D), as effective 12/01/06 Synthetic Minor to avoid being a major stationary source for purposes of non-attainment review and Title V. | Organic compound (OC) emissions from emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined shall not exceed 53.0 tons per year, based on a rolling, 12-month summation. See b)(2)c., b)(2)d. and b)(2)e. |
| d. | OAC rule 3745-31-05(D) (to avoid being subject to Title V permitting requirements and OAC rule 3745-31-28) | See Section B.2. |
| e. | OAC rule 3745-17-07(A)(1) | Visible particulate emissions from any stack shall not exceed 20% opacity, as a 6-minute average, except as specified by rule. |
| f. | OAC rule 3745-17-07(B)(1) | Fugitive visible particulate emissions shall not exceed 20% opacity, as a 3-minute average, except as specified by rule. |
| g. | OAC rule 3745-17-08(B)(3) | The particulate emission rate at the control device outlet shall not exceed 0.030 grain of particulate emissions per dry standard cubic foot of exhaust gas or no visible particulate emissions from the exhaust stack, whichever is less stringent. See b)(2)f. |
| h. | OAC rule 3745-17-11(B) | Particulate emissions (PE) shall not exceed 0.69 pound per hour. This rule based limitation is less stringent than BAT as effective 11/30/01. This rule base PE limitation will become the more stringent limitation when U.S. EPA approves the 12/1/06 revisions to OAC rule 3745-31-05. |

(2) Additional Terms and Conditions

- a. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to Ohio Administrative Code (OAC) paragraph 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph



(A)(3) of OAC rule 3745-31-05 was revised to conform to the Ohio Revised Code (ORC) changes effective August 3, 2006 (Senate Bill 265 changes), such that BAT is no longer required by State regulations for National Ambient Air Quality Standards (NAAQS) pollutant(s) less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then these emission limitations/control measures no longer apply.

- b. This rule paragraph applies once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the State Implementation Plan.

The BAT requirements under OAC rule 3745-31-05(A)(3) do not apply to the PE/PM10/PM2.5 emissions from this emissions unit since the controlled potential to emit is less than ten tons per year.

- c. The maximum annual production rate for emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined shall not exceed 17,170,000 pounds of ink per year, based upon a rolling, 12-month summation of the production rates.
- d. The maximum annual operating hours for this emissions unit shall not exceed 3120 hours, based upon a rolling, 12-month summation.
- e. The OC content of the inks mixed in this emissions unit shall not exceed 35% by weight.
- f. The fugitive dust from this emissions unit shall be controlled by the use of reasonably available control measures adequate to minimize or eliminate visible particulate emissions.
- g. The hourly emission limitations outlined are based upon the emission unit's potential to emit (PTE). Therefore, no records are required to demonstrate compliance with this limitation.

c) Operational Restrictions

- (1) None.

d) Monitoring and/or Recordkeeping Requirements

- (1) In order to maintain compliance with the applicable emission limitation(s) contained in this permit, the acceptable range established for the pressure drop across the baghouse is between 2 to 6.5 psi.
- (2) The permittee shall properly install, operate, and maintain equipment to continuously monitor the pressure drop, in psi, across the baghouse when the controlled emissions unit is adding dry material. The permittee shall record the pressure drop across the baghouse on a daily basis. The monitoring equipment shall be installed, calibrated,



operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee.

Whenever the monitored value for the pressure drop deviates from the limit or range established in accordance with this permit, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:

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

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

- a. a description of the corrective action;
- b. the date corrective action was completed;
- c. the date and time the deviation ended;
- d. the total period of time (in minutes) during which there was a deviation;
- e. the pressure drop readings immediately after the corrective action was implemented; and
- f. the name(s) of the personnel who performed the work.

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

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



- (3) The permittee shall collect and record the following information each month for all organic compounds used in the formulation of finished inks for emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033:
- a. The name and identification number/code of each batch of ink produced;
 - b. The amount of each organic material used in the formulation of ink, in pounds;
 - c. The total combined monthly OC emissions, in tons per month. This calculation shall be based on the following equation:

The summation of [(b) x (0.0117 pound of OC emitted/pound of OC processed*)/2000] for each liquid organic material used in the formulation of inks.

*Emission factor derived from the National Association of Printing Ink Manufacturers (NAPIM) Guide to Estimating VOC Emission from Printing Ink Manufacturing;
 - d. The rolling, 12-month summation of OC emissions (the summation of the current month emission total and the previous eleven calendar months emission totals); and
 - e. The OC content, in percent by weight, for each batch.
- (4) The permittee shall maintain monthly records of the following information foremissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033:
- a. The production rate for each month, in pounds of ink;
 - b. The rolling, 12-month summation of the production rates, in pounds of ink;
 - c. The operating hours for this emissions unit for each month; and
 - d. The rolling, 12-month summation of the operating hours.
- (5) The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack and for any visible emissions of fugitive dust from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
- a. the location and color of the emissions;
 - b. whether the emissions are representative of normal operations;
 - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
 - d. the total duration of any visible emissions incident; and



- e. any corrective actions taken to minimize or eliminate the visible emissions.

If visible emissions are present, a visible emissions incident has occurred. The observer does not have to document the exact start and end times for the visible emissions incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible emissions incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

- (6) The permittee shall collect and record the added pigment amount, in percent by weight and in pounds of pigment added per pound of ink, for each batch.

e) 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. An identification of each month in which the ink production exceeded the rolling, 12-month limitation contained in this permit.
 - ii. An identification of each month in which the hours of operation of this emissions unit exceeded the rolling, 12-month limitation contained in this permit.
 - iii. An identification of each month in which the accumulative, rolling, 12-month OC emissions limitation(s) exceeded the limitation in this permit, in pounds or tons per rolling, 12-month period.
 - iv. An identification of each month in which the accumulative, rolling, 12-month HAP emissions limitation(s) exceeded the limitation in this permit, in pounds or tons per rolling, 12-month period.
- 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 to the Director (the Hamilton County Department of Environmental Services) by February 15, May 15, August 15, and November 15 of each year and shall cover the previous three calendar months (October through December, January through March, April through June and July through September, respectively).

- (2) Annual Permit Evaluation Report (PER)forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit.The permit evaluation report shall identify:
 - a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit;
 - b. all days during which any visible emissions of fugitive dust were observed from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit; and
 - c. any corrective actions taken to minimize or eliminate the visible particulate emissions from the stack and/or visible emissions of fugitive dust.
- (3) The permittee shall submit annual reports which specify the total organic compound emissions from emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033. These reports shall be submitted by January 30 of each year and cover the previous calendar year.

f) Testing Requirements

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

- a. Emission Limitation:

Organic compound (OC) emissions from the mixer shall not exceed 1.64 pounds per hour.

Applicable Compliance Method:

The hourly OC emission rate is based on the emissions unit's potential to emit. The potential to emit was calculated by: (maximum production rate of 400 pounds per batch) / (1 hour per batch) x (35 percent by weight OC content, in pounds of OC processed) x (0.0117 pound of OC emitted/pound of OC processed).

*Emission factor derived from the National Association of Printing Ink Manufacturers (NAPIM) Guide to Estimating VOC Emissions from Printing Ink Manufacturing.



b. Emission Limitation:

Particulate emissions (PE), particulate emissions ten microns and less in diameter (PM10) and particulate emissions 2.5 microns and less in diameter (PM2.5) shall not exceed 0.14 pound per hour and 0.22 ton per year.

Applicable Compliance Method:

The hourly PE-PM10-PM2.5 emission rate is based on this emission unit's uncontrolled potential to emit employing the concept that all emissions are emitted during the first hour of the making of a batch of product regardless of the number of hours to produce a batch of product.

The annual PE-PM10-PM2.5 emission rate was calculated by: [(400 pounds of ink per hour) x (35% added pigment) x (0.1% facility supplied emission factor) x (3120 hours per year)/(2000)].

c. Emission Limitation:

53.0TPY of OC from emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined, based on a rolling 12-month summation.

Applicable Compliance Method:

Compliance with the rolling, 12-month emissions limitation for OC shall be based upon the record keeping requirements as specified in section d)(3)d.

The rolling 12-month OC emission rate shall be calculated by: (the actual rolling 12-month production rate) x (the actual percent by weight OC content, in pounds of OC processed) x (0.0117 pound of OC emitted/pound of OC processed).

*Emission factor derived from the National Association of Printing Ink Manufacturers (NAPIM) Guide to Estimating VOC Emissions from Printing Ink Manufacturing.

d. Emission Limitation:

Visible particulate emissions shall not exceed 20 percent opacity, as a six-minute average, except as provided by the rule.

Applicable Compliance Method:

Compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9, and the procedures specified in OAC rule 3745-17-03(B)(1).

e. Emission Limitation:

Fugitive visible particulate emissions shall not exceed 20 percent opacity, as a three-minute average, except as provided by the rule.



Applicable Compliance Method:

Compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, and the procedures specified in OAC rule 3745-17-03(B)(3).

f. Emission Limitation:

Particulate emissions (PE) from the mixer shall not exceed 0.69 pound per hour.

Applicable Compliance Method:

The hourly PE emission rate is based on Table I in OAC rule 3745-17-11. The actual emissions shall be calculated by: [(maximum production rate of 400 pounds per batch) x (35 percent by weight added pigment) x (0.1% lb of PE per pound of pigment AP-42 emission factor)].

(Note: The PE occur at the start of the batch cycle and do not extend over more than the first hour of the total batch cycle time, therefore the process weight rate is not divided by the length of the batch time. The weight of the liquid was not included in the process weight rate in the calculation of both the allowable PE and the actual PE because the liquid content in this process does not cause or result in the emission of particulate matter, following guidance per February 22, 2007 communication from Tom Kalman, Ohio EPA.)

g. Emission Limitation:

The particulate emission rate at the control device outlet shall not exceed 0.030 grain of particulate emissions per dry standard cubic foot of exhaust gas or no visible particulate emissions from the exhaust stack, whichever is less stringent.

Applicable Compliance Method:

Compliance shall be demonstrated via the design specifications of the dust collector and its collection system and the performance of daily visual inspections of source emissions.

If required, the permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

- i. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):

Method 5, 40 CFR Part 60, Appendix A

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



h. Usage Limitation:

The maximum annual production rate for emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined shall not exceed 17,170,000 pounds of ink per year, based upon a rolling, 12-month summation of the production rates.

Applicable Compliance Method:

Compliance with the production rate limitation in b)(2)c. shall be based upon the record keeping requirements as specified in d)(4)b.

i. Usage Limitation:

The maximum annual operating hours for this emissions unit shall not exceed 3120 hours, based upon a rolling, 12-month summation.

Compliance with the annual operating hour limitation in term b)(2)d. shall be based upon the record keeping requirements as specified in d)(4)d.

j. Usage Limitation:

The OC content of the inks mixed in this emissions unit shall not exceed 35% by weight.

Applicable Compliance Method:

Compliance with the OC content limitation in term b)(2)e. shall be based upon the record keeping requirements as specified in section d)(3)e.

g) Miscellaneous Requirements

- (1) Modeling to demonstrate compliance with, the "Toxic Air Contaminant Statute", ORC 3704.03(F)(4)(b), was not necessary because the emissions unit's maximum annual emissions for each toxic air contaminant, as defined in OAC rule 3745-114-01, will be less than 1.0 ton per year. OAC Chapter 3745-31 requires a permittee to apply for and obtain a new or modified permit-to-install and operate prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would cause the emissions of any toxic air contaminant to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new permit-to-install and operate.



3. P024, Liquid Ink Mixer 3

Operations, Property and/or Equipment Description:

Liquid ink mixer 3 with cover and baghouse

- 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. g)(1)
 - (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. See b)(1)c., b)(1)d., b)(2)c., b)(2)d., b)(2)e., d)(3)d., d)(4), e)(1), e)(3), f)(1)c., f)(1)h., f)(1)i. and f)(1)j.
- 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), as effective 11/30/01 | Organic compound (OC) emissions from the mixer shall not exceed 3.41 pounds per hour. See b)(2)e. Particulate emissions (PE), particulate emissions ten microns and less in diameter (PM10) and particulate emissions 2.5 microns and less in diameter (PM2.5) shall not exceed 0.88 pound per hour and 1.36 ton per year. See b)(2)a. The requirements of this rule also include compliance with the requirements of OAC rules 3745-31-05(D), 3745-17-07(A)(1), |



| | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|----|--|--|
| | | 3745-17-07(B)(1), 3745-17-08(B)(3), and OAC rule 3745-17-11(B). |
| b. | OAC rule 3745-31-05(A)(3)(b), as effective 12/01/06 | See b)(2)b. |
| c. | OAC rule 3745-31-05(D), as effective 12/01/06 Synthetic Minor to avoid being a major stationary source for purposes of non-attainment review and Title V. | Organic compound (OC) emissions from emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined shall not exceed 53.0 tons per year, based on a rolling, 12-month summation. See b)(2)c., b)(2)d. and b)(2)e. |
| d. | OAC rule 3745-31-05(D) (to avoid being subject to Title V permitting requirements and OAC rule 3745-31-28) | See Section B.2. |
| e. | OAC rule 3745-17-07(A)(1) | Visible particulate emissions from any stack shall not exceed 20% opacity, as a 6-minute average, except as specified by rule. |
| f. | OAC rule 3745-17-07(B)(1) | Fugitive visible particulate emissions shall not exceed 20% opacity, as a 3-minute average, except as specified by rule. |
| g. | OAC rule 3745-17-08(B)(3) | The particulate emission rate at the control device outlet shall not exceed 0.030 grain of particulate emissions per dry standard cubic foot of exhaust gas or no visible particulate emissions from the exhaust stack, whichever is less stringent. See b)(2)f. |
| h. | OAC rule 3745-17-11(B) | Particulate emissions (PE) shall not exceed 2.36 pounds per hour. This rule based limitation is less stringent than BAT as effective 11/30/01. This rule base PE limitation will become the more stringent limitation when U.S. EPA approves the 12/1/06 revisions to OAC rule 3745-31-05. |

(2) Additional Terms and Conditions

- a. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to Ohio Administrative Code (OAC) paragraph 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph



(A)(3) of OAC rule 3745-31-05 was revised to conform to the Ohio Revised Code (ORC) changes effective August 3, 2006 (Senate Bill 265 changes), such that BAT is no longer required by State regulations for National Ambient Air Quality Standards (NAAQS) pollutant(s) less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then these emission limitations/control measures no longer apply.

- b. This rule paragraph applies once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the State Implementation Plan.

The BAT requirements under OAC rule 3745-31-05(A)(3) do not apply to the PE/PM10/PM2.5 emissions from this emissions unit since the controlled potential to emit is less than ten tons per year.

- c. The maximum annual production rate for emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined shall not exceed 17,170,000 pounds of ink per year, based upon a rolling, 12-month summation of the production rates.
- d. The maximum annual operating hours for this emissions unit shall not exceed 3120 hours, based upon a rolling, 12-month summation.
- e. The OC content of the inks mixed in this emissions unit shall not exceed 35% by weight.
- f. The fugitive dust from this emissions unit shall be controlled by the use of reasonably available control measures adequate to minimize or eliminate visible particulate emissions.
- g. The hourly emission limitations outlined are based upon the emission unit's potential to emit (PTE). Therefore, no records are required to demonstrate compliance with this limitation.

c) Operational Restrictions

- (1) None.

d) Monitoring and/or Recordkeeping Requirements

- (1) In order to maintain compliance with the applicable emission limitation(s) contained in this permit, the acceptable range established for the pressure drop across the baghouse is between 2 to 6.5 psi.
- (2) The permittee shall properly install, operate, and maintain equipment to continuously monitor the pressure drop, in psi, across the baghouse when the controlled emissions unit is adding dry material. The permittee shall record the pressure drop across the baghouse on a daily basis. The monitoring equipment shall be installed, calibrated,



operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee.

Whenever the monitored value for the pressure drop deviates from the limit or range established in accordance with this permit, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:

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

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

- a. a description of the corrective action;
- b. the date corrective action was completed;
- c. the date and time the deviation ended;
- d. the total period of time (in minutes) during which there was a deviation;
- e. the pressure drop readings immediately after the corrective action was implemented; and
- f. the name(s) of the personnel who performed the work.

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

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



- (3) The permittee shall collect and record the following information each month for all organic compounds used in the formulation of finished inks for emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033:
- a. The name and identification number/code of each batch of ink produced;
 - b. The amount of each organic material used in the formulation of ink, in pounds;
 - c. The total combined monthly OC emissions, in tons per month. This calculation shall be based on the following equation:

The summation of [(b) x (0.0117 pound of OC emitted/pound of OC processed*)/2000] for each liquid organic material used in the formulation of inks.

*Emission factor derived from the National Association of Printing Ink Manufacturers (NAPIM) Guide to Estimating VOC Emission from Printing Ink Manufacturing;
 - d. The rolling, 12-month summation of OC emissions (the summation of the current month emission total and the previous eleven calendar months emission totals); and
 - e. The OC content, in percent by weight, for each batch.
- (4) The permittee shall maintain monthly records of the following information foremissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033:
- a. The production rate for each month, in pounds of ink;
 - b. The rolling, 12-month summation of the production rates, in pounds of ink;
 - c. The operating hours for this emissions unit for each month; and
 - d. The rolling, 12-month summation of the operating hours.
- (5) The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack and for any visible emissions of fugitive dust from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
- a. the location and color of the emissions;
 - b. whether the emissions are representative of normal operations;
 - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;



- d. the total duration of any visible emissions incident; and
- e. any corrective actions taken to minimize or eliminate the visible emissions.

If visible emissions are present, a visible emissions incident has occurred. The observer does not have to document the exact start and end times for the visible emissions incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible emissions incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

- (6) The permittee shall collect and record the added pigment amount, in percent by weight, for each batch.

e) 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. An identification of each month in which the ink production exceeded the rolling, 12-month limitation contained in this permit.
 - ii. An identification of each month in which the hours of operation of this emissions unit exceeded the rolling, 12-month limitation contained in this permit.
 - iii. An identification of each month in which the accumulative, rolling, 12-month OC emissions limitation(s) exceeded the limitation in this permit, in pounds or tons per rolling, 12-month period.
 - iv. An identification of each month in which the accumulative, rolling, 12-month HAP emissions limitation(s) exceeded the limitation in this permit, in pounds or tons per rolling, 12-month period.
 - 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 to the Director (the Hamilton County Department of Environmental Services) by February 15, May 15, August 15, and November 15 of each year and shall cover the previous three calendar months (October through December, January through March, April through June and July through September, respectively).

- (2) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit. The permit evaluation report shall identify:
 - a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit;
 - b. all days during which any visible emissions of fugitive dust were observed from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit; and
 - c. any corrective actions taken to minimize or eliminate the visible particulate emissions from the stack and/or visible emissions of fugitive dust.
- (3) The permittee shall submit annual reports which specify the total organic compound emissions from emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033. These reports shall be submitted by January 30 of each year and cover the previous calendar year.

f) Testing Requirements

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

- a. Emission Limitation:

Organic compound (OC) emissions from the mixer shall not exceed 3.41 pounds per hour.

Applicable Compliance Method:

The hourly OC emission rate is based on the emissions unit's potential to emit. The potential to emit was calculated by: (maximum production rate of 2500 pounds per batch) / (3 hours per batch) x (35 percent by weight OC content, in pounds of OC processed) x (0.0117 pound of OC emitted/pound of OC processed).

*Emission factor derived from the National Association of Printing Ink Manufacturers (NAPIM) Guide to Estimating VOC Emissions from Printing Ink Manufacturing.



b. Emission Limitation:

Particulate emissions (PE), particulate emissions ten microns and less in diameter (PM10) and particulate emissions 2.5 microns and less in diameter (PM2.5) shall not exceed 0.88 pound per hour and 1.36 ton per year.

Applicable Compliance Method:

The hourly PE-PM10-PM2.5 emission rate is based on this emission unit's uncontrolled potential to emit employing the concept that all emissions are emitted during the first hour of the making of a batch of product regardless of the number of hours to produce a batch of product.

The annual PE-PM10-PM2.5 emission rate was calculated by: [(2500 pounds of ink per hour) x (35% added pigment) x (0.1% facility supplied emission factor) x (3120 hours per year)/(2000)].

c. Emission Limitation:

53.0TPY of OC from emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined, based on a rolling 12-month summation.

Applicable Compliance Method:

Compliance with the rolling, 12-month emissions limitation for OC shall be based upon the record keeping requirements as specified in section d)(3)d.

The rolling 12-month OC emission rate shall be calculated by: (the actual rolling 12-month production rate) x (the actual percent by weight OC content, in pounds of OC processed) x (0.0117 pound of OC emitted/pound of OC processed).

*Emission factor derived from the National Association of Printing Ink Manufacturers (NAPIM) Guide to Estimating VOC Emissions from Printing Ink Manufacturing.

d. Emission Limitation:

Visible particulate emissions shall not exceed 20 percent opacity, as a six-minute average, except as provided by the rule.

Applicable Compliance Method:

Compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9, and the procedures specified in OAC rule 3745-17-03(B)(1).

e. Emission Limitation:

Fugitive visible particulate emissions shall not exceed 20 percent opacity, as a three-minute average, except as provided by the rule.



Applicable Compliance Method:

Compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, and the procedures specified in OAC rule 3745-17-03(B)(3).

f. Emission Limitation:

Particulate emissions (PE) from the mixer shall not exceed 2.36 pounds per hour.

Applicable Compliance Method:

The hourly PE emission rate is based on Table I in OAC rule 3745-17-11. The actual emissions shall be calculated by: [(maximum production rate of 2500 pounds per batch) x (35 percent by weight added pigment) x (0.1% lb of PE per pound of pigment AP-42 emission factor)].

(Note: The PE occur at the start of the batch cycle and do not extend over more than the first hour of the total batch cycle time, therefore the process weight rate is not divided by the length of the batch time. The weight of the liquid was not included in the process weight rate in the calculation of both the allowable PE and the actual PE because the liquid content in this process does not cause or result in the emission of particulate matter, following guidance per February 22, 2007 communication from Tom Kalman, Ohio EPA.)

g. Emission Limitation:

The particulate emission rate at the control device outlet shall not exceed 0.030 grain of particulate emissions per dry standard cubic foot of exhaust gas or no visible particulate emissions from the exhaust stack, whichever is less stringent.

Applicable Compliance Method:

Compliance shall be demonstrated via the design specifications of the dust collector and its collection system and the performance of daily visual inspections of source emissions.

If required, the permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

- i. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):

Method 5, 40 CFR Part 60, Appendix A

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



h. Usage Limitation:

The maximum annual production rate for emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined shall not exceed 17,170,000 pounds of ink per year, based upon a rolling, 12-month summation of the production rates.

Applicable Compliance Method:

Compliance with the production rate limitation in b)(2)c. shall be based upon the record keeping requirements as specified in d)(4)b.

i. Usage Limitation:

The maximum annual operating hours for this emissions unit shall not exceed 3120 hours, based upon a rolling, 12-month summation.

Compliance with the annual operating hour limitation in term b)(2)d. shall be based upon the record keeping requirements as specified in d)(4)d.

j. Usage Limitation:

The OC content of the inks mixed in this emissions unit shall not exceed 35% by weight.

Applicable Compliance Method:

Compliance with the OC content limitation in term b)(2)e. shall be based upon the record keeping requirements as specified in section d)(3)e.

g) Miscellaneous Requirements

- (1) Modeling to demonstrate compliance with, the "Toxic Air Contaminant Statute", ORC 3704.03(F)(4)(b), was not necessary because the emissions unit's maximum annual emissions for each toxic air contaminant, as defined in OAC rule 3745-114-01, will be less than 1.0 ton per year. OAC Chapter 3745-31 requires a permittee to apply for and obtain a new or modified permit-to-install and operate prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would cause the emissions of any toxic air contaminant to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new permit-to-install and operate.



4. P026, Liquid Ink Mixer 5

Operations, Property and/or Equipment Description:

Liquid ink mixer 5 with cover and baghouse

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. g)(1)

(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. See b)(1)c., b)(1)d., b)(2)c., b)(2)d., b)(2)e., d)(3)d., d)(4), e)(1), e)(3), f)(1)c., f)(1)h., f)(1)i. and f)(1)j.

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), as effective 11/30/01 | Organic compound (OC) emissions from the mixer shall not exceed 1.02 pounds per hour. See b)(2)e. Particulate emissions (PE), particulate emissions ten microns and less in diameter (PM10) and particulate emissions 2.5 microns and less in diameter (PM2.5) shall not exceed 0.09 pound per hour and 0.14 ton per year. See b)(2)a. The requirements of this rule also include compliance with the requirements of OAC rules 3745-31-05(D), 3745-17-07(A)(1), |



| | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|----|--|--|
| | | 3745-17-07(B)(1), 3745-17-08(B)(3), and OAC rule 3745-17-11(B). |
| b. | OAC rule 3745-31-05(A)(3)(b), as effective 12/01/06 | See b)(2)b. |
| c. | OAC rule 3745-31-05(D), as effective 12/01/06 Synthetic Minor to avoid being a major stationary source for purposes of non-attainment review and Title V. | Organic compound (OC) emissions from emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined shall not exceed 53.0 tons per year, based on a rolling, 12-month summation. See b)(2)c., b)(2)d. and b)(2)e. |
| d. | OAC rule 3745-31-05(D) (to avoid being subject to Title V permitting requirements and OAC rule 3745-31-28) | See Section B.2. |
| e. | OAC rule 3745-17-07(A)(1) | Visible particulate emissions from any stack shall not exceed 20% opacity, as a 6-minute average, except as specified by rule. |
| f. | OAC rule 3745-17-07(B)(1) | Fugitive visible particulate emissions shall not exceed 20% opacity, as a 3-minute average, except as specified by rule. |
| g. | OAC rule 3745-17-08(B)(3) | The particulate emission rate at the control device outlet shall not exceed 0.030 grain of particulate emissions per dry standard cubic foot of exhaust gas or no visible particulate emissions from the exhaust stack, whichever is less stringent. See b)(2)f. |
| h. | OAC rule 3745-17-11(B) | Particulate emissions (PE) shall not exceed 0.551 pound per hour. This rule based limitation is less stringent than BAT as effective 11/30/01. This rule base PE limitation will become the more stringent limitation when U.S. EPA approves the 12/1/06 revisions to OAC rule 3745-31-05. |

(2) Additional Terms and Conditions

- a. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to Ohio Administrative Code (OAC) paragraph 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph



(A)(3) of OAC rule 3745-31-05 was revised to conform to the Ohio Revised Code (ORC) changes effective August 3, 2006 (Senate Bill 265 changes), such that BAT is no longer required by State regulations for National Ambient Air Quality Standards (NAAQS) pollutant(s) less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then these emission limitations/control measures no longer apply.

- b. This rule paragraph applies once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the State Implementation Plan.

The BAT requirements under OAC rule 3745-31-05(A)(3) do not apply to the PE/PM10/PM2.5 emissions from this emissions unit since the controlled potential to emit is less than ten tons per year.

- c. The maximum annual production rate for emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined shall not exceed 17,170,000 pounds of ink per year, based upon a rolling, 12-month summation of the production rates.
- d. The maximum annual operating hours for this emissions unit shall not exceed 3120 hours, based upon a rolling, 12-month summation.
- e. The OC content of the inks mixed in this emissions unit shall not exceed 35% by weight.
- f. The fugitive dust from this emissions unit shall be controlled by the use of reasonably available control measures adequate to minimize or eliminate visible particulate emissions.
- g. The hourly emission limitations outlined are based upon the emission unit's potential to emit (PTE). Therefore, no records are required to demonstrate compliance with this limitation.

c) Operational Restrictions

- (1) None.

d) Monitoring and/or Recordkeeping Requirements

- (1) In order to maintain compliance with the applicable emission limitation(s) contained in this permit, the acceptable range established for the pressure drop across the baghouse is between 2 to 6.5 psi.
- (2) The permittee shall properly install, operate, and maintain equipment to continuously monitor the pressure drop, in psi, across the baghouse when the controlled emissions unit is adding dry material. The permittee shall record the pressure drop across the baghouse on a daily basis. The monitoring equipment shall be installed, calibrated,



operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee.

Whenever the monitored value for the pressure drop deviates from the limit or range established in accordance with this permit, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:

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

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

- a. a description of the corrective action;
- b. the date corrective action was completed;
- c. the date and time the deviation ended;
- d. the total period of time (in minutes) during which there was a deviation;
- e. the pressure drop readings immediately after the corrective action was implemented; and
- f. the name(s) of the personnel who performed the work.

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

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



- (3) The permittee shall collect and record the following information each month for all organic compounds used in the formulation of finished inks for emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033:
- a. The name and identification number/code of each batch of ink produced;
 - b. The amount of each organic material used in the formulation of ink, in pounds;
 - c. The total combined monthly OC emissions, in tons per month. This calculation shall be based on the following equation:

The summation of [(b) x (0.0117 pound of OC emitted/pound of OC processed*)/2000] for each liquid organic material used in the formulation of inks.

*Emission factor derived from the National Association of Printing Ink Manufacturers (NAPIM) Guide to Estimating VOC Emission from Printing Ink Manufacturing;
 - d. The rolling, 12-month summation of OC emissions (the summation of the current month emission total and the previous eleven calendar months emission totals); and
 - e. The OC content, in percent by weight, for each batch.
- (4) The permittee shall maintain monthly records of the following information foremissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033:
- a. The production rate for each month, in pounds of ink;
 - b. The rolling, 12-month summation of the production rates, in pounds of ink;
 - c. The operating hours for this emissions unit for each month; and
 - d. The rolling, 12-month summation of the operating hours.
- (5) The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack and for any visible emissions of fugitive dust from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
- a. the location and color of the emissions;
 - b. whether the emissions are representative of normal operations;
 - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;



- d. the total duration of any visible emissions incident; and
- e. any corrective actions taken to minimize or eliminate the visible emissions.

If visible emissions are present, a visible emissions incident has occurred. The observer does not have to document the exact start and end times for the visible emissions incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible emissions incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

- (6) The permittee shall collect and record the added pigment amount, in percent by weight, for each batch.

e) 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. An identification of each month in which the ink production exceeded the rolling, 12-month limitation contained in this permit.
 - ii. An identification of each month in which the hours of operation of this emissions unit exceeded the rolling, 12-month limitation contained in this permit.
 - iii. An identification of each month in which the accumulative, rolling, 12-month OC emissions limitation(s) exceeded the limitation in this permit, in pounds or tons per rolling, 12-month period.
 - iv. An identification of each month in which the accumulative, rolling, 12-month HAP emissions limitation(s) exceeded the limitation in this permit, in pounds or tons per rolling, 12-month period.
 - 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 to the Director (the Hamilton County Department of Environmental Services) by February 15, May 15, August 15, and November 15 of each year and shall cover the previous three calendar months (October through December, January through March, April through June and July through September, respectively).

- (2) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit. The permit evaluation report shall identify:
 - a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit;
 - b. all days during which any visible emissions of fugitive dust were observed from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit; and
 - c. any corrective actions taken to minimize or eliminate the visible particulate emissions from the stack and/or visible emissions of fugitive dust.
- (3) The permittee shall submit annual reports which specify the total organic compound emissions from emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033. These reports shall be submitted by January 30 of each year and cover the previous calendar year.

f) Testing Requirements

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

- a. Emission Limitation:

Organic compound (OC) emissions from the mixer shall not exceed 1.02 pounds per hour.

Applicable Compliance Method:

The hourly OC emission rate is based on the emissions unit's potential to emit. The potential to emit was calculated by: (maximum production rate of 250 pounds per batch) / (1 hour per batch) x (35 percent by weight OC content, in pounds of OC processed) x (0.0117 pound of OC emitted/pound of OC processed).

*Emission factor derived from the National Association of Printing Ink Manufacturers (NAPIM) Guide to Estimating VOC Emissions from Printing Ink Manufacturing.



b. Emission Limitation:

Particulate emissions (PE), particulate emissions ten microns and less in diameter (PM10) and particulate emissions 2.5 microns and less in diameter (PM2.5) shall not exceed 0.09 pound per hour and 0.14 ton per year.

Applicable Compliance Method:

The hourly PE-PM10-PM2.5 emission rate is based on this emission unit's uncontrolled potential to emit employing the concept that all emissions are emitted during the first hour of the making of a batch of product regardless of the number of hours to produce a batch of product.

The annual PE-PM10-PM2.5 emission rate was calculated by: [(250 pounds of ink per hour) x (35% added pigment) x (0.1% facility supplied emission factor) x (3120 hours per year)/(2000)].

c. Emission Limitation:

53.0TPY of OC from emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined, based on a rolling 12-month summation.

Applicable Compliance Method:

Compliance with the rolling, 12-month emissions limitation for OC shall be based upon the record keeping requirements as specified in section d)(3)d.

The rolling 12-month OC emission rate shall be calculated by: (the actual rolling 12-month production rate) x (the actual percent by weight OC content, in pounds of OC processed) x (0.0117 pound of OC emitted/pound of OC processed).

*Emission factor derived from the National Association of Printing Ink Manufacturers (NAPIM) Guide to Estimating VOC Emissions from Printing Ink Manufacturing.

d. Emission Limitation:

Visible particulate emissions shall not exceed 20 percent opacity, as a six-minute average, except as provided by the rule.

Applicable Compliance Method:

Compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9, and the procedures specified in OAC rule 3745-17-03(B)(1).

e. Emission Limitation:

Fugitive visible particulate emissions shall not exceed 20 percent opacity, as a three-minute average, except as provided by the rule.



Applicable Compliance Method:

Compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, and the procedures specified in OAC rule 3745-17-03(B)(3).

f. Emission Limitation:

Particulate emissions (PE) from the mixer shall not exceed 0.551 pound per hour.

Applicable Compliance Method:

The hourly PE emission rate is based on Table I in OAC rule 3745-17-11. The actual emissions shall be calculated by: [(maximum production rate of 250 pounds per batch) x (35 percent by weight added pigment) x (0.1% lb of PE per pound of pigment AP-42 emission factor)].

(Note: The PE occur at the start of the batch cycle and do not extend over more than the first hour of the total batch cycle time, therefore the process weight rate is not divided by the length of the batch time. The weight of the liquid was not included in the process weight rate in the calculation of both the allowable PE and the actual PE because the liquid content in this process does not cause or result in the emission of particulate matter, following guidance per February 22, 2007 communication from Tom Kalman, Ohio EPA.)

g. Emission Limitation:

The particulate emission rate at the control device outlet shall not exceed 0.030 grain of particulate emissions per dry standard cubic foot of exhaust gas or no visible particulate emissions from the exhaust stack, whichever is less stringent.

Applicable Compliance Method:

Compliance shall be demonstrated via the design specifications of the dust collector and its collection system and the performance of daily visual inspections of source emissions.

If required, the permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

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

Method 5, 40 CFR Part 60, Appendix A

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



h. Usage Limitation:

The maximum annual production rate for emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined shall not exceed 17,170,000 pounds of ink per year, based upon a rolling, 12-month summation of the production rates.

Applicable Compliance Method:

Compliance with the production rate limitation in b)(2)c. shall be based upon the record keeping requirements as specified in d)(4)b.

i. Usage Limitation:

The maximum annual operating hours for this emissions unit shall not exceed 3120 hours, based upon a rolling, 12-month summation.

Compliance with the annual operating hour limitation in term b)(2)d. shall be based upon the record keeping requirements as specified in d)(4)d.

j. Usage Limitation:

The OC content of the inks mixed in this emissions unit shall not exceed 35% by weight.

Applicable Compliance Method:

Compliance with the OC content limitation in term b)(2)e. shall be based upon the record keeping requirements as specified in section d)(3)e.

g) Miscellaneous Requirements

- (1) Modeling to demonstrate compliance with, the "Toxic Air Contaminant Statute", ORC 3704.03(F)(4)(b), was not necessary because the emissions unit's maximum annual emissions for each toxic air contaminant, as defined in OAC rule 3745-114-01, will be less than 1.0 ton per year. OAC Chapter 3745-31 requires a permittee to apply for and obtain a new or modified permit-to-install and operate prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would cause the emissions of any toxic air contaminant to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new permit-to-install and operate.



5. P027, Liquid Ink Mixer 6

Operations, Property and/or Equipment Description:

Liquid ink mixer 6 with cover and baghouse

- 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. g)(1)
 - (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. See b)(1)c., b)(1)d., b)(2)c., b)(2)d., b)(2)e., d)(3)d., d)(4), e)(1), e)(3), f)(1)c., f)(1)h., f)(1)i. and f)(1)j.
- 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), as effective 11/30/01 | Organic compound (OC) emissions from the mixer shall not exceed 4.10 pounds per hour. See b)(2)e. Particulate emissions (PE), particulate emissions ten microns and less in diameter (PM10) and particulate emissions 2.5 microns and less in diameter (PM2.5) shall not exceed 0.7 pound per hour and 1.09 ton per year. See b)(2)a. The requirements of this rule also include compliance with the requirements of OAC rules 3745-31-05(D), 3745-17-07(A)(1), |



| | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|----|--|--|
| | | 3745-17-07(B)(1), 3745-17-08(B)(3), and OAC rule 3745-17-11(B). |
| b. | OAC rule 3745-31-05(A)(3)(b), as effective 12/01/06 | See b)(2)b. |
| c. | OAC rule 3745-31-05(D), as effective 12/01/06 Synthetic Minor to avoid being a major stationary source for purposes of non-attainment review and Title V. | Organic compound (OC) emissions from emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined shall not exceed 53.0 tons per year, based on a rolling, 12-month summation. See b)(2)c., b)(2)d. and b)(2)e. |
| d. | OAC rule 3745-31-05(D) (to avoid being subject to Title V permitting requirements and OAC rule 3745-31-28) | See Section B.2. |
| e. | OAC rule 3745-17-07(A)(1) | Visible particulate emissions from any stack shall not exceed 20% opacity, as a 6-minute average, except as specified by rule. |
| f. | OAC rule 3745-17-07(B)(1) | Fugitive visible particulate emissions shall not exceed 20% opacity, as a 3-minute average, except as specified by rule. |
| g. | OAC rule 3745-17-08(B)(3) | The particulate emission rate at the control device outlet shall not exceed 0.030 grain of particulate emissions per dry standard cubic foot of exhaust gas or no visible particulate emissions from the exhaust stack, whichever is less stringent. See b)(2)f. |
| h. | OAC rule 3745-17-11(B) | Particulate emissions (PE) shall not exceed 2.03 pounds per hour. This rule based limitation is less stringent than BAT as effective 11/30/01. This rule base PE limitation will become the more stringent limitation when U.S. EPA approves the 12/1/06 revisions to OAC rule 3745-31-05. |

(2) Additional Terms and Conditions

- a. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to Ohio Administrative Code (OAC) paragraph 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph



(A)(3) of OAC rule 3745-31-05 was revised to conform to the Ohio Revised Code (ORC) changes effective August 3, 2006 (Senate Bill 265 changes), such that BAT is no longer required by State regulations for National Ambient Air Quality Standards (NAAQS) pollutant(s) less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then these emission limitations/control measures no longer apply.

- b. This rule paragraph applies once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the State Implementation Plan.

The BAT requirements under OAC rule 3745-31-05(A)(3) do not apply to the PE/PM10/PM2.5 emissions from this emissions unit since the controlled potential to emit is less than ten tons per year.

- c. The maximum annual production rate for emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined shall not exceed 17,170,000 pounds of ink per year, based upon a rolling, 12-month summation of the production rates.
- d. The maximum annual operating hours for this emissions unit shall not exceed 3120 hours, based upon a rolling, 12-month summation.
- e. The OC content of the inks mixed in this emissions unit shall not exceed 35% by weight.
- f. The fugitive dust from this emissions unit shall be controlled by the use of reasonably available control measures adequate to minimize or eliminate visible particulate emissions.
- g. The hourly emission limitations outlined are based upon the emission unit's potential to emit (PTE). Therefore, no records are required to demonstrate compliance with this limitation.

c) Operational Restrictions

- (1) None.

d) Monitoring and/or Recordkeeping Requirements

- (1) In order to maintain compliance with the applicable emission limitation(s) contained in this permit, the acceptable range established for the pressure drop across the baghouse is between 2 to 6.5 psi.
- (2) The permittee shall properly install, operate, and maintain equipment to continuously monitor the pressure drop, in psi, across the baghouse when the controlled emissions unit is adding dry material. The permittee shall record the pressure drop across the baghouse on a daily basis. The monitoring equipment shall be installed, calibrated,



operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee.

Whenever the monitored value for the pressure drop deviates from the limit or range established in accordance with this permit, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:

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

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

- a. a description of the corrective action;
- b. the date corrective action was completed;
- c. the date and time the deviation ended;
- d. the total period of time (in minutes) during which there was a deviation;
- e. the pressure drop readings immediately after the corrective action was implemented; and
- f. the name(s) of the personnel who performed the work.

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

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



- (3) The permittee shall collect and record the following information each month for all organic compounds used in the formulation of finished inks for emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033:
- a. The name and identification number/code of each batch of ink produced;
 - b. The amount of each organic material used in the formulation of ink, in pounds;
 - c. The total combined monthly OC emissions, in tons per month. This calculation shall be based on the following equation:

The summation of [(b) x (0.0117 pound of OC emitted/pound of OC processed*)/2000] for each liquid organic material used in the formulation of inks.

*Emission factor derived from the National Association of Printing Ink Manufacturers (NAPIM) Guide to Estimating VOC Emission from Printing Ink Manufacturing;
 - d. The rolling, 12-month summation of OC emissions (the summation of the current month emission total and the previous eleven calendar months emission totals); and
 - e. The OC content, in percent by weight, for each batch.
- (4) The permittee shall maintain monthly records of the following information foremissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033:
- a. The production rate for each month, in pounds of ink;
 - b. The rolling, 12-month summation of the production rates, in pounds of ink;
 - c. The operating hours for this emissions unit for each month; and
 - d. The rolling, 12-month summation of the operating hours.
- (5) The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack and for any visible emissions of fugitive dust from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
- a. the location and color of the emissions;
 - b. whether the emissions are representative of normal operations;
 - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;



- d. the total duration of any visible emissions incident; and
- e. any corrective actions taken to minimize or eliminate the visible emissions.

If visible emissions are present, a visible emissions incident has occurred. The observer does not have to document the exact start and end times for the visible emissions incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible emissions incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

- (6) The permittee shall collect and record the added pigment amount, in percent by weight and in pounds of pigment added per pound of ink, for each batch.

e) 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. An identification of each month in which the ink production exceeded the rolling, 12-month limitation contained in this permit.
 - ii. An identification of each month in which the hours of operation of this emissions unit exceeded the rolling, 12-month limitation contained in this permit.
 - iii. An identification of each month in which the accumulative, rolling, 12-month OC emissions limitation(s) exceeded the limitation in this permit, in pounds or tons per rolling, 12-month period.
 - iv. An identification of each month in which the accumulative, rolling, 12-month HAP emissions limitation(s) exceeded the limitation in this permit, in pounds or tons per rolling, 12-month period.
 - 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 to the Director (the Hamilton County Department of Environmental Services) by February 15, May 15, August 15, and November 15 of each year and shall cover the previous three calendar months (October through December, January through March, April through June and July through September, respectively).

- (2) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit. The permit evaluation report shall identify:
 - a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit;
 - b. all days during which any visible emissions of fugitive dust were observed from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit; and
 - c. any corrective actions taken to minimize or eliminate the visible particulate emissions from the stack and/or visible emissions of fugitive dust.
- (3) The permittee shall submit annual reports which specify the total organic compound emissions from emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033. These reports shall be submitted by January 30 of each year and cover the previous calendar year.

f) Testing Requirements

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

- a. Emission Limitation:

Organic compound (OC) emissions from the mixer shall not exceed 4.10 pounds per hour.

Applicable Compliance Method:

The hourly OC emission rate is based on the emissions unit's potential to emit. The potential to emit was calculated by: (maximum production rate of 2000 pounds per batch) / (2 hours per batch) x (35 percent by weight OC content, in pounds of OC processed) x (0.0117 pound of OC emitted/pound of OC processed).

*Emission factor derived from the National Association of Printing Ink Manufacturers (NAPIM) Guide to Estimating VOC Emissions from Printing Ink Manufacturing.



b. Emission Limitation:

Particulate emissions (PE), particulate emissions ten microns and less in diameter (PM10) and particulate emissions 2.5 microns and less in diameter (PM2.5) shall not exceed 0.7 pound per hour and 1.09 ton per year.

Applicable Compliance Method:

The hourly PE-PM10-PM2.5 emission rate is based on this emission unit's uncontrolled potential to emit employing the concept that all emissions are emitted during the first hour of the making of a batch of product regardless of the number of hours to produce a batch of product.

The annual PE-PM10-PM2.5 emission rate was calculated by: [(2000 pounds of ink per hour) x (35% added pigment) x (0.1% facility supplied emission factor) x (3120 hours per year)/(2000)].

c. Emission Limitation:

53.0TPY of OC from emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined, based on a rolling 12-month summation.

Applicable Compliance Method:

Compliance with the rolling, 12-month emissions limitation for OC shall be based upon the record keeping requirements as specified in section d)(3)d.

The rolling 12-month OC emission rate shall be calculated by: (the actual rolling 12-month production rate) x (the actual percent by weight OC content, in pounds of OC processed) x (0.0117 pound of OC emitted/pound of OC processed).

*Emission factor derived from the National Association of Printing Ink Manufacturers (NAPIM) Guide to Estimating VOC Emissions from Printing Ink Manufacturing.

d. Emission Limitation:

Visible particulate emissions shall not exceed 20 percent opacity, as a six-minute average, except as provided by the rule.

Applicable Compliance Method:

Compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9, and the procedures specified in OAC rule 3745-17-03(B)(1).

e. Emission Limitation:

Fugitive visible particulate emissions shall not exceed 20 percent opacity, as a three-minute average, except as provided by the rule.



Applicable Compliance Method:

Compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, and the procedures specified in OAC rule 3745-17-03(B)(3).

f. Emission Limitation:

Particulate emissions (PE) from the mixer shall not exceed 2.03 pounds per hour.

Applicable Compliance Method:

The hourly PE emission rate is based on Table I in OAC rule 3745-17-11. The actual emissions shall be calculated by: [(maximum production rate of 2000 pounds per batch) x (35 percent by weight added pigment) x (0.1% lb of PE per pound of pigment AP-42 emission factor)].

(Note: The PE occur at the start of the batch cycle and do not extend over more than the first hour of the total batch cycle time, therefore the process weight rate is not divided by the length of the batch time. The weight of the liquid was not included in the process weight rate in the calculation of both the allowable PE and the actual PE because the liquid content in this process does not cause or result in the emission of particulate matter, following guidance per February 22, 2007 communication from Tom Kalman, Ohio EPA.)

g. Emission Limitation:

The particulate emission rate at the control device outlet shall not exceed 0.030 grain of particulate emissions per dry standard cubic foot of exhaust gas or no visible particulate emissions from the exhaust stack, whichever is less stringent.

Applicable Compliance Method:

Compliance shall be demonstrated via the design specifications of the dust collector and its collection system and the performance of daily visual inspections of source emissions.

If required, the permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

- i. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):

Method 5, 40 CFR Part 60, Appendix A

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



h. Usage Limitation:

The maximum annual production rate for emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined shall not exceed 17,170,000 pounds of ink per year, based upon a rolling, 12-month summation of the production rates.

Applicable Compliance Method:

Compliance with the production rate limitation in b)(2)c. shall be based upon the record keeping requirements as specified in d)(4)b.

i. Usage Limitation:

The maximum annual operating hours for this emissions unit shall not exceed 3120 hours, based upon a rolling, 12-month summation.

Compliance with the annual operating hour limitation in term b)(2)d. shall be based upon the record keeping requirements as specified in d)(4)d.

j. Usage Limitation:

The OC content of the inks mixed in this emissions unit shall not exceed 35% by weight.

Applicable Compliance Method:

Compliance with the OC content limitation in term b)(2)e. shall be based upon the record keeping requirements as specified in section d)(3)e.

g) Miscellaneous Requirements

- (1) Modeling to demonstrate compliance with, the "Toxic Air Contaminant Statute", ORC 3704.03(F)(4)(b), was not necessary because the emissions unit's maximum annual emissions for each toxic air contaminant, as defined in OAC rule 3745-114-01, will be less than 1.0 ton per year. OAC Chapter 3745-31 requires a permittee to apply for and obtain a new or modified permit-to-install and operate prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would cause the emissions of any toxic air contaminant to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new permit-to-install and operate.



6. P029, Liquid Ink Mixer

Operations, Property and/or Equipment Description:

0.5 HP air ink mixer

- 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. g)(1)
 - (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. See b)(1)b., b)(1)c., b)(2)a., b)(2)b., b)(2)c., d)(1)d., d)(2), e)(1), e)(3), f)(1)b., f)(1)c., f)(1)d., and f)(1)e.
- 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) | Organic compound (OC) emissions from the mixer shall not exceed 1.33 pounds per hour. See b)(2)c. and b)(2)d. The requirements of this rule also include compliance with the requirements of OAC rule 3745-31-05(D). |
| b. | OAC rule 3745-31-05(D), as effective 12/01/06 Synthetic Minor to avoid being a major stationary source for purposes of non-attainment review and Title V. | Organic compound (OC) emissions from emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined shall not exceed 53.0 tons per year, based on a rolling, 12-month summation. See b)(2)a. and b)(2)b. |
| c. | OAC rule 3745-31-05(D) | See Section B.2. |



| | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|--|---|---|
| | (to avoid being subject to Title V permitting requirements and OAC rule 3745-31-28) | |

(2) Additional Terms and Conditions

- a. The maximum annual production rate for emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined shall not exceed 17,170,000 pounds of ink per year, based upon a rolling, 12-month summation of the production rates.
- b. The maximum annual operating hours for this emissions unit shall not exceed 3120 hours, based upon a rolling, 12-month summation.
- c. The OC content of the inks mixed in this emissions unit shall not exceed 95% by weight.
- d. The hourly OC emission limitation outlined is based upon the emission unit's potential to emit (PTE). Therefore, no records are required to demonstrate compliance with this limitation.

c) Operational Restrictions

- (1) None.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall collect and record the following information each month for all organic compounds used in the formulation of finished inks for emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033:

- a. The name and identification number/code of each batch of ink produced;
- b. The amount of each organic material used in the formulation of ink, in pounds;
- c. The total combined monthly OC emissions, in tons per month. This calculation shall be based on the following equation:

The summation of [(b) x (0.0117 pound of OC emitted/pound of OC processed*)/2000] for each liquid organic material used in the formulation of inks.

*Emission factor derived from the National Association of Printing Ink Manufacturers (NAPIM) Guide to Estimating VOC Emission from Printing Ink Manufacturing;

- d. The rolling, 12-month summation of OC emissions (the summation of the current month emission total and the previous eleven calendar months emission totals); and



- e. The OC content, in percent by weight, for each batch.
- (2) The permittee shall maintain monthly records of the following information foremissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033:
- a. The production rate for each month, in pounds of ink;
 - b. The rolling, 12-month summation of the production rates, in pounds of ink;
 - c. The operating hours for this emissions unit for each month; and
 - d. The rolling, 12-month summation of the operating hours.
- e) 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. An identification of each month in which the ink production exceeded the rolling, 12-month limitation contained in this permit.
 - ii. An identification of each month in which the hours of operation of this emissions unit exceeded the rolling, 12-month limitation contained in this permit.
 - iii. An identification of each month in which the accumulative, rolling, 12-month OC emissions limitation(s) exceeded the limitation in this permit, in pounds or tons per rolling, 12-month period.
 - iv. An identification of each month in which the accumulative, rolling, 12-month HAP emissions limitation(s) exceeded the limitation in this permit, in pounds or tons per rolling, 12-month period.
 - 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 to the Director (the Hamilton County Department of Environmental Services) by February 15, May 15, August 15, and November 15 of each year and shall cover the



previous three calendar months (October through December, January through March, April through June and July through September, respectively).

- (2) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit.
- (3) The permittee shall submit annual reports which specify the total organic compound emissions from emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033. These reports shall be submitted by January 30 of each year and cover the previous calendar year.

f) Testing Requirements

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

a. Emission Limitation:

Organic compound (OC) emissions from the mixer shall not exceed 1.33 pounds per hour.

Applicable Compliance Method:

The hourly OC emission rate is based on the emissions unit's potential to emit. The potential to emit was calculated by: (maximum production rate of 40 pounds per batch) / (0.33 hour per batch) x (95 percent by weight OC content, in pounds of OC processed) x (0.0117 pound of OC emitted/pound of OC processed).

*Emission factor derived from the National Association of Printing Ink Manufacturers (NAPIM) Guide to Estimating VOC Emissions from Printing Ink Manufacturing.

b. Emission Limitation:

53.0TPY of OC from emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined, based on a rolling 12-month summation.

Applicable Compliance Method:

Compliance with the rolling, 12-month emissions limitation for OC shall be based upon the record keeping requirements as specified in section d)(1)d.

The rolling 12-month OC emission rate shall be calculated by: (the actual rolling 12-month production rate) x (the actual percent by weight OC content, in pounds of OC processed) x (0.0117 pound of OC emitted/pound of OC processed).



*Emission factor derived from the National Association of Printing Ink Manufacturers (NAPIM) Guide to Estimating VOC Emissions from Printing Ink Manufacturing.

c. Usage Limitation:

The maximum annual production rate for emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined shall not exceed 17,170,000 pounds of ink per year, based upon a rolling, 12-month summation of the production rates.

Applicable Compliance Method:

Compliance with the production rate limitation in b)(2)a. shall be based upon the record keeping requirements as specified in d)(2)b.

d. Usage Limitation:

The maximum annual operating hours for this emissions unit shall not exceed 3120 hours, based upon a rolling, 12-month summation.

Compliance with the annual operating hour limitation in term b)(2)b. shall be based upon the record keeping requirements as specified in d)(2)d.

e. Usage Limitation:

The OC content of the inks mixed in this emissions unit shall not exceed 95% by weight.

Applicable Compliance Method:

Compliance with the OC content limitation in term b)(2)c. shall be based upon the record keeping requirements as specified in section d)(1)e.

g) Miscellaneous Requirements

- (1) Modeling to demonstrate compliance with, the "Toxic Air Contaminant Statute", ORC 3704.03(F)(4)(b), was not necessary because the emissions unit's maximum annual emissions for each toxic air contaminant, as defined in OAC rule 3745-114-01, will be less than 1.0 ton per year. OAC Chapter 3745-31 requires a permittee to apply for and obtain a new or modified permit-to-install and operate prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would cause the emissions of any toxic air contaminant to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new permit-to-install and operate.



7. P030, Liquid Ink Mixer

Operations, Property and/or Equipment Description:

0.25 HP air ink mixer

- 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. g)(1)
 - (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. See b)(1)b., b)(1)c., b)(2)a., b)(2)b., b)(2)c., d)(1)d., d)(2), e)(1), e)(3), f)(1)b., f)(1)c., f)(1)d., and f)(1)e.
- 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) | Organic compound (OC) emissions from the mixer shall not exceed 0.36 pound per hour. See b)(2)c. and b)(2)d. The requirements of this rule also include compliance with the requirements of OAC rule 3745-31-05(D). |
| b. | OAC rule 3745-31-05(D), as effective 12/01/06 Synthetic Minor to avoid being a major stationary source for purposes of non-attainment review and Title V. | Organic compound (OC) emissions from emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined shall not exceed 53.0 tons per year, based on a rolling, 12-month summation. See b)(2)a. and b)(2)b. |
| c. | OAC rule 3745-31-05(D) | See Section B.2. |



| | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|--|---|---|
| | (to avoid being subject to Title V permitting requirements and OAC rule 3745-31-28) | |

(2) Additional Terms and Conditions

- a. The maximum annual production rate for emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined shall not exceed 17,170,000 pounds of ink per year, based upon a rolling, 12-month summation of the production rates.
- b. The maximum annual operating hours for this emissions unit shall not exceed 3120 hours, based upon a rolling, 12-month summation.
- c. The OC content of the inks mixed in this emissions unit shall not exceed 95% by weight.
- d. The hourly OC emission limitation outlined is based upon the emission unit's potential to emit (PTE). Therefore, no records are required to demonstrate compliance with this limitation.

c) Operational Restrictions

- (1) None.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall collect and record the following information each month for all organic compounds used in the formulation of finished inks for emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033:

- a. The name and identification number/code of each batch of ink produced;
- b. The amount of each organic material used in the formulation of ink, in pounds;
- c. The total combined monthly OC emissions, in tons per month. This calculation shall be based on the following equation:

The summation of [(b) x (0.0117 pound of OC emitted/pound of OC processed*)/2000] for each liquid organic material used in the formulation of inks.

*Emission factor derived from the National Association of Printing Ink Manufacturers (NAPIM) Guide to Estimating VOC Emission from Printing Ink Manufacturing;

- d. The rolling, 12-month summation of OC emissions (the summation of the current month emission total and the previous eleven calendar months emission totals); and



- e. The OC content, in percent by weight, for each batch.
- (2) The permittee shall maintain monthly records of the following information foremissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033:
- a. The production rate for each month, in pounds of ink;
 - b. The rolling, 12-month summation of the production rates, in pounds of ink;
 - c. The operating hours for this emissions unit for each month; and
 - d. The rolling, 12-month summation of the operating hours.
- e) 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. An identification of each month in which the ink production exceeded the rolling, 12-month limitation contained in this permit.
 - ii. An identification of each month in which the hours of operation of this emissions unit exceeded the rolling, 12-month limitation contained in this permit.
 - iii. An identification of each month in which the accumulative, rolling, 12-month OC emissions limitation(s) exceeded the limitation in this permit, in pounds or tons per rolling, 12-month period.
 - iv. An identification of each month in which the accumulative, rolling, 12-month HAP emissions limitation(s) exceeded the limitation in this permit, in pounds or tons per rolling, 12-month period.
 - 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 to the Director (the Hamilton County Department of Environmental Services) by February 15, May 15, August 15, and November 15 of each year and shall cover the



previous three calendar months (October through December, January through March, April through June and July through September, respectively).

- (2) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit.
- (3) The permittee shall submit annual reports which specify the total organic compound emissions from emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033. These reports shall be submitted by January 30 of each year and cover the previous calendar year.

f) Testing Requirements

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

a. Emission Limitation:

Organic compound (OC) emissions from the mixer shall not exceed 0.36 pound per hour.

Applicable Compliance Method:

The hourly OC emission rate is based on the emissions unit's potential to emit. The potential to emit was calculated by: (maximum production rate of 8 pounds per batch) / (0.25 hour per batch) x (95 percent by weight OC content, in pounds of OC processed) x (0.0117 pound of OC emitted/pound of OC processed).

*Emission factor derived from the National Association of Printing Ink Manufacturers (NAPIM) Guide to Estimating VOC Emissions from Printing Ink Manufacturing.

b. Emission Limitation:

53.0TPY of OC from emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined, based on a rolling 12-month summation.

Applicable Compliance Method:

Compliance with the rolling, 12-month emissions limitation for OC shall be based upon the record keeping requirements as specified in section d)(1)d.

The rolling 12-month OC emission rate shall be calculated by: (the actual rolling 12-month production rate) x (the actual percent by weight OC content, in pounds of OC processed) x (0.0117 pound of OC emitted/pound of OC processed).



*Emission factor derived from the National Association of Printing Ink Manufacturers (NAPIM) Guide to Estimating VOC Emissions from Printing Ink Manufacturing.

c. Usage Limitation:

The maximum annual production rate for emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined shall not exceed 17,170,000 pounds of ink per year, based upon a rolling, 12-month summation of the production rates.

Applicable Compliance Method:

Compliance with the production rate limitation in b)(2)a. shall be based upon the record keeping requirements as specified in d)(2)b.

d. Usage Limitation:

The maximum annual operating hours for this emissions unit shall not exceed 3120 hours, based upon a rolling, 12-month summation.

Compliance with the annual operating hour limitation in term b)(2)b. shall be based upon the record keeping requirements as specified in d)(2)d.

e. Usage Limitation:

The OC content of the inks mixed in this emissions unit shall not exceed 95% by weight.

Applicable Compliance Method:

Compliance with the OC content limitation in term b)(2)c. shall be based upon the record keeping requirements as specified in section d)(1)e.

g) Miscellaneous Requirements

- (1) Modeling to demonstrate compliance with, the "Toxic Air Contaminant Statute", ORC 3704.03(F)(4)(b), was not necessary because the emissions unit's maximum annual emissions for each toxic air contaminant, as defined in OAC rule 3745-114-01, will be less than 1.0 ton per year. OAC Chapter 3745-31 requires a permittee to apply for and obtain a new or modified permit-to-install and operate prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would cause the emissions of any toxic air contaminant to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new permit-to-install and operate.



8. P031, Liquid Ink Mixer 10

Operations, Property and/or Equipment Description:

Liquid ink mixer 10 with cover and baghouse

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. g)(1)

(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. See b)(1)c., b)(1)d., b)(2)c., b)(2)d., b)(2)e., d)(3)d., d)(4), e)(1), e)(3), f)(1)c., f)(1)h., f)(1)i. and f)(1)j.

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), as effective 11/30/01 | Organic compound (OC) emissions from the mixer shall not exceed 4.45 pounds per hour. See b)(2)e. Particulate emissions (PE), particulate emissions ten microns and less in diameter (PM10) and particulate emissions 2.5 microns and less in diameter (PM2.5) shall not exceed 0.14 pound per hour and 0.22 ton per year. See b)(2)a. The requirements of this rule also include compliance with the requirements of OAC rules 3745-31-05(D), 3745-17-07(A)(1), |



| | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|----|--|---|
| | | 3745-17-07(B)(1), 3745-17-08(B)(3), and OAC rule 3745-17-11(B). |
| b. | OAC rule 3745-31-05(A)(3)(b), as effective 12/01/06 | See b)(2)b. |
| c. | OAC rule 3745-31-05(D), as effective 12/01/06 Synthetic Minor to avoid being a major stationary source for purposes of non-attainment review and Title V. | Organic compound (OC) emissions from emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined shall not exceed 53.0 tons per year, based on a rolling, 12-month summation. See b)(2)c., b)(2)d. and b)(2)e. |
| d. | OAC rule 3745-31-05(D) (to avoid being subject to Title V permitting requirements and OAC rule 3745-31-28) | See Section B.2. |
| e. | OAC rule 3745-17-07(A)(1) | Visible particulate emissions from any stack shall not exceed 20% opacity, as a 6-minute average, except as specified by rule. |
| f. | OAC rule 3745-17-07(B)(1) | Fugitive visible particulate emissions shall not exceed 20% opacity, as a 3-minute average, except as specified by rule. |
| g. | OAC rule 3745-17-08(B)(3) | The particulate emission rate at the control device outlet shall not exceed 0.030 grain of particulate emissions per dry standard cubic foot of exhaust gas or no visible particulate emissions from the exhaust stack, whichever is less stringent. See b)(2)f. |
| h. | OAC rule 3745-17-11(B) | Particulate emissions (PE) shall not exceed 0.69 pound per hour. This rule based limitation is less stringent than BAT as effective 11/30/01. This rule base PE limitation will become the more stringent limitation when U.S. EPA approves the 12/1/06 revisions to OAC rule 3745-31-05. |

(2) Additional Terms and Conditions

- a. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to Ohio Administrative Code (OAC) paragraph 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph



(A)(3) of OAC rule 3745-31-05 was revised to conform to the Ohio Revised Code (ORC) changes effective August 3, 2006 (Senate Bill 265 changes), such that BAT is no longer required by State regulations for National Ambient Air Quality Standards (NAAQS) pollutant(s) less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then these emission limitations/control measures no longer apply.

- b. This rule paragraph applies once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the State Implementation Plan.

The BAT requirements under OAC rule 3745-31-05(A)(3) do not apply to the PE/PM10/PM2.5 emissions from this emissions unit since the controlled potential to emit is less than ten tons per year.

- c. The maximum annual production rate for emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined shall not exceed 17,170,000 pounds of ink per year, based upon a rolling, 12-month summation of the production rates.
- d. The maximum annual operating hours for this emissions unit shall not exceed 3120 hours, based upon a rolling, 12-month summation.
- e. The OC content of the inks mixed in this emissions unit shall not exceed 95% by weight.
- f. The fugitive dust from this emissions unit shall be controlled by the use of reasonably available control measures adequate to minimize or eliminate visible particulate emissions.
- g. The hourly emissions limitations outlined are based upon the emission unit's potential to emit (PTE). Therefore, no records are required to demonstrate compliance with this limitation.

c) Operational Restrictions

- (1) None.

d) Monitoring and/or Recordkeeping Requirements

- (1) In order to maintain compliance with the applicable emission limitation(s) contained in this permit, the acceptable range established for the pressure drop across the baghouse is between 2 to 6.5 psi.
- (2) The permittee shall properly install, operate, and maintain equipment to continuously monitor the pressure drop, in psi, across the baghouse when the controlled emissions unit is adding dry material. The permittee shall record the pressure drop across the baghouse on a daily basis. The monitoring equipment shall be installed, calibrated,



operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee.

Whenever the monitored value for the pressure drop deviates from the limit or range established in accordance with this permit, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:

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

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

- a. a description of the corrective action;
- b. the date corrective action was completed;
- c. the date and time the deviation ended;
- d. the total period of time (in minutes) during which there was a deviation;
- e. the pressure drop readings immediately after the corrective action was implemented; and
- f. the name(s) of the personnel who performed the work.

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

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



- (3) The permittee shall collect and record the following information each month for all organic compounds used in the formulation of finished inks for emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033:
- The name and identification number/code of each batch of ink produced;
 - The amount of each organic material used in the formulation of ink, in pounds;
 - The total combined monthly OC emissions, in tons per month. This calculation shall be based on the following equation:

The summation of [(b) x (0.0117 pound of OC emitted/pound of OC processed*)/2000] for each liquid organic material used in the formulation of inks.

*Emission factor derived from the National Association of Printing Ink Manufacturers (NAPIM) Guide to Estimating VOC Emission from Printing Ink Manufacturing;
 - The rolling, 12-month summation of OC emissions (the summation of the current month emission total and the previous eleven calendar months emission totals); and
 - The OC content, in percent by weight, for each batch.
- (4) The permittee shall maintain monthly records of the following information foremissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033:
- The production rate for each month, in pounds of ink;
 - The rolling, 12-month summation of the production rates, in pounds of ink;
 - The operating hours for this emissions unit for each month; and
 - The rolling, 12-month summation of the operating hours.
- (5) The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack and for any visible emissions of fugitive dust from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
- the location and color of the emissions;
 - whether the emissions are representative of normal operations;
 - if the emissions are not representative of normal operations, the cause of the abnormal emissions;



- d. the total duration of any visible emissions incident; and
- e. any corrective actions taken to minimize or eliminate the visible emissions.

If visible emissions are present, a visible emissions incident has occurred. The observer does not have to document the exact start and end times for the visible emissions incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible emissions incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

- (6) The permittee shall collect and record the added pigment amount, in percent by weight, for each batch.

e) 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. An identification of each month in which the ink production exceeded the rolling, 12-month limitation contained in this permit.
 - ii. An identification of each month in which the hours of operation of this emissions unit exceeded the rolling, 12-month limitation contained in this permit.
 - iii. An identification of each month in which the accumulative, rolling, 12-month OC emissions limitation(s) exceeded the limitation in this permit, in pounds or tons per rolling, 12-month period.
 - iv. An identification of each month in which the accumulative, rolling, 12-month HAP emissions limitation(s) exceeded the limitation in this permit, in pounds or tons per rolling, 12-month period.
 - 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 to the Director (the Hamilton County Department of Environmental Services) by February 15, May 15, August 15, and November 15 of each year and shall cover the previous three calendar months (October through December, January through March, April through June and July through September, respectively).

- (2) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit. The permit evaluation report shall identify:
 - a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit;
 - b. all days during which any visible emissions of fugitive dust were observed from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit; and
 - c. any corrective actions taken to minimize or eliminate the visible particulate emissions from the stack and/or visible emissions of fugitive dust.
- (3) The permittee shall submit annual reports which specify the total organic compound emissions from emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033. These reports shall be submitted by January 30 of each year and cover the previous calendar year.

f) Testing Requirements

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

- a. Emission Limitation:

Organic compound (OC) emissions from the mixer shall not exceed 4.45 pounds per hour.

Applicable Compliance Method:

The hourly OC emission rate is based on the emissions unit's potential to emit. The potential to emit was calculated by: (maximum production rate of 400 pounds per batch) / (1 hour per batch) x (95 percent by weight OC content, in pounds of OC processed) x (0.0117 pound of OC emitted/pound of OC processed).

*Emission factor derived from the National Association of Printing Ink Manufacturers (NAPIM) Guide to Estimating VOC Emissions from Printing Ink Manufacturing.



b. Emission Limitation:

Particulate emissions (PE), particulate emissions ten microns and less in diameter (PM10) and particulate emissions 2.5 microns and less in diameter (PM2.5) shall not exceed 0.14 pound per hour and 0.22 ton per year.

Applicable Compliance Method:

The hourly PE-PM10-PM2.5 emission rate is based on this emission unit's uncontrolled potential to emit employing the concept that all emissions are emitted during the first hour of the making of a batch of product regardless of the number of hours to produce a batch of product.

The annual PE-PM10-PM2.5 emission rate was calculated by: [(400 pounds of ink per hour) x (35% added pigment) x (0.1% facility supplied emission factor) x (3120 hours per year)/(2000)].

c. Emission Limitation:

53.0TPY of OC from emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined, based on a rolling 12-month summation.

Applicable Compliance Method:

Compliance with the rolling, 12-month emissions limitation for OC shall be based upon the record keeping requirements as specified in section d)(3)d.

The rolling 12-month OC emission rate shall be calculated by: (the actual rolling 12-month production rate) x (the actual percent by weight OC content, in pounds of OC processed) x (0.0117 pound of OC emitted/pound of OC processed).

*Emission factor derived from the National Association of Printing Ink Manufacturers (NAPIM) Guide to Estimating VOC Emissions from Printing Ink Manufacturing.

d. Emission Limitation:

Visible particulate emissions shall not exceed 20 percent opacity, as a six-minute average, except as provided by the rule.

Applicable Compliance Method:

Compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9, and the procedures specified in OAC rule 3745-17-03(B)(1).

e. Emission Limitation:

Fugitive visible particulate emissions shall not exceed 20 percent opacity, as a three-minute average, except as provided by the rule.



Applicable Compliance Method:

Compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, and the procedures specified in OAC rule 3745-17-03(B)(3).

f. Emission Limitation:

Particulate emissions (PE) from the mixer shall not exceed 0.69 pound per hour.

Applicable Compliance Method:

The hourly PE emission rate is based on Table I in OAC rule 3745-17-11. The actual emissions shall be calculated by: [(maximum production rate of 400 pounds per batch) x (35 percent by weight added pigment) x (0.1% lb of PE per pound of pigment AP-42 emission factor)].

(Note: The PE occur at the start of the batch cycle and do not extend over more than the first hour of the total batch cycle time, therefore the process weight rate is not divided by the length of the batch time. The weight of the liquid was not included in the process weight rate in the calculation of both the allowable PE and the actual PE because the liquid content in this process does not cause or result in the emission of particulate matter, following guidance per February 22, 2007 communication from Tom Kalman, Ohio EPA.)

g. Emission Limitation:

The particulate emission rate at the control device outlet shall not exceed 0.030 grain of particulate emissions per dry standard cubic foot of exhaust gas or no visible particulate emissions from the exhaust stack, whichever is less stringent.

Applicable Compliance Method:

Compliance shall be demonstrated via the design specifications of the dust collector and its collection system and the performance of daily visual inspections of source emissions.

If required, the permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

- i. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):

Method 5, 40 CFR Part 60, Appendix A

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



h. Usage Limitation:

The maximum annual production rate for emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined shall not exceed 17,170,000 pounds of ink per year, based upon a rolling, 12-month summation of the production rates.

Applicable Compliance Method:

Compliance with the production rate limitation in b)(2)c. shall be based upon the record keeping requirements as specified in d)(4)b.

i. Usage Limitation:

The maximum annual operating hours for this emissions unit shall not exceed 3120 hours, based upon a rolling, 12-month summation.

Compliance with the annual operating hour limitation in term b)(2)d. shall be based upon the record keeping requirements as specified in d)(4)d.

j. Usage Limitation:

The OC content of the inks mixed in this emissions unit shall not exceed 95% by weight.

Applicable Compliance Method:

Compliance with the OC content limitation in term b)(2)e. shall be based upon the record keeping requirements as specified in section d)(3)e.

g) Miscellaneous Requirements

- (1) Modeling to demonstrate compliance with, the "Toxic Air Contaminant Statute", ORC 3704.03(F)(4)(b), was not necessary because the emissions unit's maximum annual emissions for each toxic air contaminant, as defined in OAC rule 3745-114-01, will be less than 1.0 ton per year. OAC Chapter 3745-31 requires a permittee to apply for and obtain a new or modified permit-to-install and operate prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would cause the emissions of any toxic air contaminant to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new permit-to-install and operate.



9. P032, Liquid Ink Mixer 11

Operations, Property and/or Equipment Description:

Liquid ink mixer 11 with cover and baghouse

- 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. g)(1)
 - (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. See b)(1)c., b)(1)d., b)(2)c., b)(2)d., b)(2)e., d)(3)d., d)(4), e)(1), e)(3), f)(1)c., f)(1)h., f)(1)i. and f)(1)j.
- 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), as effective 11/30/01 | Organic compound (OC) emissions from the mixer shall not exceed 11.86 pounds per hour. See b)(2)e. Particulate emissions (PE), particulate emissions ten microns and less in diameter (PM10) and particulate emissions 2.5 microns and less in diameter (PM2.5) shall not exceed 0.56 pound per hour and 0.87 ton per year. See b)(2)a. The requirements of this rule also include compliance with the requirements of OAC rules 3745-31-05(D), 3745-17-07(A)(1), |



| | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|----|--|--|
| | | 3745-17-07(B)(1), 3745-17-08(B)(3), and OAC rule 3745-17-11(B). |
| b. | OAC rule 3745-31-05(A)(3)(b), as effective 12/01/06 | See b)(2)b. |
| c. | OAC rule 3745-31-05(D), as effective 12/01/06 Synthetic Minor to avoid being a major stationary source for purposes of non-attainment review and Title V. | Organic compound (OC) emissions from emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined shall not exceed 53.0 tons per year, based on a rolling, 12-month summation. See b)(2)c., b)(2)d. and b)(2)e. |
| d. | OAC rule 3745-31-05(D) (to avoid being subject to Title V permitting requirements and OAC rule 3745-31-28) | See Section B.2. |
| e. | OAC rule 3745-17-07(A)(1) | Visible particulate emissions from any stack shall not exceed 20% opacity, as a 6-minute average, except as specified by rule. |
| f. | OAC rule 3745-17-07(B)(1) | Fugitive visible particulate emissions shall not exceed 20% opacity, as a 3-minute average, except as specified by rule. |
| g. | OAC rule 3745-17-08(B)(3) | The particulate emission rate at the control device outlet shall not exceed 0.030 grain of particulate emissions per dry standard cubic foot of exhaust gas or no visible particulate emissions from the exhaust stack, whichever is less stringent. See b)(2)f. |
| h. | OAC rule 3745-17-11(B) | Particulate emissions (PE) shall not exceed 1.75 pounds per hour. This rule based limitation is less stringent than BAT as effective 11/30/01. This rule base PE limitation will become the more stringent limitation when U.S. EPA approves the 12/1/06 revisions to OAC rule 3745-31-05. |

(2) Additional Terms and Conditions

- a. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to Ohio Administrative Code (OAC) paragraph 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph



(A)(3) of OAC rule 3745-31-05 was revised to conform to the Ohio Revised Code (ORC) changes effective August 3, 2006 (Senate Bill 265 changes), such that BAT is no longer required by State regulations for National Ambient Air Quality Standards (NAAQS) pollutant(s) less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then these emission limitations/control measures no longer apply.

- b. This rule paragraph applies once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the State Implementation Plan.

The BAT requirements under OAC rule 3745-31-05(A)(3) do not apply to the PE/PM10/PM2.5 emissions from this emissions unit since the controlled potential to emit is less than ten tons per year.

- c. The maximum annual production rate for emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined shall not exceed 17,170,000 pounds of ink per year, based upon a rolling, 12-month summation of the production rates.
- d. The maximum annual operating hours for this emissions unit shall not exceed 3120 hours, based upon a rolling, 12-month summation.
- e. The OC content of the inks mixed in this emissions unit shall not exceed 95% by weight.
- f. The fugitive dust from this emissions unit shall be controlled by the use of reasonably available control measures adequate to minimize or eliminate visible particulate emissions.
- g. The hourly emissions limitations outlined are based upon the emission unit's potential to emit (PTE). Therefore, no records are required to demonstrate compliance with this limitation.

c) Operational Restrictions

- (1) None.

d) Monitoring and/or Recordkeeping Requirements

- (1) In order to maintain compliance with the applicable emission limitation(s) contained in this permit, the acceptable range established for the pressure drop across the baghouse is between 2 to 6.5 psi.
- (2) The permittee shall properly install, operate, and maintain equipment to continuously monitor the pressure drop, in psi, across the baghouse when the controlled emissions unit is adding dry material. The permittee shall record the pressure drop across the baghouse on a daily basis. The monitoring equipment shall be installed, calibrated,



operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee.

Whenever the monitored value for the pressure drop deviates from the limit or range established in accordance with this permit, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:

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

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

- a. a description of the corrective action;
- b. the date corrective action was completed;
- c. the date and time the deviation ended;
- d. the total period of time (in minutes) during which there was a deviation;
- e. the pressure drop readings immediately after the corrective action was implemented; and
- f. the name(s) of the personnel who performed the work.

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

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



- (3) The permittee shall collect and record the following information each month for all organic compounds used in the formulation of finished inks for emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033:
- a. The name and identification number/code of each batch of ink produced;
 - b. The amount of each organic material used in the formulation of ink, in pounds;
 - c. The total combined monthly OC emissions, in tons per month. This calculation shall be based on the following equation:

The summation of [(b) x (0.0117 pound of OC emitted/pound of OC processed*)/2000] for each liquid organic material used in the formulation of inks.

*Emission factor derived from the National Association of Printing Ink Manufacturers (NAPIM) Guide to Estimating VOC Emission from Printing Ink Manufacturing;
 - d. The rolling, 12-month summation of OC emissions (the summation of the current month emission total and the previous eleven calendar months emission totals); and
 - e. The OC content, in percent by weight, for each batch.
- (4) The permittee shall maintain monthly records of the following information foremissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033:
- a. The production rate for each month, in pounds of ink;
 - b. The rolling, 12-month summation of the production rates, in pounds of ink;
 - c. The operating hours for this emissions unit for each month; and
 - d. The rolling, 12-month summation of the operating hours.
- (5) The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack and for any visible emissions of fugitive dust from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
- a. the location and color of the emissions;
 - b. whether the emissions are representative of normal operations;
 - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;



- d. the total duration of any visible emissions incident; and
- e. any corrective actions taken to minimize or eliminate the visible emissions.

If visible emissions are present, a visible emissions incident has occurred. The observer does not have to document the exact start and end times for the visible emissions incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible emissions incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

- (6) The permittee shall collect and record the added pigment amount, in percent by weight, for each batch.

e) 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. An identification of each month in which the ink production exceeded the rolling, 12-month limitation contained in this permit.
 - ii. An identification of each month in which the hours of operation of this emissions unit exceeded the rolling, 12-month limitation contained in this permit.
 - iii. An identification of each month in which the accumulative, rolling, 12-month OC emissions limitation(s) exceeded the limitation in this permit, in pounds or tons per rolling, 12-month period.
 - iv. An identification of each month in which the accumulative, rolling, 12-month HAP emissions limitation(s) exceeded the limitation in this permit, in pounds or tons per rolling, 12-month period.
 - 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 to the Director (the Hamilton County Department of Environmental Services) by February 15, May 15, August 15, and November 15 of each year and shall cover the previous three calendar months (October through December, January through March, April through June and July through September, respectively).

- (2) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit. The permit evaluation report shall identify:
 - a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit;
 - b. all days during which any visible emissions of fugitive dust were observed from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit; and
 - c. any corrective actions taken to minimize or eliminate the visible particulate emissions from the stack and/or visible emissions of fugitive dust.
- (3) The permittee shall submit annual reports which specify the total organic compound emissions from emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033. These reports shall be submitted by January 30 of each year and cover the previous calendar year.

f) Testing Requirements

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

- a. Emission Limitation:

Organic compound (OC) emissions from the mixer shall not exceed 11.86 pounds per hour.

Applicable Compliance Method:

The hourly OC emission rate is based on the emissions unit's potential to emit. The potential to emit was calculated by: (maximum production rate of 1600 pounds per batch) / (1.5 hours per batch) x (95 percent by weight OC content, in pounds of OC processed) x (0.0117 pound of OC emitted/pound of OC processed).

*Emission factor derived from the National Association of Printing Ink Manufacturers (NAPIM) Guide to Estimating VOC Emissions from Printing Ink Manufacturing.



b. Emission Limitation:

Particulate emissions (PE), particulate emissions ten microns and less in diameter (PM10) and particulate emissions 2.5 microns and less in diameter (PM2.5) shall not exceed 0.56 pound per hour and 0.87 ton per year.

Applicable Compliance Method:

The hourly PE-PM10-PM2.5 emission rate is based on this emission unit's uncontrolled potential to emit employing the concept that all emissions are emitted during the first hour of the making of a batch of product regardless of the number of hours to produce a batch of product.

The annual PE-PM10-PM2.5 emission rate was calculated by: [(1600 pounds of ink per hour) x (35% added pigment) x (0.1% facility supplied emission factor) x (3120 hours per year)/(2000)].

c. Emission Limitation:

53.0TPY of OC from emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined, based on a rolling 12-month summation.

Applicable Compliance Method:

Compliance with the rolling, 12-month emissions limitation for OC shall be based upon the record keeping requirements as specified in section d)(3)d.

The rolling 12-month OC emission rate shall be calculated by: (the actual rolling 12-month production rate) x (the actual percent by weight OC content, in pounds of OC processed) x (0.0117 pound of OC emitted/pound of OC processed).

*Emission factor derived from the National Association of Printing Ink Manufacturers (NAPIM) Guide to Estimating VOC Emissions from Printing Ink Manufacturing.

d. Emission Limitation:

Visible particulate emissions shall not exceed 20 percent opacity, as a six-minute average, except as provided by the rule.

Applicable Compliance Method:

Compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9, and the procedures specified in OAC rule 3745-17-03(B)(1).

e. Emission Limitation:

Fugitive visible particulate emissions shall not exceed 20 percent opacity, as a three-minute average, except as provided by the rule.



Applicable Compliance Method:

Compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, and the procedures specified in OAC rule 3745-17-03(B)(3).

f. Emission Limitation:

Particulate emissions (PE) from the mixer shall not exceed 1.75 pounds per hour.

Applicable Compliance Method:

The hourly PE emission rate is based on Table I in OAC rule 3745-17-11. The actual emissions shall be calculated by: [(maximum production rate of 1600 pounds per batch) x (35 percent by weight added pigment) x (0.1% lb of PE per pound of pigment AP-42 emission factor)].

(Note: The PE occur at the start of the batch cycle and do not extend over more than the first hour of the total batch cycle time, therefore the process weight rate is not divided by the length of the batch time. The weight of the liquid was not included in the process weight rate in the calculation of both the allowable PE and the actual PE because the liquid content in this process does not cause or result in the emission of particulate matter, following guidance per February 22, 2007 communication from Tom Kalman, Ohio EPA.)

g. Emission Limitation:

The particulate emission rate at the control device outlet shall not exceed 0.030 grain of particulate emissions per dry standard cubic foot of exhaust gas or no visible particulate emissions from the exhaust stack, whichever is less stringent.

Applicable Compliance Method:

Compliance shall be demonstrated via the design specifications of the dust collector and its collection system and the performance of daily visual inspections of source emissions.

If required, the permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

- i. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):

Method 5, 40 CFR Part 60, Appendix A

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



h. Usage Limitation:

The maximum annual production rate for emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined shall not exceed 17,170,000 pounds of ink per year, based upon a rolling, 12-month summation of the production rates.

Applicable Compliance Method:

Compliance with the production rate limitation in b)(2)c. shall be based upon the record keeping requirements as specified in d)(4)b.

i. Usage Limitation:

The maximum annual operating hours for this emissions unit shall not exceed 3120 hours, based upon a rolling, 12-month summation.

Compliance with the annual operating hour limitation in term b)(2)d. shall be based upon the record keeping requirements as specified in d)(4)d.

j. Usage Limitation:

The OC content of the inks mixed in this emissions unit shall not exceed 95% by weight.

Applicable Compliance Method:

Compliance with the OC content limitation in term b)(2)e. shall be based upon the record keeping requirements as specified in section d)(3)e.

g) Miscellaneous Requirements

- (1) Modeling to demonstrate compliance with, the "Toxic Air Contaminant Statute", ORC 3704.03(F)(4)(b), was not necessary because the emissions unit's maximum annual emissions for each toxic air contaminant, as defined in OAC rule 3745-114-01, will be less than 1.0 ton per year. OAC Chapter 3745-31 requires a permittee to apply for and obtain a new or modified permit-to-install and operate prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would cause the emissions of any toxic air contaminant to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new permit-to-install and operate.



10. P033, Liquid Ink Dispenser

Operations, Property and/or Equipment Description:

Liquid ink dispenser

- 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. g)(1)
 - (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. See b)(1)b., b)(1)c., b)(2)a., b)(2)b., b)(2)c., d)(1)d., d)(2), e)(1), e)(3), f)(1)b., f)(1)c., f)(1)d., and f)(1)e.
- 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) | Organic compound (OC) emissions from the mixer shall not exceed 3.28 pounds per hour. See b)(2)c. and b)(2)d. The requirements of this rule also include compliance with the requirements of OAC rule 3745-31-05(D). |
| b. | OAC rule 3745-31-05(D), as effective 12/01/06 Synthetic Minor to avoid being a major stationary source for purposes of non-attainment review and Title V. | Organic compound (OC) emissions from emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined shall not exceed 53.0 tons per year, based on a rolling, 12-month summation. See b)(2)a. and b)(2)b. |
| c. | OAC rule 3745-31-05(D) | See Section B.2. |



| | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|--|---|---|
| | (to avoid being subject to Title V permitting requirements and OAC rule 3745-31-28) | |

(2) Additional Terms and Conditions

- a. The maximum annual production rate for emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined shall not exceed 17,170,000 pounds of ink per year, based upon a rolling, 12-month summation of the production rates.
- b. The maximum annual operating hours for this emissions unit shall not exceed 3120 hours, based upon a rolling, 12-month summation.
- c. The OC content of the inks mixed in this emissions unit shall not exceed 35% by weight.
- d. The hourly OC emission limitation outlined is based upon the emission unit's potential to emit (PTE). Therefore, no records are required to demonstrate compliance with this limitation.

c) Operational Restrictions

- (1) None.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall collect and record the following information each month for all organic compounds used in the formulation of finished inks for emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033:

- a. The name and identification number/code of each batch of ink produced;
- b. The amount of each organic material used in the formulation of ink, in pounds;
- c. The total combined monthly OC emissions, in tons per month. This calculation shall be based on the following equation:

The summation of [(b) x (0.0117 pound of OC emitted/pound of OC processed*)/2000] for each liquid organic material used in the formulation of inks.

*Emission factor derived from the National Association of Printing Ink Manufacturers (NAPIM) Guide to Estimating VOC Emission from Printing Ink Manufacturing;

- d. The rolling, 12-month summation of OC emissions (the summation of the current month emission total and the previous eleven calendar months emission totals); and



- e. The OC content, in percent by weight, for each batch.
- (2) The permittee shall maintain monthly records of the following information foremissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033:
- a. The production rate for each month, in pounds of ink;
 - b. The rolling, 12-month summation of the production rates, in pounds of ink;
 - c. The operating hours for this emissions unit for each month; and
 - d. The rolling, 12-month summation of the operating hours.
- e) 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. An identification of each month in which the ink production exceeded the rolling, 12-month limitation contained in this permit.
 - ii. An identification of each month in which the hours of operation of this emissions unit exceeded the rolling, 12-month limitation contained in this permit.
 - iii. An identification of each month in which the accumulative, rolling, 12-month OC emissions limitation(s) exceeded the limitation in this permit, in pounds or tons per rolling, 12-month period.
 - iv. An identification of each month in which the accumulative, rolling, 12-month HAP emissions limitation(s) exceeded the limitation in this permit, in pounds or tons per rolling, 12-month period.
 - 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 to the Director (the Hamilton County Department of Environmental Services) by February 15, May 15, August 15, and November 15 of each year and shall cover the



previous three calendar months (October through December, January through March, April through June and July through September, respectively).

- (2) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit.
- (3) The permittee shall submit annual reports which specify the total organic compound emissions from emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033. These reports shall be submitted by January 30 of each year and cover the previous calendar year.

f) Testing Requirements

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

a. Emission Limitation:

Organic compound (OC) emissions from the mixer shall not exceed 3.28 pounds per hour.

Applicable Compliance Method:

The hourly OC emission rate is based on the emissions unit's potential to emit. The potential to emit was calculated by: (maximum production rate of 400 pounds per batch) / (0.5 hour per batch) x (35 percent by weight OC content, in pounds of OC processed) x (0.0117 pound of OC emitted/pound of OC processed).

*Emission factor derived from the National Association of Printing Ink Manufacturers (NAPIM) Guide to Estimating VOC Emissions from Printing Ink Manufacturing.

b. Emission Limitation:

53.0TPY of OC from emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined, based on a rolling 12-month summation.

Applicable Compliance Method:

Compliance with the rolling, 12-month emissions limitation for OC shall be based upon the record keeping requirements as specified in section d)(1)d.

The rolling 12-month OC emission rate shall be calculated by: (the actual rolling 12-month production rate) x (the actual percent by weight OC content, in pounds of OC processed) x (0.0117 pound of OC emitted/pound of OC processed).



*Emission factor derived from the National Association of Printing Ink Manufacturers (NAPIM) Guide to Estimating VOC Emissions from Printing Ink Manufacturing.

c. Usage Limitation:

The maximum annual production rate for emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined shall not exceed 17,170,000 pounds of ink per year, based upon a rolling, 12-month summation of the production rates.

Applicable Compliance Method:

Compliance with the production rate limitation in b)(2)b. shall be based upon the record keeping requirements as specified in d)(2)b.

d. Usage Limitation:

The maximum annual operating hours for this emissions unit shall not exceed 3120 hours, based upon a rolling, 12-month summation.

Compliance with the annual operating hour limitation in term b)(2)d. shall be based upon the record keeping requirements as specified in d)(2)d.

e. Usage Limitation:

The OC content of the inks mixed in this emissions unit shall not exceed 35% by weight.

Applicable Compliance Method:

Compliance with the OC content limitation in term b)(2)e. shall be based upon the record keeping requirements as specified in section d)(1)e.

g) Miscellaneous Requirements

- (1) Modeling to demonstrate compliance with, the "Toxic Air Contaminant Statute", ORC 3704.03(F)(4)(b), was not necessary because the emissions unit's maximum annual emissions for each toxic air contaminant, as defined in OAC rule 3745-114-01, will be less than 1.0 ton per year. OAC Chapter 3745-31 requires a permittee to apply for and obtain a new or modified permit-to-install and operate prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would cause the emissions of any toxic air contaminant to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new permit-to-install and operate.