



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

8/6/2013

Certified Mail

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

RE: FINALAIR POLLUTION PERMIT-TO-INSTALL
Facility ID: 0339030135
Permit Number: P0114958
Permit Type: Initial Installation
County: Huron

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

Dear Permit Holder:

Enclosed please find a final Ohio Environmental Protection Agency (EPA) 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. Because this permit contains conditions and restrictions, please read it very carefully. In this letter you will find the information on the following topics:

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

How to appeal this permit

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

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

How to save money, reduce pollution and reduce energy consumption

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

How to give us feedback on your permitting experience

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

How to get an electronic copy of your permit

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

If you have any questions, please contact Ohio EPA DAPC, Northwest District Office at (419)3528461 or the Office of Compliance Assistance and Pollution Prevention at (614) 644-3469.

Sincerely,

Michael W. Ahern

Michael W. Ahern, Manager

Permit Issuance and Data Management Section, DAPC

Cc: U.S. EPA
Ohio EPA-NWDO; Michigan; Canada



Response to Comments

| | |
|--|--|
| Facility ID: | 0339030135 |
| Facility Name: | R. R. Donnelley & Sons Company |
| Facility Description: | Book Manufacturing Facility. |
| Facility Address: | 1145 Conwell Avenue Willard, OH 44890 Huron County |
| Permit: | P0114958, Permit-To-Install - Initial Installation |
| A public notice for the draft permit issuance was published in the Ohio EPA Weekly Review and appeared in the Norwalk-Reflector on 07/03/2013. The comment period ended on 08/02/2013. | |
| Hearing date (if held) | N/A |
| Hearing Public Notice Date (if different from draft public notice) | N/A |

The following comments were received during the comment period specified. Ohio EPA reviewed and considered all comments received during the public comment period. By law, Ohio EPA has authority to consider specific issues related to protection of the environment and public health. Often, public concerns fall outside the scope of that authority. For example, concerns about zoning issues are addressed at the local level. Ohio EPA may respond to those concerns in this document by identifying another government agency with more direct authority over the issue.

In an effort to help you review this document, the questions are grouped by topic and organized in a consistent format. PDF copies of the original comments in the format submitted are available upon request.

1. Topic: Solvent Retention Factors

- a. Comment: The ink solvent VOC 20% retention factor is only for heatset lithographic printing operations. The conditions under c)(3)(ii) for K030 and c)(3)(i) for K028-K029 should be removed as all presses are nonheatset.
- b. Comment: The ink solvent VOC retention factors of 20% is not applicable to nonheatset lithographic printing operations. The correct factor should be changed to 95% under condition d)(1)c for K030.
- c. Comment: The heatset lithographic printing fountain solution solvent available for capture is 70% and is 40% for auto blanket wash under conditions c)(3)(iii) and c)(3)(iv) respectively for K028-K029. These should be revised to the correct capture factors.
- d. Response: The requested changes have been made.

2. Topic: Testing Conditions for K028 and K029

- a. Comment: Condition f)(1)a. specifies emissions testing shall be conducted within 6 months after permit issuance. The facility would request that the testing be conducted 6 months after



- startup.
- b. Response: We agree to this request and have corrected the language to read "6 months after startup."
 - c. Comment: Condition f)(1)d. specifies the capture testing requiring the use of Methods 204 through 204F. The facility would like this condition revised to include language referencing Ohio EPA's Engineering Guide #56 stating that the capture efficiency is assumed to be 100% for the VOC not retained by the substrate or emitted as fugitive emissions. This is due to the difficulty of testing the coating portion of the press itself.
 - d. Response: Ohio EPA has changed the language to read that the capture efficiency testing is required for solely the dryer portion of the printing presses. With that, we have not placed the retaining percentages and capture efficiencies as operational restrictions but listed them in the additional terms and conditions. This testing is still required for the dryer portion but not the coating portion of the press.



FINAL

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

| | |
|----------------|----------------------|
| Facility ID: | 0339030135 |
| Permit Number: | P0114958 |
| Permit Type: | Initial Installation |
| Issued: | 8/6/2013 |
| Effective: | 8/6/2013 |



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

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Final Permit-to-Install
R. R. Donnelley & Sons Company
Permit Number: P0114958
Facility ID: 0339030135
Effective Date: 8/6/2013

Authorization

Facility ID: 0339030135
Facility Description: Book Manufacturing Facility.
Application Number(s): A0048061
Permit Number: P0114958
Permit Description: Initial installation of three presses (K028-K030) and three binding lines (P037-P039).
Permit Type: Initial Installation
Permit Fee: \$2,100.00
Issue Date: 8/6/2013
Effective Date: 8/6/2013

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.

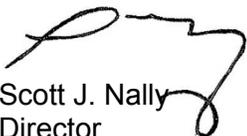
Ohio Environmental Protection Agency (EPA) District Office or local air agency responsible for processing and administering your permit:

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


Scott J. Nally
Director



Authorization (continued)

Permit Number: P0114958
 Permit Description: Initial installation of three presses (K028-K030) and three binding lines (P037-P039).

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

Emissions Unit ID: K030
 Company Equipment ID: Press 360
 Superseded Permit Number:
 General Permit Category and Type: Not Applicable

Group Name: Binding Lines

| | |
|-----------------------------------|-------------------|
| Emissions Unit ID: | P037 |
| Company Equipment ID: | Binding Line #600 |
| Superseded Permit Number: | |
| General Permit Category and Type: | Not Applicable |
| Emissions Unit ID: | P038 |
| Company Equipment ID: | Binding Line #700 |
| Superseded Permit Number: | |
| General Permit Category and Type: | Not Applicable |
| Emissions Unit ID: | P039 |
| Company Equipment ID: | Binding Line #800 |
| Superseded Permit Number: | |
| General Permit Category and Type: | Not Applicable |

Group Name: Heatset Web Presses

| | |
|-----------------------------------|----------------|
| Emissions Unit ID: | K028 |
| Company Equipment ID: | Press 390 |
| Superseded Permit Number: | |
| General Permit Category and Type: | Not Applicable |
| Emissions Unit ID: | K029 |
| Company Equipment ID: | Press 391 |
| Superseded Permit Number: | |
| General Permit Category and Type: | Not Applicable |



Final Permit-to-Install
R. R. Donnelley & Sons Company
Permit Number: P0114958
Facility ID: 0339030135
Effective Date: 8/6/2013

A. Standard Terms and Conditions



1. Federally Enforceable Standard Terms and Conditions

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

2. Severability Clause

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

3. General Requirements

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



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

4. Monitoring and Related Record Keeping and Reporting Requirements

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



- d) The provisions of this permit shall cease to be enforceable for each affected emissions unit after the date on which an emissions unit is permanently shut down (i.e., emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31). All records relating to any permanently shutdown emissions unit, generated while the emissions unit was in operation, must be maintained in accordance with law. All reports required by this permit must be submitted for any period an affected emissions unit operated prior to permanent shut down. At a minimum, the permit requirements must be evaluated as part of the reporting requirements identified in this permit covering the last period the emissions unit operated.

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

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

12. Permit-To-Operate Application

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

13. Construction Compliance Certification

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

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

14. Public Disclosure

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



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

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

16. Fees

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

17. Permit Transfers

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

18. Risk Management Plans

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

19. Title IV Provisions

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



Final Permit-to-Install
R. R. Donnelley & Sons Company
Permit Number: P0114958
Facility ID: 0339030135
Effective Date: 8/6/2013

B. Facility-Wide Terms and Conditions



Final Permit-to-Install
R. R. Donnelley & Sons Company
Permit Number: P0114958
Facility ID: 0339030135
Effective Date: 8/6/2013

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.



Final Permit-to-Install
R. R. Donnelley & Sons Company
Permit Number: P0114958
Facility ID: 0339030135
Effective Date: 8/6/2013

C. Emissions Unit Terms and Conditions



1. K030, Press 360

Operations, Property and/or Equipment Description:

Web Offset Lithographic Printing Press using UV-curable inks

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) b)(1)f., d)(2), d)(3), d)(4), d)(5) and e)(2).

b) Applicable Emissions Limitations and/or Control Requirements

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

| | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|----|--|--|
| a. | OAC rule 3745-31-05(D) | 3.25 lbs volatile organic compounds (VOC)/hr (as a monthly average); 8.14 tons VOC per rolling, 12-month period See b)(2)a. |
| b. | OAC rule 3745-31-05(A)(3), as effective 11/30/01 | See b)(2)b. |
| c. | OAC rule 3745-31-05(A)(3), as effective 12/01/06 | See b)(2)c. |
| d. | OAC rule 3745-17-11(B) | See b)(2)d. |
| e. | OAC rule 3745-17-07(A) | See b)(2)e. |
| f. | OAC rule 3745-114-01 ORC 3704.03(F) | See d)(2) through d)(5) and e)(2) |
| g. | OAC rule 3745-21-07(M) | See b)(2)f. |

(2) Additional Terms and Conditions

a. This permit establishes the following federally enforceable limitations for purposes of avoiding Prevention of Significant Deterioration (PSD) permitting requirements. The federally enforceable limitations are based on operational restrictions in c)(1), c)(2) and c)(3):

- i. 3.25 lbs VOC/hr, as a monthly average; and
- ii. 8.14 tons VOC per rolling, 12-month period

b. The permittee has satisfied the BAT requirements pursuant to OAC paragraph 3745-31-05(A)(3), as effective 11/30/01, in this permit for VOC. The



requirements of this rule are equivalent to the requirements established pursuant to OAC rule 3745-31-05(D), therefore, the permittee has satisfied the BAT requirements pursuant to OAC rule 3745-31-05(A)(3), as effective 11/30/01, in this permit.

On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to ORC changes effective August 3, 2006 (SB 265 changes), such that BAT is no longer required by State regulations for NAAQS pollutants less than 10 tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, these emission limitations/control measures no longer apply.

It should be noted that the emission limitations and control requirements established pursuant to OAC rule 3745-31-05(D) will remain applicable after the above SIP revisions are approved by the U.S. EPA.

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

BAT requirements under OAC rule 3745-31-05(A)(3), as effective December 1, 2006, do not apply to the VOC emissions since the potential to emit is less than 10 tons per year, taking into consideration the federally enforceable requirements under OAC rule 3745-31-05(D).

- d. 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.
- e. 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.
- f. This emissions unit is not subject to the requirements of the rule because it does not meet all of the conditions outlined in OAC rule 3745-21-07(M)(3)(a).

c) **Operational Restrictions**

- (1) The permittee shall comply with the following monthly average VOC content restrictions for the materials employed in this emissions unit:
 - a. Ink: 0.45 pound VOC /pound of ink, as applied;
 - b. Fountain solution: 0.89 pound VOC /gallon of fountain solution material, as applied; and,



- c. Cleanup materials (auto and hand blanket wash): 7.5 pounds VOC/gallon of cleanup material, as applied.
- (2) The maximum rolling 12-month usage rate of VOC containing materials for emissions units K030 is limited by the following equation:

$$\sum_{M=1}^{12} \sum_n [(U_n)(V_n)(1 - R_n/100)(1 - (C_n/100)(K/100))] \leq 8.14$$

Where,

M = the increment of the rolling 12-month period; and,
 n = the increment of the VOC containing material used during the period
 And where all other variables are the same as described in d)(1)e. below.

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

- (3) The hourly VOC emission limitation for the offset operations for this emissions unit 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.

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 K030:
- a. the quantity of each graphic arts material employed, in gallons;
 - b. the VOC content of each graphic arts material, in pounds/gallon, as applied;
 - c. the VOC emissions for each graphic arts material employed, in 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 = VOC emissions from an individual material (tons VOC emitted/month);
 U_n = Total usage of the individual material - typically ink, fountain solution, and cleaning solvents (tons of material/month);
 V_n = Average VOC content of material as determined by Method 24 (lb VOC/lb material);
 R_n = Amount of VOC retained on the web or on cloths (tons VOC retained/100 tons VOC used):

R_n = 95 for 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 (tons VOC captured/100 tons VOC into dryer):
 C_n = For K030, C_n = 0 as there is no emissions control equipment employed for this operation.

K = Control efficiency as determined during the most recent performance test and maintained via parametric monitoring (tons VOC controlled/100 tons VOC into thermal oxidizer). For K030, K = 0 as there is no emissions control equipment employed for this operation.

- d. the total VOC emission rate of all graphic arts materials employed, in tons/month, calculated as follows:

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

Where:

E_M = Monthly VOC emissions, in tons/month; and,
 E_n = VOC emissions from each individual graphic arts material.

- e. the number of hours this emissions unit was in operation (e.g., when graphic arts materials were being applied or employed);
- f. the average hourly VOC emission rate [d)(1)d. divided by d)(1)e.] multiplied by 2000];
- g. the rolling, 12-month VOC emission rate from emissions unit K030, calculated as follows:

$$E_T = E_{M1} + E_{M2} + E_{M3} + \dots + E_{M12}$$



Where:

E_T = Annual VOC emissions (tons) as summed from the previous 12 months of monthly VOC emissions;

E_M = Monthly VOC emissions (tons/month)

- (2) The PTI application for emissions units, K028, K029 and K030, was evaluated based on the actual materials and the design parameters of the emissions unit's(s') exhaust system, as specified by the permittee. The "Toxic Air Contaminant Statute", ORC 3704.03(F), was applied to this/these emissions unit(s) for each toxic air contaminant listed in OAC rule 3745-114-01, using data from the permit application; and modeling was performed for each toxic air contaminant(s) emitted at over one ton per year using an air dispersion model such as SCREEN3, AERMOD, or ISCST3, or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the approved air dispersion model, was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC), calculated as described in the Ohio EPA guidance document entitled "Review of New Sources of Air Toxic Emissions, Option A", as follows:
- a. the exposure limit, expressed as a time-weighted average concentration for a conventional 8-hour workday and a 40-hour workweek, for each toxic compound(s) emitted from the emissions unit(s), (as determined from the raw materials processed and/or coatings or other materials applied) has been documented from one of the following sources and in the following order of preference (TLV was and shall be used, if the chemical is listed):
 - i. threshold limit value (TLV) from the American Conference of Governmental Industrial Hygienists (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices"; or
 - ii. STEL (short term exposure limit) or the ceiling value from the American Conference of Governmental Industrial Hygienists (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices"; the STEL or ceiling value is multiplied by 0.737 to convert the 15-minute exposure limit to an equivalent 8-hour TLV.
 - b. The TLV is divided by ten to adjust the standard from the working population to the general public (TLV/10).
 - c. This standard is/was then adjusted to account for the duration of the exposure or the operating hours of the emissions unit(s), i.e., "X" hours per day and "Y" days per week, from that of 8 hours per day and 5 days per week. The resulting calculation was (and shall be) used to determine the Maximum Acceptable Ground-Level Concentration (MAGLC):

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



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

Toxic Contaminant: Glycol Ether

TLV (mg/m³): 96.7

Maximum Hourly Emission Rate (lbs/hr): 1.49

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m³): 1144

MAGLC (ug/m³): 2301.49

The permittee, has demonstrated that emissions of glycol, from emissions units K028, K029 and K030, is calculated to be less than eighty per cent of the maximum acceptable ground level concentration (MAGLC); any new raw material or processing agent shall not be applied without evaluating each component toxic air contaminant in accordance with the "Toxic Air Contaminant Statute", ORC 3704.03(F).

- (3) Prior to making any physical changes to or changes in the method of operation of the emissions unit(s), that could impact the parameters or values that were used in the predicted 1-hour maximum ground-level concentration, the permittee shall re-model the change(s) to demonstrate that the MAGLC has not been exceeded. Changes that can affect the parameters/values used in determining the 1-hour maximum ground-level concentration include, but are not limited to, the following:
- a. changes in the composition of the materials used or the use of new materials, that would result in the emission of a new toxic air contaminant with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled;
 - b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any toxic air contaminant listed in OAC rule 3745-114-01, that was modeled from the initial (or last) application; and
 - c. physical changes to the emissions unit(s) or its/their exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Toxic Air Contaminant Statute" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01 solely due to a non-restrictive change to a parameter or process operation, where compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), has been documented. If the change(s) meet(s) the definition of a "modification", the permittee shall apply for and obtain a final PTI prior to the change. The Director may consider any significant departure from the operations of the emissions unit, described in the permit application, as a modification that results in greater emissions than the emissions rate modeled to determine the ground level concentration; and he/she may require the permittee to submit a permit application for the increased emissions.



- (4) The permittee shall collect, record, and retain the following information for each toxic evaluation conducted to determine compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F):
 - a. a description of the parameters/values used in each compliance demonstration and the parameters or values changed for any re-evaluation of the toxic(s) modeled (the composition of materials, new toxic contaminants emitted, change in stack/exhaust parameters, etc.);
 - b. the Maximum Acceptable Ground-Level Concentration (MAGLC) for each significant toxic contaminant or worst-case contaminant, calculated in accordance with the "Toxic Air Contaminant Statute", ORC 3704.03(F);
 - c. a copy of the computer model run(s), that established the predicted 1-hour maximum ground-level concentration that demonstrated the emissions unit(s) to be in compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), initially and for each change that requires re-evaluation of the toxic air contaminant emissions; and
 - d. the documentation of the initial evaluation of compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), and documentation of any determination that was conducted to re-evaluate compliance due to a change made to the emissions unit(s) or the materials applied.
 - (5) The permittee shall maintain a record of any change made to a parameter or value used in the dispersion model, used to demonstrate compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), through the predicted 1-hour maximum ground-level concentration. The record shall include the date and reason(s) for the change and if the change would increase the ground-level concentration.
- e) Reporting Requirements
- (1) The permittee shall submit quarterly deviation (excursion) reports that identify:
 - a. all deviations (excursions) of the following emission limitations, operational restrictions and/or control device operating parameter limitations that restrict the potential to emit (PTE) of any regulated air pollutant and have been detected by the monitoring, record keeping and/or testing requirements in this permit:
 - i. all exceedances of the VOC emission limitation of 3.25 pounds/hour (as a monthly average), as determined in d)(1);
 - ii. all exceedances of the monthly average VOC content restrictions for inks, fountain solutions, blanket wash, and cleanup materials, as determined in c)(1) and c)(3); and
 - iii. all exceedances of the rolling, 12-month VOC emission limitation of 8.14 tons.



- 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). These deviation (excursion) reports shall be submitted in accordance with the Standard Terms and Conditions of this permit.

- (2) The permittee shall submit annual reports that include any changes to any parameter or value used in the dispersion model used to demonstrate compliance with the "Toxic Air Contaminate Statute", ORC 3704.03(F), through the predicted 1 hour maximum concentration. The report should include:

- a. the original model input;
- b. the updated model input;
- c. the reason for the change(s) to the input parameter(s); and
- d. a summary of the results of the updated modeling, including the input changes; and
- e. a statement that the model results indicate that the 1-hour maximum ground-level concentration is less than 80% of the MAGLC.

If no changes to the emissions, emissions unit(s), or the exhaust stack have been made during the reporting period, then the report shall include a statement to that effect.

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

f) Testing Requirements

- (1) Any determination of VOC content*, solids content, or density of a coating and/or cleanup material shall be based on the coating/cleanup material as employed (as applied), including the addition of any thinner or viscosity reducer to the coating/cleanup material. The company shall determine the composition of the coatings/cleanup materials by formulation data supplied by the manufacturer of the coating/cleanup material or from data determined by an analysis of each coating/cleanup material, as received, by Reference Method 24. The Ohio EPA may require the company, if it uses formulation data supplied by the manufacturer, to determine data used in the calculation



of the VOC content of coatings/cleanup materials by Reference Method 24 or an equivalent or alternative method.

* "VOC content" means all volatile organic compounds that are in a coating/cleanup material expressed as pounds of VOC per gallon.

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

a. Emission Limitation:

3.25 pounds VOC/hour (as a monthly average)

Applicable Compliance Method:

The permittee shall demonstrate compliance with the hourly, as a monthly average, VOC emission limitation from emissions unit K030 through the record keeping required in d)(1) of this permit.

b. Emission Limitation:

8.14 tons VOC per rolling, 12-month period

Applicable Compliance Method:

The permittee shall demonstrate compliance with the annual allowable VOC emission limitation through the record keeping required in d)(1) of this permit.

c. VOC Content Limitations:

Ink: 0.45 pound VOC /pound of ink, as applied;

Fountain solution: 0.89 pound VOC /gallon of fountain solution material, as applied; and,

Cleanup materials (auto and hand blanket wash): 7.5 pounds VOC/gallon of cleanup material, as applied.

Applicable Compliance Method:

The permittee shall demonstrate compliance with the VOC content limitations above in accordance with the record keeping in d)(1) of this permit.

g) Miscellaneous Requirements

(1) None.



2. Emissions Unit Group -Binding Lines: P037,P038,P039

| EU ID | Operations, Property and/or Equipment Description |
|-------|--|
| P037 | Patent binding line using VOC-free hot-melt adhesive and employing isopropyl alcohol in the process to cool and set the freshly applied adhesive |
| P038 | Patent binding line using VOC-free hot-melt adhesive and employing isopropyl alcohol in the process to cool and set the freshly applied adhesive |
| P039 | Patent binding line using VOC-free hot-melt adhesive and employing isopropyl alcohol in the process to cool and set the freshly applied adhesive |

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

| | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|----|-------------------------------|--|
| a. | OAC rule 3745-31-05(D) | 5.68 lbs volatile organic compounds (VOC)/hr from emissions units P021-P024, P026, P037-P039, combined 31.8 tons VOC per rolling, 12-month period from emissions units P021-P026 and P037-P039, combined See b)(2)a. and b)(2)b. |
| b. | ORC 3704.03(T) | See b)(2)c. |
| c. | OAC rule 3745-21-07(M) | See b)(2)d. |

(2) Additional Terms and Conditions

a. This permit establishes the following federally enforceable limitations for purposes of avoiding Prevention of Significant Deterioration (PSD) permitting requirements. The federally enforceable limitations are based on operational restrictions in c)(1):

i. 5.68 lbs VOC/hr from emissions units P021-P024, P026, P037-P039, combined; and



- ii. 31.8 tons of VOC/rolling, 12-month period from emissions units P021-P026 and P037-P039, combined.
 - b. The 5.68 lbs VOC/hr emission limitation represents the potential to emit for each emissions unit. Therefore, no monitoring, record keeping or reporting requirements are established to ensure compliance with this emission limitation.
 - c. In accordance with ORC rule 3704.03(T), Best Available Technology (BAT) for VOC emissions from this emissions unit has been determined to be compliance with OAC rule 3745-31-05(D).
 - d. This emissions unit is not subject to the requirements of the rule because it does not meet all of the conditions outlined in OAC rule 3745-21-07(M)(3)(a).
- c) Operational Restrictions
- (1) The maximum annual isopropyl alcohol usage (input) rate for emissions units P021-P026 and P037-P039, combined, shall not exceed 9710 gallons (31.8 tons VOC) per rolling, 12-month period, based upon a rolling, 12-month summation of the monthly input rates.

The permittee has existing records to generate the rolling, 12-month summation of the isopropyl alcohol usage, upon issuance of this permit.
- d) Monitoring and/or Recordkeeping Requirements
- (1) The permittee shall maintain monthly records of the following information for emissions units P021-P026 and P037-P039, combined:
 - a. The company identification of each volatile organic liquid material employed;
 - b. The total isopropyl alcohol input rate, in gallons;
 - c. The calculated VOC emission rate, in pounds $[d)(1)b. \times 6.55 \text{ lbs VOC/gal}^*]$;
 - d. The total monthly cumulative isopropyl alcohol input rates, in gallons;
 - e. The total monthly cumulative VOC emission rates, in tons;
 - f. The rolling, 12-month summation of the monthly isopropyl alcohol input rates, in gallons; and
 - g. The rolling, 12-month summation of the monthly VOC emission rates, in tons.

*The density of isopropyl alcohol is 6.55 lbs/gal.
- e) Reporting Requirements
- (1) The permittee shall submit quarterly deviation (excursion) reports that identify:



- a. all deviations (excursions) of the following emission limitations, operational restrictions and/or control device operating parameter limitations that restrict the potential to emit (PTE) of any regulated air pollutant and have been detected by the monitoring, record keeping and/or testing requirements in this permit:
 - i. all exceedances of the rolling, 12-month isopropyl alcohol input rate restriction of 9710 gallons and of the VOC emission limitation of 31.8 tons.
- 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). These deviation (excursion) reports shall be submitted in accordance with the Standard Terms and Conditions of this permit.

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

f) Testing Requirements

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

a. Emission Limitation:

9710 gallons isopropyl alcohol per rolling, 12-month period from emissions units P021-P026 and P037-P039, combined

Applicable Compliance Method:

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

b. Emission Limitation:

31.8 tons VOC per rolling, 12-month period from emissions units P021-P026 and P037-P039, combined



Applicable Compliance Method:

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

c. Emission Limitation:

5.68 lbs VOC/hr from emissions units P021-P024, P026, P037-P039, combined

Applicable Compliance Method:

Compliance shall be determined by multiplying the maximum material usage rate (gallons/hour) by the density of isopropyl alcohol (6.55 lbs VOC/gal).

If required, the permittee shall demonstrate compliance with the hourly emission limitation in accordance with Method 25 or 25A of 40 CFR, Part 60, Appendix A.

g) Miscellaneous Requirements

(1) None.



3. Emissions Unit Group -Heatset Web Presses: K028,K029

| EU ID | Operations, Property and/or Equipment Description |
|-------|---|
| K028 | Heatset Web Offset Lithographic Printing Press Controlled by regenerative thermal oxidizer System |
| K029 | Heatset Web Offset Lithographic Printing Press Controlled by regenerative thermal oxidizer System |

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) b)(1)e., d)(4), d)(5), d)(6), d)(7) and e)(4).

b) Applicable Emissions Limitations and/or Control Requirements

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

| | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|----|--|---|
| a. | OAC rule 3745-31-05(D) | 10.04 lbs volatile organic compounds (VOC)/hr (as a monthly average); 25.2 tons VOC per rolling, 12-month period for emissions units K028 and K029, combined See b)(2)a. and b)(2)b. |
| b. | ORC 3704.03(T) | See b)(2)c. |
| c. | OAC rule 3745-17-11(B) | See b)(2)d. |
| d. | OAC rule 3745-17-07(A) | See b)(2)e. |
| e. | OAC rule 3745-114-01 ORC 3704.03(F) | See d)(4) through d)(7) and e)(4) |
| f. | OAC rule 3745-21-07(M) | See b)(2)f. |

(2) Additional Terms and Conditions

a. This permit establishes the following federally enforceable limitations for purposes of avoiding Prevention of Significant Deterioration (PSD) permitting requirements. The federally enforceable limitations are based on operational restrictions in c)(1), c)(2) and c)(3):

i. 10.04 lbs VOC/hr as a monthly average for K028 and K029, combined; and



- ii. 25.2 tons VOC per rolling, 12-month period for K028 and K029, combined.
- b. The hourly VOC emission limitation for the offset operations for emissions units K028 and K029, combined, 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 is 0 percent*;
 - iii. the percentage of the auto blanket wash (clean up) solvent available for capture is 0 percent*;
 - iv. the percentage of the hand blanket wash (clean up) solvent retained on the cloths is 75 percent**;
 - v. 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
 - vi. 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) below.

*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. In accordance with ORC rule 3704.03(T), Best Available Technology (BAT) for VOC emissions from this emissions unit has been determined to be compliance with OAC rule 3745-31-05(D).
- d. 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.
- e. 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.
- f. This emissions unit is not subject to the requirements of the rule because it does not meet all of the conditions outlined in OAC rule 3745-21-07(M)(3)(a).



c) Operational Restrictions

- (1) The permittee shall comply with the following monthly average VOC content restrictions for the materials employed in this emissions unit:
 - a. ink: 0.45 pound VOC/pound of ink, as applied;
 - b. fountain solution: 0.89 pound VOC /gallon of fountain solution material, as applied; and,
 - c. cleanup materials (auto and hand blanket wash): 7.5 pounds VOC/gallon of cleanup material, as applied.
- (2) The maximum rolling 12-month usage rate of VOC containing materials for emissions units K028 and K029, combined is limited by the following equation:

$$\sum_{M=1}^{12} \sum_n [(U_n)(V_n)(1 - R_n/100)(1 - (C_n/100)(K/100))] \leq 25.2$$

Where,

M = the increment of the rolling 12-month period; and,
n = the increment of the VOC containing material used during the period
And where all other variables are the same as described in 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, shall not be less than 1400 degrees Fahrenheit. A lower average temperature requirement may be established if compliance with the minimum destruction efficiency in b)(2)b. is demonstrated during emissions testing.

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 each emissions unit:
 - a. the name and identification number of each graphic arts material employed;
 - b. the quantity of each graphic arts material employed, in gallons (in pounds for inks);
 - c. the VOC content of each graphic arts material, in pounds/gallon (in pounds/pound for inks), as applied;
 - d. the VOC emissions for each graphic arts material employed, in 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 =VOC emissions from an individual material (tons VOC emitted/month);
 U_n = Total usage of the individual material - typically ink, fountain solution, and cleaning solvents (tons of material/month);
 V_n =Average VOC content of material as determined by Method 24 (lb VOC/lb material);
 R_n = Amount of VOC retained on the web or on cloths (tons VOC retained/100 tons VOC used):

- $R_n = 20$ for 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 (tons VOC captured/100 tons VOC into dryer):

- $C_n = 100$ for inks
- $C_n = 70$ for fountain solutions
- $C_n = 40$ for auto blanket wash (cleanup) solvent
- $C_n = 0$ for hand blanket wash (cleanup) solvent

K =Control efficiency as determined during the most recent performance test and maintained via parametric monitoring (tons VOC controlled/100 tons VOC into thermal oxidizer).

- e. the total VOC emission rate of all graphic arts materials employed, in tons/month, calculated as follows:

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

Where:

E_M = Monthly VOC emissions, in tons/month; and,
 E_n = VOC emissions from each individual graphic arts material [(d)(2)d.]

- f. the number of hours this emissions unit was in operation (e.g., when graphic arts materials were being applied or employed);
- g. the average hourly VOC emission rate [(d)(1)e. divided by d)(1)f.] divided by 2000];
- h. the rolling, 12-month VOC emission rate from emissions units K028 and K029, combined, calculated as follows:

$$E_T = E_{M1} + E_{M2} + E_{M3} + \dots + E_{M12}$$



Where:

E_T = Annual VOC emissions (tons) as summed from the previous 12 months of monthly VOC emissions.

E_M = Monthly VOC emissions (tons/month).

- (2) The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal oxidizer when each emissions unit is in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.
- (3) 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)(6); and,
 - b. A log of the downtime for the capture (collection) system, control device, and monitoring equipment.
- (4) The PTI application for emissions units, K028, K029 and K030, was evaluated based on the actual materials and the design parameters of the emissions unit's(s') exhaust system, as specified by the permittee. The "Toxic Air Contaminant Statute", ORC 3704.03(F), was applied to this/these emissions unit(s) for each toxic air contaminant listed in OAC rule 3745-114-01, using data from the permit application; and modeling was performed for each toxic air contaminant(s) emitted at over one ton per year using an air dispersion model such as SCREEN3, AERMOD, or ISCST3, or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the approved air dispersion model, was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC), calculated as described in the Ohio EPA guidance document entitled "Review of New Sources of Air Toxic Emissions, Option A", as follows:
 - a. the exposure limit, expressed as a time-weighted average concentration for a conventional 8-hour workday and a 40-hour workweek, for each toxic compound(s) emitted from the emissions unit(s), (as determined from the raw materials processed and/or coatings or other materials applied) has been documented from one of the following sources and in the following order of preference (TLV was and shall be used, if the chemical is listed):
 - i. threshold limit value (TLV) from the American Conference of Governmental Industrial Hygienists (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices";
or



- ii. STEL (short term exposure limit) or the ceiling value from the American Conference of Governmental Industrial Hygienists (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices"; the STEL or ceiling value is multiplied by 0.737 to convert the 15-minute exposure limit to an equivalent 8-hour TLV.
- b. The TLV is divided by ten to adjust the standard from the working population to the general public (TLV/10).
- c. This standard is/was then adjusted to account for the duration of the exposure or the operating hours of the emissions unit(s), i.e., "X" hours per day and "Y" days per week, from that of 8 hours per day and 5 days per week. The resulting calculation was (and shall be) used to determine the Maximum Acceptable Ground-Level Concentration (MAGLC):

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

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

Toxic Contaminant: Glycol Ether

TLV (mg/m³): 96.7

Maximum Hourly Emission Rate (lbs/hr): 1.49

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m³): 1144

MAGLC (ug/m³): 2301.49

The permittee, has demonstrated that emissions of glycol, from emissions units K028, K029 and K030, is calculated to be less than eighty per cent of the maximum acceptable ground level concentration (MAGLC); any new raw material or processing agent shall not be applied without evaluating each component toxic air contaminant in accordance with the "Toxic Air Contaminant Statute", ORC 3704.03(F).

- (5) Prior to making any physical changes to or changes in the method of operation of the emissions unit(s), that could impact the parameters or values that were used in the predicted 1-hour maximum ground-level concentration, the permittee shall re-model the change(s) to demonstrate that the MAGLC has not been exceeded. Changes that can affect the parameters/values used in determining the 1-hour maximum ground-level concentration include, but are not limited to, the following:
 - a. changes in the composition of the materials used or the use of new materials, that would result in the emission of a new toxic air contaminant with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled;
 - b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any toxic air contaminant listed in OAC rule 3745-114-01, that was modeled from the initial (or last) application; and



- c. physical changes to the emissions unit(s) or its/their exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Toxic Air Contaminant Statute" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01 solely due to a non-restrictive change to a parameter or process operation, where compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), has been documented. If the change(s) meet(s) the definition of a "modification", the permittee shall apply for and obtain a final PTI prior to the change. The Director may consider any significant departure from the operations of the emissions unit, described in the permit application, as a modification that results in greater emissions than the emissions rate modeled to determine the ground level concentration; and he/she may require the permittee to submit a permit application for the increased emissions.

- (6) The permittee shall collect, record, and retain the following information for each toxic evaluation conducted to determine compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F):
 - a. a description of the parameters/values used in each compliance demonstration and the parameters or values changed for any re-evaluation of the toxic(s) modeled (the composition of materials, new toxic contaminants emitted, change in stack/exhaust parameters, etc.);
 - b. the Maximum Acceptable Ground-Level Concentration (MAGLC) for each significant toxic contaminant or worst-case contaminant, calculated in accordance with the "Toxic Air Contaminant Statute", ORC 3704.03(F);
 - c. a copy of the computer model run(s), that established the predicted 1-hour maximum ground-level concentration that demonstrated the emissions unit(s) to be in compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), initially and for each change that requires re-evaluation of the toxic air contaminant emissions; and
 - d. the documentation of the initial evaluation of compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), and documentation of any determination that was conducted to re-evaluate compliance due to a change made to the emissions unit(s) or the materials applied.
- (7) The permittee shall maintain a record of any change made to a parameter or value used in the dispersion model, used to demonstrate compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), through the predicted 1-hour maximum ground-level concentration. The record shall include the date and reason(s) for the change and if the change would increase the ground-level concentration.

e) Reporting Requirements

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



- a. all deviations (excursions) of the following emission limitations, operational restrictions and/or control device operating parameter limitations that restrict the potential to emit (PTE) of any regulated air pollutant and have been detected by the monitoring, record keeping and/or testing requirements in this permit:
 - i. all exceedances of the VOC emission limitation of 10.04 pounds hour, as determined in d)(1);
 - ii. all exceedances of the monthly average VOC content restrictions for inks, fountain solutions, blanket wash, and cleanup materials, as determined in c)(1); and
 - iii. all exceedances of the rolling, 12-month VOC emission limitation of 25.2 tons.
- 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.

- (2) The permittee shall submit quarterly deviation (excursion) reports, in accordance with the Standard Terms and Conditions of this permit, which identify all 3-hour blocks of time during which the average temperature within the thermal oxidizer did not comply with the temperature limitation specified in c)(3) of this permit.
- (3) The permittee shall submit quarterly deviation (excursion) reports, in accordance with the Standard Terms and Conditions of this permit, 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 annual reports that include any changes to any parameter or value used in the dispersion model used to demonstrate compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), through the predicted 1 hour maximum concentration. The report should include:
 - a. the original model input;
 - b. the updated model input;
 - c. the reason for the change(s) to the input parameter(s); and
 - d. a summary of the results of the updated modeling, including the input changes; and
 - e. a statement that the model results indicate that the 1-hour maximum ground-level concentration is less than 80% of the MAGLC.



If no changes to the emissions, emissions unit(s), or the exhaust stack have been made during the reporting period, then the report shall include a statement to that effect.

- (5) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.
- f) Testing Requirements
- (1) The permittee shall conduct, or have conducted, emission testing for each emissions unit in accordance with the following requirements:
- a. The emission testing shall be conducted within 6 months after start-up.
 - b. The emission testing shall be conducted to demonstrate compliance with the 95% VOC destruction efficiency and the 100% VOC capture efficiency for the press dryer.
 - c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): for VOC, Methods 1-4 and 18, 25, or 25A of 40 CFR Part 60, Appendix A. The test method(s) which must be employed to demonstrate compliance with the destruction efficiency for VOC are specified below. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.
 - d. The capture efficiency shall be determined using Methods 204 through 204F, as specified in 40 CFR Part 51, Appendix M, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency in accordance with the USEPA's "Guidelines for Determining Capture Efficiency," dated January 9, 1995. (The Ohio EPA will consider the request, including an evaluation of the applicability, necessity, and validity of the alternative, and may approve the use of the alternative if such approval does not contravene any other applicable requirement.) The destruction efficiency shall be determined in accordance with the test methods and procedures specified in Methods 18, 25, or 25A of 40 CFR Part 60, Appendix A and Methods 204 through 204F, as specified in 40 CFR Part 51, Appendix M. The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases."
 - e. The test(s) shall be conducted at a Maximum Source Operating Rate (MSOR), unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency. MSOR is defined as the condition that is most likely to challenge the emission control measures with regards to meeting the applicable emission standard(s). Although it generally consists of operating the emissions unit at its maximum material input/production rates and results in the highest emission rate of the tested pollutant, there may be circumstances where a lower emissions loading is deemed the most challenging control scenario. Failure to test at the MSOR is justification for not accepting the test results as a demonstration of compliance.



- f. Not later than 45 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

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

- a. Emission Limitation:

10.04 lbs VOC/hr (as a monthly average) for emissions units K028 and K029, combined

Applicable Compliance Method:

The permittee shall demonstrate compliance with the emission limitation through the record keeping required in d)(1) of this permit.

- b. Emission Limitation:

25.2 tons VOC per rolling, 12-month period, for emissions unit K028 and K029, combined

Applicable Compliance Method:

The permittee shall demonstrate compliance with this emission limitation through the record keeping required in d)(1) of this permit.

- g) Miscellaneous Requirements

- (1) None.