Ohio Environmental Protection Agency
John R. Kasich, Governor
Mary Taylor, Lt. Governor
Scott J. Nally, Director

11/3/2011

Pamela Blakley *Via E-Mail Notification*
United States Environmental Protection Agency
Mail Code: AR-18J
77 West Jackson Blvd.

Chicago, IL 60604-3507

RE: PROPOSED AIR POLLUTION TITLE V PERMIT
Facility Name: Angstrom Graphics Midwest, Inc.
Facility ID: 1318170170
Permit Type: Renewal
Permit Number: P0095290

Dear Ms. Blakley:

A proposed OAC Chapter 3745-77 Title V permit for the referenced facility has been issued for review by U.S. EPA. This permit has been posted to the Division of Air Pollution Control (DAPC) Web page http://www.epa.ohio.gov/dapc in Microsoft Word and Adobe Acrobat format. If U.S. EPA does not object to this proposed permit, the permit will be processed for issuance as a final action not less than 45 days from the date of this letter. Please contact me at (614) 644-3631 by the end of the 45 day review period if you wish to object to the proposed permit.

Sincerely,

Michael W. Ahern

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

Cc: Cleveland Division of Air Quality

50 West Town Street, Suite 700
P.O. Box 1049
Columbus, OH 43216-1049

614 | 644 3020
614 | 644 3184 (fax)
www.epa.ohio.gov

Ohio | Environmental Protection Agency

PROPOSED

Division of Air Pollution Control
Title V Permit
for
Angstrom Graphics Midwest, Inc.

Facility ID:	1318170170
Permit Number:	P0095290
Permit Type:	Renewal
Issued:	11/3/2011
Effective:	To be entered upon final issuance
Expiration:	To be entered upon final issuance

Ohio Environmental Protection Agency

Division of Air Pollution Control
Title V Permit
for
Angstrom Graphics Midwest, Inc.

Table of Contents

Authorization 1
A. Standard Terms and Conditions 2
1. Federally Enforceable Standard Terms and Conditions 3
2. Monitoring and Related Record Keeping and Reporting Requirements 3
3. Scheduled Maintenance 6
4. Risk Management Plans 6
5. Title IV Provisions 7
6. Severability Clause 7
7. General Requirements 7
8. Fees 8
9. Marketable Permit Programs 8
10. Reasonably Anticipated Operating Scenarios 8
11. Reopening for Cause 9
12. Federal and State Enforceability 9
13. Compliance Requirements 9
14. Permit Shield 11
15. Operational Flexibility 11
16. Emergencies 11
17. Off-Permit Changes 11
18. Compliance Method Requirements 12
19. Insignificant Activities or Emissions Levels 12
20. Permit to Install Requirement 12
21. Air Pollution Nuisance 13
22. Permanent Shutdown of an Emissions Unit 13
23. Title VI Provisions 13
24. Reporting Requirements Related to Monitoring and Record Keeping Requirements Under State Law Only 14
25. Records Retention Requirements Under State Law Only 14
26. Inspections and Information Requests 14
27. Scheduled Maintenance/Malfunction Reporting 15
28. Permit Transfers 15

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

A. Standard Terms and Conditions 16

B. Facility-Wide Terms and Conditions 17

C. Emissions Unit Terms and Conditions 19

1. K004, Press #47 20
2. K005, Press #32 36
3. K008, Press #46 45
4. K009, Press #465 63
5. K010, Press #408 74

Authorization

Facility ID: 1318170170
Facility Description: Commercial Printing Plant.
Application Number(s): A0026829, A0026830, A0026831, A0026832, A0026833
Permit Number: P0095290
Permit Description: Title V renewal permit for emissions units: K004 and K008 - Harris heatset web offset lithographic printing presses with a drying oven and regenerative thermal oxidizer; K005 - Heidelberg sheetfed offset lithographic printing press; K009 - Man Roland sheetfed offset lithographic printing press; and K010 - sheetfed offset lithographic printing press.
Permit Type: Renewal
Issue Date: 11/3/2011
Effective Date: To be entered upon final issuance
Expiration Date: To be entered upon final issuance
Superseded Permit Number: P0095289

This document constitutes issuance of an OAC Chapter 3745-77 Title V permit to:

Angstrom Graphics Midwest, Inc.
4437 East 49th Street
Cuyahoga Heights, OH 44125

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

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

The above named entity is hereby granted a Title V permit pursuant to Chapter 3745-77 of the Ohio Administrative Code. This permit and the authorization to operate the air contaminant sources (emissions units) at this facility shall expire at midnight on the expiration date shown above. You will be sent a notice approximately 18 months prior to the expiration date regarding the renewal of this permit. If you do not receive a notice, please contact the Cleveland Division of Air Quality. If a renewal permit is not issued prior to the expiration date, the permittee may continue to operate pursuant to OAC rule 3745-77-08(E) and in accordance with the terms of this permit beyond the expiration date, if a timely renewal application is submitted. A renewal application will be considered timely if it is submitted no earlier than 18 months (540 days) and no later than 6 months (180 days) prior to the expiration date.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Scott J. Nally
Director

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. 24., Reporting Requirements Related to Monitoring and Record Keeping Requirements of State-Only Enforceable Permit Terms and Conditions

(2) Standard Term and Condition A. 25., Records Retention Requirements for State-Only Enforceable Permit Terms and Conditions

(3) Standard Term and Condition A. 27., Scheduled Maintenance/Malfunction Reporting

(4) Standard Term and Condition A. 29., Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations

(Authority for term: ORC 3704.036(A))

2. 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 (i.e., in section C. Emissions Unit Terms and Conditions of this Title V permit), 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.

(Authority for term: OAC rule 3745-77-07(A)(3)(b)(i))

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 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.

(Authority for term: OAC rule 3745-77-07(A)(3)(b)(ii))

c) The permittee shall submit required reports in the following manner:

(1) All reporting required in accordance with OAC rule 3745-77-07(A)(3)(c) for deviations caused by malfunctions shall be submitted in the following manner:

Any malfunction, as defined in OAC rule 3745-15-06(B)(1), shall be promptly reported to the Ohio EPA in accordance with OAC rule 3745-15-06. In addition, to fulfill the OAC rule 3745-77-07(A)(3)(c) deviation reporting requirements for malfunctions, written reports that identify each malfunction that occurred during each calendar quarter (including each malfunction reported only verbally in accordance with OAC rule 3745-15-06) shall be submitted (i.e., postmarked) by January 31, April 30, July 31, and October 31 of each year in accordance with Standard Term and Condition A.2.c)(2) below; and each report shall cover the previous calendar quarter. An exceedance of the visible emission limitations specified in OAC rule 3745-17-07(A)(1) that is caused by a malfunction is not a violation and does not need to be reported as a deviation if the owner or operator of the affected air contaminant source or air pollution control equipment complies with the requirements of OAC rule 3745-17-07(A)(3)(c).

In accordance with OAC rule 3745-15-06, a malfunction reportable under OAC rule 3745-15-06(B) is a deviation of the federally enforceable permit requirements. Even though verbal notifications and written reports are required for malfunctions pursuant to OAC rule 3745-15-06, the written reports required pursuant to this term must be submitted quarterly to satisfy the prompt reporting provision of OAC rule 3745-77-07(A)(3)(c).

In identifying each deviation caused by a malfunction, the permittee shall specify the emission limitation(s) (or control requirement(s)) for which the deviation occurred, describe each deviation, and provide the magnitude and duration of each deviation. For a specific malfunction, if this information has been provided in a written report that was submitted in accordance with OAC rule 3745-15-06, the permittee may simply reference that written report to identify the deviation. Nevertheless, all malfunctions, including those reported only verbally in accordance with OAC rule 3745-15-06, must be reported in writing on a quarterly basis.

Any scheduled maintenance, as referenced in OAC rule 3745-15-06(A)(1), that results in a deviation from a federally enforceable emission limitation (or control requirement) shall be reported in the same manner as described above for malfunctions.

(Authority for term: OAC rule 3745-77-07(A)(3)(c))

(2) Except as may otherwise be provided in the terms and conditions for a specific emissions unit (i.e., in section C. Emissions Unit Terms and Conditions of this Title V permit or, in some cases, in section B. Facility-Wide Terms and Conditions of this Title V permit), all reporting required in accordance with OAC rule 3745-77-07(A)(3)(c) for deviations of the emission limitations, operational restrictions, and control device operating parameter limitations shall be submitted in the following manner:

Written reports of (a) any deviations from federally enforceable emission limitations, operational restrictions, and control device operating parameter limitations, (b) the probable cause of such deviations, and (c) any corrective actions or preventive

measures taken, shall be promptly made to the appropriate Ohio EPA District Office or local air agency. Except as provided below, the written reports shall be submitted (i.e., postmarked) by January 31, April 30, July 31, and October 31 of each year; and each report shall cover the previous calendar quarter.

In identifying each deviation, the permittee shall specify the emission limitation(s), operational restriction(s), and/or control device operating parameter limitation(s) for which the deviation occurred, describe each deviation, and provide the estimated magnitude and duration of each deviation.

These written deviation reports shall satisfy the requirements of OAC rule 3745-77-07(A)(3)(c) pertaining to the submission of monitoring reports every six months and to the prompt reporting of all deviations. Full compliance with OAC rule 3745-77-07(A)(3)(c) requires reporting of all other deviations of the federally enforceable requirements specified in the permit as required by such rule.

If an emissions unit has a deviation reporting requirement for a specific emission limitation, operational restriction, or control device operating parameter limitation that is not on a quarterly basis (e.g., within 30 days following the end of the calendar month, or within 30 or 45 days after the exceedance occurs), that deviation reporting requirement satisfies the reporting requirements specified in this Standard Term and Condition for that specific emission limitation, operational restriction, or control device parameter limitation. Following the provisions of that non-quarterly deviation reporting requirement will also satisfy (for the deviations so reported) the requirements of OAC rule 3745-77-07(A)(3)(c) pertaining to the submission of monitoring reports every six months and to the prompt reporting of all deviations, and additional quarterly deviation reports for that specific emission limitation, operational restriction, or control device parameter limitation are not required pursuant to this Standard Term and Condition.

See A.29 below if no deviations occurred during the quarter.

(Authority for term: OAC rule 3745-77-07(A)(3)(c))

(3) All reporting required in accordance with the OAC rule 3745-77-07(A)(3)(c) for other deviations of the federally enforceable permit requirements which are not reported in accordance with Standard Term and Condition A.2)c)(2) above shall be submitted in the following manner:

Unless otherwise specified by rule, written reports that identify deviations of the following federally enforceable requirements contained in this permit; Standard Terms and Conditions: A.3, A.4, A.5, A.7.e), A.8, A.13, A.15, A.19, A.20, A.21, and A.23 of this Title V permit, as well as any deviations from the requirements in section C. Emissions Unit Terms and Conditions of this Title V permit, and any monitoring, record keeping, and reporting requirements, which are not reported in accordance with Standard Term and Condition A.2.c)(2) above shall be submitted (i.e., postmarked) to the appropriate Ohio EPA District Office or local air agency by January 31 and July 31 of each year; and each report shall cover the previous six calendar months. Unless otherwise specified by rule, all other deviations from federally enforceable requirements identified in this permit shall be submitted annually as part of the annual compliance certification, including deviations of federally enforceable requirements not specifically addressed by permit or rule for the

insignificant activities or emissions levels (IEU) identified in section B. Facility-Wide Terms and Conditions of this Title V permit. Annual reporting of deviations is deemed adequate to meet the deviation reporting requirements for IEUs unless otherwise specified by permit or rule.

In identifying each deviation, the permittee shall specify the federally enforceable requirement for which the deviation occurred, describe each deviation, and provide the magnitude and duration of each deviation.

These semi-annual and annual written reports shall satisfy the reporting requirements of OAC rule 3745-77-07(A)(3)(c) for any deviations from the federally enforceable requirements contained in this permit that are not reported in accordance with Standard Term and Condition A.2.c)(2) above.

If no such deviations occurred during a six-month period, the permittee shall submit a semi-annual report which states that no such deviations occurred during that period.

(Authority for term: OAC rules 3745-77-07(A)(3)(c)(i) and (ii) and OAC rule 3745-77-07(A)(13)(b))

(4) 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 (including any written malfunction reports required by OAC rule 3745-15-06 that are referenced in the deviation reports) are true, accurate, and complete."

(Authority for term: OAC rule 3745-77-07(A)(3)(c)(iv))

(5) Reports of any required monitoring and/or record keeping information shall be submitted to Cleveland Division of Air Quality.

(Authority for term: OAC rule 3745-77-07(A)(3)(c))

3. Scheduled Maintenance

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. Except as provided in OAC rule 3745-15-06(A)(3), any scheduled maintenance necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emissions unit(s) that is (are) served by such control system(s). Any scheduled maintenance, as defined in OAC rule 3745-15-06(A)(1), that results in a deviation from a federally enforceable emission limitation (or control requirement) shall be reported in the same manner as described for malfunctions in Standard Term and Condition A.2.c)(1) above.

(Authority for term: OAC rule 3745-77-07(A)(3)(c))

4. Risk Management Plans

If applicable, the permittee shall 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"); and, pursuant to 40 C.F.R. 68.215(a), the permittee shall submit either of the following:

a) a compliance plan for meeting the requirements of 40 C.F.R. Part 68 by the date specified in 40 C.F.R. 68.10(a) and OAC 3745-104-05(A); or

b) as part of the compliance certification submitted under 40 C.F.R. 70.6(c)(5), a certification statement that the source is in compliance with all requirements of 40 C.F.R. Part 68 and OAC Chapter 3745-104, including the registration and submission of the risk management plan.

(Authority for term: OAC rule 3745-77-07(A)(4))

5. 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.

(Authority for term: OAC rule 3745-77-07(A)(5))

6. Severability Clause

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.

(Authority for term: OAC rule 3745-77-07(A)(6))

7. 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 reissuance, or modification, or for denial of a permit renewal application.

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, reopened, revoked, or revoked and reissued, for cause, in accordance with Standard Term and Condition A.11 below. 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, reopening 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.

(1) Except as otherwise indicated below, this Title V permit, or permit modification, is effective for five years from the original effective date specified in the permit. In the event that this facility becomes eligible for non-title V permits, this permit shall cease to be enforceable when: the permittee submits an approved facility-wide potential to emit analysis supporting a claim that the facility no longer meets the definition of a "major source" as defined in OAC rule 3745-77-01(W) based on the permanent shutdown and removal of one or more emissions units identified in this permit; or

(2) the permittee no longer meets the definition of a "major source" as defined in OAC rule 3745-77-01(W) based on obtaining restrictions on the facility-wide potential(s) to emit that are federally enforceable or legally and practically enforceable ; or

(3) a combination of (1) and (2) above.

The permittee shall continue to comply with all applicable OAC Chapter 3745-31 requirements for all regulated air contaminent sources once this permit ceases to be enforceable. The permittee shall comply with any residual requirements, such as quarterly deviation reports, semi-annual deviation reports, and annual compliance certifications covering the period during which this Title V permit was enforceable. All records relating to this permit must be maintained in accordance with law.

(Authority for term: OAC rule 3745-77-01(W), OAC rule 3745-77-07(A)(3)(b)(ii), OAC rule 3745-77(A)(7))

8. 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.

(Authority for term: OAC rule 3745-77-07(A)(8))

9. Marketable Permit Programs

No revision of this permit is required under any approved economic incentive, marketable permits, emissions trading, and other similar programs or processes for changes that are provided for in this permit.

(Authority for term: OAC rule 3745-77-07(A)(9))

10. Reasonably Anticipated Operating Scenarios

The permittee is hereby authorized to make changes among operating scenarios authorized in this permit without notice to the Ohio EPA, but, contemporaneous with making a change from one operating scenario to another, the permittee must record in a log at the permitted facility the scenario under which the permittee is operating. The permit shield provided in these standard terms and conditions shall apply to all operating scenarios authorized in this permit.

(Authority for term: OAC rule 3745-77-07(A)(10))

11. Reopening for Cause

This Title V permit will be reopened prior to its expiration date under the following conditions:

a) Additional applicable requirements under the Act become applicable to one or more emissions units covered by this permit, and this permit has a remaining term of three or more years. Such a reopening shall be completed not later than eighteen (18) months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to paragraph (E)(1) of OAC rule 3745-77-08.

b) This permit is issued to an affected source under the acid rain program and additional requirements (including excess emissions requirements) become applicable. Upon approval by the Administrator, excess emissions offset plans shall be deemed to be incorporated into the permit, and shall not require a reopening of this permit.

c) The Director of the Ohio EPA or the Administrator of the U.S. EPA determines that the federally applicable requirements in this permit are based on a material mistake, or that inaccurate statements were made in establishing the emissions standards or other terms and conditions of this permit related to such federally applicable requirements.

d) The Administrator of the U.S. EPA or the Director of the Ohio EPA determines that this permit must be revised or revoked to assure compliance with the applicable requirements.

(Authority for term: OAC rules 3745-77-07(A)(12) and 3745-77-08(D))

12. Federal and State Enforceability

Only those terms and conditions designated in this permit as federally enforceable, that 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, the State, and citizens under the Act. All other terms and conditions of this permit shall not be federally enforceable and shall be enforceable under State law only.

(Authority for term: OAC rule 3745-77-07(B))

13. Compliance Requirements

a) Any document (including reports) required to be submitted and required by a federally applicable requirement in this Title V 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.

b) 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 paragraph (E) of OAC rule 3745-77-03.

(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.

c) The permittee shall submit progress reports to the appropriate Ohio EPA District Office or local air agency 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.

d) Compliance certifications concerning the terms and conditions contained in this permit that are federally enforceable emission limitations, standards, or work practices, shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) and the Administrator of the U.S. EPA in the following manner and with the following content:

(1) Compliance certifications shall be submitted annually on a calendar year basis. The annual certification shall be submitted (i.e., postmarked) on or before April 30th of each year during the permit term.

(2) Compliance certifications shall include the following:

a. An identification of each term or condition of this permit that is the basis of the certification.

b. The permittee's current compliance status.

c. Whether compliance was continuous or intermittent.

d. The method(s) used for determining the compliance status of the source currently and over the required reporting period.

e. Such other facts as the Director of the Ohio EPA may require in the permit to determine the compliance status of the source.

(3) Compliance certifications shall contain such additional requirements as may be specified pursuant to sections 114(a)(3) and 504(b) of the Act.

(Authority for term: OAC rules 3745-77-07(C)(1),(2),(4) and (5) and ORC section 3704.03(L))

14. Permit Shield

a) Compliance with the terms and conditions of this permit (including terms and conditions established for alternate operating scenarios, emissions trading, and emissions averaging, but excluding terms and conditions for which the permit shield is expressly prohibited under OAC rule 3745-77-07) shall be deemed compliance with the applicable requirements identified and addressed in this permit as of the date of permit issuance.

b) This permit shield provision shall apply to any requirement identified in this permit pursuant to OAC rule 3745-77-07(F)(2), as a requirement that does not apply to the source or to one or more emissions units within the source.

(Authority for term: OAC rule 3745-77-07(F))

15. Operational Flexibility

The permittee is authorized to make the changes identified in OAC rule 3745-77-07(H)(1)(a) to (H)(1)(c) within the permitted stationary source without obtaining a permit revision, if such change is not a modification under any provision of Title I of the Act [as defined in OAC rule 3745-77-01(JJ)], and does not result in an exceedance of the emissions allowed under this permit (whether expressed therein as a rate of emissions or in terms of total emissions), and the permittee provides the Administrator of the U.S. EPA and the appropriate Ohio EPA District Office or local air agency with written notification within a minimum of seven days in advance of the proposed changes, unless the change is associated with, or in response to, emergency conditions. If less than seven days notice is provided because of a need to respond more quickly to such emergency conditions, the permittee shall provide notice to the Administrator of the U.S. EPA and the appropriate District Office of the Ohio EPA or local air agency as soon as possible after learning of the need to make the change. The notification shall contain the items required under OAC rule 3745-77-07(H)(2)(d).

(Authority for term: OAC rules 3745-77-07(H)(1) and (2))

16. Emergencies

The permittee shall have an affirmative defense of emergency to an action brought for noncompliance with technology-based emission limitations if the conditions of OAC rule 3745-77-07(G)(3) are met. This emergency defense provision is in addition to any emergency or upset provision contained in any applicable requirement.

(Authority for term: OAC rule 3745-77-07(G))

17. Off-Permit Changes

The owner or operator of a Title V source may make any change in its operations or emissions at the source that is not specifically addressed or prohibited in the Title V permit, without obtaining an amendment or modification of the permit, provided that the following conditions are met:

a) The change does not result in conditions that violate any applicable requirements or that violate any existing federally enforceable permit term or condition.

b) The permittee provides contemporaneous written notice of the change to the Director and the Administrator of the U.S. EPA, except that no such notice shall be required for changes that qualify as insignificant emissions levels or activities as defined in OAC rule 3745-77-01(U). Such written notice shall describe each such change, the date of such change, any change in emissions or pollutants emitted, and any federally applicable requirement that would apply as a result of the change.

c) The change shall not qualify for the permit shield under OAC rule 3745-77-07(F).

d) The permittee shall keep a record describing all changes made at the source that result in emissions of a regulated air pollutant subject to an applicable requirement, but not otherwise regulated under the permit, and the emissions resulting from those changes.

e) The change is not subject to any applicable requirement under Title IV of the Act or is not a modification under any provision of Title I of the Act.

Paragraph (I) of rule 3745-77-07 of the Administrative Code applies only to modification or amendment of the permittee's Title V permit. The change made may require a permit-to-install under Chapter 3745-31 of the Administrative Code if the change constitutes a modification as defined in that Chapter. Nothing in paragraph (I) of rule 3745-77-07 of the Administrative Code shall affect any applicable obligation under Chapter 3745-31 of the Administrative Code.

(Authority for term: OAC rule 3745-77-07(I))

18. Compliance Method Requirements

Nothing in this permit shall alter or affect the ability of any person to establish compliance with, or a violation of, any applicable requirement through the use of credible evidence to the extent authorized by law. Nothing in this permit shall be construed to waive any defenses otherwise available to the permittee, including but not limited to, any challenge to the Credible Evidence Rule (see 62 Fed. Reg. 8314, Feb. 24, 1997), in the context of any future proceeding.

(This term is provided for informational purposes only.)

19. Insignificant Activities or Emissions Levels

Each IEU that has one or more applicable requirements shall comply with those applicable requirements.

(Authority for term: OAC rule 3745-77-07(A)(1))

20. Permit to Install Requirement

Prior to the "installation" or "modification" of any "air contaminant source," as those terms are defined in OAC rule 3745-31-01, a permit to install must be obtained from the Ohio EPA pursuant to OAC Chapter 3745-31.

(Authority for term: OAC rule 3745-77-07(A)(1))

21. 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.

(Authority for term: OAC rule 3745-77-07(A)(1))

22. Permanent Shutdown of an Emissions Unit

The permittee may notify Ohio EPA of any emissions unit that is permanently shut down by submitting a certification from the responsible 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 responsible official that the emissions unit was permanently shut down.

After the date on which an emissions unit is permanently shut down (i.e., that 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 and therefore ceases to meet the definition of an "emissions unit" as defined in OAC rule 3745-77-01(O)), rendering existing permit terms and conditions irrelevant, the permittee shall not be required, after the date of the certification and submission to Ohio EPA, to meet any Title V permit requirements applicable to that emissions unit, except for any residual requirements, such as the quarterly deviation reports, semi-annual deviation reports and annual compliance certification covering the period during which the emissions unit last operated. All records relating to the shutdown emissions unit, generated while the emissions unit was in operation, must be maintained in accordance with law.

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

(Authority for term: OAC rule 3745-77-01)

23. Title VI Provisions

If applicable, the permittee shall comply with the standards for recycling and reducing emissions of ozone depleting substances pursuant to 40 CFR Part 82, Subpart F, except as provided for motor vehicle air conditioners in Subpart B of 40 CFR Part 82:

a) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices specified in 40 CFR 82.156.

b) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment specified in 40 CFR 82.158.

c) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR 82.161.

(Authority for term: OAC rule 3745-77-01(H)(11))

24. Reporting Requirements Related to Monitoring and Record Keeping Requirements Under State Law Only

The permittee shall submit required reports in the following manner:

a) Reports of any required monitoring and/or record keeping information shall be submitted to the appropriate Ohio EPA District Office or local air agency.

b) Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (i) any deviations (excursions) from emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and record keeping requirements specified in this permit, (ii) the probable cause of such deviations, and (iii) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the appropriate Ohio EPA District Office or local air agency. In identifying each deviation, the permittee shall specify the applicable requirement for which the deviation occurred, describe each deviation, and provide the magnitude and duration of each deviation. 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.)

25. Records Retention Requirements Under State Law Only

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.

26. Inspections and Information Requests

The Director of the Ohio EPA, or an authorized representative of the Director, may, subject to the safety requirements of the permittee and without undue delay, enter upon the premises of this source at any reasonable time for purposes of making inspections, conducting tests, examining records or reports pertaining to any emission of air contaminants, and determining compliance with any applicable State air pollution laws and regulations and the terms and conditions of this permit. 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, reopening or revoking this permit or to determine compliance with this permit. Upon verbal or written request, the permittee shall also furnish to the Director of the Ohio EPA, or an authorized representative of the Director, copies of records required to be kept by this permit.

(Authority for term: OAC rule 3745-77-07(C))

27. 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 of any emissions units or any associated air pollution control system(s) shall be reported to the appropriate Ohio EPA District Office or local air agency in accordance with paragraph (B) of 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 emissions unit(s) that is (are) served by such control system(s).

28. Permit Transfers

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The appropriate Ohio EPA District Office or local air agency must be notified in writing of any transfer of this permit.

(Authority for term: OAC rule 3745-77-01(C))

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

If no emission limitation (or control requirement), operational restriction and/or control device parameter limitation 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) by January 31, April 30, July 31, and October 31 of each year; and each report shall cover the previous calendar quarter.

The permittee is not required to submit a quarterly report which states that no deviations occurred during that quarter for the following situations:

a) where an emissions unit has deviation reporting requirements for a specific emission limitation, operational restriction, or control device parameter limitation that override the deviation reporting requirements specified in Standard Term and Condition A.2.c)(2); or

b) where an uncontrolled emissions unit has no monitoring, record keeping, or reporting requirements and the emissions unit's applicable emission limitations are established at the potentials to emit; or

c) where the company's responsible official has certified that an emissions unit has been permanently shut down.

A. Standard Terms and Conditions

B. Facility-Wide Terms and Conditions

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.

2. Each insignificant emissions unit at this facility must comply with all applicable State and Federal regulations, as well as any emissions limitations and/or control requirements contained within a permit-to-install for that emissions unit. Insignificant emissions units that are not subject to a specific permit-to-install requirement are subject to one or more applicable requirements contained in the federally-approved versions of OAC chapter 3745-17 and 3745-21.

   [Authority for term: OAC rule 3745-77-07(A)(13)]

C. Emissions Unit Terms and Conditions

1. K004, Press #47

Operations, Property and/or Equipment Description:

Harris heatset web offset lithographic printing press with dryer controlled by an Advantage Energy Group AWS regenerative thermal oxidizer

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(A)(3) (PTI 13-03080 issued 8/14/96)	Volatile organic compound (VOC) emissions shall not exceed 24.3 tons per year (TPY). VOC emissions from the dryer shall be reduced by at least 85%, overall, with a destruction efficiency of at least 90%from the thermal oxidizer.
b.	OAC rule 3745-21-22(D)(1)(a)	The permittee shall maintain minimum VOC destruction efficiency of 90% or maintain a maximum VOC outlet concentration of twenty ppmv, as hexane (C_6H_{14}) on a dry basis, whichever is less stringent.
c	OAC rule 3745-21-22(D)(2)(a)	If the fountain solution contains only alcohol substitutes, the permittee shall maintain the as-applied VOC content of the fountain solution at or below 5.0 percent, by weight, and use no alcohol in the fountain solution.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
d.	OAC rule 3745-21-22(D)(2)(b)(i) OAC rule 3745-21-22(D)(2)(b)(ii)	If the fountain solution contains alcohol the permittee shall maintain the as-applied VOC content of the fountain solution at or below 1.6 percent, by weight; or maintain the as-applied VOC content of the fountain solution at or below 3.0 percent, by weight, and refrigerate the fountain solution to sixty degrees Fahrenheit or less.
e.	OAC rule 3745-21-22(D)(6)(a) OAC rule 3745-21-22(D)(6)(b)	The permittee shall maintain the as-applied VOC content of cleaning solutions at or below seventy percent (70%), by weight; or maintain the as-applied VOC composite partial vapor pressure of the cleaning solutions at or below ten mm Hg at twenty degrees Celsius (sixty-eight degrees Fahrenheit). See b)(2)a. below.
f.	40 CFR Part 64 Compliance Assurance Monitoring (CAM)	See d)(12), and e)(1) below.

(2) Additional Terms and Conditions

a. The use of cleaning solutions not meeting the specifications of paragraphs (D)(6)(a) and (D)(6)(b) of OAC rule 3745-21-22(D) is permitted provided that the quantity used does not exceed one hundred ten gallons over any consecutive twelve-month period.

b. All of the VOC emissions from the dryer on this emissions unit shall be vented to the thermal oxidizer that shall meet the operational, monitoring, and record keeping requirements of this permit, when the emissions unit is in operation.

c) Operational Restrictions

(1) The permittee shall maintain the dryer air pressure lower than the press room air pressure at all times the press is operating.

[Authority for term: OAC rule 3745-21-22(D)(1)]

(2) The permittee shall keep all solvent containers closed at all times unless filling, draining, or performing cleanup operations.

[Authority for term: OAC rule 3745-77-07(C)(1), OAC rule 3745-21-22(D)(7)]

(3) The permittee shall keep all solvent-laden shop towels in closed containers when not being used.

[Authority for term: OAC rule 3745-77-07(C)(1), OAC rule 3745-21-22(D)(8)]

d) Monitoring and/or Recordkeeping Requirements

(1) In order to maintain compliance with the applicable emissions limitations in the permit, the average combustion temperature within the thermal incinerator, for any 3-hour block of time when the emissions unit is in operation, shall not be more than 50 degrees Fahrenheit below 1500° F.

[Authority for term: OAC rule 3745-77-07(C)(1), OAC rule 3745-21-22(G)(1)]

(2) The permittee shall operate, and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal incinerator at least once every fifteen minutes when the emissions unit is in operation. The accuracy for each thermocouple, monitor, and recorder shall be guaranteed by the manufacturer to be within ± 1 percent of the temperature being measured or ± 5 degrees Fahrenheit, whichever is greater. The temperature monitor and recorder shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and the operating manuals, with any modifications deemed necessary by the permittee. The permittee shall collect and calculate the average combustion temperature within the thermal incinerator, for each of the eight 3-hour blocks of time during each day of operation, and shall record and maintain the following information each day:

a. all 3-hour blocks of time, when the emissions unit was in operation, during which the average combustion temperature within the thermal incinerator was more than 50 degrees Fahrenheit below 1500° F ; and

b. a log or record of any time when the capture (collection) system, thermal incinerator, and/or monitoring equipment are not in operation when the associated press is in operation.

These records shall be maintained at the facility for a period of five years.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 13-3080; OAC rule 3745-21-22(G)(1)]

(3) Whenever the monitored average combustion temperature within the thermal oxidizer deviates from the range or limit established in accordance with this permit, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:

a. the date and time the deviation began;

b. the magnitude of the deviation at that time;

c. the date the investigation was conducted;

d. the name(s) of the personnel who conducted the investigation; and

e. the findings and recommendations.

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

a. a description of the corrective action;

b. the date corrective action was completed;

c. the date and time the deviation ended;

d. the total period of time (in minutes) during which there was a deviation;

e. the temperature readings immediately after the corrective action was implemented; and

f. the name(s) of the personnel who performed the work.

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

The temperature range/limit is effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the appropriate Ohio EPA District Office or local air agency. The permittee may request revisions to the permitted temperature range/limit based upon information obtained during future performance tests that demonstrate compliance with the allowable emission rate(s) for the controlled pollutant(s). In addition, approved revisions to the temperature range/limit will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of a minor permit modification.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(4) The permittee shall collect and record the following information each month while this emissions unit is in operation:

a. the company identification of each ink/coating, fountain solution, and clean up material employed in this emissions unit;

b. the number of pounds or gallons of each ink/coating, fountain solution, and clean up material employed;

c. the VOC content of each ink/coating, fountain solution, and clean up material, in pounds per gallon or pounds per pound (weight percent);

d. as an alternative, material usage in gallons or pounds may be added together for groups of similar materials, with the highest VOC content for any material in the group used for emission calculations;

e. for the waste materials taken off-site, the amount of each class of clean up materials, inks, coatings, and fountain solution, from this emissions unit (K004) in gallons or pounds, based on total waste taken off-site allocated per press based on production records;

f. for the waste materials taken off-site, the VOC content of each class of material from this emissions unit (K004) that has the lowest VOC content, in pounds per gallon or pounds per pound, based on total waste taken off-site allocated per press based on production records;

g. the total uncontrolled volatile organic compound (VOC) emission rate for all applicable inks/coatings, fountain solutions, and clean up materials in pounds per month calculated as the summation of [(b * c) – (e * f)] using the retention factors identified in f)(1)a.i. if applicable; and

h. the total controlled volatile organic compound emission rate for all inks/coatings, fountain solutions, and clean up materials, in pounds per month [g * (1 – capture efficiency identified in f)(1)a.ii., if applicable * destruction efficiency from most recent stack test].

[Note: The coating information must be for the coatings as employed, including any thinning solvents added at the emissions unit.]

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 13-3080]

(5) The permittee, not maintaining a recipe log in accordance with OAC rule 3745-21-22 (G)(3)(a), shall collect and record the following information for each batch of fountain solution prepared:

a. the volume and VOC content of each concentrated alcohol substitute, added to make the batch of fountain solution, based upon the manufacturer's laboratory analysis using USEPA Method 24;

b. the volume of alcohol added to make the batch of fountain solution;

c. the volume of water added to make the batch of fountain solution;

d. the calculated VOC content of the final, mixed batch; and

e. the date and time the batch was prepared.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC 3745-21-22(G)(3)(b)]

(6) In lieu of d)(5) above, the permittee may maintain a fountain solution recipe record for its fountain solutions.

a. Prepare and record a fountain solution recipe log. The recipe log shall contain the following information:

i. VOC content of each concentrated alcohol substitute, added to make the batch of fountain solution, based upon the manufacturer's laboratory analysis using USEPA Method 24;

ii. the proportions in which the fountain solution is mixed, including the addition of alcohol and/or water. The proportion may be identified as a volume when preparing a discrete batch or may be identified as the settings when an automatic mixing unit is employed; and

iii. the calculated VOC content of the final, mixed recipe.

b. Maintain a record of each batch of fountain solution prepared. The record shall contain the following information:

i. identification of the recipe used to prepare each batch of fountain solution for use in the press;

ii. the date and time when the batch was prepared; and

iii. an affirmation the batch was prepared in accordance with the recipe.

[Authority for term: OAC rule 3745-77-07(C)(1) OAC 3745-21-22(G)(3)(a)]

(7) A fountain solution that is continuously blended with an automatic mixing unit is considered to be the same batch until such time that the recipe or mix ratio is changed.

[Authority for term: OAC 3745-21-22(G)(3)(a)]

(8) If using fountain solutions containing alcohol, the permittee shall measure and record the following:

a. the VOC (alcohol) content of any altered fountain solution, at the time of alteration, in percent by weight. The alcohol content of the fountain solution shall be measured using a hydrometer. The hydrometer shall have a visual, analog, or digital readout with an accuracy of 0.5 percent; and a standard solution shall be used to calibrate the hydrometer for the type of alcohol used in the fountain solution; and

b. shall record, on a daily basis, the temperature, in degrees Fahrenheit, of the fountain solution, if the fountain solution is required to be refrigerated.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-21-22(G)(2)]

(9) If the permittee dilutes its cleaning materials to meet the requirements of OAC rule 3745-21-22(D)(6)(a) or 3745-21-22(D)(6)(b), the permittee shall keep records of the volume of cleaning solution concentrate and volume of water added and determine the VOC content or VOC composite partial vapor pressure and the date and time the batch was prepared.

[Authority for term: OAC rule 3745-77-07(C)(1) OAC rule 3745-21-22(G)(4)(b)]

(10) In lieu of d)(9) above, the permittee may alternatively maintain and prepare a recipe log for each batch of cleaning material prepared.

a. Each recipe log shall contain the following information:

i. the volume of water and volume of cleaning solution concentrate added;

ii. VOC content of each cleaning material, based upon the manufacturer's laboratory analysis using USEPA Method 24; or

iii. the VOC composite partial vapor pressure of each cleaning solution.

b. Maintain a record of each batch of cleaning material prepared. The record shall contain the following information:

i. identification of the recipe used to prepare each batch of cleaning material;

ii. the date and time when the batch was prepared; and

iii. an affirmation the batch was prepared in accordance with the recipe.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-21-22(G)(4)(a)]

(11) The permittee shall record and maintain the following records each month:

a. the quantity, in gallons, of each cleaning solution used;

b. the quantity, in gallons, of each cleaning solution not meeting the allowable limitations per 3745-21-22(D)(6)(a) or 3745-21-22(D)(6)(b); and

c. a rolling, 12-month total, in gallons, of (11)b.

[Authority for term: OAC rule 3745-77-07(C)(1), OAC rule 3745-21-22(G)(5)]

(12) The CAM plan for this emissions unit has been developed for VOC emissions. The CAM performance indicators for VOC emissions are the RTO temperature monitoring and record keeping, inspection of internal and external integrity of oxidizer and emissions test program for the emissions unit and its control equipment.

The CAM performance indicator device to continuously monitor the combustion temperature within the regenerative thermal oxidizer when the emissions unit is in

operation is specified in d)(1). When the monitoring requirements are outside of any parameters specified in d)(1) and d)(2), corrective action (including, but not limited to, an evaluation of the emissions unit and the control device) will be required.

Upon detecting an excursion of any of the VOC emission indicator parameters listed above, the owner or operator shall restore operation of the emissions unit (including the control devices) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion. Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as thorough response by the computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator range.

If a determination is made by the Administrator or Ohio EPA that the permittee has not used acceptable procedures in response to an excursion or exceedance based on the results of a determination made under 40 CFR Part 64.7(d)(2), the permittee may be required to develop a Quality Improvement Plan (QIP) consistent with the requirements of 40 CFR Part 64.8.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

e) Reporting Requirements

(1) The permittee shall submit quarterly summaries that identify:

a. all 3 hour blocks of time, when the emissions unit was in operation, during which the average combustion temperature within the thermal incinerator was more than 50 degrees Fahrenheit below 1500° F;

b. any records of downtime for the capture (collection) system, the thermal incinerator, and/or the monitoring equipment when the emissions unit was in operation;

c. an identification of each incident of deviation described in (a) and (b) above where a prompt investigation was not conducted;

d. an identification of each incident of deviation described in (a) and (b) above where prompt corrective action, that would bring the field into compliance with the acceptable ranges and operation, was determined to be necessary and was not taken; and

e. an identification of each incident of deviation described in (a) and (b) above where proper records were not maintained for the investigation and/or the corrective action.

These quarterly reports shall be submitted (i.e., postmarked) by January 31, April 30, July 31 and October 31 of each year; and each report shall cover the previous calendar quarter.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI13-3080; OAC rule 3745-21-22(H)(5)]

(2) The permittee shall notify the director/ the Cleveland Division of Air Quality (CDAQ) of any of the following exceedances of applicable requirements. Each notification shall be submitted to the director/CDAQ within forty-five days after the instance occurs, and it shall include a copy of the record showing the instance.

a. if determining alcohol content via hydrometer measurement, each hydrometer measurement that shows an exceedance of the applicable alcohol content limitation specified in OAC rule 3745-21-22 paragraphs (D)(2)(a), (D)(2)(b), (D)(3)(a), or (D)(3)(b).

b. if complying via refrigerated fountain solution, each temperature reading that shows an exceedance of the temperature limitation specified in paragraph (D)(2)(b)(ii) or (D)(3)(b)(ii) of OAC rule 3745-21-22.

c. each calculated VOC content that exceeds the VOC content limitation specified in paragraph (D)(2)(b), or (D)(3)(b), of OAC rule 3745-21-22.

d. each instance when an exceedance of the VOC content or VOC composite partial vapor pressure specified in paragraph (D)(6) of OAC rule 3745-21-22 for cleaning solutions occurs.

[Authority for term: OAC rule 3745-77-07(C)(1), OAC rule 3745-21-22(H)(1) through (H)(4)]

(3) The permittee shall submit to the CDAQ an annual emissions report including the annual VOC emissions for this emissions unit. This report shall be submitted by April 15 of each calendar year. This requirement can be achieved through submittal of the annual Fee Emission Report.

[Authority for term: OAC rule 3745-77-07(C)(1)]

f) Testing Requirements

(1) Compliance with the emission limitation(s) in section b)(1) of these terms and conditions shall be determined in accordance with the following method(s):

a. <u>Emission Limitation:</u>

VOC emissions shall not exceed 24.3 TPY.

<u>Applicable Compliance Method:</u>

Compliance shall be determined by summing the monthly VOC emissions determined in d)(4) and dividing by 2000 lbs/ton.

Retention factors and capture efficiencies:

For purposes of determining VOC emissions from the offset lithographic printing operations, the following retention factors and capture efficiencies shall be used:

i. A portion of the VOC contained in inks and cleaning solution is retained in the printed web or in the shop towels used for cleaning. The following retention factors shall be used:

(a) A twenty percent VOC retention factor shall be used for heatset inks printed on absorptive substrates, meaning eighty percent of the VOC in the ink is emitted during the printing process and is available for capture and control by an add-on pollution control device;

(b) A fifty percent VOC retention factor shall be used for cleaning solution VOC in shop towels for cleaning solutions with a VOC composite vapor pressure of no more than ten mmHg at twenty degrees Celsius (sixty-eight degrees Fahrenheit) if the contaminated shop towels are kept in closed containers, meaning fifty percent of the VOC used on the shop towels is emitted during the cleaning process.

ii. A portion of the VOC contained in inks, fountain solutions, and automatic blanket washes on heatset web presses is captured in the press dryer for control by add-on pollution control devices. The following capture efficiencies are to be used:

(a) A one hundred percent VOC carry over efficiency shall be used for inks. All the VOC in the ink that is not retained is assumed to be volatilized in the press dryer. Capture efficiency testing for heatset dryers is not required if it is demonstrated that pressure in the dryer is negative relative to the surrounding press room and the airflow is into the dryer;

(b) A seventy percent VOC carry over efficiency shall be used for fountain solutions containing alcohol substitutes; and

(c) A forty percent VOC carry over efficiency shall to be used for automatic blanket wash solutions with a VOC composite vapor pressure of no more than ten mmHg at twenty degrees Celsius (sixty-eight degrees Fahrenheit).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-21-22(I)(1)(a) and (c); OAC rule 3745-21-22(I)(2)(a), (b) and (c)]

b. <u>Emission Limitation:</u>

VOC emissions from the dryer shall be reduced by at least 85% overall with a destruction efficiency of at least 90% from the thermal oxidizer.

Applicable Compliance Method:

Compliance shall be determined in accordance with the testing requirements specified in f)(2), (3), (4), (5), (6), (7) and (9) below.

[Authority for term: OAC rule 3745-77-07(C)(1)]

c. Emission Limitation

Maintain minimum VOC destruction efficiency of 90% or maintain a maximum VOC outlet concentration of 20 ppmv, as hexane, on a dry basis, whichever is less stringent.

Applicable Compliance Method:

Compliance shall be determined in accordance with the testing requirements specified in f)(2), (3), (4), (5), (6), (7) and (9) below.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(2) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. The emissions testing shall be conducted within 12 months after permit issuance and then 6 months prior to permit expiration.

b. The emissions testing shall be conducted to demonstrate compliance with the overall control and destruction efficiency limitations of the dryer and oxidizer for organic compounds.

overall control efficiency of the dryer and oxidizer = CE x DE

Where:

CE = capture efficiency of the dryer, which is equal to 100% when airflow into the dryer is demonstrated to be negative per f) (4)

DE = destruction efficiency determined during the most recent stack test

c. The following test methods shall be employed to demonstrate compliance with the overall control and destruction efficiency limitation:

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.) Methods approved in f)(4), including airflow direction

indicators such as smoke sticks, aluminum ribbons, and differential pressure gauges are acceptable alternative methods and do not require a separate approval from the Ohio EPA.

The destruction efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) shall be determined in accordance with the test methods and procedures specified in OAC rule 3745-21-10(C). 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.

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

d. The tests shall be conducted while the emissions unit is operating as normal representative capacity, unless otherwise specified or approved by the CDAQ.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the CDAQ. 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 CDAQ's refusal to accept the results of the emission test(s).

f. Personnel from the CDAQ 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.

g. 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 CDAQ within 30 days following completion of the test(s).

[Authority for term: OAC rule 3745-77-07(C)(1)]

(3) For the purpose of demonstrating compliance with the emission control requirements of rule OAC 3745-21-22(D)(1), the affected source shall be run at typical operating conditions and flow rates compatible with scheduled production during any emission testing.

[Authority for term: OAC rule 3745-77-07(C)(1), OAC rule 3745-21-22(F)(1)(a)]

(4) The negative dryer pressure shall be established during the initial test using an airflow direction indicator, such as a smoke stick or aluminum ribbons, or differential pressure gauge. Capture efficiency and continuous dryer air flow monitoring is not required.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-21-22(F)(1)(b)]

(5) The following USEPA test methods (in 40 CFR Part 60, Appendix A) shall be used to demonstrate compliance with the applicable emission control requirement in paragraph (D)(1) of this rule.

a. USEPA Method 1 or 1A, as appropriate, shall be used to select the sampling sites;

b. USEPA Method 2, 2A, 2C, or 2D, as appropriate, shall be used to determine the velocity and volumetric flow rate of the exhaust stream;

c. USEPA Method 3 or 3A, as appropriate, shall be used to determine the concentration of O_2 and CO_2;

d. USEPA Method 4 shall be used to determine moisture content; and

e. USEPA Method 18, 25, or 25A shall be used to determine the VOC concentration of the exhaust stream entering and exiting the control device, unless the alternate limit of twenty ppmv as specified in paragraphs (D)(1)(a) and (D)(1)(b) of OAC rule 3745-21-22 is being met, in which case only the VOC concentration of the exit exhaust shall be determined. In cases where the anticipated outlet VOC concentration of the control device is less than fifty ppmv as carbon, USEPA Method 25A shall be used.

i. If the average concentrations in the outlet of a thermal or catalytic oxidizer measured by USEPA Method 25A are found to be greater than fifty ppmv as carbon, USEPA Method 18 or 25 may be used to determine non-VOC components (methane and ethane) to correct the outlet VOC readings, unless the director determines that the uncorrected USEPA Method 25A results are acceptable.

ii. A compliance test shall consist of up to three separate runs, each lasting a minimum of sixty minutes, unless the director determines that process variables dictate shorter sampling times.

iii. USEPA Method 25 specifies a minimum probe temperature of two hundred sixty-five degrees Fahrenheit. To prevent condensation, the probe should be heated to at least the gas stream temperature, typically close to three hundred fifty degrees Fahrenheit.

iv. USEPA Method 25A specifies a minimum temperature of two hundred twenty degrees Fahrenheit for the sampling components leading to the analyzer. To prevent condensation when testing heatset web offset presses, the sampling components and flame ionization detector block should be heated to at least the gas stream temperature, typically close to three hundred fifty degrees Fahrenheit.

v. The use of an adaptation to any of the analytical methods specified above shall be approved by the director and USEPA on a case-by-case basis. The owner or operator shall submit sufficient documentation for the director and USEPA to find that the analytical methods specified above

will yield inaccurate results and that the proposed adaptation is appropriate.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-21-22(F)(1)(c)]

(6) U.S. EPA Method 24 (40 CFR Part 60, Appendix A) shall be used to determine the VOC contents of the inks and coatings. If an owner or operator determines that Method 24 cannot be used for a particular ink/coating, the permittee shall so notify the administrator of the U.S. EPA and shall use formulation data for that ink/coating to demonstrate compliance until the U.S. EPA provides alternative analytical procedures or alternative precision statements for Method 24.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-21-04(B)(5)]

(7) Compliance with the VOC content of the as-applied fountain solution shall be determined by one of the methods in f)(6)a. to f)(6)c. except when f)(6)d. is applicable.

a. USEPA Method 24 shall be used to determine the VOC content of the as applied fountain solution;

b. If diluted prior to use, a calculation shall be performed for VOC content that combines USEPA Method 24 analytical data for the concentrated materials used to prepare the as-applied fountain solution and the proportions in which they are mixed to make the as-applied fountain solution. The analysis of the concentrated material(s) may be performed by the supplier(s) of those material(s). The analytical data may be derived from a material safety data sheet (MSDS) or equivalent information from the supplier as long as it is based on USEPA Method 24 results; or

c. If not diluted prior to use, the owner or operator shall use formulation information provided by the supplier, such as a MSDS sheet or equivalent information from the supplier. In the event of a dispute between information provided by the supplier and data obtained by USEPA Method 24, the data obtained by USEPA Method 24 shall be employed.

d. For any offset lithographic printing press that is subject to the requirements of OAC rule 3745-21-22 (D)(2)(b) or (D)(3)(b), when adding alcohol to a fountain solution batch previously tested in accordance with one of the compliance test methods contained in f)(6)a. to f)(6)c., in lieu of the methods in f)(6)a. to f)(6)c., the owner or operator shall determine the VOC (alcohol) content of the altered fountain solution using a hydrometer.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-21-22(F)(2)]

(8) For any offset lithographic printing press that is subject to the fountain solution temperature requirements of paragraph (D)(2)(b)(ii) or (D)(3)(b)(ii) of OAC rule 3745-21-22, a thermometer or other temperature detection device capable of reading to 0.5

degrees Fahrenheit shall be used to ensure that any refrigerated fountain solution reservoirs are maintained at or below sixty degrees Fahrenheit at all times.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-21-22(F)(3)]

(9) For any offset lithographic or letterpress printing press that is subject to the requirements of OAC rule 3745-21-22(D)(6)(a), the VOC content of cleaning solutions shall be determined by one of the following methods:

a. USEPA Method 24 shall be used to determine the VOC content of the cleaning solution;

b. If diluted prior to use, a calculation shall be performed for VOC content that combines USEPA Method 24 analytical data for the concentrated materials used to prepare the cleaning solution and the proportions in which they are mixed to make the as-applied cleaning solution. The analysis of the concentrated material(s) may be performed by the supplier(s) of those material(s). The analytical data may be derived from a material safety data sheet (MSDS) or equivalent information from the supplier as long as it is based on USEPA Method 24 results; or

c. If not diluted prior to use, the owner or operator shall use formulation information provided by the supplier, such as MSDS sheet or equivalent information from the supplier. In the event of a dispute between information provided by the supplier and data obtained by USEPA Method 24, the data obtained by USEPA Method 24 shall be employed.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-21-22(F)(4)]

(10) The VOC composite partial vapor pressure of cleaning solutions shall be determined by one of the following methods:

a. If diluted prior to use, calculate the VOC composite vapor pressure of the as applied solvent by using the formula for "VOC composite vapor pressure" as follows:

i. Determine the identity and quantity of each compound in a blended organic solvent by using ASTM D2306, or by using ASTM E260 for organics and ASTM D3792 for water content, if applicable, or the manufacturer's product formulation data.

ii. Determine the vapor pressure of each pure VOC component by using ASTM D2879 or publications such as "Perry's Chemical Engineer's Handbook, CRC Handbook of Chemistry and Physics, or Lange's Handbook of Chemistry."

iii. Calculate the VOC composite partial pressure of the solvent by using the formula for "VOC composite partial pressure." For the purpose of this calculation, the blended solvent shall be assumed to be an ideal solution where "Raoult's Law" applies. The partial vapor pressures of each

compound at twenty degrees Celsius (sixty-eight degrees Fahrenheit) shall be used in the formula. The VOC composite partial pressure shall be calculated as follows:

$$PPc = \sum_{i=1}^{n} \frac{(Wi)(VPi) \,/\, MWi}{\frac{Ww}{MWw} + \frac{We}{MWe} + \sum_{i=1}^{n} \frac{Wi}{MWi}}$$

Where:

W_i = Weight of the "i"th VOC compound, in grams.

W_w = Weight of water, in grams.

W_e = Weight of exempt compound, in grams.

MW_i = Molecular weight of the "i"th VOC compound, in grams per gram-mole.

MW_w = Molecular weight of water, in grams per gram-mole.

MW_e = Molecular weight of the "e"th exempt compound, in grams per gram-mole.

PP_c = VOC composite partial vapor pressure at twenty degrees Celsius (sixty-eight degrees Fahrenheit), in mmHg.

VPi = Vapor pressure of the "i"th VOC compound at twenty degrees Celsius (sixty-eight degrees Fahrenheit), in mmHg.

b. If not diluted prior to use, the owner or operator shall use formulation information provided by the supplier, such as a material safety data sheet (MSDS) or equivalent information from the supplier as long as it is based on results determined in accordance with the procedure under OAC rule 3745-21-22 (F)(5)(a).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-21-22(F)(5)]

g) Miscellaneous Requirements

(1) None.

2. K005, Press #32

Operations, Property and/or Equipment Description:

Two-color Heidelberg sheetfed offset lithographic printing press

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(A)(3) (PTI 13-03148 issued 9/18/96)	Volatile organic compound (VOC) emissions shall not exceed 7.3 tons per year (TPY).
b.	OAC rule 3745-21-22(D)(3)(a)	If the fountain solution contains only alcohol substitutes, maintain the as-applied VOC content of the fountain solution at or below 5.0 percent by weight.
c.	OAC rule 3745-21-22(D)(3)(b)(i) OAC rule 3745-21-22(D)(3)(b)(ii)	If the fountain solution contains alcohol maintain the as-applied VOC content of the fountain solution at or below 5.0 percent, by weight; or maintain the as-applied VOC content of the fountain solution at or below 8.5 percent, by weight, and refrigerate the fountain solution to sixty degrees Fahrenheit or less.
d.	OAC rule 3745-21-22(D)(6)(a) OAC rule 3745-21-22(D)(6)(b)	The permittee shall maintain the as-applied VOC content of cleaning solutions at or below seventy percent (70%), by weight; or maintain the as-applied VOC composite partial vapor pressure of the cleaning solution at or below ten mm Hg at twenty degrees Celsius (sixty-eight degrees Fahrenheit). See b)(2)a. below.

(2) Additional Terms and Conditions

a. The permittee can use cleaning solutions that do not meet the requirements of OAC rule 3745-21-22 (D)(6)(a) and (D)(6)(b) provided that the quantity used does not exceed one hundred ten gallons over any consecutive twelve-month period.

c) Operational Restrictions

(1) The permittee shall keep all solvent containers closed at all times unless filling, draining, or performing cleanup operations.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-21-22(D)(7)]

(2) The permittee shall keep all solvent-laden shop towels in closed containers when not being used.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-21-22(D)(8)]]

d) Monitoring and/or Recordkeeping Requirements

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

a. the name and identification number of each ink/coating, fountain solution, and clean up material employed;

b. the VOC content of each ink/coating, fountain solution, and clean up material in pounds per gallon or pounds per pound (weight percent), as employed;

c. the amount, in gallons or pounds, of each ink/coating, fountain solution, and clean up material employed;

d. as an alternative, material usage in gallons or pounds may be added together for groups of similar materials, with the highest VOC content for any material in the group used for emission calculations;

e. for the waste materials taken off-site, the amount of each class of clean up materials, inks, coatings, and fountain solution, from this emissions unit (K005) in gallons or pounds, based on total waste taken off-site allocated per press based on production records;

f. for the waste materials taken off-site, the VOC content of each class of material from this emissions unit (K005)that has the lowest VOC content, in pounds per gallon or pounds per pound, based on total waste taken off-site allocated per press based on production records; and

g. the total VOC emissions from all inks/coatings, fountain solutions, and clean up materials in pounds per month, calculated as the summation of [(b * c) – (e * f)] for all inks/coatings, fountain solutions, and clean up materials using the retention factor identified in f)(1)a. if applicable.

[Note: The coating information must be for the coatings as employed, including any thinning solvents added at the emissions unit.]

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 13-3148]

(2) The permittee, not maintaining a recipe log in accordance with paragraph (G)(3)(a) of OAC rule 3745-21-22, shall collect and record the following information for each batch of fountain solution prepared:

a. the volume and VOC content of each concentrated alcohol substitute, added to make the batch of fountain solution, based upon the manufacturer's laboratory analysis using USEPA Method 24;

b. the volume of alcohol added to make the batch of fountain solution;

c. the volume of water added to make the batch of fountain solution;

d. the calculated VOC content of the final, mixed batch; and

e. the date and time the batch was prepared.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-21-22(G)(3)(b)]

(3) In lieu of d)(2) above, the permittee may maintain the following records for its fountain solutions:

a. a recipe log for each fountain solution. The recipe log shall contain the following information:

i. VOC content of each concentrated alcohol substitute, added to make the batch of fountain solution, based upon the manufacturer's laboratory analysis using USEPA Method 24;

ii. the proportions in which the fountain solution is mixed, including the addition of alcohol and/or water. The proportion may be identified as a volume when preparing a discrete batch or may be identified as the settings when an automatic mixing unit is employed; and

iii. the calculated VOC content of the final, mixed recipe

b. a record of each batch of fountain solution prepared. The record shall contain the following information:

i. identification of the recipe used to prepare each batch of fountain solution for use in the press;

ii. the date and time when the batch was prepared; and

iii. an affirmation the batch was prepared in accordance with the recipe.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-21-22(G)(3)(a)]

(4) A fountain solution that is continuously blended with an automatic mixing unit is considered to be the same batch until such time that the recipe or mix ratio is changed.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-21-22(G)(3)]

(5) If using fountain solutions containing alcohol, the permittee shall measure and record the following:

a. the VOC (alcohol) content of any altered fountain solution, at the time of alteration, in percent by weight. The alcohol content of the fountain solution shall be measured using a hydrometer. The hydrometer shall have a visual, analog, or digital readout with an accuracy of 0.5 percent; and a standard solution shall be used to calibrate the hydrometer for the type of alcohol used in the fountain solution; and

b. on a daily basis, the temperature, in degrees Fahrenheit, of the fountain solution, if the fountain solution is required to be refrigerated.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-21-22(G)(2)]

(6) If the permittee dilutes its cleaning materials to meet the requirements of OAC rule 3745-21-22(D)(6)(a) or 3745-21-22(D)(6)(a), the permittee shall keep records of the volume of cleaning solution concentrate and volume of water added and determine the VOC content or VOC composite partial vapor pressure and the date and time the batch was prepared.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-21-22(G)(4)(b)]

(7) In lieu of d)(6) above, the permittee may maintain the following records for its cleaning materials:

a. Each recipe log shall contain the following information::

i. the volume of water and volume of cleaning solution concentrate added;

ii. VOC content of each cleaning material, based upon the manufacturer's laboratory analysis using USEPA Method 24; or

iii. the VOC composite partial vapor pressure of each cleaning solution.

b. Maintain a record of each batch of cleaning material prepared. The record shall contain the following information:

i. identification of the recipe used to prepare each batch of cleaning material;

ii. the date and time when the batch was prepared; and

iii. an affirmation the batch was prepared in accordance with the recipe.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-21-22(G)(4)(a)]

(8) The permittee shall record and maintain the following records each month:

a. the quantity, in gallons, of each cleaning solution used;

b. the quantity, in gallons, of each cleaning solution not meeting the allowable limitations per 3745-21-22(D)(6)(a) or 3745-21-22(D)(6)(b); and

c. a rolling, 12-month total, in gallons, of (8)b..

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-21-22(G)(5)]

e) Reporting Requirements

(1) The permittee shall submit to the CDAQ an annual emissions report including the annual VOC emissions for this emissions unit. This report shall be submitted by April 15 of each calendar year. This requirement can be achieved through submittal of the annual Fee Emission Report.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(2) The permittee shall notify the Cleveland Division of Air Quality (CDAQ) of any of the following exceedances of applicable requirements. Each notification shall be submitted to the CDAQ within forty-five days after the exceedance occurs, and it shall include a copy of the record showing the exceedance:

a. if determining alcohol content via hydrometer measurement, each hydrometer measurement that shows an exceedance of the applicable alcohol content limitation specified in paragraph (D)(2)(a), (D)(2)(b), (D)(3)(a), or (D)(3)(b) of OAC rule 3745-21-22;

b. if complying via refrigerated fountain solution, each temperature reading that shows an exceedance of the temperature limitation specified in paragraph (D)(2)(b) or (D)(3)(b) of OAC rule 3745-21-22;

c. each calculated VOC content that exceeds the VOC content limitation specified in paragraph (D)(2)(b), (D)(3)(b), or (D)(4) of OAC rule 3745-21-22; and

d. each instance when an exceedance of the VOC content or VOC composite partial vapor pressure specified in paragraph (D)(6) of OAC rule 3745-21-22 for cleaning solutions occurs.

[Authority for term: OAC rule 3745-77-07(C)(1), OAC rule 3745-21-22(H)(1)-(4)]

f) Testing Requirements

(1) If required compliance with the emission limitations in section b)(1) of the terms and conditions shall be determined in accordance with the following methods:

a. <u>Emission Limitation:</u>

VOC emissions shall not exceed 7.3 TPY

Applicable Compliance Method:

Compliance shall be determined by summing the monthly VOC emissions in d)(1) and dividing by 2000 lbs/ton.

For purposes of determining VOC emissions from offset lithographic printing operations, the following retention factors and capture efficiencies shall be used:

i. A portion of the VOC contained in inks and cleaning solution is retained in the printed web or in the shop towels used for cleaning. The following retention factors shall be used:

(a) A ninety-five percent VOC retention factor shall be used for sheet-fed and non-heatset web inks and varnishes printed on absorptive substrates, meaning five percent of the VOC in the ink is emitted during the printing process.

(b) A fifty percent VOC retention factor shall be used for cleaning solution VOC in shop towels for cleaning solutions with a VOC composite vapor pressure of no more than ten mmHg at twenty degrees Celsius (sixty-eight degrees Fahrenheit) if the contaminated shop towels are kept in closed containers, meaning fifty percent of the VOC used on the shop towels is emitted during the cleaning process.

[[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-21-22(I)(1)(b) and (c)]]

(2) U.S. EPA Method 24 (40 CFR Part 60, Appendix A) shall be used to determine the VOC contents of the inks and coatings. If an owner or operator determines that Method 24 cannot be used for a particular ink/coating, the permittee shall so notify the administrator of the U.S. EPA and shall use formulation data for that ink/coating to demonstrate compliance until the U.S. EPA provides alternative analytical procedures or alternative precision statements for Method 24.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-21-04(B)(5)]

(3) For any offset lithographic printing press that is subject to the requirements of paragraph (D)(2), (D)(3), or (D)(4) of OAC rule 3745-21-22, compliance with the VOC content of the as-applied fountain solution shall be determined by one of the methods in f)(3)a. to f)(3)c. below except when paragraph f)(3)d. is applicable:

a. USEPA Method 24 shall be used to determine the VOC content of the as applied fountain solution;

b. if diluted prior to use, a calculation shall be performed for VOC content that combines USEPA Method 24 analytical data for the concentrated materials used to prepare the as-applied fountain solution and the proportions in which they are mixed to make the as-applied fountain solution. The analysis of the concentrated material(s) may be performed by the supplier(s) of those material(s). The

analytical data may be derived from a material safety data sheet (MSDS) or equivalent information from the supplier as long as it is based on USEPA Method 24 results; or

c. if not diluted prior to use, the owner or operator shall use formulation information provided by the supplier, such as a MSDS sheet or equivalent information from the supplier. In the event of a dispute between information provided by the supplier and data obtained by USEPA Method 24, the data obtained by USEPA Method 24 shall be employed.

d. for any offset lithographic printing press that is subject to the requirements of paragraph (D)(2)(b) or (D)(3)(b) of OAC rule 3745-21-22, when adding alcohol to a fountain solution batch previously tested in accordance with one of the compliance test methods contained in f)(3)a. to f)(3)c., in lieu of the methods in f)(3)a. to f)(3)c. above, the owner or operator shall determine the VOC (alcohol) content of the altered fountain solution using a hydrometer.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-21-22(F)(2)]

(4) For any offset lithographic printing press that is subject to the fountain solution temperature requirements of paragraph (D)(2)(b)(ii) or (D)(3)(b)(ii) of OAC rule 3745-21-22, a thermometer or other temperature detection device capable of reading to 0.5 degrees Fahrenheit shall be used to ensure that any refrigerated fountain solution reservoirs are maintained at or below sixty degrees Fahrenheit at all times.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-21-22(F)(3)]

(5) For any offset lithographic or letterpress printing press that is subject to the requirements of paragraph (D)(6)(a) of OAC rule 3745-21-22, the VOC content of cleaning solutions shall be determined by one of the following methods:

a. USEPA Method 24 shall be used to determine the VOC content of the cleaning solution;

b. if diluted prior to use, a calculation shall be performed for VOC content that combines USEPA Method 24 analytical data for the concentrated materials used to prepare the cleaning solution and the proportions in which they are mixed to make the as-applied cleaning solution. The analysis of the concentrated material(s) may be performed by the supplier(s) of those material(s). The analytical data may be derived from a material safety data sheet (MSDS) or equivalent information from the supplier as long as it is based on USEPA Method 24 results; or

c. if not diluted prior to use, the owner or operator shall use formulation information provided by the supplier, such as MSDS sheet or equivalent information from the supplier. In the event of a dispute between information provided by the supplier and data obtained by USEPA Method 24, the data obtained by USEPA Method 24 shall be employed.

[Authority for term: OAC rule 3745-77-07(C)(1), OAC rule 3745-21-22(F)(4)]

(6) The VOC composite partial vapor pressure of cleaning solutions shall be determined by one of the following methods (being subject to the requirements of OAC rule 3745-21-22 (D)(6)(b)):

a. if diluted prior to use, calculate the VOC composite vapor pressure of the as applied solvent by using the formula for "VOC composite vapor pressure" as follows:

i. determine the identity and quantity of each compound in a blended organic solvent by using ASTM D2306, or by using ASTM E260 for organics and ASTM D3792 for water content, if applicable, or the manufacturer's product formulation data.

ii. determine the vapor pressure of each pure VOC component by using ASTM D2879 or publications such as "Perry's Chemical Engineer's Handbook, CRC Handbook of Chemistry and Physics, or Lange's Handbook of Chemistry."

iii. calculate the VOC composite partial pressure of the solvent by using the formula for "VOC composite partial pressure." For the purpose of this calculation, the blended solvent shall be assumed to be an ideal solution where "Raoult's Law" applies. The partial vapor pressures of each compound at twenty degrees Celsius (sixty-eight degrees Fahrenheit) shall be used in the formula. The VOC composite partial pressure shall be calculated as follows:

$$PPc = \sum_{i=1}^{n} \frac{(Wi)(VPi) / MWi}{\frac{Ww}{MWw} + \frac{We}{MWe} + \sum_{i=1}^{n} \frac{Wi}{MWi}}$$

Where:

Wi = Weight of the "i"th VOC compound, in grams.

Ww = Weight of water, in grams.

We = Weight of exempt compound, in grams.

MWi = Molecular weight of the "i"th VOC compound, in grams per gram-mole.

MWw = Molecular weight of water, in grams per gram-mole.

MWe = Molecular weight of the "e"th exempt compound, in grams per gram-mole.

PPc= VOC composite partial vapor pressure at twenty degrees Celsius (sixty-eight degrees Fahrenheit), in mmHg.

VPi = Vapor pressure of the "i"th VOC compound at twenty degrees Celsius (sixty-eight degrees Fahrenheit), in mmHg.

b. if not diluted prior to use, the owner or operator shall use formulation information provided by the supplier, such as a material safety data sheet (MSDS) or equivalent information from the supplier as long as it is based on results determined in accordance with the procedure under OAC rule 3745-21-22 (F)(5)(a).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-21-22 (F)(5)]

g) Miscellaneous Requirements

(1) None.

3. K008, Press #46

Operations, Property and/or Equipment Description:

Heatset web offset lithographic printing press

K008 - Press 46, a 6-color Harris heatset web lithographic printing press with a 5.46 mmBTU natural gas drying oven and Advantage Energy Group AWS regenerative thermal oxidizer.

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(A)(3) (PTI 13-03611 issued 11/24/99)	Volatile Organic compound (VOC) emissions shall not exceed 4.39 lbs/hr and 19.23 TPY (for inks and additives), and 2.07 lbs/hr and 9.03 TPY (for cleanup). Volatile Organic compound (VOC) emissions shall not exceed 28.3 TPY for total combined. VOC emissions from the dryer shall be reduced by at least 85% overall, with a destruction efficiency of at least 90% in the thermal oxidizer. Particulate emission shall not exceed 0.551 lb/hr and 2.41 TPY. There shall be no visible particulate emissions from the exhaust stack.
b.	OAC rule 3745-21-22(D)(1)(a)	Minimum VOC destruction efficiency of 90% or maintain a maximum VOC outlet concentration of twenty ppmv, as hexane (C_6H_{14}) on a dry on a dry basis, whichever is less stringent.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
c.	OAC rule 3745-21-22(D)(2)(a)	If the fountain solution contains only alcohol substitutes, maintain the as-applied VOC content of the fountain solution at or below 5.0 percent, by weight, and use no alcohol in the fountain solution.
d.	OAC rule 3745-21-22(D)(2)(b)(i) OAC rule 3745-21-22(D)(2)(b)(ii)	If the fountain solution contains alcohol maintain the as-applied VOC content of the fountain solution at or below 1.6 percent, by weight; or maintain the as-applied VOC content of the fountain solution at or below 3.0 percent, by weight, and refrigerate the fountain solution to sixty degrees Fahrenheit or less.
e.	OAC rule 3745-21-22(D)(6)(a) OAC rule 3745-21-22(D)(6)(b)	The permittee shall maintain the as-applied VOC content of cleaning solutions at or below seventy percent (70%), by weight; or maintain the as-applied VOC composite partial vapor pressure at or below ten mm Hg at twenty degrees Celsius (sixty-eight degrees Fahrenheit). See b)(2)a. below.
f.	40 CFR Part 64 Compliance Assurance Monitoring (CAM)	See d)(12), and e)(1) below.

(2) Additional Terms and Conditions

a. The use of cleaning solutions not meeting the specifications of paragraphs (D)(6)(a) and (D)(6)(b) of this rule is permitted provided that the quantity used does not exceed one hundred ten gallons over any consecutive twelvemonth period.

b. All of the VOC emissions from the dryer on this emissions unit shall be vented to the thermal oxidizer that shall meet the operational, monitoring, and record keeping requirements of this permit, when the emissions unit is in operation.

c) Operational Restrictions

(1) The permittee shall maintain the dryer air pressure lower than the press room air pressure at all times the press is operating.

[Authority for term: OAC rule 3745-21-22(D)(1)]

(2) The permittee shall keep all solvent containers closed at all times unless filling, draining, or performing cleanup operations.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-21-22(D)(7)]

(3) The permittee shall keep all solvent-laden shop towels in closed containers when not being used.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-21-22(D)(8)]

d) Monitoring and/or Recordkeeping Requirements

(1) In order to maintain compliance with the applicable emissions limitations in the permit, the average combustion temperature within the thermal incinerator, for any 3-hour block of time when the emissions unit is in operation, shall not be more than 50 degrees Fahrenheit below 1500° F.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 13-3611]

(2) The permittee shall operate, and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal incinerator at least once every fifteen minutes when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The accuracy for each thermocouple, monitor, and recorder shall be guaranteed by the manufacturer to be within ± 1 percent of the temperature being measured or ± 5 degrees Fahrenheit, whichever is greater. The temperature monitor and recorder shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and the operating manuals, with any modifications deemed necessary by the permittee. The permittee shall collect and calculate the average combustion temperature within the thermal incinerator, for each of the eight 3-hour blocks of time during each day of operation, and shall record and maintain the following information each day:

a. all 3-hour blocks of time, when the emissions unit was in operation, during which the average combustion temperature within the thermal incinerator was more than 50 degrees Fahrenheit below 1500° F; and

b. a log or record of any time when the capture (collection) system, thermal incinerator, and/or monitoring equipment are not in operation when the associated press is in operation.

These records shall be maintained at the facility for a period of five years.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 13-3611; OAC rule 3745-21-22(G)(1)]

(3) Whenever the monitored average combustion temperature within the thermal oxidizer deviates from the range or limit established in accordance with this permit, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:

a. the date and time the deviation began;

b. the magnitude of the deviation at that time;

c. the date the investigation was conducted;

d. the name(s) of the personnel who conducted the investigation; and

e. the findings and recommendations.

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

a. a description of the corrective action;

b. the date corrective action was completed;

c. the date and time the deviation ended;

d. the total period of time (in minutes) during which there was a deviation;

e. the temperature readings immediately after the corrective action was implemented; and

f. the name(s) of the personnel who performed the work.

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

The temperature range/limit is effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the appropriate Ohio EPA District Office or local air agency. The permittee may request revisions to the permitted temperature range/limit based upon information obtained during future performance tests that demonstrate compliance with the allowable emission rate(s) for the controlled pollutant(s). In addition, approved revisions to the temperature range/limit will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of a minor permit modification.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(4) The permittee shall collect and record the following information each month while this emissions unit is in operation:

a. the company identification of each ink/coating, fountain solution, and cleanup material employed in this emissions unit;

b. the number of pounds or gallons of each ink/coating, fountain solution, and clean up material employed;

c. the VOC content of each ink/coating, fountain solution, and clean up material, in pounds per gallon or pounds per pound (weight percent);

d. as an alternative, material usage in gallons or pounds may be added together for groups of similar materials, with the highest VOC content for any material in the group used for emission calculations;

e. for the waste materials taken off-site, the amount of each class of clean up materials, inks, coatings, and fountain solution, from this emissions unit (K008) in gallons or pounds, based on total waste taken off-site allocated per press based on production records;

f. for the waste materials taken off-site, the VOC content of each class of material from this emissions unit (K008) that has the lowest VOC content, in pounds per gallon or pounds per pound, based on total waste taken off-site allocated per press based on production records;

g. the total uncontrolled VOC emission rate for all inks/coatings, fountain solutions, and clean up materials in pounds per month calculated as the summation of [(b * c) – (e * f)] using the retention factors identified in f)(1)e. if applicable;

h. the total controlled VOC emission rate for all inks, fountain solutions and clean up materials, in pounds per day [g * (1 – capture efficiency identified in f)(1)e.ii. if applicable * destruction efficiency from most recent stack test)];

i. the total number of hours the emissions unit was in operation including make-ready, run, and cleanup; and

j. the average hourly VOC emissions, in lbs/hr, (h/i).

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 13-03611]

(5) The permittee, not maintaining a recipe log in accordance with OAC rule 3745-21-22(G)(3)(a), shall collect and record the following information for each batch of fountain solution prepared:

a. the volume and VOC content of each concentrated alcohol substitute, added to make the batch of fountain solution, based upon the manufacturer's laboratory analysis using USEPA Method 24;

b. the volume of alcohol added to make the batch of fountain solution;

c. the volume of water added to make the batch of fountain solution;

d. the calculated VOC content of the final, mixed batch; and

e. the date and time the batch was prepared.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC 3745-21-22(G)(3)(b)]

(6) In lieu of d)(5) above, the permittee may maintain a fountain solution recipe record for its fountain solutions.

a. Prepare and record a fountain solution recipe log. The recipe log shall contain the following information:

i. VOC content of each concentrated alcohol substitute, added to make the batch of fountain solution, based upon the manufacturer's laboratory analysis using USEPA Method 24;

ii. the proportions in which the fountain solution is mixed, including the addition of alcohol and/or water. The proportion may be identified as a volume when preparing a discrete batch or may be identified as the settings when an automatic mixing unit is employed; and

iii. the calculated VOC content of the final, mixed recipe

b. Maintain a record of each batch of fountain solution prepared. The record shall contain the following information:

i. identification of the recipe used to prepare each batch of fountain solution for use in the press;

ii. the date and time when the batch was prepared; and

iii. an affirmation the batch was prepared in accordance with the recipe.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC 3745-21-22(G)(3)(a)]

(7) A fountain solution that is continuously blended with an automatic mixing unit is considered to be the same batch until such time that the recipe or mix ratio is changed.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC 3745-21-22(G)(3)(a)]

(8) If using fountain solutions containing alcohol, the permitee shall measure and record the following:

a. the VOC (alcohol) content of any altered fountain solution, at the time of alteration, in percent by weight. The alcohol content of the fountain solution shall be measured using a hydrometer. The hydrometer shall have a visual, analog, or digital readout with an accuracy of 0.5 percent; and a standard solution shall be used to calibrate the hydrometer for the type of alcohol used in the fountain solution; and

b. shall record, on a daily basis, the temperature, in degrees Fahrenheit, of the fountain solution, if the fountain solution is required to be refrigerated.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-21-22(G)(2)]

(9) If the permittee dilutes its cleaning materials to meet the requirements of OAC rule 3745-21-22(D)(6)(a) or 3745-21-22(D)(6)(b), the permittee shall keep records of cleaning solution concentrate and volume of water added and determine the VOC content or VOC composite partial vapor pressure and the date and time the batch was prepared.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-21-22(G)(4)(b)]]

(10) In lieu of d)(9) above, the permittee may alternatively maintain and prepare a recipe log for each batch of cleaning material prepared.

a. Each recipe log shall contain the following information:

i. the volume of water and volume of cleaning solution concentrate added;

ii. VOC content of each cleaning material, based upon the manufacturer's laboratory analysis using USEPA Method 24; or

iii. the VOC composite partial vapor pressure of each cleaning solution.

b. Maintain a record of each batch of cleaning material prepared. The record shall contain the following information:

i. identification of the recipe used to prepare each batch of cleaning material;

ii. the date and time when the batch was prepared; and.

iii. an affirmation the batch was prepared in accordance with the recipe.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-21-22(G)(4)(a)]

(11) The permittee shall record and maintain the following records each month:

a. the quantity, in gallons, of each cleaning solution used;

b. the quantity, in gallons, of each cleaning solution not meeting the allowable limitations per 3745-21-22(D)(6)(a) or 3745-21-22(D)(6)(b); and

c. a rolling, 12-month total, in gallons, of d)(11)b..

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-21-22(G)(5)]

(12) The CAM plan for this emissions unit has been developed for VOC emissions. The CAM performance indicators for VOC emissions are the RTO temperature monitoring and record keeping, inspection of internal and external integrity of oxidizer and emissions test program for the emissions unit and its control equipment.

The CAM performance indicator device to continuously monitor the combustion temperature within the regenerative thermal oxidizer when the emissions unit is in operation is specified in d)(2). When the monitoring requirements are outside of any parameters specified in d)(2), corrective action (including, but not limited to, an evaluation of the emissions unit and the control device) will be required.

Upon detecting an excursion of any of the VOC emission indicator parameters listed above, the owner or operator shall restore operation of the emissions unit (including the control devices) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion. Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as thorough response by the computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator range.

If a determination is made by the Administrator or Ohio EPA that the permittee has not used acceptable procedures in response to an excursion or exceedance based on the results of a determination made under 40 CFR Part 64.7(d)(2), the permittee may be required to develop a Quality Improvement Plan (QIP) consistent with the requirements of 40 CFR Part 64.8.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

e) Reporting Requirements

(1) The permittee shall submit quarterly summaries that identify:

a. all 3 hour blocks of time, when the emissions unit was in operation, during which the average combustion temperature within the thermal incinerator was more than 50 degrees Fahrenheit below 1500° F;

b. any records of downtime for the capture (collection) system, the thermal incinerator, and/or the monitoring equipment when the emissions unit was in operation;

c. an identification of each incident of deviation described in (a) and (b) above where a prompt investigation was not conducted;

d. an identification of each incident of deviation described in (a) and (b) above where prompt corrective action, that would bring the field into compliance with the acceptable ranges and operation, was determined to be necessary and was not taken; and

e. an identification of each incident of deviation described in (a) and (b) above where proper records were not maintained for the investigation and /or the corrective action.

f. these quarterly reports shall be submitted (i.e., postmarked) by January 31, April 30, July 31 and October 31 of each year; and each report shall cover the previous calendar quarter.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI13-3611; OAC rule 3745-21-22(H)(5)]

(2) The permittee shall notify the director/ the Cleveland Division of Air Quality (CDAQ) of any of the following exceedances of applicable requirements. Each notification shall be submitted to the director/CDAQ within forty-five days after the instance occurs, and it shall include a copy of the record showing the instance.

a. if determining alcohol content via hydrometer measurement, each hydrometer measurement that shows an exceedance of the applicable alcohol content limitation specified in VOC rule 3745-21-22(D)(2)(b);

b. if complying via refrigerated fountain solution, each temperature reading that shows an exceedance of the temperature limitation specified in VOC rule 3745-21-22(D)(2)(b)(ii);

c. each calculated VOC content that exceeds the VOC content limitation specified in OAC rule 3745-21-22(D)(2)(b); and

d. each instance when an exceedance of the VOC content or VOC composite partial vapor pressure specified in condition (e)(6) of this rule for cleaning solutions occurs.

[Authority for term: OAC rule 3745-77-07(C)(1), OAC rule 3745-21-22(H)(1) through (H)(4)]

(3) The permittee shall submit to the CDAQ an annual emissions report including the annual VOC emissions for this emissions unit. This report shall be submitted by April 15 of each calendar year. This requirement can be achieved through submittal of the annual Fee Emission Report.

[Authority for term: OAC rule 3745-77-07(C)(1)]

f) Testing Requirements

(1) If required compliance with the emission limitation(s) in section b)(1) of these terms and conditions shall be determined in accordance with the following method(s):

a. <u>Emission Limitation:</u>

VOC emissions shall not exceed 4.39 lbs/hr (for inks/coatings and fountain solutions).

<u>Applicable Compliance Method:</u>

Compliance shall be demonstrated based upon the record keeping requirements specified in d)(4).

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 25 or 25A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 13-3611]

b. Emission Limitation:

VOC emissions shall not exceed 19.23 TPY (for inks/coatings and fountain solutions).

Applicable Compliance Method:

Compliance shall be determined by summing the monthly VOC emissions determined in d)(4) and dividing by 2000 lbs/ton.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-21-22(I)(1)(a) and (c); OAC rule 3745-21-22(I)(2)(a), (b) and (c); PTI 13-03611]

c. Emission Limitation:

VOC emissions shall not exceed 2.07 lbs/hr (for cleanup)

Applicable Compliance Method:

Compliance shall be demonstrated based upon the record keeping requirements specified in section d)(4).

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 25 or 25A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 13-3611]

d. Emission Limitation:

VOC emissions shall not exceed 9.07 TPY (for cleanup)

Applicable Compliance Method:

Compliance shall be determined by summing the monthly VOC emissions determined in d)(4) and dividing by 2000 lbs/ton.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-21-22(I)(1)(a) and (b); OAC rule 3745-21-22(I)(2)(a), (b) and (c); PTI 13-03611]

e. Emission Limitation:

VOC emissions shall not exceed 28.30 TPY (total combined)

Applicable Compliance Method:

Compliance shall be determined by summing the monthly VOC emissions determined in d)(4) for inks/coatings, fountain solution, and cleanup, and dividing by 2000 lbs/ton.

Retention factors and capture efficiencies:

For purposes of determining VOC emissions from the offset lithographic printing operations, the following retention factors and capture efficiencies shall be used:

i. A portion of the VOC contained in inks and cleaning solution is retained in the printed web or in the shop towels used for cleaning. The following retention factors shall be used:

(a) A twenty percent VOC retention factor shall be used for heatset inks printed on absorptive substrates, meaning eighty percent of the VOC in the ink is emitted during the printing process and is available for capture and control by an add-on pollution control device;

(b) A fifty percent VOC retention factor shall be used for cleaning solution VOC in shop towels for cleaning solutions with a VOC composite vapor pressure of no more than ten mmHg at twenty degrees Celsius (sixty-eight degrees Fahrenheit) if the contaminated shop towels are kept in closed containers, meaning fifty percent of the VOC used on the shop towels is emitted during the cleaning process.

ii. A portion of the VOC contained in inks, fountain solutions, and automatic blanket washes on heatset web presses is captured in the press dryer for control by add-on pollution control devices. The following capture efficiencies are to be used:

(a) A one hundred percent VOC carry over efficiency shall be used for inks. All the VOC in the ink that is not retained is assumed to be volatilized in the press dryer. Capture efficiency testing for heatset dryers is not required if it is demonstrated that pressure in the dryer is negative relative to the surrounding press room and the airflow is into the dryer;

(b) A seventy percent VOC carry over efficiency shall be used for fountain solutions containing alcohol substitutes; and

(c) A forty percent VOC carry over efficiency shall to be used for automatic blanket wash solutions with a VOC composite vapor pressure of no more than ten mmHg at twenty degrees Celsius (sixty-eight degrees Fahrenheit).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-21-22(I)(1)(a) and (c); OAC rule 3745-21-22(I)(2)(a), (b) and (c);PTI 13-03611]

f. Emission Limitation:

VOC emissions from the dryer shall be reduced by at least 85% overall, with a destruction efficiency of at least 90% in the thermal oxidizer.

Applicable Compliance Method:

Compliance shall be determined in accordance with the testing requirements specified in f)(2), f)(3), f)(4), f)(5), f)(6), f)(7) and f)(9).

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 13-03611]

g. Emission Limitation

Maintain minimum VOC destruction efficiency of 90% or maintain a maximum VOC outlet concentration of 20 ppmv, as hexane, on a dry basis, whichever is less stringent.

Applicable Compliance Method:

Compliance shall be determined in accordance with the testing requirements specified in f)(2), (3), (4), (5), (6), (7) and (9) below.

[Authority for term: OAC rule 3745-77-07(C)(1)]

h. Emission Limitation:

There shall be no visible particulate emissions from the exhaust stack.

Applicable Compliance Method:

Compliance shall be demonstrated by performing visible emission evaluations in accordance with OAC rule 3745-17-03(B)(1) using the methods and procedures specified in U.S. EPA Reference Method 22.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 13-3611]

i. Emission Limitation:

PE shall not exceed 0.551 lb/hr and 2.41 TPY.

Applicable Compliance Method:

The TPY emission limitation was developed by multiplying the maximum hourly gas burning capacity of the oven (5460 cu ft/hr) from the U.S. EPA reference document AP-42, Table 1.4-2 emission factor for PM/PM10 (1.9 lbs/mmcf) and dividing by the maximum hourly heat input capacity of the emissions unit (5.46 mm BTU/hr).

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1-5

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 13-3611]

(2) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. The emissions testing shall be conducted approximately 12 months after permit issuance and within 6 months prior to permit expiration.

b. The emissions testing shall be conducted to demonstrate compliance with the overall control and destruction efficiency limitations of the dryer and oxidizer for organic compounds.

overall control efficiency of the dryer and oxidizer = CE x DE

Where:

CE = capture efficiency of the dryer, which is equal to 100% when airflow into the dryer is demonstrated to be negative per f) (4)

DE = destruction efficiency determined during the most recent stack test

c. The following test method shall be employed to demonstrate compliance with the overall control and destruction efficiency limitation:

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 U.S. EPA'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.) Methods approved in f)(4), including airflow direction indicators such as smoke sticks, aluminum ribbons, and differential pressure gauges are acceptable alternative methods and do not require a separate approval from the Ohio EPA.

The destruction efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) shall be determined in accordance with the test methods and procedures specified in OAC rule 3745-21-10(C). 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.

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

d. The tests shall be conducted while the emissions unit is operating as normal representative capacity, unless otherwise specified or approved by the CDAQ.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the CDAQ. 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 CDAQ's refusal to accept the results of the emission test(s).

f. Personnel from the CDAQ 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.

g. 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 CDAQ within 30 days following completion of the test(s).

[Authority for term: OAC rule 3745-77-07(C)(1)]

(3) For the purpose of demonstrating compliance with the emission control requirements paragraph OAC 3745-21-22(D)(1) of this rule, the affected source shall be run at typical operating conditions and flow rates compatible with scheduled production during any emission testing.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-21-22(F)(1)(a)]

(4) The negative dryer pressure shall be established during the initial test using an airflow direction indicator, such as a smoke stick or aluminum ribbons, or differential pressure gauge. Capture efficiency and continuous dryer airflow monitoring is not required.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-21-22(F)(1)(b)]

(5) The following USEPA test methods (in 40 CFR Part 60, Appendix A) shall be used to demonstrate compliance with the applicable emission control requirement in paragraph (D)(1) of rule 3745-21-22:

a. USEPA Method 1 or 1A, as appropriate, shall be used to select the sampling sites.

b. USEPA Method 2, 2A, 2C, or 2D, as appropriate, shall be used to determine the velocity and volumetric flow rate of the exhaust stream.

c. USEPA Method 3 or 3A, as appropriate, shall be used to determine the concentration of O_2 and CO_2.

d. USEPA Method 4 shall be used to determine moisture content.

e. USEPA Method 18, 25, or 25A shall be used to determine the VOC concentration of the exhaust stream entering and exiting the control device, unless the alternate limit of twenty ppmv as specified in paragraphs (D)(1)(a) and (D)(1)(b) of this rule is being met, in which case only the VOC concentration of the exit exhaust shall be determined. In cases where the anticipated outlet VOC concentration of the control device is less than fifty ppmv as carbon, USEPA Method 25A shall be used.

i. if the average concentrations in the outlet of a thermal or catalytic oxidizer measured by USEPA Method 25A are found to be greater than fifty ppmv as carbon, USEPA Method 18 or 25 may be used to determine non-VOC components (methane and ethane) to correct the outlet VOC readings, unless the director determines that the uncorrected USEPA Method 25A results are acceptable.

ii. a compliance test shall consist of up to three separate runs, each lasting a minimum of sixty minutes, unless the director determines that process variables dictate shorter sampling times.

iii. USEPA Method 25 specifies a minimum probe temperature of two hundred sixty-five degrees Fahrenheit. To prevent condensation, the probe should be heated to at least the gas stream temperature, typically close to three hundred fifty degrees Fahrenheit.

iv. USEPA Method 25A specifies a minimum temperature of two hundred twenty degrees Fahrenheit for the sampling components leading to the analyzer. To prevent condensation when testing heatset web offset presses, the sampling components and flame ionization detector block should be heated to at least the gas stream temperature, typically close to three hundred fifty degrees Fahrenheit.

v. the use of an adaptation to any of the analytical methods specified above shall be approved by the director and USEPA on a case-by-case basis. The owner or operator shall submit sufficient documentation for the director and USEPA to find that the analytical methods specified above will yield inaccurate results and that the proposed adaptation is appropriate.

[Authority for term: OAC rule 3745-77-07(C)(1); 3745-21-22(F)(1)(c)]

(6) U.S. EPA Method 24 (40 CFR Part 60, Appendix A) shall be used to determine the VOC contents of the inks and coatings. If an owner or operator determines that Method 24 cannot be used for a particular ink/coating, the permittee shall so notify the administrator of the U.S. EPA and shall use formulation data for that ink/coating to demonstrate compliance until the U.S. EPA provides alternative analytical procedures or alternative precision statements for Method 24.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-21-04(B)(5)]

(7) Compliance with the VOC content of the as-applied fountain solution shall be determined by one of the methods in f)(6)a. to f(6)c. except when f)(6)d. is applicable:

a. USEPA Method 24 shall be used to determine the VOC content of the as applied fountain solution;

b. if diluted prior to use, a calculation shall be performed for VOC content that combines USEPA Method 24 analytical data for the concentrated materials used to prepare the as-applied fountain solution and the proportions in which they are mixed to make the as-applied fountain solution. The analysis of the concentrated material(s) may be performed by the supplier(s) of those material(s). The analytical data may be derived from a material safety data sheet (MSDS) or equivalent information from the supplier as long as it is based on USEPA Method 24 results; or

c. if not diluted prior to use, the owner or operator shall use formulation information provided by the supplier, such as a MSDS sheet or equivalent information from the supplier. In the event of a dispute between information provided by the supplier and data obtained by USEPA Method 24, the data obtained by USEPA Method 24 shall be employed;

d. for any offset lithographic printing press that is subject to the requirements of OAC rule 3745-21-22 (D)(2)(b) or (D)(3)(b) of this rule, when adding alcohol to a fountain solution batch previously tested in accordance with one of the compliance test methods contained in f)(6)a. to f(6)c., in lieu of the methods in f)(6)a. to f(6)c., the owner or operator shall determine the VOC (alcohol) content of the altered fountain solution using a hydrometer.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-21-22(F)(2)]

(8) For any offset lithographic printing press that is subject to the fountain solution temperature requirements of paragraph (D)(2)(b)(ii) or (D)(3)(b)(ii) of OAC rule 3745-21-22, a thermometer or other temperature detection device capable of reading to 0.5 degrees Fahrenheit shall be used to ensure that any refrigerated fountain solution reservoirs are maintained at or below sixty degrees Fahrenheit at all times.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-21-22(F)(3)]

(9) For any offset lithographic or letterpress printing press that is subject to the requirements of OAC rule 3745-21-22, paragraph (D)(6)(a), the VOC content of cleaning solutions shall be determined by one of the following methods:

a. USEPA Method 24 shall be used to determine the VOC content of the cleaning solution;

b. if diluted prior to use, a calculation shall be performed for VOC content that combines USEPA Method 24 analytical data for the concentrated materials used to prepare the cleaning solution and the proportions in which they are mixed to make the as-applied cleaning solution. The analysis of the concentrated material(s) may be performed by the supplier(s) of those material(s). The

analytical data may be derived from a material safety data sheet (MSDS) or equivalent information from the supplier as long as it is based on USEPA Method 24 results; or

c. if not diluted prior to use, the owner or operator shall use formulation information provided by the supplier, such as MSDS sheet or equivalent information from the supplier. In the event of a dispute between information provided by the supplier and data obtained by USEPA Method 24, the data obtained by USEPA Method 24 shall be employed.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-21-22(F)(4)]

(10) The VOC composite partial vapor pressure of cleaning solutions shall be determined by one of the following methods:

a. if diluted prior to use, calculate the VOC composite vapor pressure of the as applied solvent by using the formula for "VOC composite vapor pressure" as follows:

i. determine the identity and quantity of each compound in a blended organic solvent by using ASTM D2306, or by using ASTM E260 for organics and ASTM D3792 for water content, if applicable, or the manufacturer's product formulation data.

ii. determine the vapor pressure of each pure VOC component by using ASTM D2879 or publications such as "Perry's Chemical Engineer's Handbook, CRC Handbook of Chemistry and Physics, or Lange's Handbook of Chemistry."

iii. calculate the VOC composite partial pressure of the solvent by using the formula for "VOC composite partial pressure." For the purpose of this calculation, the blended solvent shall be assumed to be an ideal solution where "Raoult's Law" applies. The partial vapor pressures of each compound at twenty degrees Celsius (sixty-eight degrees Fahrenheit) shall be used in the formula. The VOC composite partial pressure shall be calculated as follows:

$$PPc = \sum_{i=1}^{n} \frac{(Wi)(VPi)\ /\ MWi}{\frac{Ww}{MWw} + \frac{We}{MWe} + \sum_{i=1}^{n} \frac{Wi}{MWi}}$$

Where:

W_i = Weight of the "i"th VOC compound, in grams.

W_w = Weight of water, in grams.

W_e = Weight of exempt compound, in grams.

MW_i = Molecular weight of the "i"th VOC compound, in grams per gram-mole.

MW_w = Molecular weight of water, in grams per gram-mole.

MW_e = Molecular weight of the "e"th exempt compound, in grams per gram-mole.

PP_c = VOC composite partial vapor pressure at twenty degrees Celsius (sixty-eight degrees Fahrenheit), in mmHg.

VPi = Vapor pressure of the "i"th VOC compound at twenty degrees Celsius (sixty-eight degrees Fahrenheit), in mmHg.

b. if not diluted prior to use, the owner or operator shall use formulation information provided by the supplier, such as a material safety data sheet (MSDS) or equivalent information from the supplier as long as it is based on results determined in accordance with the procedure under paragraph OAC rule 3745-21-22 (F)(5)(a).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-21-22(F)(5)]

g) Miscellaneous Requirements

(1) None.

4. K009, Press #465

Operations, Property and/or Equipment Description:

6-color Man Roland sheetfed offset lithographic printing press

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(A)(3) (PTI 13-03992 issued 10/8/02)	Volatile organic compound (VOC) emissions shall not exceed 1.53 lbs/hour, 36.72 lbs/day, and 6.7 tons per year (TPY) for all inks, coatings, and clean up materials.
b.	OAC rule 3745-21-22(D)(3)(a)	If the fountain solution contains only alcohol substitutes, the permittee shall maintain the as-applied VOC content of the fountain solution at or below 5.0 percent by weight.
c.	OAC rule 3745-21-22(D)(3)(b)(i) OAC rule 3745-21-22(D)(3)(b)(ii)	If the fountain solution contains alcohol, the permittee shall maintain the as-applied VOC content of the fountain solution at or below 5.0 percent, by weight; or if the fountain solution contains alcohol, maintain the as-applied VOC content of the fountain solution at or below 8.5 percent, by weight, and refrigerate the fountain solution to sixty degrees Fahrenheit or less.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
d.	OAC rule 3745-21-22(D)(6)(a) OAC rule 3745-21-22(D)(6)(b)	The permittee shall maintain the as-applied VOC content of cleaning solutions at or below seventy percent (70%), by weight; or the permittee shall maintain the as-applied VOC composite partial vapor pressure at or below ten mm Hg at twenty degrees Celsius (sixty-eight degrees Fahrenheit). See b)(2)a. below.

(2) Additional Terms and Conditions

a. The permittee can use cleaning solutions that do not meet the requirements of OAC rule 3745-21-22 (D)(6)(a) and (D)(6)(b) provided that the quantity used does not exceed one hundred ten gallons over any consecutive twelve-month period.

[Authority for term: OAC rule 3745-77-07(C)(1)]

c) Operational Restrictions

(1) The permittee shall keep all solvent containers closed at all times unless filling, draining, or performing cleanup operations.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-21-22(D)(7)]

(2) The permittee shall keep all solvent-laden shop towels in closed containers when not being used.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-21-22(D)(8)]]

d) Monitoring and/or Recordkeeping Requirements

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

a. the name and identification number of each ink/coating, fountain solution, and clean up material employed;

b. the VOC content of each ink/coating, fountain solution, and clean up material, in pounds per gallon or pounds per pound (weight percent), as employed;

c. the amount, in gallons or pounds, of each ink/coating, fountain solution, and clean up material employed;

d. as an alternative, material usage in gallons or pounds may be added together for groups of similar materials, with the highest VOC content for any material in the group used for emission calculations;

e. for the waste materials taken off-site, the amount of each class of clean up materials, inks, coatings, and fountain solution, from this emissions unit (K009) in gallons or pounds, based on total waste taken off-site allocated per press based on production records;

f. for the waste materials taken off-site, the VOC content of each class of material from this emissions unit (K009) that has the lowest VOC content, in pounds per gallon or pounds per pound, based on total waste taken off-site allocated per press based on production records;

g. the total VOC emissions from all inks/coatings, fountain solutions, and clean up materials, in pounds per month, calculated as the summation of [(b * c) – (e * f)] for all inks/coatings, fountain solutions, and clean up materials using the retention factor identified in f)(1)b. if applicable;

h. the actual press run, make-ready, and clean up hours for the emissions unit per month;

i. the average hourly VOC emissions, in pounds per hour, calculated as (g/h);

j. number of days of operation per month; and

k. the average daily VOC emission rate, in pounds per day, calculated as (g/j).

[Note: The coating information must be for the coatings as employed, including any thinning solvents added at the emissions unit.]

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 13-03922]

(2) The permittee, not maintaining a recipe log in accordance with paragraph (G)(3)(a) of the OAC rule 3745-21-22, shall collect and record the following information for each batch of fountain solution prepared:

a. the volume and VOC content of each concentrated alcohol substitute, added to make the batch of fountain solution, based upon the manufacturer's laboratory analysis using USEPA Method 24;

b. the volume of alcohol added to make the batch of fountain solution;

c. the volume of water added to make the batch of fountain solution;

d. the calculated VOC content of the final, mixed batch; and

e. the date and time the batch was prepared.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-21-22(G)(3)(b)]

(3) In lieu of d)(2) above, the permittee may maintain the following records for its fountain solutions:

a. a recipe log for each fountain solution. The recipe log shall contain the following information:

i. VOC content of each concentrated alcohol substitute, added to make the batch of fountain solution, based upon the manufacturer's laboratory analysis using USEPA Method 24;

ii. the proportions in which the fountain solution is mixed, including the addition of alcohol and/or water. The proportion may be identified as a volume when preparing a discrete batch or may be identified as the settings when an automatic mixing unit is employed; and

iii. the calculated VOC content of the final, mixed recipe.

b. A record of each batch of fountain solution prepared. The record shall contain the following information:

i. identification of the recipe used to prepare each batch of fountain solution for use in the press;

ii. the date and time when the batch was prepared; and

iii. an affirmation the batch was prepared in accordance with the recipe.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-21-22(G)(3)(a)]

(4) A fountain solution that is continuously blended with an automatic mixing unit is considered to be the same batch until such time that the recipe or mix ratio is changed.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-21-22(G)(3)]

(5) If using fountain solutions containing alcohol, the permittee shall measure and record the following:

a. the VOC (alcohol) content of any altered fountain solution, at the time of alteration, in percent by weight. The alcohol content of the fountain solution shall be measured using a hydrometer. The hydrometer shall have a visual, analog, or digital readout with an accuracy of 0.5 percent; and a standard solution shall be used to calibrate the hydrometer for the type of alcohol used in the fountain solution; and

b. on a daily basis, the temperature, in degrees Fahrenheit, of the fountain solution, if the fountain solution is required to be refrigerated.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-21-22(G)(2)]

(6) If the permittee dilutes its cleaning materials to meet the requirements of OAC rule 3745-21-22(D)(6)(a) or 3745-21-22(D)(6)(b), the permittee shall keep records of the volume of cleaning solution concentrate and volume of water added and determine the VOC

content or VOC composite partial vapor pressure and the date and time the batch was prepared.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-21-22(G)(4)(b)]

(7) In lieu of d)(6) above, the permittee may maintain the following records for its cleaning materials:

a. Each recipe log shall contain the following information::

i. the volume of water and volume of cleaning solution concentrate added;

ii. VOC content of each cleaning material, based upon the manufacturer's laboratory analysis using USEPA Method 24; or

iii. the VOC composite partial vapor pressure of each cleaning solution.

b. Maintain a record of each batch of cleaning material prepared. The record shall contain the following information:

i. identification of the recipe used to prepare each batch of cleaning material;

ii. the date and time when the batch was prepared; and

iii. an affirmation the batch was prepared in accordance with the recipe.

[Authority for term: OAC rule 3745-77-07(C)(1), OAC rule 3745-21-22(G)(4)(a)]

(8) The permittee shall record and maintain the following records each month:

a. the quantity, in gallons, of each cleaning solution used;

b. the quantity, in gallons, of each cleaning material not meeting the allowable limitations per 3745-21-22(D)(6)(a) or 3745-21-22(D)(6)(b); and

c. a rolling, 12-month total, in gallons, of d)(8)b.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-21-22(G)(5)]

(9) 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 permit-to-install (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.

[Authority for term: ORC 3704.03(F)(3)(c) and F(4)]

e) Reporting Requirements

(1) The permittee shall submit deviation (excursion) reports which include the following information:

a. an identification of each day during which the hourly VOC emissions from the inks, coatings and clean up materials exceeded 1.53 lbs/hr, and the actual VOC emissions for each such day;

b. an identification of each day during which the VOC emissions from the inks, coatings and clean up materials exceeded 36.72 lbs/day, and the actual VOC emissions for each such day;

c. these deviation (excursion) reports shall describe any corrective actions taken to prevent the reoccurrence.

These reports shall be submitted to the Cleveland Division of Air Quality (CDAQ) within 45 days after the exceedance occurs.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 13-03992]

(2) The permittee shall submit to the CDAQ an annual emissions report including the annual VOC emissions for the emissions unit. This report shall be submitted no later than April 15 following the previous calendar year. This requirement can be achieved through submittal of the annual Fee Emission Report.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 13-03992]

(3) The permittee shall notify the director/ the Cleveland Division of Air Quality (CDAQ) of any of the following exceedances of applicable requirements. Each notification shall be submitted to the CDAQ within forty-five days after the exceedance occurs, and it shall include a copy of the record showing the exceedance:

a. if determining alcohol content via hydrometer measurement, each hydrometer measurement that shows an exceedance of the applicable alcohol content limitation specified in paragraph (D)(2)(a), (D)(2)(b), (D)(3)(a), or (D)(3)(b) of OAC rule 3745-21-22;.

b. if complying via refrigerated fountain solution, each temperature reading that shows an exceedance of the temperature limitation specified in paragraph (D)(2)(b) or (D)(3)(b) of OAC rule 3745-21-22;

c. each calculated VOC content that exceeds the VOC content limitation specified in paragraph (D)(2)(b), (D)(3)(b), or (D)(4) of OAC rule 3745-21-22; and.

d. each instance when an exceedance of the VOC content or VOC composite partial vapor pressure specified in paragraph (D)(6) of OAC rule 3745-21-22 for cleaning solutions occurs.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-21-22(H)(1)-(4)]

f) Testing Requirements

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

a. Emission Limitation:

VOC emissions shall not exceed 1.53 lbs/hr.

Applicable Compliance Method:

Compliance shall be determined based upon record keeping specified in d)(1) above.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 13-03992]

b. Emission Limitation:

VOC emissions shall not exceed 36.72 lbs/day.

Applicable Compliance Method:

Compliance shall be determined based upon record keeping specified in d)(1) by dividing the total monthly VOC emissions by the number of days the emissions unit was in operation during each month.

For purposes of determining VOC emissions from offset lithographic printing operations, the following retention factors and capture efficiencies shall be used:

i. A portion of the VOC contained in inks and cleaning solution is retained in the printed substrate or in the shop towels used for cleaning. The following retention factors shall be used:

(a) A ninety-five percent VOC retention factor shall be used for sheet-fed and non-heatset substrate inks and varnishes printed on absorptive substrates, meaning five percent of the VOC in the ink is emitted during the printing process.

(b) A fifty percent VOC retention factor shall be used for cleaning solution VOC in shop towels for cleaning solutions with a VOC composite vapor pressure of no more than ten mmHg at twenty degrees Celsius (sixty-eight degrees Fahrenheit) if the contaminated shop towels are kept in closed containers, meaning fifty percent of the VOC used on the shop towels is emitted during the cleaning process.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-21-22(I)(1)(b) and (c)]

c. Emission Limitation:

VOC emissions shall not exceed 6.7 TPY.

Applicable Compliance Method:

Compliance shall be determined based upon the monthly record keeping specified in d)(1)by summing the total monthly emissions and dividing by 2000 pounds/ton, in order to document the total annual VOC emissions in tons, to be reported at the end of each year as required in e)(2).

[Authority for term: OAC rule 3745-77-07(C)(1)]

(2) U.S. EPA Method 24 (40 CFR Part 60, Appendix A) shall be used to determine the VOC contents of the inks/coatings. If an owner or operator determines that Method 24 cannot be used for a particular ink/coating, the permittee shall so notify the administrator of the U.S. EPA and shall use formulation data for that coating to demonstrate compliance until the U.S. EPA provides alternative analytical procedures or alternative precision statements for Method 24.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-21-04(B)(5)]

(3) For any offset lithographic printing press that is subject to the requirements of paragraph (D)(2), (D)(3), or (D)(4) of OAC rule 3745-21-22, compliance with the VOC content of the as-applied fountain solution shall be determined by one of the methods in f)(3)a. to f)(3)c. except when paragraph f)(3)d. is applicable:

a. USEPA Method 24 shall be used to determine the VOC content of the as applied fountain solution;

b. if diluted prior to use, a calculation shall be performed for VOC content that combines USEPA Method 24 analytical data for the concentrated materials used to prepare the as-applied fountain solution and the proportions in which they are mixed to make the as-applied fountain solution. The analysis of the concentrated material(s) may be performed by the supplier(s) of those material(s). The analytical data may be derived from a material safety data sheet (MSDS) or equivalent information from the supplier as long as it is based on USEPA Method 24 results; or

c. if not diluted prior to use, the owner or operator shall use formulation information provided by the supplier, such as a MSDS sheet or equivalent information from the supplier. In the event of a dispute between information provided by the supplier and data obtained by USEPA Method 24, the data obtained by USEPA Method 24 shall be employed.

d. for any offset lithographic printing press that is subject to the requirements of paragraph (D)(2)(b) or (D)(3)(b) of this rule, when adding alcohol to a fountain solution batch previously tested in accordance with one of the compliance test methods contained in f)(3)a. to f)(3)c., in lieu of the methods in f)(3)a. to f)(3)c.,

the owner or operator shall determine the VOC (alcohol) content of the altered fountain solution using a hydrometer.

[Authority for term: OAC rule 3745-77-07(C)(1), OAC rule 3745-21-22(F)(2)]

(4) For any offset lithographic printing press that is subject to the fountain solution temperature requirements of paragraph (D)(2)(b)(ii) or (D)(3)(b)(ii) of OAC rule 3745-21-22, a thermometer or other temperature detection device capable of reading to 0.5 degrees Fahrenheit shall be used to ensure that any refrigerated fountain solution reservoirs are maintained at or below sixty degrees Fahrenheit at all times.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-21-22(F)(3)]

(5) For any offset lithographic or letterpress printing press that is subject to the requirements of paragraph (D)(6)(a) of OAC rule 3745-21-22, the VOC content of cleaning solutions shall be determined by one of the following methods:

a. USEPA Method 24 shall be used to determine the VOC content of the cleaning solution;

b. if diluted prior to use, a calculation shall be performed for VOC content that combines USEPA Method 24 analytical data for the concentrated materials used to prepare the cleaning solution and the proportions in which they are mixed to make the as-applied cleaning solution. The analysis of the concentrated material(s) may be performed by the supplier(s) of those material(s). The analytical data may be derived from a material safety data sheet (MSDS) or equivalent information from the supplier as long as it is based on USEPA Method 24 results; or

c. if not diluted prior to use, the owner or operator shall use formulation information provided by the supplier, such as MSDS sheet or equivalent information from the supplier. In the event of a dispute between information provided by the supplier and data obtained by USEPA Method 24, the data obtained by USEPA Method 24 shall be employed.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-21-22(F)(4)]

(6) The VOC composite partial vapor pressure of cleaning solutions shall be determined by one of the following methods (being subject to the requirements of OAC rule 3745-21-22 (D)(6)(b)):

a. if diluted prior to use, calculate the VOC composite vapor pressure of the as applied solvent by using the formula for "VOC composite vapor pressure" as follows:

i. determine the identity and quantity of each compound in a blended organic solvent by using ASTM D2306, or by using ASTM E260 for organics and ASTM D3792 for water content, if applicable, or the manufacturer's product formulation data.

ii. determine the vapor pressure of each pure VOC component by using ASTM D2879 or publications such as "Perry's Chemical Engineer's Handbook, CRC Handbook of Chemistry and Physics, or Lange's Handbook of Chemistry."

iii. calculate the VOC composite partial pressure of the solvent by using the formula for "VOC composite partial pressure." For the purpose of this calculation, the blended solvent shall be assumed to be an ideal solution where "Raoult's Law" applies. The partial vapor pressures of each compound at twenty degrees Celsius (sixty-eight degrees Fahrenheit) shall be used in the formula. The VOC composite partial pressure shall be calculated as follows:

$$PPc = \sum_{i=1}^{n} \frac{(Wi)(VPi) / MWi}{\frac{Ww}{MWw} + \frac{We}{MWe} + \sum_{i=1}^{n} \frac{Wi}{MWi}}$$

Where:

Wi = Weight of the "i"th VOC compound, in grams.

Ww = Weight of water, in grams.

We = Weight of exempt compound, in grams.

MWi = Molecular weight of the "i"th VOC compound, in grams per gram-mole.

MWw = Molecular weight of water, in grams per gram-mole.

MWe = Molecular weight of the "e"th exempt compound, in grams per gram-mole.

PPc= VOC composite partial vapor pressure at twenty degrees Celsius (sixty-eight degrees Fahrenheit), in mmHg.

VPi = Vapor pressure of the "i"th VOC compound at twenty degrees Celsius (sixty-eight degrees Fahrenheit), in mmHg.

b. if not diluted prior to use, the owner or operator shall use formulation information provided by the supplier, such as a material safety data sheet (MSDS) or equivalent information from the supplier as long as it is based on results determined in accordance with the procedure under OAC rule 3745-21-22 (F)(5)(a).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-21-22 (F)(5)]

g) Miscellaneous Requirements

(1) Pursuant to OAC Rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping, and testing requirements are as stringent as or more stringent than the monitoring and record keeping, and testing requirements contained in Permit to Install #13-03992, issued on 10/8/2002: d)(1) and f)(1). The monitoring and record keeping, and testing requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping, and testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping, and testing requirements in the Permit to Install.

5. K010, Press #408

Operations, Property and/or Equipment Description:

Press 408, 8-color sheetfed offset lithographic printing press

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(A)(3) (PTI 13-04500 issued 3/22/05)	Volatile organic compound (VOC) emissions for this emissions unit shall not exceed, 45.7 lbs/day, and 8.33 tons per year (TPY) for all inks, coatings, and clean up materials.
b.	OAC rule 3745-21-22(D)(3)(a)	If the fountain solution contains only alcohol substitutes, maintain the as-applied VOC content of the fountain solution at or below 5.0 percent by weight.
c.	OAC rule 3745-21-22(D)(3)(b)(i) OAC rule 3745-21-22(D)(3)(b)(ii)	If the fountain solution contains alcohol, the permittee shall maintain the as-applied VOC content of the fountain solution at or below 5.0 percent, by weight; or if the fountain solution contains alcohol, the permittee shall maintain the as-applied VOC content of the fountain solution at or below 8.5 percent, by weight, and refrigerate the fountain solution to sixty degrees Fahrenheit or less.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
d.	OAC rule 3745-21-22(D)(6)(a) OAC rule 3745-21-22(D)(6)(b)	The permittee shall maintain the as-applied VOC content of cleaning solutions at or below seventy percent (70%), by weight; or the permittee shall maintain the as-applied VOC composite partial vapor pressure at or below ten mm Hg at twenty degrees Celsius (sixty-eight degrees Fahrenheit). See b)(2)a. below.

(2) Additional Terms and Conditions

a. The permittee can use cleaning solutions that do not meet the requirements of OAC rule 3745-21-22 (D)(6)(a) and (D)(6)(b) provided that the quantity used does not exceed one hundred ten gallons over any consecutive twelve-month period.

c) Operational Restrictions

(1) The permittee shall keep all solvent containers closed at all times unless filling, draining, or performing cleanup operations.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-21-22(D)(7)]

(2) The permittee shall keep all solvent-laden shop towels closed containers when not being used

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-21-22(D)(8)]

d) Monitoring and/or Recordkeeping Requirements

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

a. the name and identification number of each ink/coating, fountain solution, and clean up material employed;

b. the VOC content of each ink/coating, fountain solution, and clean up material, in pounds per gallon or pounds per pound (weight percent), as employed;

c. the amount, in gallons or pounds, of each ink/coating, fountain solution, and clean up material employed;

d. as an alternative, material usage in gallons or pounds may be added together for groups of similar materials, with the highest VOC content for any material in the group used for emission calculations;

e. for the waste materials taken off-site, the amount of each class of clean up materials, inks, coatings, and fountain solution, from this emissions unit (K010) in gallons or pounds, based on total waste taken off-site allocated per press based on production records;

f. for the waste materials taken off-site, the VOC content of each class of material from this emissions unit (K010) that has the lowest VOC content, in pounds per gallon or pounds per pound, based on total waste taken off-site allocated per press based on production records;

g. the total VOC emissions from all inks/coatings, fountain solution, and clean up material, in pounds per month, calculated as the summation of [(b * c) – (e * f)] for all inks/coatings, fountain solution, and clean up materials using the retention factor identified in f)(1)a. if applicable;

h. the total number of days this emissions unit was in operation during the month;

i. the average daily VOC emissions, in pounds per day, calculated as (g/h).

[Note: The coating information must be for the coatings as employed, including any thinning solvents added at the emissions unit]

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 13-04500]

(2) The permittee shall collect and record the total VOC emissions from all inks, coatings, and clean up materials employed, sum of monthly emissions per d)(1), for this emissions unit for the purpose of determining annual VOC emissions.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 13-04500]

(3) The permittee, not maintaining a recipe log in accordance with paragraph (G)(3)(a) of the OAC rule 3745-21-22, shall collect and record the following information for each batch of fountain solution prepared:

a. the volume and VOC content of each concentrated alcohol substitute, added to make the batch of fountain solution, based upon the manufacturer's laboratory analysis using USEPA Method 24;

b. the volume of alcohol added to make the batch of fountain solution;

c. the volume of water added to make the batch of fountain solution;

d. the calculated VOC content of the final, mixed batch; and.

e. the date and time the batch was prepared.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-21-22(G)(3)(b)]

(4) In lieu of d)(3) above, the permittee may maintain the following records for its fountain solutions:

a. a recipe log for each fountain solution. The recipe log shall contain the following information:

i. VOC content of each concentrated alcohol substitute, added to make the batch of fountain solution, based upon the manufacturer's laboratory analysis using USEPA Method 24;

ii. the proportions in which the fountain solution is mixed, including the addition of alcohol and/or water. The proportion may be identified as a volume when preparing a discrete batch or may be identified as the settings when an automatic mixing unit is employed; and

iii. the calculated VOC content of the final, mixed recipe.

b. a record of each batch of fountain solution prepared. The record shall contain the following information:

i. identification of the recipe used to prepare each batch of fountain solution for use in the press;

ii. the date and time when the batch was prepared; and

iii. an affirmation the batch was prepared in accordance with the recipe.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-21-22(G)(3)(a)]

(5) A fountain solution that is continuously blended with an automatic mixing unit is considered to be the same batch until such time that the recipe or mix ratio is changed.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-21-22(G)(3)]

(6) If using fountain solutions containing alcohol, the permitee shall measure and record the following:

a. the VOC (alcohol) content of any altered fountain solution, at the time of alteration, in percent by weight. The alcohol content of the fountain solution shall be measured using a hydrometer. The hydrometer shall have a visual, analog, or digital readout with an accuracy of 0.5 percent; and a standard solution shall be used to calibrate the hydrometer for the type of alcohol used in the fountain solution; and

b. on a daily basis, the temperature, in degrees Fahrenheit, of the fountain solution, if the fountain solution is required to be refrigerated.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-21-22(G)(2)]

(7) If the permittee dilutes its cleaning materials to meet the requirements of OAC rule 3745-21-22(D)(6)(a) or 3745-21-22(D)(6)(b), the permittee shall keep records of the volume of cleaning solution concentrate and volume of water added and determine the VOC

content or VOC composite partial vapor pressure and the date and time the batch was prepared.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-21-22(G)(4)(b)]

(8) In lieu of d)(7) above, the permittee may maintain the following records for its cleaning materials:

a. Each recipe log shall contain the following information:

i. the volume of water and volume of cleaning solution concentrate added;

ii. VOC content of each cleaning material, based upon the manufacturer's laboratory analysis using USEPA Method 24; or

iii. the VOC composite partial vapor pressure of each cleaning solution.

b. Maintain a record of each batch of cleaning material prepared. The record shall contain the following information:

i. identification of the recipe used to prepare each batch of cleaning material;

ii. the date and time when the batch was prepared; and

iii. an affirmation the batch was prepared in accordance with the recipe.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-21-22(G)(4)(a)]

(9) The permittee shall record and maintain the following records each month:

a. the quantity, in gallons, of each cleaning solution used;

b. the quantity, in gallons, of each cleaning solution not meeting the allowable limitations per 3745-21-22(D)(6)(a) or 3745-21-22(D)(6)(b); and

c. a rolling, 12-month total, in gallons, of d)(9)b..

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-21-22(G)(5)]

(10) 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 permit-to-install (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.

[Authority for term: ORC 3704.03(F)(3)(c) and F(4)]

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports that include the following information:

a. for any days during which this emissions unit was operated, an identification of each month during which the average daily VOC emissions from all inks, coatings, and cleanup materials exceeded 45.7 lbs/day, the actual average daily VOC emissions for each such month, and a description of any corrective actions taken to prevent the reoccurrence.

These reports shall be submitted to the Cleveland Division of Air Quality (CDAQ) by January 31, April 30, July 31, and October 31 of each year and shall cover the previous 3-month period.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 13-04500]

(2) The permittee shall submit to the CDAQ an annual emissions report including the annual VOC emissions for this emissions unit. This report shall be submitted by April 15 of each calendar year. This requirement can be achieved through submittal of the annual Fee Emission Report.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 13-04500]

(3) The permittee shall notify the Cleveland Division of Air Quality (CDAQ) of any of the following exceedances of applicable requirements. Each notification shall be submitted to the CDAQ within forty-five days after the exceedance occurs, and it shall include a copy of the record showing the exceedance.

a. if determining alcohol content via hydrometer measurement, each hydrometer measurement that shows an exceedance of the applicable alcohol content limitation specified in paragraph (D)(2)(a), (D)(2)(b), (D)(3)(a), or (D)(3)(b) of OAC rule 3745-21-22.

b. if complying via refrigerated fountain solution, each temperature reading that shows an exceedance of the temperature limitation specified in paragraph (D)(2)(b) or (D)(3)(b) of OAC rule 3745-21-22.

c. each calculated VOC content that exceeds the VOC content limitation specified in paragraph (D)(2)(b), (D)(3)(b), or (D)(4) of OAC rule 3745-21-22.

d. each instance when an exceedance of the VOC content or VOC composite partial vapor pressure specified in paragraph (D)(6) of OAC rule 3745-21-22 for cleaning solutions occurs.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-21-22(H)(1)-(4)]

f) Testing Requirements

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

a. Emission Limitation:

VOC emissions shall not exceed 45.7 lbs/day

Applicable Compliance Method:

Compliance shall be determined by dividing the total monthly VOC emissions in d)(1) by the number of days the emissions unit operated during each month.

For the purposes of determining VOC emissions from offset lithographic printing operations, the following retention factors and capture efficiencies shall be used:

i. A portion of the VOC contained in inks and cleaning solution is retained in the printed substrate or in the shop towels used for cleaning. The following retention factors shall be used:

(a) a ninety-five percent VOC retention factor shall be used for sheet-fed and non-heatset substrate inks and varnish printed on absorptive substrates, meaning five percent of the VOC in the ink is emitted during the printing process; and

(b) a fifty percent VOC retention factor shall be used for cleaning solution VOC in shop towels for cleaning solutions with a VOC composite vapor pressure of no more than ten mmHg at twenty degrees Celsius (sixty-eight degrees Fahrenheit) if the contaminated shop towels are kept in closed containers, meaning fifty percent of the VOC used on the shop towels is emitted during the cleaning process.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 13-03992; OAC rule 3745-21-22(I)(1)(b) and (c); PTI 13-04500]

b. Emission Limitation:

VOC emissions shall not exceed 8.33 TPY

Applicable Compliance Method:

Compliance shall be determined based upon record keeping specified in d)(1) by summing the monthly emissions from d)(1) and dividing by 2000 lbs/ton.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 13-04500]

(2) U.S. EPA Method 24 (40 CFR Part 60, Appendix A) shall be used to determine the VOC contents of the inks and coatings. If an owner or operator determines that Method 24 cannot be used for a particular ink/coating, the permittee shall so notify the administrator of the U.S. EPA and shall use formulation data for that coating to demonstrate

compliance until the U.S. EPA provides alternative analytical procedures or alternative precision statements for Method 24.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 13-04500; OAC rule 3745-21-04(B)(5)]

(3) For any offset lithographic printing press that is subject to the requirements of paragraph (D)(2), (D)(3), or (D)(4) of OAC rule 3745-21-22, compliance with the VOC content of the as-applied fountain solution shall be determined by one of the methods in f)(3)a. to f)(3)c. of this rule except when f)(3)d. is applicable:

a. USEPA Method 24 shall be used to determine the VOC content of the as applied fountain solution;

b. if diluted prior to use, a calculation shall be performed for VOC content that combines USEPA Method 24 analytical data for the concentrated materials used to prepare the as-applied fountain solution and the proportions in which they are mixed to make the as-applied fountain solution. The analysis of the concentrated material(s) may be performed by the supplier(s) of those material(s). The analytical data may be derived from a material safety data sheet (MSDS) or equivalent information from the supplier as long as it is based on USEPA Method 24 results; or

c. if not diluted prior to use, the owner or operator shall use formulation information provided by the supplier, such as a MSDS sheet or equivalent information from the supplier. In the event of a dispute between information provided by the supplier and data obtained by USEPA Method 24, the data obtained by USEPA Method 24 shall be employed;

d. for any offset lithographic printing press that is subject to the requirements of paragraph (D)(2)(b) or (D)(3)(b) of OAC rule 3745-21-22, when adding alcohol to a fountain solution batch previously tested in accordance with one of the compliance test methods contained in f)(3)a. to f)(3)c. in lieu of the methods in f)(3)a. to f)(3)c. above, the owner or operator shall determine the VOC (alcohol) content of the altered fountain solution using a hydrometer.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-21-22(F)(2)]

(4) For any offset lithographic printing press that is subject to the fountain solution temperature requirements of paragraph (D)(2)(b)(ii) or (D)(3)(b)(ii) of OAC rule 3745-21-22, a thermometer or other temperature detection device capable of reading to 0.5 degrees Fahrenheit shall be used to ensure that any refrigerated fountain solution reservoirs are maintained at or below sixty degrees Fahrenheit at all times.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-21-22(F)(3)]

(5) For any offset lithographic or letterpress printing press that is subject to the requirements of paragraph (D)(6)(a) of OAC rule 3745-21-22, the VOC content of cleaning solutions shall be determined by one of the following methods:

a. USEPA Method 24 shall be used to determine the VOC content of the cleaning solution;

b. if diluted prior to use, a calculation shall be performed for VOC content that combines USEPA Method 24 analytical data for the concentrated materials used to prepare the cleaning solution and the proportions in which they are mixed to make the as-applied cleaning solution. The analysis of the concentrated material(s) may be performed by the supplier(s) of those material(s). The analytical data may be derived from a material safety data sheet (MSDS) or equivalent information from the supplier as long as it is based on USEPA Method 24 results; or

c. if not diluted prior to use, the owner or operator shall use formulation information provided by the supplier, such as MSDS sheet or equivalent information from the supplier. In the event of a dispute between information provided by the supplier and data obtained by USEPA Method 24, the data obtained by USEPA Method 24 shall be employed.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-21-22(F)(4)]

(6) The VOC composite partial vapor pressure of cleaning solutions shall be determined by one of the following methods (being subject to the requirements of OAC rule 3745-21-22 (D)(6)(b):

a. if diluted prior to use, calculate the VOC composite vapor pressure of the as applied solvent by using the formula for "VOC composite vapor pressure" as follows:

i. determine the identity and quantity of each compound in a blended organic solvent by using ASTM D2306, or by using ASTM E260 for organics and ASTM D3792 for water content, if applicable, or the manufacturer's product formulation data.

ii. determine the vapor pressure of each pure VOC component by using ASTM D2879 or publications such as "Perry's Chemical Engineer's Handbook, CRC Handbook of Chemistry and Physics, or Lange's Handbook of Chemistry."

iii. calculate the VOC composite partial pressure of the solvent by using the formula for "VOC composite partial pressure." For the purpose of this calculation, the blended solvent shall be assumed to be an ideal solution where "Raoult's Law" applies. The partial vapor pressures of each compound at twenty degrees Celsius (sixty-eight degrees Fahrenheit) shall be used in the formula. The VOC composite partial pressure shall be calculated as follows:

$$PPc = \sum_{i=1}^{n} \frac{(Wi)(VPi)\ /\ MWi}{\frac{Ww}{MWw} + \frac{We}{MWe} + \sum_{i=1}^{n} \frac{Wi}{MWi}}$$

Where:

Wi = Weight of the "i"th VOC compound, in grams.

Ww = Weight of water, in grams.

We = Weight of exempt compound, in grams.

MWi = Molecular weight of the "i"th VOC compound, in grams per gram-mole.

MWw = Molecular weight of water, in grams per gram-mole.

MWe = Molecular weight of the "e"th exempt compound, in grams per gram-mole.

PPc= VOC composite partial vapor pressure at twenty degrees Celsius (sixty-eight degrees Fahrenheit), in mmHg.

VPi = Vapor pressure of the "i"th VOC compound at twenty degrees Celsius (sixty-eight degrees Fahrenheit), in mmHg.

b. If not diluted prior to use, the owner or operator shall use formulation information provided by the supplier, such as a material safety data sheet (MSDS) or equivalent information from the supplier as long as it is based on results determined in accordance with the procedure under OAC rule 3745-21-22 (F)(5)(a).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-21-22 (F)(5)]

g) Miscellaneous Requirements

(1) Pursuant to OAC Rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping, and testing requirements are as stringent as or more stringent than the monitoring and record keeping, and testing requirements contained in Permit to Install #13-04500, issued on 3/22/2005: d)(1) and f)(1). The monitoring and record keeping, and testing requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping, and testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping, and testing requirements in the Permit to Install.