

April 26, 2005

Mr. Daniel Luedke
Vice President
Keller Crescent Company, Inc.
6454 Saguaro Court
Indianapolis, Indiana 46268



CERTIFIED MAIL# 7000 0600 0023 5190 5341

Re: 097-20477-00270, Registration Revision to
Registration 097-15855-00270

Dear Mr. Luedke:

On December 9, 1999, the Keller Crescent Company was issued the Registered Construction and Operation Status, 097-11622-00270. On October 3, 2003, the Registration Revision 097-15855-00270 was issued to the Keller Crescent Company to allow the addition of one (1) sheetfed offset lithographic printer identified as Miller TP-04. On July 6, 2004, the Registration Notice Only, 097-18906-00270, was issued to the Keller Crescent Company to delete 326 IAC 2-6 (Emission Reporting) as an applicable requirement from Registration 097-15855-00270.

On January 20, 2005, the Keller Crescent Company submitted an application to OES relating to the addition of one (1) Mark Andy UV Ink Flexographic Printing Press, identified as Press # 410, and the deletion of the existing one (1) Mark Andy 404 Waterbase Flexographic Printing Press from the existing Registration for this source. Based on the data submitted and the state regulations 326 IAC 2-5.1-2 and 326 IAC 2-5.5, OES has determined that the following printing operations, located at 6454 Saguaro Court, Indianapolis, Indiana, are classified as registered.

The source consists of the following facilities:

- (a) One (1) Hamilton 140 nonheatset web offset lithographic printer utilizing the following materials:
 - (1) Litho Inks, maximum throughput of 588 gal/yr;
 - (2) Type Wash, maximum throughput of 300 gal/yr;
 - (3) Roller Wash, maximum throughput of 120 gal/yr; and
 - (4) PR-628 Alcohol, maximum throughput of 24 gal/yr.

- (b) One (1) Heidelberg GT02-52 sheetfed offset lithographic printer utilizing the following materials:
 - (1) Litho ink, maximum throughput of 294 gal/yr;
 - (2) Type Wash, maximum throughput of 150 gal/yr;
 - (3) Roller Wash, maximum throughput of 60 gal/yr; and
 - (4) PR-628 Alcohol, maximum throughput of 12 gal/yr.

- (c) Two (2) sheetfed offset lithographic printers, Miller TP-38A and Miller TP-104, utilizing the following materials, each:
 - (1) Litho ink, maximum throughput of 294 gal/yr;
 - (2) Type Wash, maximum throughput of 150 gal/yr;
 - (3) Roller Wash, maximum throughput of 60 gal/yr; and
 - (4) PR-628 Alcohol, maximum throughput of 12 gal/yr.

Department of Public Works
Office of Environmental Services
2700 South Belmont Avenue (317) 327-2234
Indianapolis, Indiana 46221 (fax) 327-2274
(TDD) 325-5186
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- (d) One (1) Comco UV Ink Flexographic printing press, utilizing the following materials:
 - (1) UV Inks, maximum throughput 210 gal/yr;
 - (2) Roller Wash, maximum throughput of 60 gal/yr.
- (e) One (1) Gallus R160E02 Rotary UV Ink Letterpress Label Printer utilizing the following materials:
 - (1) UV Inks, maximum throughput 210 gal/yr;
 - (2) Roller Wash, maximum throughput of 60 gal/yr.
- (f) One (1) Gallus R160-B03 Letterpress and Screen Combination Printer, utilizing the following materials:
 - (1) UV Inks, maximum throughput 210 gal/yr;
 - (2) Roller Wash, maximum throughput of 30 gal/yr; and
 - (3) Propylene Glycol Monoethyl Ether maximum throughput 100 gal/yr.
- (g) One (1) Miller 407 Sheetfed Offset Lithographic Printer utilizing the following materials:
 - (1) Litho inks, maximum throughput 205 gal/yr;
 - (2) Type Wash, maximum throughput 127 gal/yr; and
 - (3) Roller Wash, maximum throughput 104 gal/yr.
- (h) One (1) Kelleigh 210 Cyrel Platemaking System utilizing Optisol Rotary Solution, maximum throughput of 30 gal/yr.
- (i) One (1) Stevens 2000 Flexographic Printing Press utilizing a water based ink, maximum throughput of 133,680 gal/yr.
- (j) One (1) Mark Andy UV Ink Flexographic Printing Press, identified as Press # 410. Installed in 2004. Model number LP3330-13. Maximum ink and cleanup solvent usage each rated at 0.36 pounds per hour. Maximum rate of 22,500 sheets per hour and exhausting to Stack/Vent S410.

All printing presses (printers) manufacture either paper labels, paper literature, or paperboard cartons produced for pharmaceutical clients.

The following conditions shall be applicable:

- (a) Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following:
 - (1) Opacity shall not exceed an average of thirty percent (30%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
 - (2) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of 15 minutes (60 readings) in a 6-hour period as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor in a six (6) hour period.
- (b) Pursuant to The Code of Indianapolis and Marion County Chapter 511, this registration will be subject to annual operating fees.

- (c) Pursuant to 326 IAC 2-5.1-2(f)(3), an authorized individual shall provide an annual notice to the IDEM OAQ and Indianapolis OES that the source is in operation and in compliance with this registration at the addresses listed below, in the format attached, no later than April 15 of each year.

Compliance Data Section
Office of Air Quality
100 North Senate Avenue
Indianapolis, IN 46204

and

Office of Environmental Services
Air Compliance
2700 South Belmont Avenue
Indianapolis, Indiana 46221-2097

- (d) An application or notification shall be submitted in accordance with 326 IAC 2 to the IDEM OAQ and the Indianapolis OES if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

This registration is a revised registration issued to this source. This is the fourth air approval issued to this source. The source may operate according to 326 IAC 2-5.5.

Sincerely,

Original Signed by:

Felicia A. Robinson
Manager of Environmental Planning

FAR/mbc

Attachment: Technical Support Document for a Registration Revision

cc: Mindy Hahn, IDEM
Matt Mosier, OES, Air Compliance
Mark Caraher, OES, Permits
Marion County Health Department
Files

Registration Annual Notification

This form should be used to comply with the notification requirements under **326 IAC 2-5.1-2(f)(3)** or **326 IAC 2-5.5-4(a)(3)**

Company Name:	Keller Crescent Company, Inc.
Address:	6454 Saguaro Court
City:	Indianapolis, IN 46268
Authorized individual:	Daniel Luedke
Phone #:	(317) 328-7355
Registration #:	097-20477-00270

I hereby certify that **Keller Crescent Company** is still in operation and is in compliance with the requirements of Registration **097-20477-00270**.

Name (typed):
Title:
Signature:
Date:

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
and
INDIANAPOLIS OFFICE OF ENVIRONMENTAL SERVICES**

Technical Support Document (TSD) for a Registration Revision

Source Background and Description

Source Name:	Keller Crescent Company, Inc.
Source Location:	6454 Saguaro Court, Indianapolis, IN 46268
County:	Marion
SIC Code:	2752
Operation Permit No.:	R097-15855-00270
Operation Permit Issuance Date:	October 3, 2003
Permit Revision No.:	097-20477-00270
Permit Reviewer:	M. Caraher

The Indiana Department of Environmental Management (IDEM) Office of Air Quality (OAQ) and Indianapolis Office of Environmental Services (OES) have reviewed an application from Keller Crescent Company, Inc. relating to the removal of one (1) Mark Andy 404 Waterbase Flexographic Printing Press and the construction and operation of one (1) Mark Andy UV Ink Flexographic Printing Press at this existing marketing and communications source.

Permitted Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units and pollution control devices:

- (a) One (1) Hamilton 140 nonheatset web offset lithographic printer utilizing the following materials:
 - (1) Litho Inks, maximum throughput of 588 gal/yr;
 - (2) Type Wash, maximum throughput of 300 gal/yr;
 - (3) Roller Wash, maximum throughput of 120 gal/yr; and
 - (4) PR-628 Alcohol, maximum throughput of 24 gal/yr.

- (b) One (1) Heidelberg GT02-52 sheetfed offset lithographic printer utilizing the following materials:
 - (1) Litho ink, maximum throughput of 294 gal/yr;
 - (2) Type Wash, maximum throughput of 150 gal/yr;
 - (3) Roller Wash, maximum throughput of 60 gal/yr; and
 - (4) PR-628 Alcohol, maximum throughput of 12 gal/yr.

- (c) Two (2) sheetfed offset lithographic printers, Miller TP-38A and Miller TP-104, utilizing the following materials, each:
 - (1) Litho ink, maximum throughput of 294 gal/yr;
 - (2) Type Wash, maximum throughput of 150 gal/yr;
 - (3) Roller Wash, maximum throughput of 60 gal/yr; and
 - (4) PR-628 Alcohol, maximum throughput of 12 gal/yr.

- (d) One (1) Comco UV Ink Flexographic printing press, utilizing the following materials:

- (1) UV Inks, maximum throughput 210 gal/yr;
 - (2) Roller Wash, maximum throughput of 60 gal/yr.
- (e) One (1) Gallus R160E02 Rotary UV Ink Letterpress Label Printer utilizing the following materials:
- (1) UV Inks, maximum throughput 210 gal/yr;
 - (2) Roller Wash, maximum throughput of 60 gal/yr.
- (f) One (1) Gallus R160-B03 Letterpress and Screen Combination Printer, utilizing the following materials:
- (1) UV Inks, maximum throughput 210 gal/yr;
 - (2) Roller Wash, maximum throughput of 30 gal/yr; and
 - (3) Propylene Glycol Monoethyl Ether maximum throughput 100 gal/yr.
- ~~(g) One (1) Mark Andy 404 Waterbase Flexographic Printing Press utilizing the following materials:~~
- ~~(1) Litho inks, maximum throughput 263 gal/yr;~~
 - ~~(2) Acetone, maximum throughput 5 gal/yr;~~
 - ~~(3) Type Wash, maximum throughput 7 gal/yr; and~~
 - ~~(4) Roller Wash, maximum throughput 10 gal/yr.~~
- (h) (g) One (1) Miller 407 Sheetfed Offset Lithographic Printer utilizing the following materials:
- (1) Litho inks, maximum throughput 205 gal/yr;
 - (2) Type Wash, maximum throughput 127 gal/yr; and
 - (3) Roller Wash, maximum throughput 104 gal/yr.
- (i) (h) One (1) Kelleigh 210 Cyrel Platemaking System utilizing Optisol Rotary Solution, maximum throughput of 30 gal/yr.
- (i) (i) One (1) Stevens 2000 Flexographic Printing Press utilizing a water based ink, maximum throughput of 133,680 gal/yr.

New Emission Units and Pollution Control Equipment

- (j) One (1) Mark Andy UV Ink Flexographic Printing Press, identified as Press # 410. Installed in 2004. Model number LP3330-13. Maximum ink and cleanup solvent usage each rated at 0.36 pounds per hour. Maximum rate of 22,500 sheets per hour and exhausting to Stack/Vent S410.

History

This source was issued a Registration, 097-11622-00270, on December 9, 1999. A Registration Revision, 097-15855-00270, was issued on October 3, 2003. On January 20, 2005, Keller Crescent Company, Inc. submitted a Registration Revision application to OAQ and to OES to delete from the existing Registration for this source one (1) Mark Andy 404 Waterbase Flexographic Printing Press, which was removed from the source in December 2004, and to add one (1) Mark Andy UV Ink Flexographic Printing Press, identified as Press # 410, which was installed in December 2004.

Existing Approvals

The source has been operating under previous approvals including, but not limited to, the following:

- (a) Registration 097-11622-00270 issued on December 9, 1999; and
- (b) Registration Revision 097-15855-00270 issued on October 3, 2003; and
- (c) Registration Notice Only 097-18906-00270 issued on July 6, 2004.

All conditions from previous approvals were incorporated into this permit.

Enforcement Issue

There are no unpermitted emission units operating at this source during this review process.

Stack Summary

Stack ID	Operation	Height (ft)	Diameter (ft)	Flow Rate (acfm)	Temperature (°F)
S410	Press # 410	26	1.3	1000	147

There are no exhaust stacks for any other permitted or new emission units.

Recommendation

The staff recommends to the Administrator that the construction and operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

A complete application for the purposes of this review was received on January 20, 2005. Additional information was received on March 4, 2005 and on April 8, 2005.

Emission Calculations

See Appendix A of this document for detailed emission calculations pages 1 through 4 of 4.

Acetone was incorrectly included as VOC in the potential to emit determination for the source in the Registration 097-11622-00270 issued December 9, 1999 and in the Registration Revision 097-15855-00270 issued October 3, 2003. Acetone was delisted as a VOC by USEPA effective June 16, 1995. The action by USEPA added acetone to the list of compounds excluded from the definition of VOC in 40 CFR Part 51 on the basis that acetone has been determined to have negligible photochemical reactivity. Therefore, acetone has not been included in the potential to emit VOC for this Registration Revision, 097-20477-00270, and is subtracted from the previous determination of the total potential to emit VOC for this source (see TSD Appendix A pages 1 through 4 of 4).

The existing Registration for this source, Registration Revision 097-15855-00270 issued on October 3, 2003, contains the potential to emit from one (1) Mark Andy 404 Waterbase Flexographic Printing Press, which was removed from the source in December 2004. Therefore, this printing press has not been included in the potential to emit VOC for this Registration

Revision, 097-20477-00270 and is subtracted from the previous determination of the total potential to emit VOC for this source.

Potential to Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U.S. EPA, the department, or the appropriate local air pollution control agency.”

Pollutant	Potential to Emit of Existing Equipment (tons/yr)	Potential to Emit of Revision (tons/yr) New Press - Mark Andy UV Ink Flexographic Printing Press	Potential to Emit (tons/yr)
PM	0.0	0.0	0.0
PM-10	0.0	0.0	0.0
* PM2.5	0.0	0.0	0.0
SO ₂	0.0	0.0	0.0
VOC	49.21 18.57	1.59	20.16
CO	0.0	0.0	0.0
NO _x	0.0	0.0	0.0

- * Until U.S. EPA adopts specific New Source Review rules for PM2.5 emissions, it has directed states to regulate PM10 emissions as surrogate for PM2.5 emissions pursuant to the Non-attainment New Source Review requirements.
- Strikeout reflects the revision due to deletion of acetone as a VOC (see TSD Appendix A) from the previous determination of the potential to emit VOC for the source and the removal of the Mark Andy 404 Waterbase Flexo Printer in 12/04.

HAPs	Potential to Emit of Existing Equipment (tons/yr)	Potential to Emit of Revision (tons/yr) New Press - Mark Andy UV Ink Flexographic Printing Press	Potential to Emit (tons/yr)
Toluene	0.17	0.0	0.17
Combination	0.25	0.0	0.25

- (a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of VOC is greater than ten (10) tons per year and less than 25 tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-5.5.
- (b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is less than ten (10) tons per year and/or the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, the source is not subject to the provisions of 326 IAC 2-7.
- (c) Fugitive Emissions
 Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

Justification for the Revision

This application is not classifiable as a notice-only change under 326 IAC 2-5.5-6(d) because the addition of the one (1) Mark Andy UV Ink Flexographic Printing Press, identified as Press # 410, is a modification of an existing source that may result in an increase in actual emissions. Press # 410 utilizes solvent based inks and replaced the one (1) Mark Andy 404 Waterbase Flexographic Printing Press which utilized water based inks. In addition, the potential to emit VOC from Press # 410 exceeds the potential to emit VOC from the Mark Andy 404 press removed from the source

(less the contribution of acetone, see Appendix A). The Registration is being revised through a Registration Revision. This revision is being performed pursuant to 326 IAC 2-5.5-6(h). Following this Registration Revision, 097-20477-00270, the potential to emit VOC remains less than twenty five (25) tons per year. Therefore, the source is still subject to the provisions of 326 IAC 2-5.5.

County Attainment Status

The source is located in Marion County.

Pollutant	Status
PM-10	Unclassifiable
PM2.5	Nonattainment
SO ₂	Maintenance attainment
NO _x	Attainment
1-hour Ozone	Maintenance attainment
8-hour Ozone	Basic nonattainment
CO	Attainment
Lead	unclassifiable

- (a) Volatile organic compounds (VOC) and Nitrogen Oxides (NO_x) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NO_x emissions are considered when evaluating the rule applicability relating to the ozone standards. Marion County has been designated as nonattainment of the 8-hour ozone standard. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for Emission Offset, 326 IAC 2-3.
 - (b) Marion County has been classified as nonattainment for PM2.5 in 70 FR 943 dated January 5, 2005. Until U.S. EPA adopts specific New Source Review rules for PM2.5 emissions, it has directed states to regulate PM10 emissions as surrogate for PM2.5 emissions pursuant to the Non-attainment New Source Review requirements. See the State Rule Applicability for the source section.
 - (c) Marion County has been classified as attainment or unclassifiable for all other criteria pollutants. Therefore, PM-10, SO₂, CO and Lead emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration, 326 IAC 2-2.
- Fugitive Emissions
- (d) Since this type of operation is not one of the 28 listed source categories under 326 IAC 2-2 or 326 IAC 2-3 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

Source Status

Existing Source PSD, Part 70, or FESOP Definition (emissions after controls, based on 8760 hours of operation per year at rated capacity and/or as otherwise limited):

Pollutant	Emissions (tons/yr)
PM	0.0
PM-10	0.0
PM2.5	0.0
SO ₂	0.0
VOC	20.16
CO	0.0
NO _x	0.0

- (a) This existing source is not a major stationary source because no attainment regulated pollutant is emitted at a rate of 250 tons per year or greater and it is not in one of the 28 listed source categories.
- (b) This existing source is not a major stationary source because no nonattainment regulated pollutant is emitted at a rate of 100 tons per year or greater and it is not in one of the 28 listed source categories.
- (c) These emissions are based on Registration 097-11622-00270, issued on December 9, 1999, Registration Revision, 097-15855-00270, issued on October 3, 2003, and on this Registration Revision, 097-20477-00270.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This existing source, including the emissions from this permit, 097-20477-00270, is still not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

- (a) each criteria pollutant is less than 100 tons per year,
- (b) a single hazardous air pollutant (HAP) is less than 10 tons per year, and
- (c) any combination of HAPs is less than 25 tons per year.

This status is based on all the air approvals issued to the source. This status has been verified by the OES inspector assigned to the source.

Federal Rule Applicability

- (a) The printing operations at this existing marketing and communications source are not subject to 40 CFR Part 60.430, Subpart QQ (Standards of Performance for the Graphic Arts Industry: Publication Rotogravure Printing) and 326 IAC 12 because it is not a publication rotogravure printing operation. Therefore, there are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) applicable to this source.
- (b) This source is not subject to 40 CFR Part 63, Subpart KK (Printing and Publishing) and is not subject to 40 CFR 63, Subpart JJJJ (Paper and Other Web Coating) because it is not a major source of hazardous air pollutants (HAPs). Therefore, there are no National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 20 and 40 CFR Part 63) applicable to this source.

State Rule Applicability – Entire Source

326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements) and 326 IAC 2-3 (Emission Offset)

This existing source is not a major stationary source because no attainment regulated pollutant emissions are equal to or greater than two hundred fifty (250) tons per year, this source is not one of the 28 listed source categories under 326 IAC 2-2 or 326 IAC 2-3 and no nonattainment regulated pollutant emissions are equal to or greater than one hundred (100) tons per year. There have been no modifications or revisions to this source that were major modifications pursuant to the nonattainment new source review requirements. This Registration Revision, 097-20477-00270, which adds a Mark Andy UV Ink Flexographic Printing Press, identified as Press # 410, does not increase the potential to emit of this source such that the source is a major source. Therefore, 326 IAC 2-2 or 326 IAC 2-3 are each not applicable to the source.

326 IAC 2-4.1 (New Source Toxics Control)

The source has the potential to emit any single of less than ten (10) tons per year and less than twenty five (25) tons per year of any combination of HAP. This Registration Revision, 097-20477-

00270, which adds a Mark Andy UV Ink Flexographic Printing Press, identified as Press # 410, does not increase the potential to emit of this source such that the source is a major HAP source (see Appendix A). Therefore, 326 IAC 2-4.1 is not applicable to this Registration Revision or to this source.

326 IAC 2-5.5 (Registrations)

The potential to emit of VOC is greater than ten (10) tons per year and less than 25 tons per year. Following this Registration Revision, 097-20477-00270, the potential to emit VOC remains less than 25 tons per year. Therefore, the source is still subject to the provisions of 326 IAC 2-5.5.

326 IAC 2-6 (Emission Reporting)

Due to revisions to the state rule, effective March 27, 2004, this source is no longer subject to 326 IAC 2-6-1(a) (Emission Reporting) because it is located in Marion County, it does not have an operating permit under 326 IAC 2-7 (Part 70 Permit Program), and it does not emit lead into the ambient air at levels equal to or greater than five (5) tons per year. In addition, the Registration Notice Only, 097-18906-00270, issued on July 6, 2004 deleted the emission reporting requirement of 326 IAC 2-6 (Emission Reporting) for this source to reflect the March 27, 2004 rule revisions.

326 IAC 5 (Opacity Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in the permit:

- (a) Opacity shall not exceed an average of thirty percent (30%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

326 IAC 6-1-2 (Particulate Rules)

This source is not subject to the requirements of 326 IAC 6-1-2 because the potential particulate emissions are less than one hundred (100) tons per year and actual particulate emissions are less than ten (10) tons per year.

326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes)

There are no particulate emissions from printing operations at this source (see TSD Appendix A). Therefore, pursuant to 326 IAC 6-3-1(b)(14), this source is not subject to the provisions of 326 IAC 6-3-2 (Particulate Emission Limitations, Work Practices, and Control Technologies).

326 IAC 6-4 (Fugitive Dust Emissions)

This source is subject to the provisions of 326 IAC 6-4 for fugitive dust emissions. The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right of way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions).

326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations)

This source is not subject to 326 IAC 6-5, for fugitive particulate matter emissions, because the fugitive particulate matter emissions from this source are less than twenty-five (25) tons per year.

State Rule Applicability – Individual Facilities

326 IAC 8-1-6 (General Reduction Requirements for New Facilities)

This source commenced construction and operation after January 1, 1980. None of the printing operations at this source, which are not otherwise regulated by the provisions of 326 IAC 8 (Volatile Organic Compound Rules), has the potential to emit twenty-five (25) tons per year or

more of volatile organic compounds. Therefore, 326 IAC 8-1-6 does not apply to printing operations at this source.

326 IAC 8-2-5 (Surface Coating Emission Limitations: Paper Coating Operations)

This source, existing as of July 1, 1990, does not have the potential to emit volatile organic compounds equal to or greater than fifteen (15) pounds per day from the one (1) Hamilton 140 nonheatset web offset lithographic printer (see Appendix A page 1 of 4). The one (1) Hamilton 140 nonheatset web offset lithographic printer does not have actual volatile organic compounds equal to or greater than fifteen (15) pounds per day (see Appendix A page 1 of 4). Therefore, 326 IAC 8-2-5 (Surface Coating Emission Limitations: Paper Coating Operations) does not apply to the one (1) Hamilton 140 nonheatset web offset lithographic printing operation at this source.

326 IAC 8-5-5 (Miscellaneous Operations: Graphic Arts Operations)

This source commenced construction and operation after November 1, 1980. This source does not have rotogravure printing operations. None of the flexographic printing operations at this source, the Comco UV Ink press, the Stevens 2000 press and the Mark Andy UV Ink Flexographic Printing Press, identified as Press # 410, is subject to the provisions of 326 IAC 8-5-5 (Miscellaneous Operations: Graphic Arts Operations), because neither the individual press or combined press potential to emit volatile organic compounds is equal to or greater than twenty-five (25) tons per year. Therefore, 326 IAC 8-5-5 does not apply to printing operations at this source.

Registration Revision Changes

Change 1 - to existing Registration Revision 097-15855-00270, issued on October 3, 2003

The deletion of Acetone maximum throughput in the emission unit and pollution control device description, the removal of the Mark Andy 404 Waterbase Flexographic Printing Press and the addition of the Mark Andy UV Ink Flexographic Printing Press, identified as Press # 410, is changed as follows (deleted language appears as ~~strikeouts~~, new language appears in **bold**):

The source consists of the following permitted emission units and pollution control devices:

- (a) One (1) Hamilton 140 nonheatset web offset lithographic printer utilizing the following materials:
 - (1) Litho Inks, maximum throughput of 588 gal/yr;
 - (2) ~~Acetone, maximum throughput of 40 gal/yr;~~
 - ~~(3) Type Wash, maximum throughput of 300 gal/yr;~~
 - (4) **(3)** Roller Wash, maximum throughput of 120 gal/yr; and
 - ~~(5)~~ **(4)** PR-628 Alcohol, maximum throughput of 24 gal/yr.

- (b) One (1) Heidelberg GT02-52 sheetfed offset lithographic printer utilizing the following materials:
 - (1) Litho ink, maximum throughput of 294 gal/yr;
 - (2) ~~Acetone, maximum throughput of 20 gal/yr;~~
 - ~~(3) Type Wash, maximum throughput of 150 gal/yr;~~
 - (4) **(3)** Roller Wash, maximum throughput of 60 gal/yr; and
 - ~~(5)~~ **(4)** PR-628 Alcohol, maximum throughput of 12 gal/yr.

- (c) Two (2) sheetfed offset lithographic printers, Miller TP-38A and Miller TP-104, utilizing the following materials, each:
 - (1) Litho ink, maximum throughput of 294 gal/yr;
 - (2) ~~Acetone, maximum throughput of 20 gal/yr;~~

- ~~(3)~~ Type Wash, maximum throughput of 150 gal/yr;
(4) **(3)** Roller Wash, maximum throughput of 60 gal/yr; and
~~(5)~~ **(4)** PR-628 Alcohol, maximum throughput of 12 gal/yr.
- (d) One (1) Comco UV Ink Flexographic printing press, utilizing the following materials:
- (1) UV Inks, maximum throughput 210 gal/yr;
(2) ~~Acetone, maximum throughput of 20 gal/yr;~~
~~(3)~~ Roller Wash, maximum throughput of 60 gal/yr.
- (e) One (1) Gallus R160E02 Rotary UV Ink Letterpress Label Printer utilizing the following materials:
- (1) UV Inks, maximum throughput 210 gal/yr;
(2) ~~Acetone, maximum throughput of 10 gal/yr;~~
~~(3)~~ Roller Wash, maximum throughput of 60 gal/yr.
- (f) One (1) Gallus R160-B03 Letterpress and Screen Combination Printer, utilizing the following materials:
- (1) UV Inks, maximum throughput 210 gal/yr;
(2) ~~Acetone, maximum throughput of 10 gal/yr;~~
~~(3)~~ Roller Wash, maximum throughput of 30 gal/yr; and
~~(4)~~ **(3)** Propylene Glycol Monoethyl Ether maximum throughput 100 gal/yr.
- ~~(h)~~ ~~One (1) Mark Andy 404 Waterbase Flexographic Printing Press utilizing the following materials:~~
- ~~(1)~~ ~~Litho inks, maximum throughput 263 gal/yr;~~
~~(2)~~ ~~Acetone, maximum throughput 5 gal/yr;~~
~~(3)~~ ~~Type Wash, maximum throughput 7 gal/yr; and~~
~~(4)~~ ~~Roller Wash, maximum throughput 10 gal/yr.~~
- ~~(h)~~ **(g)** One (1) Miller 407 Sheetfed Offset Lithographic Printer utilizing the following materials:
- (1) Litho inks, maximum throughput 205 gal/yr;
(2) Type Wash, maximum throughput 127 gal/yr; and
(3) Roller Wash, maximum throughput 104 gal/yr.
- ~~(h)~~ **(h)** One (1) Kelleigh 210 Cyrel Platemaking System utilizing Optisol Rotary Solution, maximum throughput of 30 gal/yr.
- ~~(i)~~ **(i)** One (1) Stevens 2000 Flexographic Printing Press utilizing a water based ink, maximum throughput of 133,680 gal/yr.
- (j) One (1) Mark Andy UV Ink Flexographic Printing Press, identified as Press # 410 and installed in 2004. Model number LP3330-13. Maximum ink and cleanup solvent usage each rated at 0.36 pounds per hour. Maximum rate of 22,500 sheets per hour and exhausting to Stack/Vent S410.**

Change 2 - to the Technical Support Document Appendix A for the existing Registration Revision 097-15855-00270, issued on October 3, 2003

The deletion of Acetone from the emission unit and pollution control device description, the removal of the Mark Andy 404 Waterbase Flexographic Printing Press and the addition of the Mark Andy UV Ink Flexographic Printing Press, identified as Press # 410, causes revisions to the potential to emit volatile organic compounds (VOC) from this source as described in the Technical

Support Document Appendix A for the existing Registration Revision 097-15855-00270, issued on October 3, 2003. These revisions to Appendix A are as follows (deleted language appears as ~~strikeouts~~, new language appears in **bold**):

TOTAL VOCs from PRINTING OPERATIONS

	VOC (tons/yr)	New Press VOC (tons/yr)	New Press Combined HAP (tons/yr)
<u>Lithographic Printers</u>			
Hamilton 140	4.6 1.47		
Heidelberg GT02-52	0.8 0.75		
Miller TP-38A	0.8 0.75		
Miller TP-104	0.8 0.75		
Miller 407	0.8 0.79		
<u>Flexographic Printers</u>			
Comco UV Ink	0.37 0.33		
Mark Andy 404	0.26 ---		
Mark Andy UV Ink	---	1.59	0.0
Stevens 2000	12.87		
<u>Rotary Printers</u>			
Gallus R160E02	0.24 0.22		
Gallus R160-B03	0.56 0.53		
Kelleigh 210 Platemaking	0.11		
TOTAL	49.24 18.57	20.16	

LITHOGRAPHIC

(per EPA/453-D-95-001, non heatset litho printing has 95% retention of ink oil VOC in substrate = 5% loss of total ink oil VOC used)

- 1) Hamilton 140 Nonheatset Web Offset Litho Printer

Acetone Usage _____ 40 gal/yr
 Density _____ 6.56 lb/gal
 Specific Gravity _____ 0.792
 % Vol x weight _____ 100
 $VOC = 40 \text{ gal/yr} \times 6.56 \text{ lb/gal} \times 0.792 \times 1 \text{ lb VOC/lb acetone} \times \text{ton}/2000 \text{ lbs} = 0.10 \text{ tons VOC/yr}$
 TOTAL VOC = ~~4.6~~ **1.47** tons per year

- 2) Heidelberg GT02-52 Sheetfed Offset Lithographic Printing

Acetone Usage _____ 20 gal/yr
 Density _____ 6.56 lb/gal
 Specific Gravity _____ 0.792
 % Vol x weight _____ 100
 $VOC = 20 \text{ gal/yr} \times 6.56 \text{ lb/gal} \times 0.792 \times 1 \text{ lb VOC/lb acetone} \times \text{ton}/2000 \text{ lbs} = 0.05 \text{ tons VOC/yr}$
 TOTAL VOC = ~~0.8~~ **0.75** tons per year

- 3) Miller TP-38A and TP-104 Sheetfed Offset Lithographic Printing (each)

Acetone Usage _____ 20 gal/yr
 Density _____ 6.56 lb/gal
 Specific Gravity _____ 0.792
 % Vol x weight _____ 100
 $VOC = 20 \text{ gal/yr} \times 6.56 \text{ lb/gal} \times 0.792 \times 1 \text{ lb VOC/lb acetone} \times \text{ton}/2000 \text{ lbs} = 0.05 \text{ tons VOC/yr}$
 TOTAL VOC (per press) = ~~0.8~~ **0.75** tons per year

- 4) Miller 407 Sheetfed Offset Lithographic Printing

Acetone Usage _____ 5 gal/yr
 Density _____ 6.56 lb/gal

Specific Gravity _____ 0.792
% Vol x weight _____ 100
VOC = 5 gal/yr x 6.56 lb/gal x 0.792 x 1 lb VOC/lb acetone x ton/2000 lbs = 0.01 tons VOC/yr
TOTAL VOC = ~~0.8~~ **0.79** tons per year

FLEXOGRAPHIC

1) Comco UV Ink Flexo Printing

Acetone Usage _____ 20 gal/yr
Density _____ 6.56 lb/gal
Specific Gravity _____ 0.792
% Vol x weight _____ 100
VOC = 20 gal/yr x 6.56 lb/gal x 0.792 x 1 lb VOC/lb acetone x ton/2000 lbs = 0.05 tons VOC/yr
TOTAL VOC = ~~0.37~~ **0.33** tons per year

2) Mark Andy 404 Waterbase Flexo Printing

Inks Usage _____ 263 gal/yr
Density _____ 8.5 lbs/gal
% Vol x weight _____ 17
Emission Factor _____ 5%
VOC = 263 gal/yr x 8.5 lbs ink/gal ink x 0.17 lb VOC/lb ink x 0.05 lbs VOC emitted/lb VOC used x ton/2000 lbs = 0.01 tons VOC/yr

Acetone Usage _____ 2 gal/yr
Density _____ 6.56 lb/gal
Specific Gravity _____ 0.792
% Vol x weight _____ 100
VOC = 2 gal/yr x 6.56 lb/gal x 0.792 x 1 lb VOC/lb acetone x ton/2000 lbs = 0.01 tons VOC/yr

Type Wash Usage _____ 7 gal/yr
Density _____ 6.23 lb/gal
% Vol x weight _____ 100
VOC = 7 gal/yr x 6.23 lb/gal x 1 lb VOC/lb type wash x ton/2000 lbs = 0.22 tons VOC/yr

Roller Wash Usage _____ 10 gal/yr
Density _____ 6.97 lb/gal
% Vol x weight _____ 100
VOC = 10 gal/yr x 6.97 lb/gal x 1 lb VOC/lb roller wash x ton/2000 lbs = 0.03 tons VOC/yr
TOTAL VOC = ~~0.26~~ tons per year

2) Mark Andy UV Ink Flexographic Printing Press

UV Inks Usage 1380.6 gal/yr (0.36 lbs Combiwhite ink/hr x gal/12.69 lbs x 8760 hrs/yr =
248.5 gal/yr) (0.68 gal/day)
Density 12.69 lbs/gal (Combiwhite ink)
% Vol x weight 1.05
Emission Factor 5%
VOC = 248.5 gal ink/yr x 12.69 lbs ink/gal ink x 0.13 lb VOC/lb ink x 0.05 lbs VOC emitted/lb VOC used
x ton/2000 lbs = 0.01 tons VOC/yr

Cleaner Solvent Usage (other than Acetone) 0.36 lbs/hr
% Vol x weight 100
VOC = 0.36 lbs/hr x 8760 hrs/yr x ton/2000 lbs = 1.58 tons VOC/yr
TOTAL VOC = 1.59 tons per year

ROTARY PRINTING

1) Gallus R160E02 Rotary UV Ink Letterpress Label Printing

Acetone Usage _____ 10 gal/yr
Density _____ 6.56 lb/gal

Specific Gravity ~~_____~~ 0.792
% Vol x weight ~~_____~~ 100
VOC = ~~10 gal/yr x 6.56 lb/gal x 0.792 x 1 lb VOC/lb acetone x ton/2000 lbs = 0.03 tons VOC/yr~~
TOTAL VOC = ~~0.24~~ **0.22** tons per year

2) Gallus R160-B03 Rotary Letterpress and Screen Combination Printing

Acetone Usage ~~_____~~ 10 gal/yr
Density ~~_____~~ 6.56 lb/gal
Specific Gravity ~~_____~~ 0.792
% Vol x weight ~~_____~~ 100
VOC = ~~10 gal/yr x 6.56 lb/gal x 0.792 x 1 lb VOC/lb acetone x ton/2000 lbs = 0.03 tons VOC/yr~~
TOTAL VOC = ~~0.56~~ **0.53** tons per year

PLATEMAKING

1) Kelleigh 210 Cyrel Platemaking System

Optisol Rotary Soln Usage 30 gal/yr
Density 7.64 lb/gal
% Vol x weight 100
VOC = 30 gal/yr x 7.64 lb/gal x 1 lb VOC/lb Optisol x ton/2000 lbs = 0.11 tons VOC/yr

Change 3 - to existing Registration Revision 097-15855-00270, issued on October 3, 2003

All references to the IDEM, OAQ mailing address in the Registration Revision have been changed to the new mail address as follows:

Indiana Department of Environmental Management
Air Compliance Branch, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana ~~46206-6015~~ **46204**

Conclusion

The construction and operation of this Mark Andy UV Ink Flexographic Printing Press, identified as Press # 410, shall be subject to the conditions of the Registration Revision **097-20477-00270**.

TSD Appendix A

Company Name: Keller Crescent Company, Inc.
 Address: 6454 Saguaro Court, Indianapolis, IN 46268
 Operation Permit No.: R097-15855-00270
 Operation Permit Issuance Date: October 3, 2003
 Permit Revision No.: 097-20477-00270
 Permit Reviewer: M. Caraher

TOTAL VOCs from PRINTING OEPERATIONS

	VOC (tons/yr)	New Press VOC (tons/yr)	New Press Combined HAP (tons/yr)
<u>Lithographic Printers</u>			
Hamilton 140	1.47		
Heidelberg GT02-52	0.75		
Miller TP-38A	0.75		
Miller TP-104	0.75		
Miller 407	0.79		
<u>Flexographic Printers</u>			
Comco UV Ink	0.33		
Mark Andy UV Ink	---	1.59	0.0
Stevens 2000	12.87		
<u>Rotary Printers</u>			
Gallus R160E02	0.22		
Gallus R160-B03	0.53		
Kelleigh 210 Platemaking	0.11		
TOTAL	18.57	20.16	

LITHOGRAPHIC

(per EPA/453-D-95-001, non heatset litho printing has 95% retention of ink oil VOC in substrate = 5% loss of total ink oil VOC used)

- 1) Hamilton 140
Nonheatset Web Offset Litho Printer

Litho Inks Usage 588 gal/yr (1.6 gal/day)
 Density 8.5 lbs/gal
 %Vol x weight 17
 Emission Factor 5%

VOC = 588 gal/yr x 8.5 lbs ink/gal ink x 0.17 lb VOC/lb ink x 0.05 lbs VOC emitted/lb VOC used x ton/2000 lbs = 0.021 tons VOC/yr
 0.021 tons VOC/yr x 2000 lbs/ton x yr/365 days = 0.12 pounds VOC/day (< 15 lbs/day 326 IAC 8-2-5 applicability threshold)

Type Wash Usage 300 gal/yr
 Density 6.23 lb/gal
 % Vol x weight 100
 VOC = 300 gal/yr x 6.23 lb/gal x 1 lb VOC/lb type wash x ton/2000 lbs = 0.93 tons VOC/yr

Roller Wash Usage 120 gal/yr
 Density 7.22 lb/gal
 % Vol x weight 100
 VOC = 120 gal/yr x 7.22 lb/gal x 1 lb VOC/lb roller wash x ton/2000 lbs = 0.43 tons VOC/yr

PR-628 Alcohol Sub 24 gal/yr
 Density 7.8 lb/gal
 % Vol x weight 99
 VOC = 24 gal/yr x 7.8 lb/gal x 0.99 lb VOC/lb PR-628 x ton/2000 lb = 0.09 tons VOC/yr

TOTAL VOC = 1.47 tons per year

Company Name: Keller Crescent Company, Inc.
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Permit Reviewer: M. Caraher

2) Heidelberg GT02-52 Sheetfed Offset Lithographic Printing

Litho Inks Usage 294 gal/yr (0.8 gal/day)
Density 8.5 lbs/gal
%Vol x weight 17
Emission Factor 5%

VOC = 294 gal/yr x 8.5 lbs ink/gal ink x 0.17 lb VOC/lb ink x 0.05 lbs VOC emitted/lb VOC used x ton/2000 lbs = 0.01 tons VOC/yr

Type Wash Usage 150 gal/yr
Density 6.23 lb/gal
% Vol x weight 100

VOC = 150 gal/yr x 6.23 lb/gal x 1 lb VOC/lb type wash x ton/2000 lbs = 0.47 tons VOC/yr

Roller Wash Usage 60 gal/yr
Density 7.22 lb/gal
% Vol x weight 100

VOC = 60 gal/yr x 7.22 lb/gal x 1 lb VOC/lb roller wash x ton/2000 lbs = 0.22 tons VOC/yr

PR-628 Alcohol Sub 12 gal/yr
Density 7.8 lb/gal
% Vol x weight 99

VOC = 12 gal/yr x 7.8 lb/gal x 0.99 lb VOC/lb PR-628 x ton/2000 lb = 0.05 tons VOC/yr

TOTAL VOC = 0.75 tons per year

3) Miller TP-38A and TP-104 Sheetfed Offset Lithographic Printing (each)

Litho Inks Usage 294 gal/yr (0.8 gal/day)
Density 8.5 lbs/gal
%Vol x weight 17
Emission Factor 5%

VOC = 294 gal/yr x 8.5 lbs ink/gal ink x 0.17 lb VOC/lb ink x 0.05 lbs VOC emitted/lb VOC used x ton/2000 lbs = 0.01 tons VOC/yr

Type Wash Usage 150 gal/yr
Density 6.23 lb/gal
% Vol x weight 100

VOC = 150 gal/yr x 6.23 lb/gal x 1 lb VOC/lb type wash x ton/2000 lbs = 0.47 tons VOC/yr

Roller Wash Usage 60 gal/yr
Density 7.22 lb/gal
% Vol x weight 100

VOC = 60 gal/yr x 7.22 lb/gal x 1 lb VOC/lb roller wash x ton/2000 lbs = 0.22 tons VOC/yr

PR-628 Alcohol Sub 12 gal/yr
Density 7.8 lb/gal
% Vol x weight 99

VOC = 12 gal/yr x 7.8 lb/gal x 0.99 lb VOC/lb PR-628 x ton/2000 lb = 0.05 tons VOC/yr

TOTAL VOC (per press) = 0.75 tons per year

Company Name: Keller Crescent Company, Inc.
Address: 6454 Saguaro Court, Indianapolis, IN 46268
Operation Permit No.: R097-15855-00270
Operation Permit Issuance Date: October 3, 2003
Permit Revision No.: 097-20477-00270
Permit Reviewer: M. Caraher

4) Miller 407 Sheetfed Offset Lithographic Printing

Litho Inks Usage 205 gal/yr (0.6 gal/day)
Density 8.5 lbs/gal
%Vol x weight 17
Emission Factor 5%
VOC = 205 gal/yr x 8.5 lbs ink/gal ink x 0.17 lb VOC/lb ink x 0.05 lbs VOC emitted/lb VOC used x ton/2000 lbs = 0.01 tons VOC/yr

Type Wash Usage 127 gal/yr
Density 6.23 lb/gal
% Vol x weight 100
VOC = 127 gal/yr x 6.23 lb/gal x 1 lb VOC/lb type wash x ton/2000 lbs = 0.40 tons VOC/yr

Roller Wash Usage 104 gal/yr
Density 7.22 lb/gal
% Vol x weight 100
VOC = 104 gal/yr x 7.22 lb/gal x 1 lb VOC/lb roller wash x ton/2000 lbs = 0.38 tons VOC/yr
TOTAL VOC = 0.79 tons per year

FLEXOGRAPHIC

1) Comco UV Ink Flexo Printing

UV Inks Usage 210 gal/yr (0.6 gal/day)
Density 9.5 lbs/gal
%Vol x weight 0
VOC = 0.0 tons VOC/yr

Roller Wash Usage 90 gal/yr
Density 7.22 lb/gal
% Vol x weight 100
VOC = 90 gal/yr x 7.22 lb/gal x 1 lb VOC/lb roller wash x ton/2000 lbs = 0.33 tons VOC/yr
TOTAL VOC = 0.33 tons per year

2) Mark Andy UV Ink Flexographic Printing Press

UV Inks Usage 1380.6 gal/yr (0.36 lbs Combiwhite ink/hr x gal/12.69 lbs x 8760 hrs/yr = 248.5 gal/yr) (0.68 gal/day)
Density 12.69 lbs/gal (Combiwhite ink)
%Vol x weight 1.05
Emission Factor 5%
VOC = 248.5 gal ink/yr x 12.69 lbs ink/gal ink x 0.13 lb VOC/lb ink x 0.05 lbs VOC emitted/lb VOC used x ton/2000 lbs = 0.01 tons VOC/yr

Cleaner Solvent Usage (other than Acetone) 0.36 lbs/hr
% Vol x weight 100
VOC = 0.36 lbs/hr x 8760 hrs/yr x ton/2000 lbs = 1.58 tons VOC/yr
TOTAL VOC = 1.59 tons per year

Company Name: Keller Crescent Company, Inc.
Address: 6454 Saguaro Court, Indianapolis, IN 46268
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Permit Reviewer: M. Caraher

3) Stevens 2000 Flexo Printing

Water Base Ink Use 133,680 gal/yr (366 gal/day)
Max Paper throughput 63,072 MM square in/yr
Max coverage 12 lb/MM square in
% Vol x weight 68
Flash Off % 5
VOC = 12 lb/MMsq in x 63072 MMsq in/yr x 0.68 x 0.05 x ton/2000 lbs = 12.87 tons/yr

ROTARY PRINTING

1) Gallus R160E02 Rotary UV Ink Letterpress Label Printing

UV Inks Usage 210 gal/yr (0.6 gal/day)
Density 9.5 lbs/gal
%Vol x weight 0
VOC = 0.0 tons VOC/yr

Roller Wash Usage 60 gal/yr
Density 7.22 lb/gal
% Vol x weight 100
VOC = 60 gal/yr x 7.22 lb/gal x 1 lb VOC/lb roller wash x ton/2000 lbs = 0.22 tons VOC/yr
TOTAL VOC = 0.22 tons per year

2) Gallus R160-B03 Rotary Letterpress and Screen Combination Printing

UV Inks Usage 210 gal/yr
Density 9.5 lbs/gal
%Vol x weight 0
VOC = 0.0 tons VOC/yr

Roller Wash Usage 30 gal/yr
Density 7.22 lb/gal
% Vol x weight 100
VOC = 30 gal/yr x 7.22 lb/gal x 1 lb VOC/lb roller wash x ton/2000 lbs = 0.11 tons VOC/yr

Propylene Glycol Monoethyl Ether Usage 100 gal/yr
Density 8.33 lb/gal
% Vol x weight 100
VOC = 100 gal/yr x 8.33 lb/gal x 1 lb VOC/lb PGME x ton/2000 lbs = 0.42 tons VOC/yr
TOTAL VOC = 0.53 tons per year

PLATEMAKING

1) Kelleigh 210 Cyrel Platemaking System

Optisol Rotary Soln Usage 30 gal/yr
Density 7.64 lb/gal
% Vol x weight 100
VOC = 30 gal/yr x 7.64 lb/gal x 1 lb VOC/lb Optisol x ton/2000 lbs = 0.11 tons VOC/yr