



State of Ohio Environmental Protection Agency

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Columbus, Ohio 43215

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P.O. Box 1049
Columbus, OH 43216-1049

6/11/2009

Certified Mail

Christopher Hassmann
R. R. Donnelley & Sons Company
1145 Conwell Avenue
Willard, OH 44890

No	TOXIC REVIEW
No	PSD
No	SYNTHETIC MINOR
No	CEMS
No	MACT
No	NSPS
No	NESHAPS
No	NETTING
No	MAJOR NON-ATTAINMENT
No	MODELING SUBMITTED

RE: FINAL AIR POLLUTION PERMIT-TO-INSTALL
Facility ID: 0339030135
Permit Number: P0104538
Permit Type: Administrative Modification
County: Huron

Dear Permit Holder:

Enclosed please find a final Air Pollution Permit-to-Install (PTI) which will allow you to install or modify the described emissions unit(s) in a manner indicated in the permit. Because this permit contains several conditions and restrictions, we urge you to read it carefully.

The issuance of this PTI is a final action of the Director and may be appealed to the Environmental Review Appeals Commission ("ERAC") under Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and describe the action complained of and the grounds for the appeal. The appeal must be filed with the ERAC within thirty (30) days after notice of the Director's action. A filing fee of \$70.00 must be submitted to the ERAC with the appeal, although the ERAC, has discretion to reduce the amount of the filing fee if you can demonstrate (by affidavit) that payment of the full amount of the fee would cause extreme hardship. If you file an appeal of this action, you must notify Ohio EPA of the filing of the appeal (by providing a copy to the Director) within three (3) days of filing your appeal with the ERAC. Ohio EPA requests that a copy of the appeal also be provided to the Ohio Attorney General's Office, Environmental Enforcement Section. An appeal may be filed with the ERAC at the following address:

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

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. If you have any questions regarding this permit, please contact the Ohio EPA DAPC, Northwest District Office. This permit has been posted to the Division of Air Pollution Control (DAPC) Web page <http://www.epa.state.oh.us/dapc>.

Sincerely,

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

Cc: U.S. EPA Region 5 *Via E-Mail Notification*
Ohio EPA DAPC, Northwest District Office

Ted Strickland, Governor
Lee Fisher, Lieutenant Governor
Chris Korleski, Director



**State of Ohio Environmental Protection Agency
Division of Air Pollution Control**

FINAL

**Air Pollution Permit-to-Install
for
R. R. Donnelley & Sons Company**

Facility ID: 0339030135
Permit Number: P0104538
Permit Type: Administrative Modification
Issued: 6/11/2009
Effective: 6/11/2009



State of Ohio Environmental Protection Agency
 Division of Air Pollution Control

Air Pollution Permit-to-Install
 for
 R. R. Donnelley & Sons Company

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State of Ohio Environmental Protection Agency
Division of Air Pollution Control

Final Permit-to-Install
Permit Number: P0104538
Facility ID: 0339030135
Effective Date: 6/11/2009

Authorization

Facility ID: 0339030135
Facility Description: Book Manufacturing Facility.
Application Number(s): M0000401
Permit Number: P0104538
Permit Description: Administrarive modification to K006, K007, K009, K010, K011, K012, K018 and K027
Permit Type: Administrative Modification
Permit Fee: \$800.00
Issue Date: 6/11/2009
Effective Date: 6/11/2009

This document constitutes issuance to:

R. R. Donnelley & Sons Company
1145 Conwell Avenue
Willard, OH 44890

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

Ohio EPA District Office or local air agency responsible for processing and administering your permit:

Ohio EPA DAPC, Northwest District Office
347 North Dunbridge Road
Bowling Green, OH 43402
(419)352-8461

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

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Chris Korleski
Director



State of Ohio Environmental Protection Agency
 Division of Air Pollution Control

Final Permit-to-Install
Permit Number: P0104538
Facility ID: 0339030135
Effective Date: 6/11/2009

Authorization (continued)

Permit Number: P0104538

Permit Description: Administrarive modification to K006, K007, K009, K010, K011, K012, K018 and K027

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

Emissions Unit ID:	K006
Company Equipment ID:	Press 323
Superseded Permit Number:	03-7171
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	K007
Company Equipment ID:	Press 324
Superseded Permit Number:	03-3195
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	K009
Company Equipment ID:	Press 335
Superseded Permit Number:	03-07171
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	K010
Company Equipment ID:	Press 326
Superseded Permit Number:	03-07171
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	K011
Company Equipment ID:	Press 336
Superseded Permit Number:	03-07171
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	K012
Company Equipment ID:	Press 380
Superseded Permit Number:	03-07171
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	K018
Company Equipment ID:	Press 327
Superseded Permit Number:	03-7921
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	K027
Company Equipment ID:	Press 381
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable



State of Ohio Environmental Protection Agency
Division of Air Pollution Control

Final Permit-to-Install
Permit Number: P0104538
Facility ID: 0339030135
Effective Date: 6/11/2009

A. Standard Terms and Conditions



1. Federally Enforceable Standard Terms and Conditions

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

2. Severability Clause

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

3. General Requirements

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



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

4. Monitoring and Related Record Keeping and Reporting Requirements

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



(2) Quarterly written reports of (i) any deviations from federally enforceable emission limitations, operational restrictions, and control device operating parameter limitations, excluding deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06, that have been detected by the testing, monitoring and recordkeeping requirements specified in this permit, (ii) the probable cause of such deviations, and (iii) any corrective actions or preventive measures taken, shall be made to the Ohio EPA DAPC, Northwest District Office. The written reports shall be submitted (i.e., postmarked) quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. See A.15. below if no deviations occurred during the quarter.

(3) Written reports, which identify any deviations from the federally enforceable monitoring, recordkeeping, and reporting requirements contained in this permit shall be submitted (i.e., postmarked) to the Ohio EPA DAPC, Northwest District Office every six months, by January 31 and July 31 of each year for the previous six calendar months. If no deviations occurred during a six-month period, the permittee shall submit a semi-annual report, which states that no deviations occurred during that period.

(4) This permit is for an emissions unit located at a Title V facility. Each written report shall be signed by a responsible official certifying that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.

d) The permittee shall report actual emissions pursuant to OAC Chapter 3745-78 for the purpose of collecting Air Pollution Control Fees.

5. Scheduled Maintenance/Malfunction Reporting

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

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

6. Compliance Requirements

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

b) Any document (including reports) required to be submitted and required by a federally applicable requirement in this permit shall include a certification by a responsible official that, based on information and belief formed after reasonable inquiry, the statements in the document are true, accurate, and complete.

c) Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Director of the Ohio EPA or an authorized representative of the Director to:



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

7. Best Available Technology

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

8. Air Pollution Nuisance

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

9. Reporting Requirements

The permittee shall submit required reports in the following manner:

- a) Reports of any required monitoring and/or recordkeeping of state-only enforceable information shall be submitted to the Ohio EPA DAPC, Northwest District Office.
- b) Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursions) from state-only required emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and recordkeeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the Ohio EPA DAPC, Northwest District Office. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted



(i.e., postmarked) quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

10. Applicability

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

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

- a) This permit does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. This permit does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the application and terms and conditions of this permit. The action of beginning and/or completing construction prior to obtaining the Director's approval constitutes a violation of OAC rule 3745-31-02. Furthermore, issuance of this permit does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Issuance of this permit is not to be construed as a waiver of any rights that the Ohio Environmental Protection Agency (or other persons) may have against the applicant for starting construction prior to the effective date of the permit. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed facilities cannot meet the requirements of this permit or cannot meet applicable standards.
- b) If applicable, authorization to install any new emissions unit included in this permit shall terminate within eighteen months of the effective date of the permit if the owner or operator has not undertaken a continuing program of installation or has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation. This deadline may be extended by up to 12 months if application is made to the Director within a reasonable time before the termination date and the party shows good cause for any such extension.
- c) The permittee may notify Ohio EPA of any emissions unit that is permanently shut down (i.e., the emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31) by submitting a certification from the authorized official that identifies the date on which the emissions unit was permanently shut down. Authorization to operate the affected emissions unit shall cease upon the date certified by the authorized official that the emissions unit was permanently shut down. At a minimum, notification of permanent shut down shall be made or confirmed through completion of the annual PER covering the last period of operation of the affected emissions unit(s).
- d) The provisions of this permit shall cease to be enforceable for each affected emissions unit after the date on which an emissions unit is permanently shut down (i.e., emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31). All records relating to any permanently shutdown emissions unit, generated while the emissions unit was in operation, must be maintained in accordance with law. All reports required by this permit must be submitted for any period an affected emissions unit operated prior to permanent shut down. At a minimum, the permit requirements must be evaluated as part of the PER covering the last period the emissions unit operated.



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

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

12. Permit-To-Operate Application

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

13. Construction Compliance Certification

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

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

14. Public Disclosure

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

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

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

16. Fees

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



State of Ohio Environmental Protection Agency
Division of Air Pollution Control

Final Permit-to-Install
Permit Number: P0104538
Facility ID: 0339030135
Effective Date: 6/11/2009

17. Permit Transfers

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The Ohio EPA DAPC, Northwest District Office must be notified in writing of any transfer of this permit.

18. Risk Management Plans

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

19. Title IV Provisions

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



State of Ohio Environmental Protection Agency
Division of Air Pollution Control

Final Permit-to-Install
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B. Facility-Wide Terms and Conditions



State of Ohio Environmental Protection Agency
Division of Air Pollution Control

Final Permit-to-Install
Permit Number: P0104538
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1. All the following facility-wide terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only:
 - a) None.



State of Ohio Environmental Protection Agency
Division of Air Pollution Control

Final Permit-to-Install
Permit Number: P0104538
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Effective Date: 6/11/2009

C. Emissions Unit Terms and Conditions



1. K006, Press 323

Operations, Property and/or Equipment Description:

OSM Press 323 with RTOs

- a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.
 - (1) None.
- b) Applicable Emissions Limitations and/or Control Requirements
 - (1) The specific operations(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. 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)	See b)(2)d. and b)(2)e. 13.0 pounds organic compounds (OC)/hour, as a monthly average, for heatset operations [See b)(2)a.], and nonheatset operations [See b)(2)b.]
b.	OAC rule 3745-31-05(D)	32.5 tons OC/rolling 12-month period for emission unit K006 [See b)(2)c.]
c.	OAC rule 3745-21-07(G)	See c)(4) and b)(2)h.
d.	OAC rule 3745-17-11(B)	See b)(2)f.
e.	OAC rule 3745-17-07(A)	See b)(2)g.

(2) Additional Terms and Conditions

- a. The OC emission limitation of 13.0 pounds/hour for heatset operations (as a monthly average) for emissions unit K006 is based on the following information:
 - i. The percentage of the ink solvent retained on the web after the dryer is 20 percent*;
 - ii. The percentage of the fountain solution solvent available for capture in the dryer is 70 percent*;
 - iii. The percentage of the auto blanket wash (clean up) solvent available for capture in the dryer is 40 percent*; and,
 - iv. The percentage of the hand blanket wash (clean up) solvent retained on the cloths is 75 percent**.



- b. The OC emission limitation of 13.0 pounds/hour for nonheatset operations (as a monthly average) for emissions unit K006 is based on the following information:
 - i. the percentage of the ink solvent retained on the web is 95 percent*;
 - ii. the percentage of the fountain solution solvent available for capture is 0 percent*;
 - iii. the percentage of the auto blanket wash (clean up) solvent available for capture is 0 percent*; and,
 - iv. the percentage of the hand blanket wash (clean up) solvent retained on the cloths is 75 percent**

* This is based on the draft Control Techniques Guideline (Control of Volatile Organic Compound Emissions from Offset Lithographic Printing, dated September 1993) and the Alternative Control Techniques document, dated November 8, 1993.

** This is based on information supplied by the permittee.

- c. The emissions of OCs shall not exceed 32.5 tons per year, for emissions unit K006, based upon a rolling, 12-month summation of the monthly emissions. The OC emission limitation is based on OC content, usage restrictions and OC control requirements for the purpose of establishing federally enforceable limitations to avoid Prevention of Significant Deterioration (PSD) applicability. For purposes of federal enforceability, OC limitations effectively restrict VOC emissions.
- d. The permittee shall employ best available technology (BAT) on this emissions unit. It has been determined that BAT control requirements do not include the use of the thermal oxidizer during nonheatset operations. BAT for heatset operations has been determined to be the use of a control system for OC emissions, meeting the following requirements:
 - i. The control system shall consist of a collection system for the dryer. The collection system shall achieve a capture efficiency of 100 percent of the press dryer exhaust; and,
 - ii. The control system shall be equipped with a thermal oxidizer with a destruction efficiency of at least 95 percent when operating at the average temperature specified in c)(3) of this permit.
- e. The requirements of this rule also include compliance with the requirements established under OAC rule 3745-31-05(D).
- f. The uncontrolled mass rate of particulate emissions (PE) from this emissions unit is less than 10 pounds/hour. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. In addition, Table I of OAC rule 3745-17-11 does not apply since the facility is located in Huron County, which is identified as a P-3 county.



- g. This emissions unit is not subject to the visible PE limitations specified in OAC rule 3745-17-07(A) pursuant to OAC rule 3745-17-07(A)(3)(h) because OAC rule 3745-17-11 is not applicable.
- h. On February 18, 2008, OAC rule 3745-21-07 was revised in its entirety; therefore, the 21-07 rule that was in effect prior to this date is no longer part of the State regulations. On April 4, 2008, the rule revision was submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP); however, until the U.S. EPA approves the revision to OAC rule 3745-21-07, the requirement to comply with the previous 21-07 rule provisions still exists as part of the federally-approved SIP for Ohio. The following terms and conditions shall become void after U.S. EPA approves the rule revision: c)(4), d)(1)b and e)(4).

c) Operational Restrictions

- (1) The permittee shall comply with the following monthly average OC content restrictions for the materials employed in this emissions unit:
 - a. Ink: 0.45 pound OC /pound of ink for heatset operations, as applied;
 1.70 pound OC / gallon of ink for nonheatset operations, as applied;
 - b. Fountain solution: 0.25 pound OC /gallon of fountain solution material, as applied; and,
 - c. Cleanup materials (auto and hand blanket wash): 7.5 pounds OC/gallon of cleanup material, as applied.

- (2) The maximum rolling, 12-month usage rate of OC containing materials for emission unit K007 is limited by the following equation:

$$E_M = \sum E_n \leq 32.5 \text{ tons}$$

where,

E_M = the increment of the rolling 12-month period and the subsequent emissions calculated using the following equation: $E_M = E_1 + E_2 + E_3 + \dots + E_n$ (summation of all increments consumed for each product); and,

E_n = the increment of the OC containing material used for each product during the period and the subsequent emissions calculated using the following equation: $E_n = [U_n \times V_n \times (1 - R_n/100) \times \{1 - (C_n/100) \times (K/100)\}]$

And where all other variables are the same as described in paragraph d)(1)e. below.

Compliance with the annual usage restriction shall be based upon a rolling, 12-month summation.

- (3) The average temperature within the thermal oxidizer, for any 3-hour block of time when the emissions unit is in operation in heatset mode, shall not be less than 1,400 degrees Fahrenheit. A lower average temperature requirement may be established if compliance with the minimum destruction efficiency in b)(2)c. is demonstrated during emissions testing.



- (4) The use of photochemically reactive materials, as defined in OAC rule 3745-21-01, in this emissions unit is prohibited.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall maintain monthly records which list the following information for each graphic arts material (ink, fountain solution, cleanup material, and blanket wash) employed in emissions unit K006:

- a. The name and identification number of each graphic arts material employed;
- b. Documentation on whether or not each material employed is a photochemically reactive material;
- c. The OC content of each graphic arts material, in pounds/gallon or pounds/pound for inks, as received;
- d. The quantity of each graphic arts material employed, in gallons or pounds of each material per month;
- e. The OC emissions for each graphic arts material employed, in pounds or tons/month, calculated as follows:

$$E_n = [U_n \times V_n \times (1 - R_n/100) \times \{1 - (C_n/100) \times (K/100)\}]$$

where:

- E_n = OC emissions from an individual material (pounds of OC emitted/month);
- U_n = total usage of the individual material - typically ink, fountain solution, and cleaning solvents (lbs or gallons of material/month);
- V_n = average OC content of material as determined by Method 24 (lb OC/lb or gallon of material);
- R_n = percent of OC retained on the web or on cloths:

- R_n = 20 for heatset inks
- R_n = 95 for non-heatset inks
- R_n = 0 for fountain solutions
- R_n = 0 for auto blanket wash (cleanup) solvent
- R_n = 75 for hand blanket wash (cleanup) solvent

C_n = capture efficiency for individual material emitted:

- C_n = 100 for heatset inks
- C_n = 70 for heatset fountain solutions
- C_n = 40 for heatset auto blanket wash (cleanup) solvent
- C_n = 0 for hand blanket wash (cleanup) solvent; and all non-heatset operations

K = destruction efficiency as determined during the performance test as specified in f)(2). (K = 0 for all non-heatset operations)



- f. The total OC emission rate of all graphic arts materials employed, in pounds or tons/month, calculated as follows:

$$E_M = E_1 + E_2 + E_3 + \dots + E_n$$

where:

E_M = Monthly OC emissions, in pounds/month; and,
 E_1 through E_n = OC emissions from each individual graphic arts material [d)(1)e.]

- g. The number of hours this emissions unit was in operation, when graphic arts materials were being applied or employed (hours/month);
 - h. The average hourly OC emission rate, i.e., d)(1)f. divided by d)(1)g., above;
- * To be recorded and calculated for heatset and non-heatset operations separately.

- (2) In addition to the above information, the permittee shall maintain monthly records of the following in order to demonstrate compliance with the rolling 12-month OC emission rate for emissions unit K006:

- a. The cumulative year-to-date OC emissions; and
- b. The rolling 12-month OC emission rate, calculated as follows:

$$E_T = (E_{M1} + E_{M2} + E_{M3} + \dots + E_{M12}) / 2000 \text{ lbs}$$

where:

E_T = Rolling 12-month OC emissions (tons) as summed from the previous 12 months of monthly OC emissions;
 E_M = Monthly OC emissions (pounds/month).

- (3) The permittee shall maintain monthly records of the following information in order to demonstrate compliance with the monthly average OC content of ink, fountain solution, cleanup material, and blanket wash, as employed in emissions unit K006:

- a. The OC content of each ink, fountain solution, cleanup material, and blanket wash employed during the month (pound{s} OC/pound ink or gallon of each material);
- b. The total gallons or pounds of each individual ink, fountain solution, cleanup material, and blanket wash employed during the month;
- c. The total OC usage, in pounds of OC/month, from each individual ink, fountain solution, cleanup material, and blanket wash employed, i.e., the product of the OC content d)(3)a. times the usage d)(3)b. (above) for each material employed during the month;



- d. The sum of the monthly OC usage for all inks, fountain solutions, cleanup materials, and blanket wash materials (separately) employed, i.e., the sum of d)(3)c. (above) for all inks, fountain solutions, cleanup, and blanket wash materials (e.g.: lbs OC from all inks/month);
 - e. The total gallons or pounds of inks, fountain solutions, cleanup materials, and blanket wash materials (separately) employed during the month (e.g.: lbs ink/month);
 - f. The monthly average OC per gallon or pound of ink, fountain solution, cleanup material, and blanket wash, i.e., d)(3)d. divided by d)(3)e. (above) for each type of material (e.g.: lb OC/lb ink).
- (4) The permittee shall operate and maintain continuous temperature monitors* and a temperature recorder which measures and records the average temperature within the thermal oxidizer when the emissions unit is in operation in heatset mode. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitors and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

* This temperature monitoring system consists of several temperature monitors from which an average temperature is obtained.

The permittee shall collect and record the following information each day for this emissions unit:

- a. All 3-hour blocks of time during which the average temperature within the thermal oxidizer, when the emissions unit was in operation in heatset mode, was less than the temperature limitation specified in c)(3); and,
- b. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the emissions unit was in operation in heatset mode.

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, recordkeeping and/or testing requirements in this permit:
 - i. the emission limitation of 13.0 pounds OC/hour for heatset and non-heatset operations, as determined in d)(1);
 - ii. the monthly average OC content restrictions for inks, fountain solutions, blanket wash, and cleanup materials, as determined in d)(3); and
 - iii. the emission limitation of 32.5 tons OC/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) The permittee shall submit quarterly deviation (excursion) reports which identify all 3-hour blocks of time during which the average temperature within the thermal oxidizer does not comply with the temperature limitation specified in c)(3) of this permit.
- (3) The permittee shall submit quarterly deviation (excursion) reports that include a log of the downtime for the capture (collection) system and/or the thermal oxidizer when the emissions unit was in operation in heatset mode.
- (4) The permittee shall submit quarterly deviation (excursion) reports which identify each day during which a photochemically reactive material was employed.
- (5) All quarterly deviation reports shall be submitted in accordance with the Standard Terms and Conditions of this permit.

f) Testing Requirements

(1) Compliance with the emission limitations in condition b)(1) of the terms and conditions of this permit shall be determined in accordance with the following methods:

- a. Emission Limitation:
13.0 pounds OC/hour (as a monthly average), for heatset and non-heatset operations

Applicable Compliance Method:
The permittee shall demonstrate compliance with these emission limitations through the record keeping required in d)(1) of this permit.

- b. Emission Limitation:
32.5 tons OC/rolling 12-month period

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation through the record keeping required in d)(2) of this permit.



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Division of Air Pollution Control

Final Permit-to-Install
Permit Number: P0104538
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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 permittees to apply for and obtain a new or modified PTI 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 PTI.



2. K007, Press 324

Operations, Property and/or Equipment Description:

OSM Press 324 with RTOs

- a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.
 - (1) None.
- b) Applicable Emissions Limitations and/or Control Requirements
 - (1) The specific operations(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. 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)	See b)(2)d. and b)(2)e. 11.8 pounds organic compounds (OC)/hour, as a monthly average, for heatset operations [See b)(2)a.], and nonheatset operations [See b)(2)b.]
b.	OAC rule 3745-31-5(D)	29.5 tons OC/rolling 12-month period for emission unit K007 [See b)(2)c.]
c.	OAC rule 3745-21-07(G)	See c)(4) and b)(2)h.
d.	OAC rule 3745-17-11(B)	See b)(2)f.
e.	OAC rule 3745-17-07(A)	See b)(2)g.

(2) Additional Terms and Conditions

- a. The OC emission limitation of 11.8 pounds/hour for heatset operations (as a monthly average) for emissions unit K007 is based on the following information:
 - i. The percentage of the ink solvent retained on the web after the dryer is 20 percent*;
 - ii. The percentage of the fountain solution solvent available for capture in the dryer is 70 percent*;
 - iii. The percentage of the auto blanket wash (clean up) solvent available for capture in the dryer is 40 percent*; and,
 - iv. The percentage of the hand blanket wash (clean up) solvent retained on the cloths is 75 percent**.



- b. The OC emission limitation of 11.8 pounds/hour for nonheatset operations (as a monthly average) for emissions unit K007 is based on the following information:
 - i. the percentage of the ink solvent retained on the web is 95 percent*;
 - ii. the percentage of the fountain solution solvent available for capture is 0 percent*;
 - iii. the percentage of the auto blanket wash (clean up) solvent available for capture is 0 percent*; and,
 - iv. the percentage of the hand blanket wash (clean up) solvent retained on the cloths is 75 percent**

* This is based on the draft Control Techniques Guideline (Control of Volatile Organic Compound Emissions from Offset Lithographic Printing, dated September 1993) and the Alternative Control Techniques document, dated November 8, 1993.

** This is based on information supplied by the permittee.

- c. The emissions of OCs shall not exceed 29.5 tons per year, for emissions unit K007, based upon a rolling 12-month summation of the monthly emissions. The OC emission limitation is based on OC content, usage restrictions and OC control requirements for the purpose of establishing federally enforceable limitations to avoid Prevention of Significant Deterioration (PSD) applicability. For purposes of federal enforceability, OC limitations effectively restrict VOC emissions.
- d. The permittee shall employ best available technology (BAT) on this emissions unit. It has been determined that BAT control requirements do not include the use of the thermal oxidizer during nonheatset operations. BAT for heatset operations has been determined to be the use of a control system for OC emissions, meeting the following requirements:
 - i. The control system shall consist of a collection system for the dryer. The collection system shall achieve a capture efficiency of 100 percent of the press dryer exhaust; and,
 - ii. The control system shall be equipped with a thermal oxidizer with a destruction efficiency of at least 95 percent when operating at the average temperature specified in c)(3) of this permit.
- e. The requirements of this rule also include compliance with the requirements established under OAC rule 3745-31-05(D).
- f. The uncontrolled mass rate of particulate emissions (PE) from this emissions unit is less than 10 pounds/hour. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. In addition, Table I of OAC rule 3745-17-11 does not apply since the facility is located in Huron County, which is identified as a P-3 county.



- g. This emissions unit is not subject to the visible PE limitations specified in OAC rule 3745-17-07(A) pursuant to OAC rule 3745-17-07(A)(3)(h) because OAC rule 3745-17-11 is not applicable.
- h. On February 18, 2008, OAC rule 3745-21-07 was revised in its entirety; therefore, the 21-07 rule that was in effect prior to this date is no longer part of the State regulations. On April 4, 2008, the rule revision was submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP); however, until the U.S. EPA approves the revision to OAC rule 3745-21-07, the requirement to comply with the previous 21-07 rule provisions still exists as part of the federally-approved SIP for Ohio. The following terms and conditions shall become void after U.S. EPA approves the rule revision: c)(4), d)(1)b and e)(4).

c) Operational Restrictions

- (1) The permittee shall comply with the following monthly average OC content restrictions for the materials employed in this emissions unit:
 - a. Ink: 0.45 pound OC /pound of ink for heatset operations, as applied;
1.70 pound OC / gallon of ink for nonheatset operations, as applied;
 - b. Fountain solution: 0.25 pound OC /gallon of fountain solution material, as applied; and,
 - c. Cleanup materials (auto and hand blanket wash): 7.5 pounds OC/gallon of cleanup material, as applied.

- (2) The maximum rolling 12-month usage rate of OC containing materials for emission unit K007 is limited by the following equation:

$$E_M = \sum E_n \leq 29.5 \text{ tons}$$

where,

E_M = the increment of the rolling 12-month period and the subsequent emissions calculated using the following equation: $E_M = E_1 + E_2 + E_3 + \dots + E_n$ (summation of all increments consumed for each product); and,

E_n = the increment of the OC containing material used for each product during the period and the subsequent emissions calculated using the following equation: $E_n = [U_n \times V_n \times (1 - R_n/100) \times \{1 - (C_n/100) \times (K/100)\}]$

And where all other variables are the same as described in paragraph d)(1)e. below.

Compliance with the annual usage restriction shall be based upon a rolling 12-month summation.

- (3) The average temperature within the thermal oxidizer, for any 3-hour block of time when the emissions unit is in operation in heatset mode, shall not be less than 1,400 degrees Fahrenheit. A lower average temperature requirement may be established if compliance with the minimum destruction efficiency in b)(2)c. is demonstrated during emissions testing.



- (4) The use of photochemically reactive materials, as defined in OAC rule 3745-21-01, in this emissions unit is prohibited.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall maintain monthly records which list the following information for each graphic arts material (ink, fountain solution, cleanup material, and blanket wash) employed in emissions unit K007:

- a. The name and identification number of each graphic arts material employed;
- b. Documentation on whether or not each material employed is a photochemically reactive material;
- c. The OC content of each graphic arts material, in pounds/gallon or pounds/pound for inks, as received;
- d. The quantity of each graphic arts material employed, in gallons or pounds of each material per month;
- e. The OC emissions for each graphic arts material employed, in pounds or tons/month, calculated as follows:

$$E_n = [U_n \times V_n \times (1 - R_n/100) \times \{1 - (C_n/100) \times (K/100)\}]$$

where:

- E_n = OC emissions from an individual material (pounds of OC emitted/month);
- U_n = total usage of the individual material - typically ink, fountain solution, and cleaning solvents (lbs or gallons of material/month);
- V_n = average OC content of material as determined by Method 24 (lb OC/lb or gallon of material);
- R_n = percent of OC retained on the web or on cloths:

- R_n = 20 for heatset inks
- R_n = 95 for non-heatset inks
- R_n = 0 for fountain solutions
- R_n = 0 for auto blanket wash (cleanup) solvent
- R_n = 75 for hand blanket wash (cleanup) solvent

C_n = capture efficiency for individual material emitted:

- C_n = 100 for heatset inks
- C_n = 70 for heatset fountain solutions
- C_n = 40 for heatset auto blanket wash (cleanup) solvent
- C_n = 0 for hand blanket wash (cleanup) solvent; and all non-heatset operations

K = destruction efficiency as determined during the performance test as specified in f)(2). (K = 0 for all non-heatset operations)



- f. The total OC emission rate of all graphic arts materials employed, in pounds or tons/month, calculated as follows:

$$E_M = E_1 + E_2 + E_3 + \dots + E_n$$

where:

E_M = Monthly OC emissions, in pounds/month; and,
 E_1 through E_n = OC emissions from each individual graphic arts material [d)(1)e.]

- g. The number of hours this emissions unit was in operation, when graphic arts materials were being applied or employed (hours/month);
- h. The average hourly OC emission rate, i.e., d)(1)f. divided by d)(1)g., above;

* To be recorded and calculated for heatset and non-heatset operations separately.

- (2) In addition to the above information, the permittee shall maintain monthly records of the following in order to demonstrate compliance with the rolling 12-month OC emission rate for emissions unit K007:

- a. The cumulative year-to-date OC emissions; and
- b. The rolling 12-month OC emission rate, calculated as follows:

$$E_T = (E_{M1} + E_{M2} + E_{M3} + \dots + E_{M12}) / 2000 \text{ lbs}$$

where:

E_T = Rolling 12-month OC emissions (tons) as summed from the previous 12 months of monthly OC emissions;
 E_M = Monthly OC emissions (pounds/month).

- (3) The permittee shall maintain monthly records of the following information in order to demonstrate compliance with the monthly average OC content of ink, fountain solution, cleanup material, and blanket wash, as employed in emissions unit K007:

- a. The OC content of each ink, fountain solution, cleanup material, and blanket wash employed during the month (pound{s} OC/pound ink or gallon of each material);
- b. The total gallons or pounds of each individual ink, fountain solution, cleanup material, and blanket wash employed during the month;
- c. The total OC usage, in pounds of OC/month, from each individual ink, fountain solution, cleanup material, and blanket wash employed, i.e., the product of the OC content d)(3)a. times the usage d)(3)b. (above) for each material employed during the month;
- d. The sum of the monthly OC usage for all inks, fountain solutions, cleanup materials, and blanket wash materials (separately) employed, i.e., the sum of



- d)(3)c. (above) for all inks, fountain solutions, cleanup, and blanket wash materials (e.g.: lbs OC from all inks/month);
 - e. The total gallons or pounds of inks, fountain solutions, cleanup materials, and blanket wash materials (separately) employed during the month (e.g.: lbs ink/month);
 - f. The monthly average OC per gallon or pound of ink, fountain solution, cleanup material, and blanket wash, i.e., d)(3)d. divided by d)(3)e. (above) for each type of material (e.g.: lb OC/lb ink).
- (4) The permittee shall operate and maintain continuous temperature monitors* and a temperature recorder which measures and records the average temperature within the thermal oxidizer when the emissions unit is in operation in heatset mode. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitors and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

* This temperature monitoring system consists of several temperature monitors from which an average temperature is obtained.

The permittee shall collect and record the following information each day for this emissions unit:

- a. All 3-hour blocks of time during which the average temperature within the thermal oxidizer, when the emissions unit was in operation in heatset mode, was less than the temperature limitation specified in c)(3); and,
 - b. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the emissions unit was in operation in heatset mode.
- 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, recordkeeping and/or testing requirements in this permit:
 - i. the emission limitation of 11.8 pounds OC/hour for heatset and non-heatset operations, as determined in d)(1);
 - ii. the monthly average OC content restrictions for inks, fountain solutions, blanket wash, and cleanup materials, as determined in d)(3); and
 - iii. the emission limitation of 29.5 tons OC/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) The permittee shall submit quarterly deviation (excursion) reports which identify all 3-hour blocks of time during which the average temperature within the thermal oxidizer does not comply with the temperature limitation specified in c)(3) of this permit.
- (3) The permittee shall submit quarterly deviation (excursion) reports that include a log of the downtime for the capture (collection) system and/or the thermal oxidizer when the emissions unit was in operation in heatset mode.
- (4) The permittee shall submit quarterly deviation (excursion) reports which identify each day during which a photochemically reactive material was employed.
- (5) All quarterly deviation reports shall be submitted in accordance with the Standard Terms and Conditions of this permit.

f) Testing Requirements

- (1) Compliance with the emission limitations in condition b)(1) of the terms and conditions of this permit shall be determined in accordance with the following methods:

- a. Emission Limitation:
11.8 pounds OC/hour (as a monthly average), for heatset and non-heatset operations

Applicable Compliance Method:
The permittee shall demonstrate compliance with these emission limitations through the record keeping required in d)(1) of this permit.

- b. Emission Limitation:
29.5 tons OC/rolling 12-month period

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation through the record keeping required in d)(2) of this permit.

g) Miscellaneous Requirements

- (1) Modeling to demonstrate compliance with, the AToxic Air Contaminant Statute[@], ORC 3704.03(F)(4)(b), was not necessary because the emissions unit=s maximum annual



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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 permittees to apply for and obtain a new or modified PTI 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 PTI.



3. K009, Press 335

Operations, Property and/or Equipment Description:

OSM Press 335 with RTOs

- a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.
 - (1) None.
- b) Applicable Emissions Limitations and/or Control Requirements
 - (1) The specific operations(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. 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)	See b)(2)d. and b)(2)e. 15.3 pounds organic compounds (OC)/hour, as a monthly average, for heatset operations [See b)(2)a.], and nonheatset operations [See b)(2)b.]
b.	OAC rule 3745-31-05(D)	143.1 tons OC/rolling 12-month period for emission units K009, K010, K011 and K012 combined [See b)(2)c.]
c.	OAC rule 3745-21-07(G)	See c)(4) and b)(2)h.
d.	OAC rule 3745-17-11(B)	See b)(2)f.
e.	OAC rule 3745-17-07(A)	See b)(2)g.

(2) Additional Terms and Conditions

- a. The OC emission limitation of 15.3 pounds/hour for heatset operations (as a monthly average) for emissions unit K009 is based on the following information:
 - i. The percentage of the ink solvent retained on the web after the dryer is 20 percent*;
 - ii. The percentage of the fountain solution solvent available for capture in the dryer is 70 percent*;
 - iii. The percentage of the auto blanket wash (clean up) solvent available for capture in the dryer is 40 percent*; and,



- iv. The percentage of the hand blanket wash (clean up) solvent retained on the cloths is 75 percent**.
- b. The OC emission limitation of 15.3 pounds/hour for nonheatset operations (as a monthly average) for emissions unit K009 is based on the following information:
 - i. the percentage of the ink solvent retained on the web is 95 percent*;
 - ii. the percentage of the fountain solution solvent available for capture is 0 percent*;
 - iii. the percentage of the auto blanket wash (clean up) solvent available for capture is 0 percent*; and,
 - iv. the percentage of the hand blanket wash (clean up) solvent retained on the cloths is 75 percent**

* This is based on the draft Control Techniques Guideline (Control of Volatile Organic Compound Emissions from Offset Lithographic Printing, dated September 1993) and the Alternative Control Techniques document, dated November 8, 1993.

** This is based on information supplied by the permittee.

- c. The emissions of OCs shall not exceed 143.1 tons per year, for emissions units K009, K010, K011 and K012 combined, based upon a rolling, 12-month summation of the monthly emissions. The OC emission limitation is based on OC content, usage restrictions and OC control requirements for the purpose of establishing federally enforceable limitations to avoid Prevention of Significant Deterioration (PSD) applicability. For purposes of federal enforceability, OC limitations effectively restrict VOC emissions.
- d. The permittee shall employ best available technology (BAT) on this emissions unit. It has been determined that BAT control requirements do not include the use of the thermal oxidizer during nonheatset operations. BAT for heatset operations has been determined to be the use of a control system for OC emissions, meeting the following requirements:
 - i. The control system shall consist of a collection system for the dryer. The collection system shall achieve a capture efficiency of 100 percent of the press dryer exhaust; and,
 - ii. The control system shall be equipped with a thermal oxidizer with a destruction efficiency of at least 95 percent when operating at the average temperature specified in c)(3) of this permit.
- e. The requirements of this rule also include compliance with the requirements established under OAC rule 3745-31-05(D).
- f. The uncontrolled mass rate of particulate emissions (PE) from this emissions unit is less than 10 pounds/hour. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. In addition,



Table I of OAC rule 3745-17-11 does not apply since the facility is located in Huron County, which is identified as a P-3 county.

- g. This emissions unit is not subject to the visible PE limitations specified in OAC rule 3745-17-07(A) pursuant to OAC rule 3745-17-07(A)(3)(h) because OAC rule 3745-17-11 is not applicable.
- h. On February 18, 2008, OAC rule 3745-21-07 was revised in its entirety; therefore, the 21-07 rule that was in effect prior to this date is no longer part of the State regulations. On April 4, 2008, the rule revision was submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP); however, until the U.S. EPA approves the revision to OAC rule 3745-21-07, the requirement to comply with the previous 21-07 rule provisions still exists as part of the federally-approved SIP for Ohio. The following terms and conditions shall become void after U.S. EPA approves the rule revision: c)(4), d)(1)b and e)(4).

c) Operational Restrictions

- (1) The permittee shall comply with the following monthly average OC content restrictions for the materials employed in this emissions unit:
 - a. Ink: 0.45 pound OC /pound of ink for heatset operations, as applied;
1.70 pound OC / gallon of ink for nonheatset operations, as applied;
 - b. Fountain solution: 0.25 pound OC /gallon of fountain solution material, as applied; and,
 - c. Cleanup materials (auto and hand blanket wash): 7.5 pounds OC/gallon of cleanup material, as applied.

- (2) The maximum rolling 12-month usage rate of OC containing materials for emission units K009, K010, K011 and K012 is limited by the following equation:

$$E_M = \sum E_n \leq 143.1 \text{ tons}$$

where,

E_M = the increment of the rolling 12-month period and the subsequent emissions calculated using the following equation: $E_M = E_1 + E_2 + E_3 + \dots + E_n$ (summation of all increments consumed for each product); and,

E_n = the increment of the OC containing material used for each product during the period and the subsequent emissions calculated using the following equation: $E_n = [U_n \times V_n \times (1 - R_n/100) \times \{1 - (C_n/100) \times (K/100)\}]$

And where all other variables are the same as described in paragraph d)(1)e. below.

Compliance with the annual usage restriction shall be based upon a rolling, 12-month summation.

- (3) The average temperature within the thermal oxidizer, for any 3-hour block of time when the emissions unit is in operation in heatset mode, shall not be less than 1,400 degrees



Fahrenheit. A lower average temperature requirement may be established if compliance with the minimum destruction efficiency in b)(2)c. is demonstrated during emissions testing.

- (4) The use of photochemically reactive materials, as defined in OAC rule 3745-21-01, in this emissions unit is prohibited.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall maintain monthly records which list the following information for each graphic arts material (ink, fountain solution, cleanup material, and blanket wash) employed in emissions unit K009:

- a. The name and identification number of each graphic arts material employed;
- b. Documentation on whether or not each material employed is a photochemically reactive material;
- c. The OC content of each graphic arts material, in pounds/gallon or pounds/pound for inks, as received;
- d. The quantity of each graphic arts material employed, in gallons or pounds of each material per month;
- e. The OC emissions for each graphic arts material employed, in pounds or tons/month, calculated as follows:

$$E_n = [U_n \times V_n \times (1 - R_n/100) \times \{1 - (C_n/100) \times (K/100)\}]$$

where:

- E_n = OC emissions from an individual material (pounds of OC emitted/month);
- U_n = total usage of the individual material - typically ink, fountain solution, and cleaning solvents (lbs or gallons of material/month);
- V_n = average OC content of material as determined by Method 24 (lb OC/lb or gallon of material);
- R_n = percent of OC retained on the web or on cloths:

- R_n = 20 for heatset inks
- R_n = 95 for non-heatset inks
- R_n = 0 for fountain solutions
- R_n = 0 for auto blanket wash (cleanup) solvent
- R_n = 75 for hand blanket wash (cleanup) solvent

C_n = capture efficiency for individual material emitted:

- C_n = 100 for heatset inks
- C_n = 70 for heatset fountain solutions
- C_n = 40 for heatset auto blanket wash (cleanup) solvent
- C_n = 0 for hand blanket wash (cleanup) solvent; and all non-heatset operations



K = destruction efficiency as determined during the performance test as specified in f)(2). (K = 0 for all non-heatset operations)

- f. The total OC emission rate of all graphic arts materials employed, in pounds or tons/month, calculated as follows:

$$E_M = E_1 + E_2 + E_3 + \dots + E_n$$

where:

E_M = Monthly OC emissions, in pounds/month; and,
 E_1 through E_n = OC emissions from each individual graphic arts material [d)(1)e.]

- g. The number of hours this emissions unit was in operation, when graphic arts materials were being applied or employed (hours/month);
- h. The average hourly OC emission rate, i.e., d)(1)f. divided by d)(1)g., above;

* To be recorded and calculated for heatset and non-heatset operations separately.

- (2) In addition to the above information, the permittee shall maintain monthly records of the following in order to demonstrate compliance with the rolling, 12-month OC emission rate for emissions unit K009, K010, K011 and K012 combined:

- a. The cumulative year-to-date OC emissions; and
- b. The rolling, 12-month OC emission rate, calculated as follows:

$$E_T = (E_{M1} + E_{M2} + E_{M3} + \dots + E_{M12}) / 2000 \text{ lbs}$$

where:

E_T =Rolling 12-month OC emissions (tons) as summed from the previous 12 months of monthly OC emissions;
 E_M =Monthly OC emissions (pounds/month).

- (3) The permittee shall maintain monthly records of the following information in order to demonstrate compliance with the monthly average OC content of ink, fountain solution, cleanup material, and blanket wash, as employed in emissions unit K009:

- a. The OC content of each ink, fountain solution, cleanup material, and blanket wash employed during the month (pound{s} OC/pound ink or gallon of each material);
- b. The total gallons or pounds of each individual ink, fountain solution, cleanup material, and blanket wash employed during the month;
- c. The total OC usage, in pounds of OC/month, from each individual ink, fountain solution, cleanup material, and blanket wash employed, i.e., the product of the OC content d)(3)a. times the usage d)(3)b. (above) for each material employed during the month;



- d. The sum of the monthly OC usage for all inks, fountain solutions, cleanup materials, and blanket wash materials (separately) employed, i.e., the sum of d)(3)c. (above) for all inks, fountain solutions, cleanup, and blanket wash materials (e.g.: lbs OC from all inks/month);
 - e. The total gallons or pounds of inks, fountain solutions, cleanup materials, and blanket wash materials (separately) employed during the month (e.g.: lbs ink/month);
 - f. The monthly average OC per gallon or pound of ink, fountain solution, cleanup material, and blanket wash, i.e., d)(3)d. divided by d)(3)e. (above) for each type of material (e.g.: lb OC/lb ink).
- (4) The permittee shall operate and maintain continuous temperature monitors* and a temperature recorder which measures and records the average temperature within the thermal oxidizer when the emissions unit is in operation in heatset mode. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitors and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

* This temperature monitoring system consists of several temperature monitors from which an average temperature is obtained.

The permittee shall collect and record the following information each day for this emissions unit:

- a. All 3-hour blocks of time during which the average temperature within the thermal oxidizer, when the emissions unit was in operation in heatset mode, was less than the temperature limitation specified in c)(3); and,
- b. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the emissions unit was in operation in heatset mode.

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, recordkeeping and/or testing requirements in this permit:
 - i. the emission limitation of 15.3 pounds OC/hour for heatset and non-heatset operations, as determined in d)(1);
 - ii. the monthly average OC content restrictions for inks, fountain solutions, blanket wash, and cleanup materials, as determined in d)(3); and
 - iii. the emission limitation of 143.1 tons OC/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) The permittee shall submit quarterly deviation (excursion) reports which identify all 3-hour blocks of time during which the average temperature within the thermal oxidizer does not comply with the temperature limitation specified in c)(3) of this permit.
- (3) The permittee shall submit quarterly deviation (excursion) reports that include a log of the downtime for the capture (collection) system and/or the thermal oxidizer when the emissions unit was in operation in heatset mode.
- (4) The permittee shall submit quarterly deviation (excursion) reports which identify each day during which a photochemically reactive material was employed.
- (5) All quarterly deviation reports shall be submitted in accordance with the Standard Terms and Conditions of this permit.

f) Testing Requirements

(1) Compliance with the emission limitations in condition b)(1) of the terms and conditions of this permit shall be determined in accordance with the following methods:

- a. Emission Limitation:
15.3 pounds OC/hour (as a monthly average), for heatset and non-heatset operations

Applicable Compliance Method:
The permittee shall demonstrate compliance with these emission limitations through the record keeping required in d)(1) of this permit.

- b. Emission Limitation:
143.1 tons OC/rolling 12-month period

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation through the record keeping required in d)(2) of this permit.



State of Ohio Environmental Protection Agency
Division of Air Pollution Control

Final Permit-to-Install
Permit Number: P0104538
Facility ID: 0339030135
Effective Date: 6/11/2009

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 permittees to apply for and obtain a new or modified PTI 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 PTI.



4. K010, Press 326

Operations, Property and/or Equipment Description:

OSM Press 326 with RTOs

- a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.
 - (1) None.
- b) Applicable Emissions Limitations and/or Control Requirements
 - (1) The specific operations(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. 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)	See b)(2)d. and b)(2)e. 13.7 pounds organic compounds (OC)/hour, as a monthly average, for heatset operations [See b)(2)a.], and nonheatset operations [See b)(2)b.]
b.	OAC rule 3745-31-05(D)	143.1 tons OC/rolling 12-month period for emission units K009, K010, K011 and K012 combined [See b)(2)c.]
c.	OAC rule 3745-21-07(G)	See c)(4) and b)(2)h.
d.	OAC rule 3745-17-11(B)	See b)(2)f.
e.	OAC rule 3745-17-07(A)	See b)(2)g.

(2) Additional Terms and Conditions

- a. The OC emission limitation of 13.7 pounds/hour for heatset operations (as a monthly average) for emissions unit K010 is based on the following information:
 - i. The percentage of the ink solvent retained on the web after the dryer is 20 percent*;
 - ii. The percentage of the fountain solution solvent available for capture in the dryer is 70 percent*;
 - iii. The percentage of the auto blanket wash (clean up) solvent available for capture in the dryer is 40 percent*; and,



- iv. The percentage of the hand blanket wash (clean up) solvent retained on the cloths is 75 percent**.
- b. The OC emission limitation of 13.7 pounds/hour for nonheatset operations (as a monthly average) for emissions unit K010 is based on the following information:
 - i. the percentage of the ink solvent retained on the web is 95 percent*;
 - ii. the percentage of the fountain solution solvent available for capture is 0 percent*;
 - iii. the percentage of the auto blanket wash (clean up) solvent available for capture is 0 percent*; and,
 - iv. the percentage of the hand blanket wash (clean up) solvent retained on the cloths is 75 percent**

* This is based on the draft Control Techniques Guideline (Control of Volatile Organic Compound Emissions from Offset Lithographic Printing, dated September 1993) and the Alternative Control Techniques document, dated November 8, 1993.

** This is based on information supplied by the permittee.

- c. The emissions of OCs shall not exceed 143.1 tons per year, for emissions units K009, K010, K011 and K012 combined, based upon a rolling, 12-month summation of the monthly emissions. The OC emission limitation is based on OC content, usage restrictions and OC control requirements for the purpose of establishing federally enforceable limitations to avoid Prevention of Significant Deterioration (PSD) applicability. For purposes of federal enforceability, OC limitations effectively restrict VOC emissions.
- d. The permittee shall employ best available technology (BAT) on this emissions unit. It has been determined that BAT control requirements do not include the use of the thermal oxidizer during nonheatset operations. BAT for heatset operations has been determined to be the use of a control system for OC emissions, meeting the following requirements:
 - i. The control system shall consist of a collection system for the dryer. The collection system shall achieve a capture efficiency of 100 percent of the press dryer exhaust; and,
 - ii. The control system shall be equipped with a thermal oxidizer with a destruction efficiency of at least 95 percent when operating at the average temperature specified in c)(3) of this permit.
- e. The requirements of this rule also include compliance with the requirements established under OAC rule 3745-31-05(D).
- f. The uncontrolled mass rate of particulate emissions (PE) from this emissions unit is less than 10 pounds/hour. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. In addition,



Table I of OAC rule 3745-17-11 does not apply since the facility is located in Huron County, which is identified as a P-3 county.

- g. This emissions unit is not subject to the visible PE limitations specified in OAC rule 3745-17-07(A) pursuant to OAC rule 3745-17-07(A)(3)(h) because OAC rule 3745-17-11 is not applicable.
- h. On February 18, 2008, OAC rule 3745-21-07 was revised in its entirety; therefore, the 21-07 rule that was in effect prior to this date is no longer part of the State regulations. On April 4, 2008, the rule revision was submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP); however, until the U.S. EPA approves the revision to OAC rule 3745-21-07, the requirement to comply with the previous 21-07 rule provisions still exists as part of the federally-approved SIP for Ohio. The following terms and conditions shall become void after U.S. EPA approves the rule revision: c)(4), d)(1)b and e)(4).

c) Operational Restrictions

- (1) The permittee shall comply with the following monthly average OC content restrictions for the materials employed in this emissions unit:
 - a. Ink: 0.45 pound OC /pound of ink for heatset operations, as applied;
1.70 pound OC / gallon of ink for nonheatset operations, as applied;
 - b. Fountain solution: 0.25 pound OC /gallon of fountain solution material, as applied; and,
 - c. Cleanup materials (auto and hand blanket wash): 7.5 pounds OC/gallon of cleanup material, as applied.

- (2) The maximum rolling 12-month usage rate of OC containing materials for emission units K009, K010, K011 and K012 is limited by the following equation:

$$E_M = \sum E_n \leq 143.1 \text{ tons}$$

where,

E_M = the increment of the rolling 12-month period and the subsequent emissions calculated using the following equation: $E_M = E_1 + E_2 + E_3 + \dots + E_n$ (summation of all increments consumed for each product); and,

E_n = the increment of the OC containing material used for each product during the period and the subsequent emissions calculated using the following equation: $E_n = [U_n \times V_n \times (1 - R_n/100) \times \{1 - (C_n/100) \times (K/100)\}]$

And where all other variables are the same as described in paragraph d)(1)e. below.

Compliance with the annual usage restriction shall be based upon a rolling, 12-month summation.

- (3) The average temperature within the thermal oxidizer, for any 3-hour block of time when the emissions unit is in operation in heatset mode, shall not be less than 1,400 degrees



Fahrenheit. A lower average temperature requirement may be established if compliance with the minimum destruction efficiency in b)(2)c. is demonstrated during emissions testing.

- (4) The use of photochemically reactive materials, as defined in OAC rule 3745-21-01, in this emissions unit is prohibited.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall maintain monthly records which list the following information for each graphic arts material (ink, fountain solution, cleanup material, and blanket wash) employed in emissions unit K010:

- a. The name and identification number of each graphic arts material employed;
- b. Documentation on whether or not each material employed is a photochemically reactive material;
- c. The OC content of each graphic arts material, in pounds/gallon or pounds/pound for inks, as received;
- d. The quantity of each graphic arts material employed, in gallons or pounds of each material per month;
- e. The OC emissions for each graphic arts material employed, in pounds or tons/month, calculated as follows:

$$E_n = [U_n \times V_n \times (1 - R_n/100) \times \{1 - (C_n/100) \times (K/100)\}]$$

where:

- E_n = OC emissions from an individual material (pounds of OC emitted/month);
- U_n = total usage of the individual material - typically ink, fountain solution, and cleaning solvents (lbs or gallons of material/month);
- V_n = average OC content of material as determined by Method 24 (lb OC/lb or gallon of material);
- R_n = percent of OC retained on the web or on cloths:

- R_n = 20 for heatset inks
- R_n = 95 for non-heatset inks
- R_n = 0 for fountain solutions
- R_n = 0 for auto blanket wash (cleanup) solvent
- R_n = 75 for hand blanket wash (cleanup) solvent

C_n = capture efficiency for individual material emitted:

- C_n = 100 for heatset inks
- C_n = 70 for heatset fountain solutions
- C_n = 40 for heatset auto blanket wash (cleanup) solvent
- C_n = 0 for hand blanket wash (cleanup) solvent; and all non-heatset operations



K = destruction efficiency as determined during the performance test as specified in f)(2). (K = 0 for all non-heatset operations)

- f. The total OC emission rate of all graphic arts materials employed, in pounds or tons/month, calculated as follows:

$$E_M = E_1 + E_2 + E_3 + \dots + E_n$$

where:

E_M = Monthly OC emissions, in pounds/month; and,
 E_1 through E_n = OC emissions from each individual graphic arts material [d)(1)e.]

- g. The number of hours this emissions unit was in operation, when graphic arts materials were being applied or employed (hours/month);
- h. The average hourly OC emission rate, i.e., d)(1)f. divided by d)(1)g., above;

* To be recorded and calculated for heatset and non-heatset operations separately.

- (2) In addition to the above information, the permittee shall maintain monthly records of the following in order to demonstrate compliance with the rolling, 12-month OC emission rate for emissions unit K009, K010, K011 and K012 combined:

- a. The cumulative year-to-date OC emissions; and
- b. The rolling, 12-month OC emission rate, calculated as follows:

$$E_T = (E_{M1} + E_{M2} + E_{M3} + \dots + E_{M12}) / 2000 \text{ lbs}$$

where:

E_T =Rolling 12-month OC emissions (tons) as summed from the previous 12 months of monthly OC emissions;
 E_M =Monthly OC emissions (pounds/month).

- (3) The permittee shall maintain monthly records of the following information in order to demonstrate compliance with the monthly average OC content of ink, fountain solution, cleanup material, and blanket wash, as employed in emissions unit K010:

- a. The OC content of each ink, fountain solution, cleanup material, and blanket wash employed during the month (pound{s} OC/pound ink or gallon of each material);
- b. The total gallons or pounds of each individual ink, fountain solution, cleanup material, and blanket wash employed during the month;
- c. The total OC usage, in pounds of OC/month, from each individual ink, fountain solution, cleanup material, and blanket wash employed, i.e., the product of the OC content d)(3)a. times the usage d)(3)b. (above) for each material employed during the month;



- d. The sum of the monthly OC usage for all inks, fountain solutions, cleanup materials, and blanket wash materials (separately) employed, i.e., the sum of d)(3)c. (above) for all inks, fountain solutions, cleanup, and blanket wash materials (e.g.: lbs OC from all inks/month);
 - e. The total gallons or pounds of inks, fountain solutions, cleanup materials, and blanket wash materials (separately) employed during the month (e.g.: lbs ink/month);
 - f. The monthly average OC per gallon or pound of ink, fountain solution, cleanup material, and blanket wash, i.e., d)(3)d. divided by d)(3)e. (above) for each type of material (e.g.: lb OC/lb ink).
- (4) The permittee shall operate and maintain continuous temperature monitors* and a temperature recorder which measures and records the average temperature within the thermal oxidizer when the emissions unit is in operation in heatset mode. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitors and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

* This temperature monitoring system consists of several temperature monitors from which an average temperature is obtained.

The permittee shall collect and record the following information each day for this emissions unit:

- a. All 3-hour blocks of time during which the average temperature within the thermal oxidizer, when the emissions unit was in operation in heatset mode, was less than the temperature limitation specified in c)(3); and,
- b. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the emissions unit was in operation in heatset mode.

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, recordkeeping and/or testing requirements in this permit:
 - i. the emission limitation of 13.7 pounds OC/hour for heatset and non-heatset operations, as determined in d)(1);
 - ii. the monthly average OC content restrictions for inks, fountain solutions, blanket wash, and cleanup materials, as determined in d)(3); and
 - iii. the emission limitation of 143.1 tons OC/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) The permittee shall submit quarterly deviation (excursion) reports which identify all 3-hour blocks of time during which the average temperature within the thermal oxidizer does not comply with the temperature limitation specified in c)(3) of this permit.
- (3) The permittee shall submit quarterly deviation (excursion) reports that include a log of the downtime for the capture (collection) system and/or the thermal oxidizer when the emissions unit was in operation in heatset mode.
- (4) The permittee shall submit quarterly deviation (excursion) reports which identify each day during which a photochemically reactive material was employed.
- (5) All quarterly deviation reports shall be submitted in accordance with the Standard Terms and Conditions of this permit.

f) Testing Requirements

(1) Compliance with the emission limitations in condition b)(1) of the terms and conditions of this permit shall be determined in accordance with the following methods:

- a. Emission Limitation:
13.7 pounds OC/hour (as a monthly average), for heatset and non-heatset operations

Applicable Compliance Method:
The permittee shall demonstrate compliance with these emission limitations through the record keeping required in d)(1) of this permit.

- b. Emission Limitation:
143.1 tons OC/rolling 12-month period

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation through the record keeping required in d)(2) of this permit.



State of Ohio Environmental Protection Agency
Division of Air Pollution Control

Final Permit-to-Install
Permit Number: P0104538
Facility ID: 0339030135
Effective Date: 6/11/2009

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 permittees to apply for and obtain a new or modified PTI 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 PTI.



5. K011, Press 336

Operations, Property and/or Equipment Description:

OSM Press 336 with RTOs

- a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.
 - (1) None.
- b) Applicable Emissions Limitations and/or Control Requirements
 - (1) The specific operations(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. 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)	See b)(2)d. and b)(2)e. 14.2 pounds organic compounds (OC)/hour, as a monthly average, for heatset operations [See b)(2)a.], and nonheatset operations [See b)(2)b.]
b.	OAC rule 3745-31-05(D)	143.1 tons OC/rolling 12-month period for emission units K009, K010, K011 and K012 combined [See b)(2)c.]
c.	OAC rule 3745-21-07(G)	See c)(4) and b)(2)h.
d.	OAC rule 3745-17-11(B)	See b)(2)f.
e.	OAC rule 3745-17-07(A)	See b)(2)g.

(2) Additional Terms and Conditions

- a. The OC emission limitation of 14.2 pounds/hour for heatset operations (as a monthly average) for emissions unit K011 is based on the following information:
 - i. The percentage of the ink solvent retained on the web after the dryer is 20 percent*;
 - ii. The percentage of the fountain solution solvent available for capture in the dryer is 70 percent*;
 - iii. The percentage of the auto blanket wash (clean up) solvent available for capture in the dryer is 40 percent*; and,



- iv. The percentage of the hand blanket wash (clean up) solvent retained on the cloths is 75 percent**.
- b. The OC emission limitation of 14.2 pounds/hour for nonheatset operations (as a monthly average) for emissions unit K011 is based on the following information:
 - i. the percentage of the ink solvent retained on the web is 95 percent*;
 - ii. the percentage of the fountain solution solvent available for capture is 0 percent*;
 - iii. the percentage of the auto blanket wash (clean up) solvent available for capture is 0 percent*; and,
 - iv. the percentage of the hand blanket wash (clean up) solvent retained on the cloths is 75 percent**

* This is based on the draft Control Techniques Guideline (Control of Volatile Organic Compound Emissions from Offset Lithographic Printing, dated September 1993) and the Alternative Control Techniques document, dated November 8, 1993.

** This is based on information supplied by the permittee.

- c. The emissions of OCs shall not exceed 143.1 tons per year, for emissions units K009, K010, K011 and K012 combined, based upon a rolling, 12-month summation of the monthly emissions. The OC emission limitation is based on OC content, usage restrictions and OC control requirements for the purpose of establishing federally enforceable limitations to avoid Prevention of Significant Deterioration (PSD) applicability. For purposes of federal enforceability, OC limitations effectively restrict VOC emissions.
- d. The permittee shall employ best available technology (BAT) on this emissions unit. It has been determined that BAT control requirements do not include the use of the thermal oxidizer during nonheatset operations. BAT for heatset operations has been determined to be the use of a control system for OC emissions, meeting the following requirements:
 - i. The control system shall consist of a collection system for the dryer. The collection system shall achieve a capture efficiency of 100 percent of the press dryer exhaust; and,
 - ii. The control system shall be equipped with a thermal oxidizer with a destruction efficiency of at least 95 percent when operating at the average temperature specified in c)(3) of this permit.
- e. The requirements of this rule also include compliance with the requirements established under OAC rule 3745-31-05(D).
- f. The uncontrolled mass rate of particulate emissions (PE) from this emissions unit is less than 10 pounds/hour. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. In addition,



Table I of OAC rule 3745-17-11 does not apply since the facility is located in Huron County, which is identified as a P-3 county.

- g. This emissions unit is not subject to the visible PE limitations specified in OAC rule 3745-17-07(A) pursuant to OAC rule 3745-17-07(A)(3)(h) because OAC rule 3745-17-11 is not applicable.
- h. On February 18, 2008, OAC rule 3745-21-07 was revised in its entirety; therefore, the 21-07 rule that was in effect prior to this date is no longer part of the State regulations. On April 4, 2008, the rule revision was submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP); however, until the U.S. EPA approves the revision to OAC rule 3745-21-07, the requirement to comply with the previous 21-07 rule provisions still exists as part of the federally-approved SIP for Ohio. The following terms and conditions shall become void after U.S. EPA approves the rule revision: c)(4), d)(1)b and e)(4).

c) Operational Restrictions

(1) The permittee shall comply with the following monthly average OC content restrictions for the materials employed in this emissions unit:

- a. Ink: 0.45 pound OC /pound of ink for heatset operations, as applied;
1.70 pound OC / gallon of ink for nonheatset operations, as applied;
- b. Fountain solution: 0.25 pound OC /gallon of fountain solution material, as applied; and,
- c. Cleanup materials (auto and hand blanket wash): 7.5 pounds OC/gallon of cleanup material, as applied.

(2) The maximum rolling 12-month usage rate of OC containing materials for emission units K009, K010, K011 and K012 is limited by the following equation:

$$E_M = \sum E_n \leq 143.1 \text{ tons}$$

where,

E_M = the increment of the rolling 12-month period and the subsequent emissions calculated using the following equation: $E_M = E_1 + E_2 + E_3 + \dots + E_n$ (summation of all increments consumed for each product); and,

E_n = the increment of the OC containing material used for each product during the period and the subsequent emissions calculated using the following equation: $E_n = [U_n \times V_n \times (1 - R_n/100) \times \{1 - (C_n/100) \times (K/100)\}]$

And where all other variables are the same as described in paragraph d)(1)e. below.

Compliance with the annual usage restriction shall be based upon a rolling, 12-month summation.

(3) The average temperature within the thermal oxidizer, for any 3-hour block of time when the emissions unit is in operation in heatset mode, shall not be less than 1,400 degrees



Fahrenheit. A lower average temperature requirement may be established if compliance with the minimum destruction efficiency in b)(2)c. is demonstrated during emissions testing.

- (4) The use of photochemically reactive materials, as defined in OAC rule 3745-21-01, in this emissions unit is prohibited.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall maintain monthly records which list the following information for each graphic arts material (ink, fountain solution, cleanup material, and blanket wash) employed in emissions unit K011:

- a. The name and identification number of each graphic arts material employed;
- b. Documentation on whether or not each material employed is a photochemically reactive material;
- c. The OC content of each graphic arts material, in pounds/gallon or pounds/pound for inks, as received;
- d. The quantity of each graphic arts material employed, in gallons or pounds of each material per month;
- e. The OC emissions for each graphic arts material employed, in pounds or tons/month, calculated as follows:

$$E_n = [U_n \times V_n \times (1 - R_n/100) \times \{1 - (C_n/100) \times (K/100)\}]$$

where:

- E_n = OC emissions from an individual material (pounds of OC emitted/month);
- U_n = total usage of the individual material - typically ink, fountain solution, and cleaning solvents (lbs or gallons of material/month);
- V_n = average OC content of material as determined by Method 24 (lb OC/lb or gallon of material);
- R_n = percent of OC retained on the web or on cloths:

- R_n = 20 for heatset inks
- R_n = 95 for non-heatset inks
- R_n = 0 for fountain solutions
- R_n = 0 for auto blanket wash (cleanup) solvent
- R_n = 75 for hand blanket wash (cleanup) solvent

C_n = capture efficiency for individual material emitted:

- C_n = 100 for heatset inks
- C_n = 70 for heatset fountain solutions
- C_n = 40 for heatset auto blanket wash (cleanup) solvent
- C_n = 0 for hand blanket wash (cleanup) solvent; and all non-heatset operations



K = destruction efficiency as determined during the performance test as specified in f)(2). (K = 0 for all non-heatset operations)

- f. The total OC emission rate of all graphic arts materials employed, in pounds or tons/month, calculated as follows:

$$E_M = E_1 + E_2 + E_3 + \dots + E_n$$

where:

E_M = Monthly OC emissions, in pounds/month; and,
 E_1 through E_n = OC emissions from each individual graphic arts material [d)(1)e.]

- g. The number of hours this emissions unit was in operation, when graphic arts materials were being applied or employed (hours/month);
- h. The average hourly OC emission rate, i.e., d)(1)f. divided by d)(1)g., above;

* To be recorded and calculated for heatset and non-heatset operations separately.

- (2) In addition to the above information, the permittee shall maintain monthly records of the following in order to demonstrate compliance with the rolling, 12-month OC emission rate for emissions unit K009, K010, K011 and K012 combined:

- a. The cumulative year-to-date OC emissions; and
- b. The rolling, 12-month OC emission rate, calculated as follows:

$$E_T = (E_{M1} + E_{M2} + E_{M3} + \dots + E_{M12}) / 2000 \text{ lbs}$$

where:

E_T =Rolling 12-month OC emissions (tons) as summed from the previous 12 months of monthly OC emissions;
 E_M =Monthly OC emissions (pounds/month).

- (3) The permittee shall maintain monthly records of the following information in order to demonstrate compliance with the monthly average OC content of ink, fountain solution, cleanup material, and blanket wash, as employed in emissions unit K011:

- a. The OC content of each ink, fountain solution, cleanup material, and blanket wash employed during the month (pound{s} OC/pound ink or gallon of each material);
- b. The total gallons or pounds of each individual ink, fountain solution, cleanup material, and blanket wash employed during the month;
- c. The total OC usage, in pounds of OC/month, from each individual ink, fountain solution, cleanup material, and blanket wash employed, i.e., the product of the OC content d)(3)a. times the usage d)(3)b. (above) for each material employed during the month;



- d. The sum of the monthly OC usage for all inks, fountain solutions, cleanup materials, and blanket wash materials (separately) employed, i.e., the sum of d)(3)c. (above) for all inks, fountain solutions, cleanup, and blanket wash materials (e.g.: lbs OC from all inks/month);
 - e. The total gallons or pounds of inks, fountain solutions, cleanup materials, and blanket wash materials (separately) employed during the month (e.g.: lbs ink/month);
 - f. The monthly average OC per gallon or pound of ink, fountain solution, cleanup material, and blanket wash, i.e., d)(3)d. divided by d)(3)e. (above) for each type of material (e.g.: lb OC/lb ink).
- (4) The permittee shall operate and maintain continuous temperature monitors* and a temperature recorder which measures and records the average temperature within the thermal oxidizer when the emissions unit is in operation in heatset mode. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitors and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

* This temperature monitoring system consists of several temperature monitors from which an average temperature is obtained.

The permittee shall collect and record the following information each day for this emissions unit:

- a. All 3-hour blocks of time during which the average temperature within the thermal oxidizer, when the emissions unit was in operation in heatset mode, was less than the temperature limitation specified in c)(3); and,
- b. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the emissions unit was in operation in heatset mode.

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, recordkeeping and/or testing requirements in this permit:
 - i. the emission limitation of 14.2 pounds OC/hour for heatset and non-heatset operations, as determined in d)(1);
 - ii. the monthly average OC content restrictions for inks, fountain solutions, blanket wash, and cleanup materials, as determined in d)(3); and
 - iii. the emission limitation of 143.1 tons OC/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) The permittee shall submit quarterly deviation (excursion) reports which identify all 3-hour blocks of time during which the average temperature within the thermal oxidizer does not comply with the temperature limitation specified in c)(3) of this permit.
- (3) The permittee shall submit quarterly deviation (excursion) reports that include a log of the downtime for the capture (collection) system and/or the thermal oxidizer when the emissions unit was in operation in heatset mode.
- (4) The permittee shall submit quarterly deviation (excursion) reports which identify each day during which a photochemically reactive material was employed.
- (5) All quarterly deviation reports shall be submitted in accordance with the Standard Terms and Conditions of this permit.

f) Testing Requirements

(1) Compliance with the emission limitations in condition b)(1) of the terms and conditions of this permit shall be determined in accordance with the following methods:

- a. Emission Limitation:
14.2 pounds OC/hour (as a monthly average), for heatset and non-heatset operations

Applicable Compliance Method:
The permittee shall demonstrate compliance with these emission limitations through the record keeping required in d)(1) of this permit.

- b. Emission Limitation:
143.1 tons OC/rolling 12-month period

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation through the record keeping required in d)(2) of this permit.



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 permittees to apply for and obtain a new or modified PTI 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 PTI.



6. K012, Press 380

Operations, Property and/or Equipment Description:

OSM Press 380 with RTOs

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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)	See b)(2)d. and b)(2)e. 14.1 pounds organic compounds (OC)/hour, as a monthly average, for heatset operations [See b)(2)a.], and nonheatset operations [See b)(2)b.]
b.	OAC rule 3745-31-05(D)	143.1 tons OC/rolling 12-month period for emission units K009, K010, K011 and K012 combined [See b)(2)c.]
c.	OAC rule 3745-21-07(G)	See c)(4) and b)(2)h.
d.	OAC rule 3745-17-11(B)	See b)(2)f.
e.	OAC rule 3745-17-07(A)	See b)(2)g.

(2) Additional Terms and Conditions

a. The OC emission limitation of 14.1 pounds/hour for heatset operations (as a monthly average) for emissions unit K012 is based on the following information:

- i. The percentage of the ink solvent retained on the web after the dryer is 20 percent*;
- ii. The percentage of the fountain solution solvent available for capture in the dryer is 70 percent*;
- iii. The percentage of the auto blanket wash (clean up) solvent available for capture in the dryer is 40 percent*; and,



- iv. The percentage of the hand blanket wash (clean up) solvent retained on the cloths is 75 percent**.
- b. The OC emission limitation of 14.1 pounds/hour for nonheatset operations (as a monthly average) for emissions unit K012 is based on the following information:
 - i. the percentage of the ink solvent retained on the web is 95 percent*;
 - ii. the percentage of the fountain solution solvent available for capture is 0 percent*;
 - iii. the percentage of the auto blanket wash (clean up) solvent available for capture is 0 percent*; and,
 - iv. the percentage of the hand blanket wash (clean up) solvent retained on the cloths is 75 percent**

* This is based on the draft Control Techniques Guideline (Control of Volatile Organic Compound Emissions from Offset Lithographic Printing, dated September 1993) and the Alternative Control Techniques document, dated November 8, 1993.

** This is based on information supplied by the permittee.

- c. The emissions of OCs shall not exceed 143.1 tons per year, for emissions units K009, K010, K011 and K012 combined, based upon a rolling, 12-month summation of the monthly emissions. The OC emission limitation is based on OC content, usage restrictions and OC control requirements for the purpose of establishing federally enforceable limitations to avoid Prevention of Significant Deterioration (PSD) applicability. For purposes of federal enforceability, OC limitations effectively restrict VOC emissions.
- d. The permittee shall employ best available technology (BAT) on this emissions unit. It has been determined that BAT control requirements do not include the use of the thermal oxidizer during nonheatset operations. BAT for heatset operations has been determined to be the use of a control system for OC emissions, meeting the following requirements:
 - i. The control system shall consist of a collection system for the dryer. The collection system shall achieve a capture efficiency of 100 percent of the press dryer exhaust; and,
 - ii. The control system shall be equipped with a thermal oxidizer with a destruction efficiency of at least 95 percent when operating at the average temperature specified in c)(3) of this permit.
- e. The requirements of this rule also include compliance with the requirements established under OAC rule 3745-31-05(D).
- f. The uncontrolled mass rate of particulate emissions (PE) from this emissions unit is less than 10 pounds/hour. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. In addition,



Table I of OAC rule 3745-17-11 does not apply since the facility is located in Huron County, which is identified as a P-3 county.

- g. This emissions unit is not subject to the visible PE limitations specified in OAC rule 3745-17-07(A) pursuant to OAC rule 3745-17-07(A)(3)(h) because OAC rule 3745-17-11 is not applicable.
- h. On February 18, 2008, OAC rule 3745-21-07 was revised in its entirety; therefore, the 21-07 rule that was in effect prior to this date is no longer part of the State regulations. On April 4, 2008, the rule revision was submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP); however, until the U.S. EPA approves the revision to OAC rule 3745-21-07, the requirement to comply with the previous 21-07 rule provisions still exists as part of the federally-approved SIP for Ohio. The following terms and conditions shall become void after U.S. EPA approves the rule revision: c)(4), d)(1)b and e)(4).

c) Operational Restrictions

- (1) The permittee shall comply with the following monthly average OC content restrictions for the materials employed in this emissions unit:
 - a. Ink: 0.45 pound OC /pound of ink for heatset operations, as applied;
 1.70 pound OC / gallon of ink for nonheatset operations, as applied;
 - b. Fountain solution: 0.25 pound OC /gallon of fountain solution material, as applied; and,
 - c. Cleanup materials (auto and hand blanket wash): 7.5 pounds OC/gallon of cleanup material, as applied.

- (2) The maximum rolling 12-month usage rate of OC containing materials for emission units K009, K010, K011 and K012 is limited by the following equation:

$$E_M = \sum E_n \leq 143.1 \text{ tons}$$

where,

E_M = the increment of the rolling 12-month period and the subsequent emissions calculated using the following equation: $E_M = E_1 + E_2 + E_3 + \dots + E_n$ (summation of all increments consumed for each product); and,

E_n = the increment of the OC containing material used for each product during the period and the subsequent emissions calculated using the following equation: $E_n = [U_n \times V_n \times (1 - R_n/100) \times \{1 - (C_n/100) \times (K/100)\}]$

And where all other variables are the same as described in paragraph d)(1)e. below.

Compliance with the annual usage restriction shall be based upon a rolling, 12-month summation.

- (3) The average temperature within the thermal oxidizer, for any 3-hour block of time when the emissions unit is in operation in heatset mode, shall not be less than 1,400 degrees



Fahrenheit. A lower average temperature requirement may be established if compliance with the minimum destruction efficiency in b)(2)c. is demonstrated during emissions testing.

- (4) The use of photochemically reactive materials, as defined in OAC rule 3745-21-01, in this emissions unit is prohibited.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall maintain monthly records which list the following information for each graphic arts material (ink, fountain solution, cleanup material, and blanket wash) employed in emissions unit K012:

- a. The name and identification number of each graphic arts material employed;
- b. Documentation on whether or not each material employed is a photochemically reactive material;
- c. The OC content of each graphic arts material, in pounds/gallon or pounds/pound for inks, as received;
- d. The quantity of each graphic arts material employed, in gallons or pounds of each material per month;
- e. The OC emissions for each graphic arts material employed, in pounds or tons/month, calculated as follows:

$$E_n = [U_n \times V_n \times (1 - R_n/100) \times \{1 - (C_n/100) \times (K/100)\}]$$

where:

- E_n = OC emissions from an individual material (pounds of OC emitted/month);
- U_n = total usage of the individual material - typically ink, fountain solution, and cleaning solvents (lbs or gallons of material/month);
- V_n = average OC content of material as determined by Method 24 (lb OC/lb or gallon of material);
- R_n = percent of OC retained on the web or on cloths:

- R_n = 20 for heatset inks
- R_n = 95 for non-heatset inks
- R_n = 0 for fountain solutions
- R_n = 0 for auto blanket wash (cleanup) solvent
- R_n = 75 for hand blanket wash (cleanup) solvent

C_n = capture efficiency for individual material emitted:

- C_n = 100 for heatset inks
- C_n = 70 for heatset fountain solutions
- C_n = 40 for heatset auto blanket wash (cleanup) solvent
- C_n = 0 for hand blanket wash (cleanup) solvent; and all non-heatset operations



K = destruction efficiency as determined during the performance test as specified in f)(2). (K = 0 for all non-heatset operations)

- f. The total OC emission rate of all graphic arts materials employed, in pounds or tons/month, calculated as follows:

$$E_M = E_1 + E_2 + E_3 + \dots + E_n$$

where:

E_M = Monthly OC emissions, in pounds/month; and,
 E_1 through E_n = OC emissions from each individual graphic arts material [d)(1)e.]

- g. The number of hours this emissions unit was in operation, when graphic arts materials were being applied or employed (hours/month);
- h. The average hourly OC emission rate, i.e., d)(1)f. divided by d)(1)g., above;

* To be recorded and calculated for heatset and non-heatset operations separately.

- (2) In addition to the above information, the permittee shall maintain monthly records of the following in order to demonstrate compliance with the rolling, 12-month OC emission rate for emissions unit K009, K010, K011 and K012 combined:

- a. The cumulative year-to-date OC emissions; and
- b. The rolling, 12-month OC emission rate, calculated as follows:

$$E_T = (E_{M1} + E_{M2} + E_{M3} + \dots + E_{M12}) / 2000 \text{ lbs}$$

where:

E_T =Rolling 12-month OC emissions (tons) as summed from the previous 12 months of monthly OC emissions;
 E_M =Monthly OC emissions (pounds/month).

- (3) The permittee shall maintain monthly records of the following information in order to demonstrate compliance with the monthly average OC content of ink, fountain solution, cleanup material, and blanket wash, as employed in emissions unit K012:

- a. The OC content of each ink, fountain solution, cleanup material, and blanket wash employed during the month (pound{s} OC/pound ink or gallon of each material);
- b. The total gallons or pounds of each individual ink, fountain solution, cleanup material, and blanket wash employed during the month;
- c. The total OC usage, in pounds of OC/month, from each individual ink, fountain solution, cleanup material, and blanket wash employed, i.e., the product of the OC content d)(3)a. times the usage d)(3)b. (above) for each material employed during the month;



- d. The sum of the monthly OC usage for all inks, fountain solutions, cleanup materials, and blanket wash materials (separately) employed, i.e., the sum of d)(3)c. (above) for all inks, fountain solutions, cleanup, and blanket wash materials (e.g.: lbs OC from all inks/month);
 - e. The total gallons or pounds of inks, fountain solutions, cleanup materials, and blanket wash materials (separately) employed during the month (e.g.: lbs ink/month);
 - f. The monthly average OC per gallon or pound of ink, fountain solution, cleanup material, and blanket wash, i.e., d)(3)d. divided by d)(3)e. (above) for each type of material (e.g.: lb OC/lb ink).
- (4) The permittee shall operate and maintain continuous temperature monitors* and a temperature recorder which measures and records the average temperature within the thermal oxidizer when the emissions unit is in operation in heatset mode. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitors and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

* This temperature monitoring system consists of several temperature monitors from which an average temperature is obtained.

The permittee shall collect and record the following information each day for this emissions unit:

- a. All 3-hour blocks of time during which the average temperature within the thermal oxidizer, when the emissions unit was in operation in heatset mode, was less than the temperature limitation specified in c)(3); and,
- b. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the emissions unit was in operation in heatset mode.

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, recordkeeping and/or testing requirements in this permit:
 - i. the emission limitation of 14.1 pounds OC/hour for heatset and non-heatset operations, as determined in d)(1);
 - ii. the monthly average OC content restrictions for inks, fountain solutions, blanket wash, and cleanup materials, as determined in d)(3); and
 - iii. the emission limitation of 143.1 tons OC/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) The permittee shall submit quarterly deviation (excursion) reports which identify all 3-hour blocks of time during which the average temperature within the thermal oxidizer does not comply with the temperature limitation specified in c)(3) of this permit.
- (3) The permittee shall submit quarterly deviation (excursion) reports that include a log of the downtime for the capture (collection) system and/or the thermal oxidizer when the emissions unit was in operation in heatset mode.
- (4) The permittee shall submit quarterly deviation (excursion) reports which identify each day during which a photochemically reactive material was employed.
- (5) All quarterly deviation reports shall be submitted in accordance with the Standard Terms and Conditions of this permit.

f) Testing Requirements

(1) Compliance with the emission limitations in condition b)(1) of the terms and conditions of this permit shall be determined in accordance with the following methods:

- a. Emission Limitation:
14.1 pounds OC/hour (as a monthly average), for heatset and non-heatset operations

Applicable Compliance Method:
The permittee shall demonstrate compliance with these emission limitations through the record keeping required in d)(1) of this permit.

- b. Emission Limitation:
143.1 tons OC/rolling 12-month period

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation through the record keeping required in d)(2) of this permit.



State of Ohio Environmental Protection Agency
Division of Air Pollution Control

Final Permit-to-Install
Permit Number: P0104538
Facility ID: 0339030135
Effective Date: 6/11/2009

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 permittees to apply for and obtain a new or modified PTI 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 PTI.



7. K018, Press 327

Operations, Property and/or Equipment Description:

OSM Press 327 with RTOs

- a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.
 - (1) None.
- b) Applicable Emissions Limitations and/or Control Requirements
 - (1) The specific operations(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. 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)	See b)(2)d. and b)(2)e. 14.8 pounds organic compounds (OC)/hour, as a monthly average, for heatset operations [See b)(2)a.], and nonheatset operations [See b)(2)b.]
b.	OAC rule 3745-31-05(D)	37.0 tons OC/rolling 12-month period for emission unit K018 [See b)(2)c.]
c.	OAC rule 3745-21-07(G)	See c)(4) and b)(2)h.
d.	OAC rule 3745-17-11(B)	See b)(2)f.
e.	OAC rule 3745-17-07(A)	See b)(2)g.

(2) Additional Terms and Conditions

- a. The OC emission limitation of 14.8 pounds/hour for heatset operations (as a monthly average) for emissions unit K018 is based on the following information:
 - i. The percentage of the ink solvent retained on the web after the dryer is 20 percent*;
 - ii. The percentage of the fountain solution solvent available for capture in the dryer is 70 percent*;
 - iii. The percentage of the auto blanket wash (clean up) solvent available for capture in the dryer is 40 percent*; and,
 - iv. The percentage of the hand blanket wash (clean up) solvent retained on the cloths is 75 percent**.



- b. The OC emission limitation of 14.8 pounds/hour for nonheatset operations (as a monthly average) for emissions unit K018 is based on the following information:
 - i. the percentage of the ink solvent retained on the web is 95 percent*;
 - ii. the percentage of the fountain solution solvent available for capture is 0 percent*;
 - iii. the percentage of the auto blanket wash (clean up) solvent available for capture is 0 percent*; and,
 - iv. the percentage of the hand blanket wash (clean up) solvent retained on the cloths is 75 percent**

* This is based on the draft Control Techniques Guideline (Control of Volatile Organic Compound Emissions from Offset Lithographic Printing, dated September 1993) and the Alternative Control Techniques document, dated November 8, 1993.

** This is based on information supplied by the permittee.

- c. The emissions of OCs shall not exceed 37.0 tons per year, for emissions unit K018, based upon a rolling, 12-month summation of the monthly emissions. The OC emission limitation is based on OC content, usage restrictions and OC control requirements for the purpose of establishing federally enforceable limitations to avoid Prevention of Significant Deterioration (PSD) applicability. For purposes of federal enforceability, OC limitations effectively restrict VOC emissions.
- d. The permittee shall employ best available technology (BAT) on this emissions unit. It has been determined that BAT control requirements do not include the use of the thermal oxidizer during nonheatset operations. BAT for heatset operations has been determined to be the use of a control system for OC emissions, meeting the following requirements:
 - i. The control system shall consist of a collection system for the dryer. The collection system shall achieve a capture efficiency of 100 percent of the press dryer exhaust; and,
 - ii. The control system shall be equipped with a thermal oxidizer with a destruction efficiency of at least 95 percent when operating at the average temperature specified in c)(3) of this permit.
- e. The requirements of this rule also include compliance with the requirements or established under OAC rule 3745-31-05(D).
- f. The uncontrolled mass rate of particulate emissions (PE) from this emissions unit is less than 10 pounds/hour. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. In addition, Table I of OAC rule 3745-17-11 does not apply since the facility is located in Huron County, which is identified as a P-3 county.



- g. This emissions unit is not subject to the visible PE limitations specified in OAC rule 3745-17-07(A) pursuant to OAC rule 3745-17-07(A)(3)(h) because OAC rule 3745-17-11 is not applicable.
- h. On February 18, 2008, OAC rule 3745-21-07 was revised in its entirety; therefore, the 21-07 rule that was in effect prior to this date is no longer part of the State regulations. On April 4, 2008, the rule revision was submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP); however, until the U.S. EPA approves the revision to OAC rule 3745-21-07, the requirement to comply with the previous 21-07 rule provisions still exists as part of the federally-approved SIP for Ohio. The following terms and conditions shall become void after U.S. EPA approves the rule revision: c)(4), d)(1)b and e)(4).

c) Operational Restrictions

- (1) The permittee shall comply with the following monthly average OC content restrictions for the materials employed in this emissions unit:
 - a. Ink: 0.45 pound OC /pound of ink for heatset operations, as applied;
1.70 pound OC / gallon of ink for nonheatset operations, as applied;
 - b. Fountain solution: 0.25 pound OC /gallon of fountain solution material, as applied; and,
 - c. Cleanup materials (auto and hand blanket wash): 7.5 pounds OC/gallon of cleanup material, as applied.

- (2) The maximum rolling, 12-month usage rate of OC containing materials for emission unit K018 is limited by the following equation:

$$E_M = \sum E_n \leq 37.0 \text{ tons}$$

where,

E_M = the increment of the rolling 12-month period and the subsequent emissions calculated using the following equation: $E_M = E_1 + E_2 + E_3 + \dots + E_n$ (summation of all increments consumed for each product); and,

E_n = the increment of the OC containing material used for each product during the period and the subsequent emissions calculated using the following equation: $E_n = [U_n \times V_n \times (1 - R_n/100) \times \{1 - (C_n/100) \times (K/100)\}]$

And where all other variables are the same as described in paragraph d)(1)e. below.

Compliance with the annual usage restriction shall be based upon a rolling, 12-month summation.

- (3) The average temperature within the thermal oxidizer, for any 3-hour block of time when the emissions unit is in operation in heatset mode, shall not be less than 1,400 degrees Fahrenheit. A lower average temperature requirement may be established if compliance with the minimum destruction efficiency in b)(2)c. is demonstrated during emissions testing.



- (4) The use of photochemically reactive materials, as defined in OAC rule 3745-21-01, in this emissions unit is prohibited.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall maintain monthly records which list the following information for each graphic arts material (ink, fountain solution, cleanup material, and blanket wash) employed in emissions unit K018:*

- a. The name and identification number of each graphic arts material employed;
- b. Documentation on whether or not each material employed is a photochemically reactive material;
- c. The OC content of each graphic arts material, in pounds/gallon or pounds/pound for inks, as received;
- d. The quantity of each graphic arts material employed, in gallons or pounds of each material per month;
- e. The OC emissions for each graphic arts material employed, in pounds or tons/month, calculated as follows:

$$E_n = [U_n \times V_n \times (1 - R_n/100) \times \{1 - (C_n/100) \times (K/100)\}]$$

where:

- E_n = OC emissions from an individual material (pounds of OC emitted/month);
- U_n = total usage of the individual material - typically ink, fountain solution, and cleaning solvents (lbs or gallons of material/month);
- V_n = average OC content of material as determined by Method 24 (lb OC/lb or gallon of material);
- R_n = percent of OC retained on the web or on cloths:

- R_n = 20 for heatset inks
- R_n = 95 for non-heatset inks
- R_n = 0 for fountain solutions
- R_n = 0 for auto blanket wash (cleanup) solvent
- R_n = 75 for hand blanket wash (cleanup) solvent

C_n = capture efficiency for individual material emitted:

- C_n = 100 for heatset inks
- C_n = 70 for heatset fountain solutions
- C_n = 40 for heatset auto blanket wash (cleanup) solvent
- C_n = 0 for hand blanket wash (cleanup) solvent; and all non-heatset operations

K = destruction efficiency as determined during the performance test as specified in f)(2). (K = 0 for all non-heatset operations)



- f. The total OC emission rate of all graphic arts materials employed, in pounds or tons/month, calculated as follows:

$$E_M = E_1 + E_2 + E_3 + \dots + E_n$$

where:

E_M = Monthly OC emissions, in pounds/month; and,
 E_1 through E_n = OC emissions from each individual graphic arts material [d)(1)e.]

- g. The number of hours this emissions unit was in operation, when graphic arts materials were being applied or employed (hours/month);
- h. The average hourly OC emission rate, i.e., d)(1)f. divided by d)(1)g., above.

* To be recorded and calculated for heatset and non-heatset operations separately.

- (2) In addition to the above information, the permittee shall maintain monthly records of the following in order to demonstrate compliance with the rolling, 12-month OC emission rate for emission unit K018:

- a. The cumulative year-to-date OC emissions; and
- b. The rolling, 12-month OC emission rate, calculated as follows:

$$E_T = (E_{M1} + E_{M2} + E_{M3} + \dots + E_{M12}) / 2000 \text{ lbs}$$

where:

E_T = Rolling, 12-month OC emissions (tons) as summed from the previous 12 months of monthly OC emissions;
 E_M = Monthly OC emissions (pounds/month).

- (3) The permittee shall maintain monthly records of the following information in order to demonstrate compliance with the monthly average OC content of ink, fountain solution, cleanup material, and blanket wash, as employed in emissions unit K018:

- a. The OC content of each ink, fountain solution, cleanup material, and blanket wash employed during the month (pound{s} OC/pound ink or gallon of each material);
- b. The total gallons or pounds of each individual ink, fountain solution, cleanup material, and blanket wash employed during the month;
- c. The total OC usage, in pounds of OC/month, from each individual ink, fountain solution, cleanup material, and blanket wash employed, i.e., the product of the OC content d)(3)a. times the usage d)(3)b. (above) for each material employed during the month;
- d. The sum of the monthly OC usage for all inks, fountain solutions, cleanup materials, and blanket wash materials (separately) employed, i.e., the sum of



- d)(3)c. (above) for all inks, fountain solutions, cleanup, and blanket wash materials (e.g.: lbs OC from all inks/month);
 - e. The total gallons or pounds of inks, fountain solutions, cleanup materials, and blanket wash materials (separately) employed during the month (e.g.: lbs ink/month);
 - f. The monthly average OC per gallon or pound of ink, fountain solution, cleanup material, and blanket wash, i.e., d)(3)d. divided by d)(3)e. (above) for each type of material (e.g.: lb OC/lb ink).
- (4) The permittee shall operate and maintain continuous temperature monitors* and a temperature recorder which measures and records the average temperature within the thermal oxidizer when the emissions unit is in operation in heatset mode. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitors and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

* This temperature monitoring system consists of several temperature monitors from which an average temperature is obtained.

The permittee shall collect and record the following information each day for this emissions unit:

- a. All 3-hour blocks of time during which the average temperature within the thermal oxidizer, when the emissions unit was in operation in heatset mode, was less than the temperature limitation specified in c)(3); and,
 - b. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the emissions unit was in operation in heatset mode.
- 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, recordkeeping and/or testing requirements in this permit:
 - i. the emission limitation of 14.8 pounds OC/hour for heatset and non-heatset operations, as determined in d)(1);
 - ii. the monthly average OC content restrictions for inks, fountain solutions, blanket wash, and cleanup materials, as determined in d)(3); and
 - iii. the emission limitation of 37.0 tons OC/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) The permittee shall submit quarterly deviation (excursion) reports which identify all 3-hour blocks of time during which the average temperature within the thermal oxidizer does not comply with the temperature limitation specified in c)(3) of this permit.
 - (3) The permittee shall submit quarterly deviation (excursion) reports that include a log of the downtime for the capture (collection) system and/or the thermal oxidizer when the emissions unit was in operation in heatset mode.
 - (4) The permittee shall submit quarterly deviation (excursion) reports which identify each day during which a photochemically reactive material was employed.
 - (5) All quarterly deviation reports shall be submitted in accordance with the Standard Terms and Conditions of this permit.
- f) Testing Requirements
- (1) Compliance with the emission limitations in condition b)(1) of the terms and conditions of this permit shall be determined in accordance with the following methods:
 - a. Emission Limitation:
14.8 pounds OC/hour (as a monthly average), for heatset and non-heatset operations

Applicable Compliance Method:
The permittee shall demonstrate compliance with these emission limitations through the record keeping required in d)(1) of this permit.
 - b. Emission Limitation:
37.0 tons OC/rolling, 12-month period

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation through the record keeping required in d)(2) of this permit.
- g) Miscellaneous Requirements
- (1) Modeling to demonstrate compliance with, the AToxic Air Contaminant Statute[@], ORC 3704.03(F)(4)(b), was not necessary because the emissions unit=s maximum annual



State of Ohio Environmental Protection Agency
Division of Air Pollution Control

Final Permit-to-Install
Permit Number: P0104538
Facility ID: 0339030135
Effective Date: 6/11/2009

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 permittees to apply for and obtain a new or modified PTI 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 PTI.



8. K027, Press 381

Operations, Property and/or Equipment Description:

OSM Press 381 with RTOs

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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)	See b)(2)d. 5.60 pounds organic compounds (OC)/hour, as a monthly average, for heatset operations [See b)(2)a.], and nonheatset operations [See b)(2)b.]; and 14.0 tons OC/year[See b)(2)c.]
b.	OAC rule 3745-21-07(G)	See c)(4) and b)(2)g.
c.	OAC rule 3745-17-11(B)	See b)(2)e.
d.	OAC rule 3745-17-07(A)	See b)(2)f.

(2) Additional Terms and Conditions

a. The OC emission limitation of 5.60 pounds/hour for heatset operations (as a monthly average) for emissions unit K027 is based on the following information:

- i. The percentage of the ink solvent retained on the web after the dryer is 20 percent*;
- ii. The percentage of the fountain solution solvent available for capture in the dryer is 70 percent*;
- iii. The percentage of the auto blanket wash (clean up) solvent available for capture in the dryer is 40 percent*; and,
- iv. The percentage of the hand blanket wash (clean up) solvent retained on the cloths is 75 percent**.

b. The OC emission limitation of 5.60 pounds/hour for nonheatset operations (as a monthly average) for emissions unit K027 is based on the following information:



- i. the percentage of the ink solvent retained on the web is 95 percent*;
- ii. the percentage of the fountain solution solvent available for capture is 0 percent*;
- iii. the percentage of the auto blanket wash (clean up) solvent available for capture is 0 percent*; and,
- iv. the percentage of the hand blanket wash (clean up) solvent retained on the cloths is 75 percent**

* This is based on the draft Control Techniques Guideline (Control of Volatile Organic Compound Emissions from Offset Lithographic Printing, dated September 1993) and the Alternative Control Techniques document, dated November 8, 1993.

** This is based on information supplied by the permittee.

- c. The emissions of OCs shall not exceed 14.0 tons per year, for emissions unit K027, based upon a 12-month summation of the monthly emissions. The OC emission limitation is based on OC content, usage restrictions and OC control requirements.
- d. The permittee shall employ best available technology (BAT) on this emissions unit. It has been determined that BAT control requirements do not include the use of the thermal oxidizer during nonheatset operations. BAT for heatset operations has been determined to be the use of a control system for OC emissions, meeting the following requirements:
 - i. The control system shall consist of a collection system for the dryer. The collection system shall achieve a capture efficiency of 100 percent of the press dryer exhaust; and,
 - ii. The control system shall be equipped with a thermal oxidizer with a destruction efficiency of at least 95 percent when operating at the average temperature specified in c)(3) of this permit.
- e. The uncontrolled mass rate of particulate emissions (PE) from this emissions unit is less than 10 pounds/hour. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. In addition, Table I of OAC rule 3745-17-11 does not apply since the facility is located in Huron County, which is identified as a P-3 county.
- f. This emissions unit is not subject to the visible PE limitations specified in OAC rule 3745-17-07(A) pursuant to OAC rule 3745-17-07(A)(3)(h) because OAC rule 3745-17-11 is not applicable.
- g. On February 18, 2008, OAC rule 3745-21-07 was revised in its entirety; therefore, the 21-07 rule that was in effect prior to this date is no longer part of the State regulations. On April 4, 2008, the rule revision was submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP); however, until the U.S. EPA approves the revision to OAC rule 3745-21-07, the requirement to



comply with the previous 21-07 rule provisions still exists as part of the federally-approved SIP for Ohio. The following terms and conditions shall become void after U.S. EPA approves the rule revision: c)(4), d)(1)b and e)(4).

c) Operational Restrictions

(1) The permittee shall comply with the following monthly average OC content restrictions for the materials employed in this emissions unit:

- a. Ink: 0.45 pound OC /pound of ink for heatset operations, as applied;
 1.70 pound OC / gallon of ink for nonheatset operations, as applied;
- b. Fountain solution: 0.25 pound OC /gallon of fountain solution material, as applied; and,
- c. Cleanup materials (auto and hand blanket wash): 7.5 pounds OC/gallon of cleanup material, as applied.

(2) The maximum 12-month usage rate of OC containing materials for emission unit K027 is limited by the following equation:

$$E_M = \sum E_n \leq 14.0 \text{ tons}$$

where,

E_M = the increment of the 12-month period and the subsequent emissions calculated using the following equation: $E_M = E_1 + E_2 + E_3 + \dots + E_n$ (summation of all increments consumed for each product); and,

E_n = the increment of the OC containing material used for each product during the period and the subsequent emissions calculated using the following equation: $E_n = [U_n \times V_n \times (1 - R_n/100) \times \{1 - (C_n/100) \times (K/100)\}]$

And where all other variables are the same as described in paragraph d)(1)e. below.

Compliance with the annual usage restriction shall be based upon a 12-month summation.

(3) The average temperature within the thermal oxidizer, for any 3-hour block of time when the emissions unit is in operation in heatset mode, shall not be less than 1,400 degrees Fahrenheit. A lower average temperature requirement may be established if compliance with the minimum destruction efficiency in b)(2)c. is demonstrated during emissions testing.

(4) The use of photochemically reactive materials, as defined in OAC rule 3745-21-01, in this emissions unit is prohibited.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall maintain monthly records which list the following information for each graphic arts material (ink, fountain solution, cleanup material, and blanket wash) employed in emissions unit K027.*



- a. The name and identification number of each graphic arts material employed;
- b. Documentation on whether or not each material employed is a photochemically reactive material;
- c. The OC content of each graphic arts material, in pounds/gallon or pounds/pound for inks, as received;
- d. The quantity of each graphic arts material employed, in gallons or pounds of each material per month;
- e. The OC emissions for each graphic arts material employed, in pounds or tons/month, calculated as follows:

$$E_n = [U_n \times V_n \times (1 - R_n/100) \times \{1 - (C_n/100) \times (K/100)\}]$$

where:

- E_n = OC emissions from an individual material (pounds of OC emitted/month);
- U_n = total usage of the individual material - typically ink, fountain solution, and cleaning solvents (lbs or gallons of material/month);
- V_n = average OC content of material as determined by Method 24 (lb OC/lb or gallon of material);
- R_n = percent of OC retained on the web or on cloths:

- R_n = 20 for heatset inks
- R_n = 95 for non-heatset inks
- R_n = 0 for fountain solutions
- R_n = 0 for auto blanket wash (cleanup) solvent
- R_n = 75 for hand blanket wash (cleanup) solvent

C_n = capture efficiency for individual material emitted:

- C_n = 100 for heatset inks
- C_n = 70 for heatset fountain solutions
- C_n = 40 for heatset auto blanket wash (cleanup) solvent
- C_n = 0 for hand blanket wash (cleanup) solvent; and all non-heatset operations

K = destruction efficiency as determined during the performance test as specified in f)(2). (K = 0 for all non-heatset operations)

- f. The total OC emission rate of all graphic arts materials employed, in pounds or tons/month, calculated as follows:

$$E_M = E_1 + E_2 + E_3 + \dots + E_n$$

where:

- E_M = Monthly OC emissions, in pounds/month; and,
- E_1 through E_n = OC emissions from each individual graphic arts material [d)(1)e.]



- g. The number of hours this emissions unit was in operation, when graphic arts materials were being applied or employed (hours/month);
- h. The average hourly OC emission rate, i.e., d)(1)f. divided by d)(1)g., above.

* To be recorded and calculated for heatset and non-heatset operations separately.

(2) In addition to the above information, the permittee shall maintain monthly records of the following in order to demonstrate compliance with the 12-month OC emission rate for emission unit K027:

- a. The cumulative year-to-date OC emissions; and
- b. The 12-month OC emission rate, calculated as follows:

$$E_T = (E_{M1} + E_{M2} + E_{M3} + \dots + E_{M12}) / 2000 \text{ lbs}$$

where:

E_T = 12-month OC emissions (tons) as summed from the previous 12 months of monthly OC emissions;

E_M = Monthly OC emissions (pounds/month).

(3) The permittee shall maintain monthly records of the following information in order to demonstrate compliance with the monthly average OC content of ink, fountain solution, cleanup material, and blanket wash, as employed in emissions unit K027:

- a. The OC content of each ink, fountain solution, cleanup material, and blanket wash employed during the month (pound{s} OC/pound ink or gallon of each material);
- b. The total gallons or pounds of each individual ink, fountain solution, cleanup material, and blanket wash employed during the month;
- c. The total OC usage, in pounds of OC/month, from each individual ink, fountain solution, cleanup material, and blanket wash employed, i.e., the product of the OC content d)(3)a. times the usage d)(3)b. (above) for each material employed during the month;
- d. The sum of the monthly OC usage for all inks, fountain solutions, cleanup materials, and blanket wash materials (separately) employed, i.e., the sum of d)(3)c. (above) for all inks, fountain solutions, cleanup, and blanket wash materials (e.g.: lbs OC from all inks/month);
- e. The total gallons or pounds of inks, fountain solutions, cleanup materials, and blanket wash materials (separately) employed during the month (e.g.: lbs ink/month);
- f. The monthly average OC per gallon or pound of ink, fountain solution, cleanup material, and blanket wash, i.e., d)(3)d. divided by d)(3)e. (above) for each type of material (e.g.: lb OC/lb ink).



- (4) The permittee shall operate and maintain continuous temperature monitors* and a temperature recorder which measures and records the average temperature within the thermal oxidizer when the emissions unit is in operation in heatset mode. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitors and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

* This temperature monitoring system consists of several temperature monitors from which an average temperature is obtained.

The permittee shall collect and record the following information each day for this emissions unit:

- a. All 3-hour blocks of time during which the average temperature within the thermal oxidizer, when the emissions unit was in operation in heatset mode, was less than the temperature limitation specified in c)(3); and,
- b. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the emissions unit was in operation in heatset mode.

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, recordkeeping and/or testing requirements in this permit:
 - i. the emission limitation of 5.60 pounds OC/hour for heatset and non-heatset operations, as determined in d)(1);
 - ii. the monthly average OC content restrictions for inks, fountain solutions, blanket wash, and cleanup materials, as determined in d)(3); and
 - iii. the emission limitation of 14.0 tons OC/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) The permittee shall submit quarterly deviation (excursion) reports which identify all 3-hour blocks of time during which the average temperature within the thermal oxidizer does not comply with the temperature limitation specified in c)(3) of this permit.
- (3) The permittee shall submit quarterly deviation (excursion) reports that include a log of the downtime for the capture (collection) system and/or the thermal oxidizer when the emissions unit was in operation in heatset mode.
- (4) The permittee shall submit quarterly deviation (excursion) reports which identify each day during which a photochemically reactive material was employed.
- (5) All quarterly deviation reports shall be submitted in accordance with the Standard Terms and Conditions of this permit.

f) Testing Requirements

(1) Compliance with the emission limitations in condition b)(1) of the terms and conditions of this permit shall be determined in accordance with the following methods:

- a. Emission Limitation:
5.60 pounds OC/hour (as a monthly average), for heatset and non-heatset operations

Applicable Compliance Method:
The permittee shall demonstrate compliance with these emission limitations through the record keeping required in d)(1) of this permit.

- b. Emission Limitation:
14.0 tons OC/12-month period

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation through the record keeping required in d)(2) of this permit.

g) Miscellaneous Requirements

(1) None.