



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

8/5/2013

John Krehbiel  
CJ Krehbiel Co  
3962 Virginia Ave.  
Cincinnati, OH 45227

RE: FINALAIR POLLUTION PERMIT-TO-INSTALL AND OPERATE

Facility ID: 1431070992  
Permit Number: P0112884  
Permit Type: Renewal  
County: Hamilton

Certified Mail

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

Dear Permit Holder:

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

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

**How to appeal this permit**

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

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

## **How to save money, reduce pollution and reduce energy consumption**

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

## **How to give us feedback on your permitting experience**

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

## **How to get an electronic copy of your permit**

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

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

Sincerely,



Michael W. Ahern, Manager

Permit Issuance and Data Management Section, DAPC

Cc: SWOAQA



**FINAL**

**Division of Air Pollution Control  
Permit-to-Install and Operate  
for  
CJ Krehbiel Co**

Facility ID:	1431070992
Permit Number:	P0112884
Permit Type:	Renewal
Issued:	8/5/2013
Effective:	8/5/2013
Expiration:	8/5/2018





**Division of Air Pollution Control  
Permit-to-Install and Operate**

for  
CJ Krehbiel Co

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**Final Permit-to-Install and Operate**  
CJ Krehbiel Co  
**Permit Number:** P0112884  
**Facility ID:** 1431070992  
**Effective Date:** 8/5/2013

## Authorization

Facility ID: 1431070992  
Application Number(s): A0045777  
Permit Number: P0112884  
Permit Description: FEPTIO renewal for heatset web offset press, non-heatset sheet-fed offset press, heatset web offset press with dryer and heatset web offset press with dryer and thermal oxidizer.  
Permit Type: Renewal  
Permit Fee: \$0.00  
Issue Date: 8/5/2013  
Effective Date: 8/5/2013  
Expiration Date: 8/5/2018  
Permit Evaluation Report (PER) Annual Date: Jan 1 - Dec 31, Due Feb 15

This document constitutes issuance to:

CJ Krehbiel Co  
3962 Virginia Avenue  
Fairfax, OH 45227

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

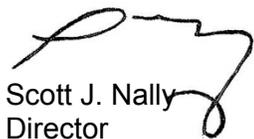
Ohio Environmental Protection Agency (EPA) District Office or local air agency responsible for processing and administering your permit:

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

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

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency



Scott J. Nally  
Director



## Authorization (continued)

Permit Number: P0112884

Permit Description: FEPTIO renewal for heatset web offset press, non-heatset sheet-fed offset press, heatset web offset press with dryer and heatset web offset press with dryer and thermal oxidizer.

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

<b>Emissions Unit ID:</b>	<b>R001</b>
Company Equipment ID:	Printing Press
Superseded Permit Number:	P0098280
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>R007</b>
Company Equipment ID:	Printing Press
Superseded Permit Number:	P0098280
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>R010</b>
Company Equipment ID:	Printing Press
Superseded Permit Number:	P0098280
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>R011</b>
Company Equipment ID:	Printing Press
Superseded Permit Number:	P0098280
General Permit Category and Type:	Not Applicable



**Final Permit-to-Install and Operate**  
CJ Krehbiel Co  
**Permit Number:** P0112884  
**Facility ID:** 1431070992  
**Effective Date:** 8/5/2013

## **A. Standard Terms and Conditions**



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

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

**2. Who is responsible for complying with this permit?**

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

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

**3. What records must I keep under this permit?**

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

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

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

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

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

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

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

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



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

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

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

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

**7. What reports must I submit under this permit?**

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

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

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

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

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

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



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

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

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

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

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

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

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

You should notify Ohio EPA of any emissions unit that is permanently shut down by submitting<sup>1</sup> a certification that identifies the date on which the emissions unit was permanently shut down. The certification must be submitted by an authorized official from the facility. You cannot continue to operate an emissions unit once the certification has been submitted to Ohio EPA by the authorized official.

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

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

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



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

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

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

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

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

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



**Final Permit-to-Install and Operate**  
CJ Krehbiel Co  
**Permit Number:** P0112884  
**Facility ID:** 1431070992  
**Effective Date:** 8/5/2013

## **B. Facility-Wide Terms and Conditions**



1. This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).
  - a) For the purpose of a permit-to-install document, the facility-wide terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
    - (1) None.
  - b) For the purpose of a permit-to-operate document, the facility-wide terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
    - (1) The actual emissions of hazardous air pollutants (HAPs), as identified in Section 112(b) of Title III of the Clean Air Act, from emissions units P004, R001, R007, R010 and R011, including any de minimis emissions units as defined in OAC rule 3745-15-05, and any permanent exemption air contaminant sources installed subsequent to the issuance of this permit shall not exceed 9.9 TPY for any single HAP, as a rolling, 12-month summation, and 24.9 TPY for any combination of HAPs. Compliance with the above limitations shall be based on a rolling, 12-month summation.
    - (2) The permittee shall collect and record the following information each month for the emissions units identified in 1.b)(1):
      - a. The name and identification number of each HAP containing material employed;
      - b. The individual Hazardous Air Pollutant (HAP)\* content for each HAP of each HAP containing material, in pounds of individual HAP per gallon of HAP containing material, as applied;
      - c. The total combined HAP content of each HAP containing material in pounds of combined HAPs per gallon of HAP containing material, as applied [sum all the individual HAP contents from (2)];
      - d. The number of gallons of each HAP containing material employed;
      - e. The name and identification of each HAP containing cleanup material employed;
      - f. The individual HAP content for each HAP of each HAP containing cleanup material, in pounds of individual HAP per gallon of HAP containing cleanup material, as applied;
      - g. The total combined HAP content of each HAP containing cleanup material, in pounds of combined HAPs per gallon of HAP containing cleanup material, as applied [sum all the individual HAP contents from (6)];
      - h. The number of gallons of each HAP containing cleanup material employed [the total number of gallons of each HAP containing cleanup material employed less the number of gallons of each HAP containing cleanup material collected for reuse and disposal];



- i. The total individual HAP emissions for each HAP from all HAP containing material and HAP containing cleanup materials employed, in pounds or tons per month [for each HAP the sum of (2) times (4) times the emissions factor or overall control efficiency\*\* (if applicable) for each HAP containing material plus the sum of (6) times (8) for each HAP containing cleanup material plus individual HAP emissions from any de minimis emissions units (as defined in OAC rule 3745-15-05), all emissions units exempt from the requirement to obtain a permit-to-install pursuant to OAC rule 3745-31-03 currently, and future to-be-installed air contaminant sources at the facility];
- j. The total combined HAP emissions from all HAP containing materials and HAP containing cleanup materials employed, in pounds or tons per month [the sum of (3) times (4) times the emissions factor or overall control efficiency\*\* (if applicable) for each coating plus the sum of (7) times (8) for each HAP containing cleanup material plus combined HAP emissions from any de minimis emissions units (as defined in OAC rule 3745-15-05), all emissions units exempt from the requirement to obtain a permit to install pursuant to OAC rule 3745-31-03 currently, and future to-be-installed air contaminant sources at the facility];
- k. The updated rolling, 12-month summation of the individual HAP emissions, in pounds or tons. This shall include the information for the current month and the preceding eleven calendar months; and
- l. The updated rolling, 12-month summation of the combined HAP emissions, in pounds or tons. This shall include the information for the current month and the preceding eleven calendar months.

\* A listing of the HAPs can be found in Section 112(b) of the Clean Air Act or can be obtained by contacting the Southwest Ohio Air Quality Agency. This information does not have to be kept on an individual emissions unit basis.

\*\*Overall control efficiency shall be from the most recent performance test that demonstrated that the emissions unit was in compliance.

Inks may be recorded in pounds of HAP per pound of ink and annual HAP emissions calculated using:

$\text{lbs of ink employed per month} \times \text{HAP fraction of ink by wt} = \text{lbs of HAPs/month}$ .

Fountain Solutions and cleanup material may be recorded in pounds of HAP per gallon of material and annual HAP emissions calculated using:

$\text{lbs of HAP per gallon of material} \times \text{gallons of material employed/month} = \text{lbs of HAPs/month}$ .



**Final Permit-to-Install and Operate**

CJ Krehbiel Co

**Permit Number:** P0112884

**Facility ID:** 1431070992

**Effective Date:** 8/5/2013

- (3) The permittee shall notify the Southwest Ohio Air Quality Agency of any exceedance of the HAP emission limitations outlined in 1.b)(1). If no exceedances occurred, the permittee shall state so in the report. The reports shall be submitted by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters (October through December, January through March, April through June, and July through September, respectively).
- (4) Compliance with the HAP emission limitations cited in section B.1.b)(1) shall be demonstrated by the recordkeeping in section B.1.b)(2).



**Final Permit-to-Install and Operate**  
CJ Krehbiel Co  
**Permit Number:** P0112884  
**Facility ID:** 1431070992  
**Effective Date:** 8/5/2013

## **C. Emissions Unit Terms and Conditions**



**1. R001, Printing Press**

**Operations, Property and/or Equipment Description:**

Heatset web offset press with dryer - Cottrell I - Modification

- a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).
  - (1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
    - a. None.
  - (2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
    - a. 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(F)	Organic compound emissions shall not exceed 770.06 lbs/day and 32.48 tons per year (TPY), based upon a rolling, 12-month summation.  Particulate emissions (PE) and particulate matter emissions 10 microns and less in diameter (PM10) shall not exceed 2.41 TPY.  The daily emission limitations outlined above are based upon the emissions unit's potential to emit at 24 hours per day. Therefore, no daily records are required to demonstrate compliance with these limits



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		The requirements of this rule also include compliance with OAC rules 3745-17-07(A) and 3745-17-11(A). See b)(2)a. and c)(1) through c)(5).
b.	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average.
c.	OAC rule 3745-17-11(A)	Particulate emissions (PE) shall not exceed 0.551 pound per hour.

(2) Additional Terms and Conditions

- a. The maximum organic compound content of the inks, fountain solutions, and cleanup materials, as applied, shall not exceed the following:

Ink - 45% by weight of OC;  
Fountain Solution - 0.21 lb of OC/gallon; and  
Cleanup Material - 6.6 lbs of OC/gallon.

Ink means a liquid material applied by a roll printer. Fountain solution means a surface coating applied to a lithographic plate to render the nonimage areas unreceptive to ink. Cleanup material means all materials used to remove excess printing inks, oils and paper components from press equipment.

- b. Daily and annual emission rates in this permit are subject to revision should any of the listed emissions units be withdrawn.

c) Operational Restrictions

- (1) The maximum daily cleanup material usage for emissions unit R001 shall not exceed 10 gallons per day.
- (2) The maximum annual ink usage for this emissions unit shall not exceed 120,000 pounds per year, based upon a rolling, 12-month summation of the ink usage figures.
- (3) The maximum annual fountain solution usage for this emissions unit shall not exceed 80,000 gallons per year, based upon a rolling, 12-month summation of the fountain solution usage figures.
- (4) The maximum annual cleanup material usage for this emissions unit shall not exceed 1,500 gallons per year, based upon a rolling, 12-month summation of the cleanup material usage figures.



- (5) To ensure that the evaporative OC/VOC loss from the hand cleanup process does not exceed more than 50% (by weight), all rags utilized in the cleanup process shall be stored in containers with tight fitting covers.

d) **Monitoring and/or Recordkeeping Requirements**

- (1) The permittee shall collect and record the following information each day for cleanup materials employed in this emissions unit:
  - a. the company identification (including product name per MSDSs) for each cleanup material employed;
  - b. the number of gallons of each cleanup material employed; and
  - c. the organic compound content of each cleanup material, as applied.
- (2) The permittee shall collect and record the following information each month for each material employed in each emissions unit:
  - a. the company identification for each ink, fountain solution, and cleanup material employed;
  - b. the number of pounds of each ink employed and the number of gallons of each fountain solution and cleanup material employed in each emissions unit;
  - c. the organic compound content of each ink in pounds per pound, and the organic compound content of each fountain solution and cleanup material in pounds per gallon;
  - d. the organic compound emission rate for each ink, fountain solution and cleanup material, in pounds or tons per month, from each emissions unit;
  - e. the total organic compound emission rate for all inks, fountain solutions, and cleanup materials, in pounds or tons per month, from each emissions unit;
  - f. the rolling 12-month total organic compound emissions rate for all inks, fountain solutions, and cleanup materials, in tons per year; and
  - g. the rolling 12-month summation of the ink in pounds per year, and fountain solution and cleanup material usage figures in gallons per year.

Note: The ink information must be for the inks as applied, including any thinning solvents or catalysts added at the emissions unit.

- (3) The permittee shall maintain for this facility all purchase orders and invoices of OC-containing materials. The permittee shall retain such purchase orders and invoices for at least five years from their date of issuance. Upon request, the permittee shall make available to the Director of the Ohio EPA, or an authorized representative of the Director, such purchase orders and invoices for use in confirming the general accuracy of the records maintained and the reports submitted regarding material usage.



e) Reporting Requirements

- (1) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.
- (2) The permittee shall submit quarterly deviation (excursion) reports that identify:

- a. all deviations (excursions) of the following emission limitations, operational restrictions and/or control device operating parameter limitations that restrict the potential to emit (PTE) of any regulated air pollutant and have been detected by the monitoring, record keeping and/or testing requirements in this permit:
  - i. each month in which the ink, fountain solution and/or cleanup material usage exceeded the rolling, 12-month limitation contained in this permit.
  - ii. each month in which the accumulative, rolling, 12-month emissions limitation(s) for any individual HAP or combined HAPs exceeded the limitation in this permit, in pounds or tons per rolling, 12-month period.
  - iii. each month in which the accumulative, rolling, 12-month organic compound emissions limitation(s) exceeded the limitation in this permit, in pounds or tons per rolling, 12-month period.
- b. the probable cause of each deviation (excursion);
- c. any corrective actions that were taken to remedy the deviations (excursions) or prevent future deviations (excursions); and
- d. the magnitude and duration of each deviation (excursion).

If no deviations (excursions) occurred during a calendar quarter, the permittee shall submit a report that states that no deviations (excursions) occurred during the quarter.

Exceeding the rolling, 12-month limitation is a violation for each day of the last month if each 12-month period in which the limitation is exceeded, regardless if whether a compliance plan is submitted.

The quarterly reports shall be submitted, electronically through Ohio EPA Air Services, each year by January 31 (covering October to December), April 30 (covering January to March), July 31 (covering April to June), and October 31 (covering July to September), unless an alternative schedule has been established and approved by the Director (the appropriate District Office or local air agency).

- (3) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be completed electronically and submitted via the Ohio EPA e-Business Center: Air Services by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve months for each air contaminant source identified in this permit.



f) Testing Requirements

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

a. Emission Limitations:

Organic compound emissions shall not exceed 770.06 lbs/day and 32.48 tons per year (TPY), based upon a rolling, 12-month summation.

Applicable Compliance Method:

The daily and annual organic compound emission rates shall be calculated using the following equations:

$$\text{lbs of OC/day} = [(A \times B \times (1-C)) + (D \times E) + (F \times G \times (1-H))].$$

$$\text{TPY OC} = [(A \times B \times (1-C)) + (D \times E) + (F \times G \times (1-H))] \times \text{ton}/2000 \text{ lbs.}$$

where;

A = maximum daily and annual ink usage rate of 1920 lbs/day and 120,000 lbs/year.

B = maximum OC content in percent by weight expressed as a decimal, 0.45 lb of OC/lb of ink.

C = ink retention factor (from OEPA Engineering Guide #56), of 20 percent expressed as a decimal (0.20).

D = maximum daily and annual fountain solution usage rate of 218.4 gallons/day and 80,000 gallons/year.

E = maximum OC content in lbs/gallon of 0.21 lb of OC/gallon of fountain solution.

F = maximum daily and annual cleanup solvent usage rate of 10 gallons/day and 1500 gallons/year.

G = maximum OC content in lbs/gallon (6.6 lbs of OC/gallon of cleanup solvent).

H = cleanup solvent retention factor (from OEPA Engineering Guide #56), of 50 percent expressed as a decimal (the 50% retention factor can only be used if the composite partial pressure of the cleanup material is less than 10 mm of Mercury), 0.50.

Compliance with the 12-month rolling OC emission limitation shall be demonstrated by the required recordkeeping in d)(2).

b. Emission Limitation:

Particulate emissions (PE) shall not exceed 0.551 lb/hr.

Particulate emissions (PE) and particulate matter emissions 10 microns and less in diameter (PM10) shall not exceed 2.41 TPY.



Applicable Compliance Method:

If testing is required to demonstrate compliance with the PE limitation, then testing shall be conducted using the following methods: Methods 1-5, 40 CFR Part 60, Appendix A.

The annual limitation was developed by multiplying the 0.551 lb/hr limitation by 8760 hours/year and dividing by 2000 pounds/ton.

c. Emission Limitation:

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

Applicable Compliance Method:

Compliance shall be determined through visible emission observations performed in accordance with U.S. EPA Method 9.

d. Emission Limitations:

The maximum organic compound content of the inks, fountain solutions, and cleanup materials, as applied, shall not exceed the following:

- Ink - 45% by weight of OC;
- Fountain Solution - 0.21 lb of OC/gallon; and
- Cleanup Material - 6.6 lbs of OC/gallon.

Applicable Compliance Method:

USEPA Methods 24 and 24A shall be used to determine the VOC contents for (a) coatings and (b) flexographic and rotogravure printing inks and related coatings, respectively. If, pursuant to Method 24 as outlined in 40 CFR Part 60, Appendix A, an owner or operator determines that Method 24 or 24A cannot be used for a particular coating or ink, the permittee shall so notify the Administrator of the USEPA and shall use formulation data for that coating or ink to demonstrate compliance until the USEPA provides alternative analytical procedures or alternative precision statements for Method 24 or 24A.

Method 24 or 24A can be performed by the permittee or other party(i.e., the permittee's coating supplier).

e. Emission Limitation:

The maximum daily cleanup material usage for emissions unit R001 shall not exceed 10 gallons per day.

Applicable Compliance Method:

Compliance shall be demonstrated by the recordkeeping requirements specified in d)(1).



f. Emission Limitation:

The maximum annual ink usage for this emissions unit shall not exceed 120,000 pounds per year, based upon a rolling, 12-month summation of the ink usage figures.

Applicable Compliance Method:

Compliance shall be demonstrated by the recordkeeping requirements specified in d)(2).

g. Emission Limitation:

The maximum annual fountain solution usage for this emissions unit shall not exceed 80,000 gallons per year, based upon a rolling, 12-month summation of the fountain solution usage figures.

Applicable Compliance Method:

Compliance shall be demonstrated by the recordkeeping requirements specified in d)(2).

h. Emission Limitation:

The maximum annual cleanup material usage for this emissions unit shall not exceed 1,500 gallons per year, based upon a rolling, 12-month summation of the cleanup material usage figures.

Applicable Compliance Method:

Compliance shall be demonstrated by the recordkeeping requirements specified in d)(2).

g) Miscellaneous Requirements

- (1) For all inks employed in this emissions unit, the worst case OC content can be used to calculate emissions.



2. R007, Printing Press

Operations, Property and/or Equipment Description:

Heatset web offset press with dryer and regenerative thermal oxidizer (RTO) - Hantscho IV - Modification

- a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).
  - (1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
    - a. d)(5) and d)(6).
  - (2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
    - a. b)(1)(b., c)(2), c)(3), c)(4), d)(2) and e)(2).
- b) Applicable Emissions Limitations and/or Control Requirements
  - (1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3)	Organic compound emissions shall not exceed 96.35 lbs/day.  Particulate emissions (PE) and particulate matter emissions 10 microns and less in diameter (PM10) shall not exceed 0.551 lb/hr and 2.41 TPY.  The daily emission limitations outlined above are based upon the emissions unit's potential to emit at 24 hours per day. Therefore, no daily records are required to demonstrate compliance with these limits.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		The requirements of this rule also include compliance with OAC rules 3745-31-05(D) and 3745-17-07(A)(1). See b)(2)a. and c)(1) through c)(6).
b.	OAC rule 3745-31-05(D)	OC emissions shall not exceed 5.87 tons per year, based on a rolling, 12-month summation.
c.	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.
d.	OAC rule 3745-17-11(A)	The emission limitations specified by this rule are the same or less stringent as the emissions limitations established pursuant to OAC rule 3745-31-05(A)(3).

(2) Additional Terms and Conditions

- a. The maximum organic compound content of the inks, fountain solutions, and cleanup materials, as applied, shall not exceed the following:  
  
 Ink - 45% by weight of OC;  
 Fountain Solution - 0.16 lb of OC/gallon; and  
 Cleanup Material - 6.6 lbs of OC/gallon.  
  
 Ink means a liquid material applied by a roll printer. Fountain solution means a surface coating applied to a lithographic plate to render the nonimage areas unreceptive to ink. Cleanup material means all materials used to remove excess printing inks, oils and paper components from press equipment.
- b. Daily and annual emission rates in this permit are subject to revision should any of the listed emissions units be withdrawn.
- c. Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by the OC content limitations for all inks, fountain solutions and cleanup materials, material usage limitations and the use of the RTO with a 92.5% (by weight of organic compounds) control efficiency.
- d. The permittee shall operate and maintain a control device, at a minimum, 92.5% (by weight of organic compounds) control efficiency at a maximum hourly ink capacity from the control device exhaust for emission units R007 and R011.



c) **Operational Restrictions**

- (1) The maximum daily cleanup material usage for emissions unit R007 shall not exceed 10 gallons per day.
- (2) The maximum annual ink usage for this emissions unit shall not exceed 80,000 pounds per year, based upon a rolling, 12-month summation of the ink usage figures.
- (3) The maximum annual fountain solution usage for this emissions unit shall not exceed 53,000 gallons per year, based upon a rolling, 12-month summation of the fountain solution usage figures.
- (4) The maximum annual cleanup material usage for this emissions unit shall not exceed 2,000 gallons per year, based upon a rolling, 12-month summation of the cleanup material usage figures.
- (5) To ensure that the evaporative OC/VOC loss from the hand cleanup process does not exceed more than 50% (by weight), all rags utilized in the cleanup process shall be stored in containers with tight fitting covers.
- (6) In order to maintain compliance with the applicable emission limitations contained in this permit, the acceptable average combustion temperature within the thermal oxidizer, for any 3-hour block of time when the emissions unit controlled by the thermal oxidizer is/are in operation, shall not be more than 50 degrees Fahrenheit below the average temperature measured during the most recent performance test that demonstrated the emissions unit was in compliance.

d) **Monitoring and/or Recordkeeping Requirements**

- (1) The permittee shall collect and record the following information each day for cleanup materials employed in this emissions unit:
  - a. the company identification (including product name per MSDSs) for each cleanup material employed;
  - b. the number of gallons of each cleanup material employed; and
  - c. the organic compound content of each cleanup material, as applied.
- (2) The permittee shall collect and record the following information each month for each material employed in each emissions unit:
  - a. the company identification for each ink, fountain solution, and cleanup material employed;
  - b. the number of pounds of each ink employed and the number of gallons of each fountain solution and cleanup material employed in each emissions unit;
  - c. the organic compound content of each ink in pounds per pound, and the organic compound content of each fountain solution and cleanup material in pounds per gallon;



- d. the organic compound emission rate for each ink, fountain solution and cleanup material, in pounds or tons per month, from each emissions unit;
- e. the total organic compound emission rate for all inks, fountain solutions, and cleanup materials, in pounds or tons per month, from each emissions unit;
- f. the rolling 12-month total organic compound emissions rate for all inks, fountain solutions, and cleanup materials, in tons per year; and
- g. the rolling 12-month summation of the ink in pounds per year, and fountain solution and cleanup material usage figures in gallons per year.

Note: The ink information must be for the inks as applied, including any thinning solvents or catalysts added at the emissions unit.

- (3) The permittee shall maintain for this facility all purchase orders and invoices of OC-containing materials. The permittee shall retain such purchase orders and invoices for at least five years from their date of issuance. Upon request, the permittee shall make available to the Director of the Ohio EPA, or an authorized representative of the Director, such purchase orders and invoices for use in confirming the general accuracy of the records maintained and the reports submitted regarding material usage.
- (4) The permittee shall properly install, operate, and maintain a continuous temperature monitor and recorder that measures and records the combustion temperature within the thermal oxidizer when the emissions unit(s) is/are in operation, including periods of startup and shutdown. Units shall be in degrees Fahrenheit. The accuracy for each thermocouple, monitor, and recorder shall be guaranteed by the manufacturer to be within  $\pm 1$  percent of the temperature being measured or  $\pm 5$  degrees Fahrenheit, whichever is greater. The temperature monitor and recorder shall be installed, 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 record the following information each day the emissions unit(s) is/are in operation:
  - a. all 3-hour blocks of time, when the emissions unit(s) controlled by the thermal oxidizer was/were in operation, during which the average combustion temperature within the thermal oxidizer was more than 50 degrees Fahrenheit below the average temperature measured during the most recent performance test that demonstrated the emissions unit(s) was/were in compliance; and
  - b. a log or record of the operating time for the capture (collection) system, thermal oxidizer, monitoring equipment, and the associated emissions unit(s).
- (5) The permit to install for this emissions unit R007 was evaluated based on the actual materials (typically inks and adhesive materials) and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data



from the permit to install application and the SCREEN 3.0 model(or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Ground-Level Concentration (MAGLC).

The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Glycol Ethers

TLV (ug/m3): 121,000

Maximum Hourly Emission Rate (lbs/hr): 73.92

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 2,775

MAGLC (ug/m3): 2,880

Pollutant: Ethylene Glycol

TLV (ug/m3): 100,000

Maximum Hourly Emission Rate (lbs/hr): 9.39

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 351.8

MAGLC (ug/m3): 1,755

Pollutant: Naphthalene

TLV (ug/m3): 52,400

Maximum Hourly Emission Rate (lbs/hr): 26.02

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 977.8

MAGLC (ug/m3): 1,247

Physical changes to or in the method of operation of the emissions unit after it's installation or modification could affect the parameters used to determine whether or not the "Air Toxics Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in the "Air Toxic Policy" include the following:

- a. changes in the composition of the materials used (typically for inks or adhesive materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled;
- b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and
- c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).



If the permittee determines that the "Air Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01 solely due to the emissions of any type of toxic air contaminant not previously emitted, and a modification of the existing permit to install will not be required, even if the toxic air contaminant emissions are greater than the de minimis level in OAC rule 3745-15-05. If the change(s) is (are) defined as a modification under other provisions of the modification definition, then the permittee shall obtain a final permit to install prior to the change.

- (6) The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will satisfy the Air Toxic Policy:
  - a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);
  - b. documentation of it's evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and
  - c. when the computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

e) Reporting Requirements

- (1) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.
- (2) The permittee shall submit quarterly deviation (excursion) reports that identify:
  - a. all deviations (excursions) of the following emission limitations, operational restrictions and/or control device operating parameter limitations that restrict the potential to emit (PTE) of any regulated air pollutant and have been detected by the monitoring, record keeping and/or testing requirements in this permit:
    - i. each month in which the ink, fountain solution and/or cleanup material usage exceeded the rolling, 12-month limitation contained in this permit.
    - ii. each month in which the accumulative, rolling, 12-month emissions limitation(s) for any individual HAP or combined HAPs exceeded the limitation in this permit, in pounds or tons per rolling, 12-month period.
    - iii. each month in which the accumulative, rolling, 12-month organic compound emissions limitation(s) exceeded the limitation in this permit, in pounds or tons per rolling, 12-month periodthe probable cause of each deviation (excursion);



- b. any corrective actions that were taken to remedy the deviations (excursions) or prevent future deviations (excursions); and
- c. the magnitude and duration of each deviation (excursion).

If no deviations (excursions) occurred during a calendar quarter, the permittee shall submit a report that states that no deviations (excursions) occurred during the quarter.

Exceeding the rolling, 12-month limitation is a violation for each day of the last month if each 12-month period in which the limitation is exceeded, regardless if whether a compliance plan is submitted.

The quarterly reports shall be submitted, electronically through Ohio EPA Air Services, each year by January 31 (covering October to December), April 30 (covering January to March), July 31 (covering April to June), and October 31 (covering July to September), unless an alternative schedule has been established and approved by the Director (the appropriate District Office or local air agency).

- (3) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be completed electronically and submitted via the Ohio EPA e-Business Center: Air Services by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve months for each air contaminant source identified in this permit
- (4) The permittee shall include in the PER:
  - a. all 3-hour blocks of time (when the emissions unit(s) was/were in operation) during which the average combustion temperature within the thermal oxidizer was more than 50 degrees Fahrenheit below the average temperature maintained during the most recent performance test that demonstrated the emissions unit(s) was/were in compliance;
  - b. any records of downtime (date and length of time) for the capture (collection) system, the thermal oxidizer, and/or the monitoring equipment when the emissions unit(s) was/were in operation; and
  - c. a log of the operating time for the capture system, thermal oxidizer, monitoring equipment, and the emissions unit(s).

f) Testing Requirements

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:
  - a. Emission Limitation:  
  
Organic compound emissions shall not exceed 96.35 pounds per day (lbs/day).



Applicable Compliance Method:

The daily organic compound emission rate was calculated using the following equation:

$$\text{lbs of OC/day} = [A \times B \times (1-C) \times (1-D)] + [E \times F \times G \times (1-D)] + [E \times F \times H] + [I \times J \times (1-K)].$$

where;

A = maximum daily usage rate (1920 lbs/day)

B = maximum OC content in percent by weight expressed as a decimal (0.45 lb of OC/lb of ink)

C = ink retention factor from OEPA Engineering Guide #56 of 20 percent expressed as a decimal (0.20)

D = control efficiency of thermal oxidizer of 92.5% expressed as a decimal (0.925)

E = maximum daily fountain solution usage rate (204 gallons/day)

F = maximum OC content in lbs/gallon (0.16 lb of OC/gallon of fountain solution)

G = fountain solution capture factor from OEPA Engineering Guide #56 of 70 percent captured and ducted to control device expressed as a decimal (0.70)

H = fountain solution fugitive factor from OEPA Engineering Guide #56 of 30 percent expressed as a decimal (0.30)

I = maximum daily cleanup solvent usage rate (10 gallons/day)

J = maximum OC content in lbs/gallon (6.6 lbs of OC/gallon of cleanup solvent)

K = cleanup solvent retention factor from OEPA Engineering Guide #56 of 50 percent expressed as a decimal, 0.50 (the 50% retention factor can only be used if the composite partial pressure of the cleanup material is less than 10 mm of Mercury)

b. Emission Limitation:

OC emissions shall not exceed 5.87 tons per year (TPY), based upon a rolling, 12-month summation.

Applicable Compliance Method:

The annual organic compound emissions rate was calculated using the following equation:

$$\text{lbs of OC/year} = [A \times B \times (1-C) \times (1-D)] + [E \times F \times G \times (1-D)] + [E \times F \times H] + [I \times J \times (1-K)] \times \text{ton}/2000 \text{ lbs.}$$

where,

A = maximum annual ink usage rate (80,000 lbs/year)

B = maximum OC content in percent by weight expressed as a decimal (0.45 lb of OC/lb of ink)

C = ink retention factor from OEPA Engineering Guide #56 of 20 percent



expressed as a decimal (0.20)

D = control efficiency of thermal oxidizer of 92.5% expressed as a decimal (0.925)

E = maximum annual fountain solution usage rate (53,000 gallons/year)

F = maximum OC content in lbs/gallon (0.16 lb of OC/gallon of fountain solution)

G = fountain solution capture factor from OEPA Engineering Guide #56 of 70 percent captured and ducted to control device expressed as a decimal (0.70)

H = fountain solution fugitive factor from OEPA Engineering Guide #56 of 30 percent expressed as a decimal (0.30)

I = maximum annual cleanup solvent usage rate (2000 gallons/year)

J = maximum OC content in lbs/gallon (6.6 lbs of OC/gallon of cleanup solvent)

K = cleanup solvent retention factor from OEPA Engineering Guide #56 of 50 percent expressed as a decimal, 0.50 (the 50% retention factor can only be used if the composite partial pressure of the cleanup material is less than 10 mm of Mercury).

Compliance with the rolling, 12-month annual limit shall be based upon the record keeping requirements specified in d)(2).

c. Emission Limitations:

Particulate emissions (PE) shall not exceed 0.551 lb/hr.

Particulate emissions (PE) and particulate matter emissions 10 microns and less in diameter (PM10) shall not exceed 2.41 TPY.

Applicable Compliance Method:

If testing is required to demonstrate compliance with the PE limitation, then testing shall be conducted using the following methods: Methods 1-5, 40 CFR Part 60, Appendix A.

The annual limitation was developed by multiplying the 0.551 lb/hr limitation by 8760 hours/year and dividing by 2000 pounds/ton.

d. Emission Limitation:

The maximum organic compound content of the inks, fountain solutions, and cleanup materials, as applied, shall not exceed the following:

Ink - 45% by weight of OC;

Fountain Solution - 0.16 lb of OC/gallon; and

Cleanup Material - 6.6 lbs of OC/gallon.

Applicable Compliance Method:

USEPA Methods 24 and 24A shall be used to determine the VOC contents for (a) coatings and (b) flexographic and rotogravure printing inks and related coatings, respectively. If, pursuant to Method 24 as outlined in 40 CFR Part 60, Appendix A, an owner or operator determines that Method 24 or 24A cannot be



used for a particular coating or ink, the permittee shall so notify the Administrator of the USEPA and shall use formulation data for that coating or ink to demonstrate compliance until the USEPA provides alternative analytical procedures or alternative precision statements for Method 24 or 24A.

e. Emission Limitation:

The maximum daily cleanup material usage for emissions unit R007 shall not exceed 10 gallons per day.

Applicable Compliance Method:

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

f. Emission Limitation:

The maximum annual ink usage for this emissions unit shall not exceed 80,000 pounds per year, based upon a rolling, 12-month summation of the ink usage figures.

Applicable Compliance Method:

Compliance shall be based upon the record keeping requirements specified in d)(2).

g. Emission Limitation:

The maximum annual fountain solution usage for this emissions unit shall not exceed 53,000 gallons per year, based upon a rolling, 12-month summation of the fountain solution usage figures.

Applicable Compliance Method:

Compliance shall be based upon the record keeping requirements specified in d)(2).

h. Emission Limitation:

The maximum annual cleanup material usage for this emissions unit shall not exceed 2,000 gallons per year, based upon a rolling, 12-month summation of the cleanup material usage figures.

Applicable Compliance Method:

Compliance shall be based upon the record keeping requirements specified in d)(2).



i. Emission Limitation:

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

Applicable Compliance Method:

Compliance shall be determined through visible emission observations performed in accordance with U.S. EPA Method 9.

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

- a. the emission testing shall be conducted within 6 months prior to expiration of this permit.
- b. the emission testing shall be conducted to demonstrate compliance with the overall control efficiency limitation for organic compounds.
- c. the following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate:

Method 25 of 40 CFR Part 60, Appendix A.

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

- d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency.
- e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).
- f. Personnel from the Hamilton County Department of Environmental Services 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.



**Final Permit-to-Install and Operate**

CJ Krehbiel Co

**Permit Number:** P0112884

**Facility ID:** 1431070992

**Effective Date:** 8/5/2013

- 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 appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

g) Miscellaneous Requirements

- (1) None.



**3. R010, Printing Press**

**Operations, Property and/or Equipment Description:**

Non-heatset sheet-fed offset press with infrared dryer - Mitsubishi Sheet Fed - Modification

- a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).
  - (1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
    - a. d)(4) and d)(5).
  - (2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
    - a. b)(1)b., c)(2) through c)(5), d)(2) and e)(2).
- b) Applicable Emissions Limitations and/or Control Requirements
  - (1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3)	Organic compound emissions shall not exceed 330.82 lbs/day.  The daily emission limitations outlined above are based upon the emissions unit's potential to emit at 24 hours per day. Therefore, no daily records are required to demonstrate compliance with these limits.  The requirements of this rule also include compliance with OAC rule 3745-31-05(D). See b)(2)a. and c)(1) through c)(5).
b.	OAC rule 3745-31-05(D)	OC emissions shall not exceed 10.60 tons per year, based on a rolling, 12-month summation.



(2) Additional Terms and Conditions

- a. The maximum organic compound content of the inks, fountain solutions, aqueous coating and cleanup materials, as applied, shall not exceed the following:

Ink - 30% by weight of OC;  
Fountain Solution - 0.16 lb of OC/gallon;  
Aqueous Coatings – 1.35 lbs of OC/gallon; and  
Cleanup Material - 6.6 lbs of OC/gallon.

Ink means a liquid material applied by a roll printer. Fountain solution means a surface coating applied to a lithographic plate to render the nonimage areas unreceptive to ink. Aqueous coatings means all materials applied onto or saturated within a substrate for decorative, protective or functional purposes. Cleanup material means all materials used to remove excess printing inks, oils and paper components from press equipment.

- b. Daily and annual emission rates in this permit are subject to revision should any of the listed emissions units be withdrawn.
- c. Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by OC content limitations for all inks, fountain solutions, aqueous coatings, cleanup materials and material usage limitations.

c) Operational Restrictions

- (1) The maximum daily cleanup material usage for emissions unit R010 shall not exceed 10 gallons per day.
- (2) The maximum annual ink usage for this emissions unit shall not exceed 40,000 pounds per year, based upon a rolling, 12-month summation of the ink usage figures.
- (3) The maximum annual fountain solution usage for this emissions unit shall not exceed 20,000 gallons per year, based upon a rolling, 12-month summation of the fountain solution usage figures.
- (4) The maximum annual aqueous coating usage for this emissions unit shall not exceed 8,000 gallons per year, based upon a rolling, 12-month summation of the fountain solution usage figures.
- (5) The maximum annual cleanup material usage for this emissions unit shall not exceed 1,000 gallons per year, based upon a rolling, 12-month summation of the cleanup material usage figures.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall collect and record the following information each day for cleanup materials employed in this emissions unit:
- a. the company identification (including product name per MSDSs) for each cleanup material employed;



- b. the number of gallons of each cleanup material employed; and
  - c. the organic compound content of each cleanup material, as applied.
- (2) The permittee shall collect and record the following information each month for each material employed in each emissions unit:
- a. the company identification for each ink, fountain solution, aqueous coating and cleanup material employed;
  - b. the number of pounds of each ink employed and the number of gallons of each fountain solution, aqueous coating and cleanup material employed in each emissions unit;
  - c. the organic compound content of each ink in pounds per pound, and the organic compound content of each fountain solution, aqueous coating and cleanup material in pounds per gallon;
  - d. the organic compound emission rate for each ink, fountain solution, aqueous coating and cleanup material, in pounds or tons per month, from each emissions unit;
  - e. the total organic compound emission rate for all inks, fountain solutions, aqueous coatings and cleanup materials, in pounds or tons per month, from each emissions unit;
  - f. the rolling 12-month total organic compound emissions rate for all inks, fountain solutions, aqueous coatings and cleanup materials, in tons per year; and
  - g. the rolling 12-month summation of the ink in pounds per year, and fountain solution, aqueous coating and cleanup material usage figures in gallons per year.

Note: The ink information must be for the inks as applied, including any thinning solvents or catalysts added at the emissions unit.

- (3) The permittee shall maintain for this facility all purchase orders and invoices of OC-containing materials. The permittee shall retain such purchase orders and invoices for at least five years from their date of issuance. Upon request, the permittee shall make available to the Director of the Ohio EPA, or an authorized representative of the Director, such purchase orders and invoices for use in confirming the general accuracy of the records maintained and the reports submitted regarding material usage.
- (4) The permit to install for this emissions unit (R010) was evaluated based on the actual materials (typically inks and adhesive materials) and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Ground-Level



Concentration (MAGLC).

The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Glycol Ethers

TLV (ug/m3): 121,000

Maximum Hourly Emission Rate (lbs/hr): 73.92

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 2,775

MAGLC (ug/m3): 2,880

Pollutant: Ethylene Glycol

TLV (ug/m3): 100,000

Maximum Hourly Emission Rate (lbs/hr): 9.39

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 351.8

MAGLC (ug/m3): 1,755

Pollutant: Naphthalene

TLV (ug/m3): 52,400

Maximum Hourly Emission Rate (lbs/hr): 26.02

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 977.8

MAGLC (ug/m3): 1,247

Physical changes to or in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxics Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change.

Changes that can affect the parameters used in the "Air Toxic Policy" include the following:

- a. changes in the composition of the materials used (typically for inks or adhesive materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled;
- b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and
- c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Air Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01 solely due to the emissions of any type of toxic air contaminant not previously emitted, and a modification of the



existing permit to install will not be required, even if the toxic air contaminant emissions are greater than the de minimis level in OAC rule 3745-15-05. If the change(s) is (are) defined as a modification under other provisions of the modification definition, then the permittee shall obtain a final permit to install prior to the change.

- (5) The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will satisfy the Air Toxic Policy:"
- a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);
  - b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and
  - c. when the computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

e) Reporting Requirements

- (1) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.
- (2) The permittee shall submit quarterly deviation (excursion) reports that identify:
  - a. all deviations (excursions) of the following emission limitations, operational restrictions and/or control device operating parameter limitations that restrict the potential to emit (PTE) of any regulated air pollutant and have been detected by the monitoring, record keeping and/or testing requirements in this permit:
    - i. each month in which the ink, fountain solution, aqueous coating and/or cleanup material usage exceeded the rolling, 12-month limitation contained in this permit.
    - ii. each month in which the accumulative, rolling, 12-month emissions limitation(s) for any individual HAP or combined HAPs exceeded the limitation in this permit, in pounds or tons per rolling, 12-month period.
    - iii. each month in which the accumulative, rolling, 12-month organic compound emissions limitation(s) exceeded the limitation in this permit, in pounds or tons per rolling, 12-month period the probable cause of each deviation (excursion);
  - b. the probable cause of each deviation (excursion);



- c. any corrective actions that were taken to remedy the deviations (excursions) or prevent future deviations (excursions); and
- d. the magnitude and duration of each deviation (excursion).

If no deviations (excursions) occurred during a calendar quarter, the permittee shall submit a report that states that no deviations (excursions) occurred during the quarter.

Exceeding the rolling, 12-month limitation is a violation for each day of the last month if each 12-month period in which the limitation is exceeded, regardless if whether a compliance plan is submitted.

The quarterly reports shall be submitted, electronically through Ohio EPA Air Services, each year by January 31 (covering October to December), April 30 (covering January to March), July 31 (covering April to June), and October 31 (covering July to September), unless an alternative schedule has been established and approved by the Director (the appropriate District Office or local air agency).

- (3) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be completed electronically and submitted via the Ohio EPA e-Business Center: Air Services by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve months for each air contaminant source identified in this permit.

f) Testing Requirements

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

- a. Emission Limitation:

Organic compound emissions shall not exceed 330.82 pounds per day (lbs/day).

Applicable Compliance Method:

The daily organic compound emissions rate was calculated using the following equation:

$$\text{lbs of OC/day} = [A \times B \times (1-C)] + (D \times E) + (F \times G) + (H \times I).$$

where,

A = maximum daily ink usage rate (1920 lbs/day)

B = maximum OC content in percent by weight expressed as a decimal (0.30 lb of OC/lb of ink)

C = ink retention factor from OEPA Engineering Guide #68 of 95 percent expressed as a decimal (0.95)

D = maximum daily fountain solution usage rate (57.6 gallons/day)

E = maximum OC content in lbs/gallon (0.16 lb of OC/gallon of fountain solution)



- F = maximum daily aqueous coating usage rate (168 gallons/day)
- G = maximum OC content in lbs/gallon (1.35 lbs/gal)
- H = maximum daily cleanup solvent usage rate (10 gallons/day)
- I = maximum OC content in lbs/gallon (6.6 lbs/gallon)

b. Emission Limitation:

OC emission shall not exceed 10.60 tons per year (TPY), based upon a rolling, 12-month summation.

Applicable Compliance Method:

$$\text{TPY OC} = [A \times B \times (1-C)] + (D \times E) + (F \times G) + (H \times I) \times \text{ton}/2000 \text{ lbs.}$$

where,

- A = maximum annual ink usage rate (40,000 lbs/year)
- B = maximum OC content in percent by weight expressed as a decimal (0.30 lb of OC/lb of ink)
- C = ink retention factor from OEPA Engineering Guide #68 of 95 percent expressed as a decimal (0.95)
- D = maximum annual fountain solution usage rate (20,000 gallons/year)
- E = maximum OC content in lbs/gallon (0.16 lb of OC/gallon of fountain solution)
- F = maximum annual aqueous coating usage rate (8000 gallons/year)
- G = maximum OC content in lbs/gallon (1.35 lbs/gal)
- H = maximum annual cleanup solvent usage rate (1000 gallons/year)
- I = maximum OC content in lbs/gallon (6.6 lbs/gallon)

c. Emission Limitation:

The maximum organic compound content of the inks, fountain solutions, aqueous coating and cleanup materials, as applied, shall not exceed the following:

- Ink - 30% by weight of OC;
- Fountain Solution - 0.16 lb of OC/gallon;
- Aqueous Coatings – 1.35 lbs of OC/gallon; and
- Cleanup Material - 6.6 lbs of OC/gallon.

Applicable Compliance Method:

USEPA Methods 24 and 24A shall be used to determine the VOC contents for (a) coatings and (b) flexographic and rotogravure printing inks and related coatings, respectively. If, pursuant to Method 24 as outlined in 40 CFR Part 60, Appendix A, an owner or operator determines that Method 24 or 24A cannot be used for a particular coating or ink, the permittee shall so notify the Administrator of the USEPA and shall use formulation data for that coating or ink to demonstrate compliance until the USEPA provides alternative analytical procedures or alternative precision statements for Method 24 or 24A.



d. Emission Limitation:

The maximum daily cleanup material usage for emissions unit R010 shall not exceed 10 gallons per day.

Applicable Compliance Method:

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

e. Emission Limitation:

The maximum annual ink usage for this emissions unit shall not exceed 40,000 pounds per year, based upon a rolling, 12-month summation of the ink usage figures.

Applicable Compliance Method:

Compliance shall be based upon the record keeping requirements specified in d)(2).

f. Emission Limitation:

The maximum annual fountain solution usage for this emissions unit shall not exceed 20,000 gallons per year, based upon a rolling, 12-month summation of the fountain solution usage figures.

Applicable Compliance Method:

Compliance shall be based upon the record keeping requirements specified in d)(2).

g. Emission Limitation:

The maximum annual aqueous coating usage for this emissions unit shall not exceed 8,000 gallons per year, based upon a rolling, 12-month summation of the fountain solution usage figures.

Applicable Compliance Method:

Compliance shall be based upon the record keeping requirements specified in d)(2).

h. Emission Limitation:

The maximum annual cleanup material usage for this emissions unit shall not exceed 1,000 gallons per year, based upon a rolling, 12-month summation of the cleanup material usage figures.



**Final Permit-to-Install and Operate**

CJ Krehbiel Co

**Permit Number:** P0112884

**Facility ID:** 1431070992

**Effective Date:** 8/5/2013

Applicable Compliance Method:

Compliance shall be based upon the record keeping requirements specified in d)(2).

g) Miscellaneous Requirements

(1) None.



4. R011, Printing Press

Operations, Property and/or Equipment Description:

Heatset Web Offset Press with dryer and regenerative thermal oxidizer (RTO) - Mitsubishi Web - Modification

a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

(1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

a. d)(5) and d)(6).

(2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.

a. b)(1)(b., c)(2), c)(3), c)(4), d)(2) and e)(2).

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3)	Organic compound emissions shall not exceed 360.34 lbs/day.  Particulate emissions (PE) and particulate matter emissions 10 microns and less in diameter (PM10) shall not exceed 0.551 lb/hr and 2.41 TPY.  The daily emission limitations outlined above are based upon the emissions unit's potential to emit at 24 hours per day. Therefore, no daily records are required to demonstrate compliance with these limits.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		The requirements of this rule also include compliance with OAC rules 3745-31-05(D) and 3745-17-07(A)(1). See b)(2)a. and c)(1) through c)(5)
b.	OAC rule 3745-31-05(D)	OC emissions shall not exceed 32.6 tons per year, based on a rolling, 12-month summation.
c.	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.
d.	OAC rule 3745-17-11(A)	The emission limitations specified by this rule are the same or less stringent as the emissions limitations established pursuant to OAC rule 3745-31-05(A)(3).

(2) Additional Terms and Conditions

- a. The maximum organic compound content of the inks, fountain solutions, and cleanup materials, as applied, shall not exceed the following:  
  
 Ink - 45% by weight of OC;  
 Fountain Solution - 0.65 lb of OC/gallon; and  
 Cleanup Material - 6.6 lbs of OC/gallon.  
  
 Ink means a liquid material applied by a roll printer. Fountain solution means a surface coating applied to a lithographic plate to render the nonimage areas unreceptive to ink. Cleanup material means all materials used to remove excess printing inks, oils and paper components from press equipment.
- b. Daily and annual emission rates in this permit are subject to revision should any of the listed emissions units be withdrawn.
- c. Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by the OC content limitations for all inks, fountain solutions and cleanup materials, material usage limitations and the use of the RTO with a 92.5% (by weight of organic compounds) control efficiency.
- d. The permittee shall operate and maintain a control device, at a minimum, 92.5% (by weight of organic compounds) control efficiency at a maximum hourly ink capacity from the control device exhaust for emission units R007 and R011.



c) **Operational Restrictions**

- (1) The maximum daily cleanup material usage for emissions unit R011 shall not exceed 20 gallons per day.
- (2) The maximum annual ink usage for this emissions unit shall not exceed 400,000 pounds per year, based upon a rolling, 12-month summation of the ink usage figures.
- (3) The maximum annual fountain solution usage for this emissions unit shall not exceed 120,000 gallons per year, based upon a rolling, 12-month summation of the fountain solution usage figures.
- (4) The maximum annual cleanup material usage for this emissions unit shall not exceed 3,000 gallons per year, based upon a rolling, 12-month summation of the cleanup material usage figures.
- (5) In order to maintain compliance with the applicable emission limitations contained in this permit, the acceptable average combustion temperature within the thermal oxidizer, for any 3-hour block of time when the emissions unit controlled by the thermal oxidizer is/are in operation, shall not be more than 50 degrees Fahrenheit below the average temperature measured during the most recent performance test that demonstrated the emissions unit was in compliance.

d) **Monitoring and/or Recordkeeping Requirements**

- (1) The permittee shall collect and record the following information each day for cleanup materials employed in this emissions unit:
  - a. the company identification (including product name per MSDSs) for each cleanup material employed;
  - b. the number of gallons of each cleanup material employed; and
  - c. the organic compound content of each cleanup material, as applied.
- (2) The permittee shall collect and record the following information each month for each material employed in each emissions unit:
  - a. the company identification for each ink, fountain solution, and cleanup material employed;
  - b. the number of pounds of each ink employed and the number of gallons of each fountain solution and cleanup material employed in each emissions unit;
  - c. the organic compound content of each ink in pounds per pound, and the organic compound content of each fountain solution and cleanup material in pounds per gallon;
  - d. the organic compound emission rate for each ink, fountain solution and cleanup material, in pounds or tons per month, from each emissions unit;



- e. the total organic compound emission rate for all inks, fountain solutions, and cleanup materials, in pounds or tons per month, from each emissions unit;
- f. the rolling 12-month total organic compound emissions rate for all inks, fountain solutions, and cleanup materials, in tons per year; and
- g. the rolling 12-month summation of the ink in pounds per year, and fountain solution and cleanup material usage figures in gallons per year.

Note: The ink information must be for the inks as applied, including any thinning solvents or catalysts added at the emissions unit.

- (3) The permittee shall maintain for this facility all purchase orders and invoices of OC-containing materials. The permittee shall retain such purchase orders and invoices for at least five years from their date of issuance. Upon request, the permittee shall make available to the Director of the Ohio EPA, or an authorized representative of the Director, such purchase orders and invoices for use in confirming the general accuracy of the records maintained and the reports submitted regarding material usage.
- (4) The permittee shall properly install, operate, and maintain a continuous temperature monitor and recorder that measures and records the combustion temperature within the thermal oxidizer when the emissions unit(s) is/are in operation, including periods of startup and shutdown. Units shall be in degrees Fahrenheit. The accuracy for each thermocouple, monitor, and recorder shall be guaranteed by the manufacturer to be within  $\pm 1$  percent of the temperature being measured or  $\pm 5$  degrees Fahrenheit, whichever is greater. The temperature monitor and recorder shall be installed, 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 record the following information each day the emissions unit(s) is/are in operation:
  - a. all 3-hour blocks of time, when the emissions unit(s) controlled by the thermal oxidizer was/were in operation, during which the average combustion temperature within the thermal oxidizer was more than 50 degrees Fahrenheit below the average temperature measured during the most recent performance test that demonstrated the emissions unit(s) was/were in compliance; and
  - b. a log or record of the operating time for the capture (collection) system, thermal oxidizer, monitoring equipment, and the associated emissions unit(s).
- (5) The permit to install for this emissions unit R011 was evaluated based on the actual materials (typically inks and adhesive materials) and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Ground-Level Concentration (MAGLC).



The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Glycol Ethers

TLV (ug/m3): 121,000

Maximum Hourly Emission Rate (lbs/hr): 73.92

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 2,775

MAGLC (ug/m3): 2,880

Pollutant: Ethylene Glycol

TLV (ug/m3): 100,000

Maximum Hourly Emission Rate (lbs/hr): 9.39

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 351.8

MAGLC (ug/m3): 1,755

Pollutant: Naphthalene

TLV (ug/m3): 52,400

Maximum Hourly Emission Rate (lbs/hr): 26.02

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 977.8

MAGLC (ug/m3): 1,247

Physical changes to or in the method of operation of the emissions unit after it's installation or modification could affect the parameters used to determine whether or not the "Air Toxics Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in the "Air Toxic Policy" include the following:

- a. changes in the composition of the materials used (typically for inks or adhesive materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled;
- b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and
- c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Air Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01 solely due to the emissions of any type of toxic air contaminant not previously emitted, and a modification of the existing permit to install will not be required, even if the toxic air contaminant emissions are greater than the de minimis level in OAC



rule 3745-15-05. If the change(s) is (are) defined as a modification under other provisions of the modification definition, then the permittee shall obtain a final permit to install prior to the change.

- (6) The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will satisfy the "Air Toxic Policy":
  - a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);
  - b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and
  - c. when the computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.
- e) Reporting Requirements
  - (1) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.
  - (2) The permittee shall submit quarterly deviation (excursion) reports that identify:
    - a. all deviations (excursions) of the following emission limitations, operational restrictions and/or control device operating parameter limitations that restrict the potential to emit (PTE) of any regulated air pollutant and have been detected by the monitoring, record keeping and/or testing requirements in this permit:
      - i. each month in which the ink, fountain solution and/or cleanup material usage exceeded the rolling, 12-month limitation contained in this permit.
      - ii. each month in which the accumulative, rolling, 12-month emissions limitation(s) for any individual HAP or combined HAPs exceeded the limitation in this permit, in pounds or tons per rolling, 12-month period.
      - iii. each month in which the accumulative, rolling, 12-month organic compound emissions limitation(s) exceeded the limitation in this permit, in pounds or tons per rolling, 12-month periodthe probable cause of each deviation (excursion);
    - b. the probable cause of each deviation (excursion);
    - c. any corrective actions that were taken to remedy the deviations (excursions) or prevent future deviations (excursions); and
    - d. the magnitude and duration of each deviation (excursion).



If no deviations (excursions) occurred during a calendar quarter, the permittee shall submit a report that states that no deviations (excursions) occurred during the quarter.

Exceeding the rolling, 12-month limitation is a violation for each day of the last month if each 12-month period in which the limitation is exceeded, regardless if whether a compliance plan is submitted.

The quarterly reports shall be submitted, electronically through Ohio EPA Air Services, each year by January 31 (covering October to December), April 30 (covering January to March), July 31 (covering April to June), and October 31 (covering July to September), unless an alternative schedule has been established and approved by the Director (the appropriate District Office or local air agency).

- (3) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be completed electronically and submitted via the Ohio EPA e-Business Center: Air Services by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve months for each air contaminant source identified in this permit
- (4) The permittee shall include in the PER:
  - a. all 3-hour blocks of time (when the emissions unit(s) was/were in operation) during which the average combustion temperature within the thermal oxidizer was more than 50 degrees Fahrenheit below the average temperature maintained during the most recent performance test that demonstrated the emissions unit(s) was/were in compliance;
  - b. any records of downtime (date and length of time) for the capture (collection) system, the thermal oxidizer, and/or the monitoring equipment when the emissions unit(s) was/were in operation; and
  - c. a log of the operating time for the capture system, thermal oxidizer, monitoring equipment, and the emissions unit(s).

f) Testing Requirements

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

- a. Emission Limitation:

Organic compound emissions shall not exceed 360.34 pounds per day.

Applicable Compliance Method:

The daily organic compound emission rate was calculated using the following equation:

$$\text{lbs of OC/day} = [A \times B \times (1-C) \times (1-D)] + [E \times F \times G \times (1-D)] + [E \times F \times H] + [I \times J \times K \times (1-D)] + [I \times J \times L].$$



where;

A = maximum daily usage rate (4800 lbs/day)

B = maximum OC content in percent by weight expressed as a decimal (0.45 lb of OC/lb of ink)

C = ink retention factor from OEPA Engineering Guide #56 of 20 percent expressed as a decimal ( 0.20)

D = control efficiency of thermal oxidizer of 92.5% expressed as a decimal (0.925)

E = maximum daily fountain solution usage rate (422.4 gallons/day)

F = maximum OC content in lbs/gallon (0.65 lb of OC/gallon of fountain solution)

G = fountain solution capture factor from EPA Guideline Series Control of Volatile Organic Compound Emissions from Offset Lithographic Printing Section 2.2.2.4 of 50 percent captured and ducted to control device expressed as a decimal (0.50)

H = fountain solution fugitive factor from EPA Guideline Series Control of Volatile Organic Compound Emissions from Offset Lithographic Printing Section 2.2.2.4 of 50 percent expressed as a decimal (0.50)

I = maximum daily cleanup solvent usage rate (20 gallons/day)

J = maximum OC content in lbs/gallon (6.6 lbs of OC/gallon of cleanup solvent)

K = automatic blanket wash factor from OEPA Engineering Guide #56 of 40 percent captured and ducted to control device expressed as a decimal (0.40)

L = automatic blanket wash fugitive factor from OEPA Engineering Guide #56 of 60 percent expressed as a decimal (0.60)

Note: Fountain solution factors for G and H were the factors used to calculate the emissions limitations in PTI 14-4841 issued 3/29/00. When calculating emissions to demonstrate compliance, the factors found in OEPA Engineering Guide #56 should be used. This would be 70% captured and ducted to control device for G and 30% fugitive for H.

b. Emission Limitation:

OC emissions shall not exceed 32.6 tons per year (TPY), based upon a rolling, 12-month summation.

The annual organic compound emission rate was calculated using the following equation:

$$\text{lbs of OC/year} = [A \times B \times (1-C) \times (1-D)] + [E \times F \times G \times (1-D)] + [E \times F \times H] + [I \times J \times K \times (1-D)] + [I \times J \times L] \times \text{ton}/2000 \text{ lbs.}$$

where,

A = maximum annual ink usage rate (400,000 lbs/year)

B = maximum OC content in percent by weight expressed as a decimal (0.45 lb of OC/lb of ink)

C = ink retention factor from OEPA Engineering Guide #56 of 20 percent expressed as a decimal (0.20)

D = control efficiency of thermal oxidizer of 92.5% expressed as a decimal



(0.925)

E = maximum annual fountain solution usage rate (120,000 gallons/year)

F = maximum OC content in lbs/gallon (0.65 lb of OC/gallon of fountain solution)

G = fountain solution capture factor from EPA Guideline Series Control of Volatile Organic Compound Emissions from Offset Lithographic Printing Section 2.2.2.4 of 50 percent captured and ducted to control device expressed as a decimal (0.50)

H = fountain solution fugitive factor from EPA Guideline Series Control of Volatile Organic Compound Emissions from Offset Lithographic Printing Section 2.2.2.4 of 50 percent expressed as a decimal (0.50)

I = maximum annual cleanup solvent usage rate (3000 gallons/year)

J = maximum OC content in lbs/gallon (6.6 lbs of OC/gallon of cleanup solvent)

K = automatic blanket wash factor from OEPA Engineering Guide #56 of 40 percent captured and ducted to control device expressed as a decimal (0.40)

L = automatic blanket wash fugitive factor from OEPA Engineering Guide #56 of 60 percent expressed as a decimal (0.60)

Note: Fountain solution factors for G and H were the factors used to calculate the emissions limitations in PTI 14-4841 issued 3/29/00. When calculating emissions to demonstrate compliance, the factors found in OEPA Engineering Guide #56 should be used. This would be 70% captured and ducted to control device for G and 30% fugitive for H.

Compliance with the rolling, 12-month annual limit shall be based upon the record keeping requirements specified in d)(2).

c. Emission Limitations:

Particulate emissions (PE) shall not exceed 0.551 lb/hr.

Particulate emissions (PE) and particulate matter emissions 10 microns and less in diameter (PM10) shall not exceed 2.41 TPY.

Applicable Compliance Method:

If testing is required to demonstrate compliance with the PE limitation, then testing shall be conducted using the following methods: Methods 1-5, 40 CFR Part 60, Appendix A.

The annual limitation was developed by multiplying the 0.551 lb/hr limitation by 8760 hours/year and dividing by 2000 pounds/ton.

d. Emission Limitation:

The maximum organic compound content of the inks, fountain solutions, and cleanup materials, as applied, shall not exceed the following:

Ink - 45% by weight of OC;

Fountain Solution - 0.65 lb of OC/gallon; and

Cleanup Material - 6.6 lbs of OC/gallon.



Applicable Compliance Method:

USEPA Methods 24 and 24A shall be used to determine the VOC contents for (a) coatings and (b) flexographic and rotogravure printing inks and related coatings, respectively. If, pursuant to Method 24 as outlined in 40 CFR Part 60, Appendix A, an owner or operator determines that Method 24 or 24A cannot be used for a particular coating or ink, the permittee shall so notify the Administrator of the USEPA and shall use formulation data for that coating or ink to demonstrate compliance until the USEPA provides alternative analytical procedures or alternative precision statements for Method 24 or 24A.

e. Emission Limitation:

The maximum daily cleanup material usage for emissions unit R011 shall not exceed 20 gallons per day.

Applicable Compliance Method:

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

f. Emission Limitation:

The maximum annual ink usage for this emissions unit shall not exceed 400,000 pounds per year, based upon a rolling, 12-month summation of the ink usage figures.

Applicable Compliance Method:

Compliance shall be based upon the record keeping requirements specified in d)(2).

g. Emission Limitation:

The maximum annual fountain solution usage for this emissions unit shall not exceed 120,000 gallons per year, based upon a rolling, 12-month summation of the fountain solution usage figures.

Applicable Compliance Method:

Compliance shall be based upon the record keeping requirements specified in d)(2).

h. Emission Limitation:

The maximum annual cleanup material usage for this emissions unit shall not exceed 3,000 gallons per year, based upon a rolling, 12-month summation of the cleanup material usage figures.



Applicable Compliance Method:

Compliance shall be based upon the record keeping requirements specified in d)(2).

i. Emission Limitation:

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

Applicable Compliance Method:

Compliance shall be determined through visible emission observations performed in accordance with U.S. EPA Method 9.

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

- a. the emission testing shall be conducted within 6 months prior to the expiration of this permit.
- b. the emission testing shall be conducted to demonstrate compliance with the overall control efficiency limitation for organic compounds.
- c. the following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate:

Method 25 of 40 CFR Part 60, Appendix A.

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

- d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency.
- e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).
- f. Personnel from the Hamilton County Department of Environmental Services 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.



**Final Permit-to-Install and Operate**

CJ Krehbiel Co

**Permit Number:** P0112884

**Facility ID:** 1431070992

**Effective Date:** 8/5/2013

- 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 appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

g) Miscellaneous Requirements

- (1) None.