



Mitchell E. Daniels, Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
(800) 451-6027
www.IN.gov/idem

TO: Interested Parties / Applicant
DATE: November 29, 2005
RE: Lafayette Printing / 157-21202-00088
FROM: Paul Dubenetzky
Chief, Permits Branch
Office of Air Quality

Notice of Decision: Approval - Registration

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to IC 4-21.5-3-4(d) this order is effective when it is served. When served by U.S. mail, the order is effective three (3) calendar days from the mailing of this notice pursuant to IC 4-21.5-3-2(e).

If you wish to challenge this decision, IC 4-21.5-3-7 requires that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Room 1049, Indianapolis, IN 46204, **within eighteen (18) calendar days of the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

- (1) the date the document is delivered to the Office of Environmental Adjudication (OEA);
- (2) the date of the postmark on the envelope containing the document, if the document is mailed to OEA by U.S. mail; or
- (3) The date on which the document is deposited with a private carrier, as shown by receipt issued by the carrier, if the document is sent to the OEA by private carrier.

The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by the decision or otherwise entitled to review by law. Please identify the permit, decision, or other order for which you seek review by permit number, name of the applicant, location, date of this notice and all of the following:

- (1) the name and address of the person making the request;
- (2) the interest of the person making the request;
- (3) identification of any persons represented by the person making the request;
- (4) the reasons, with particularity, for the request;
- (5) the issues, with particularity, proposed for considerations at any hearing; and
- (6) identification of the terms and conditions which, in the judgment of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing documents of the type issued by the Commissioner.

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178. Callers from within Indiana may call toll-free at 1-800-451-6027, ext. 3-0178.

Enclosures
FN-REGIS.dot 1/10/05



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We make Indiana a cleaner, healthier place to live.

Mitchell E. Daniels, Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204-2251
(317) 232-8603
(800) 451-6027
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Andrew Lorenz
Lafayette Printing
P.O. Box 206
Lafayette, Indiana 47902

November 29, 2005

Re: Registered Construction and Operation Status,
R157-21202-00088

Dear Mr. Lorenz:

The application from Lafayette Printing, received on May 10, 2005, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-5.5, it has been determined that the following lithographic printing plant, located at 511 Ferry Street, Lafayette, Indiana, is classified as registered:

- (a) one (1) offset lithographic printing press, identified as P1, Model Heidelberg SM-74, constructed in July, 1999, with a maximum line speed of 427.08 feet per minute and width of 29.5 inches;
- (b) one (1) offset lithographic printing press, identified as P2, Model Komori L526, with a maximum line speed of 333.33 feet per minute and width of 26 inches;
- (c) one (1) offset lithographic printing press, identified as P3, Model Heidelberg SORD, with a maximum line speed of 191.67 feet per minute and width of 35 inches;
- (d) one (1) offset lithographic printing press, identified as P4, Model Ryobi 3200CD, with a maximum line speed of 246.53 per minute and width of 13.37 inches;
- (e) one (1) letter press, identified as LP1, Model Heidelberg Platen, used for die cutting;
- (f) one (1) letter press, identified as LP2, Model Heidelberg SBG, used for die cutting;
- (g) one (1) boiler, identified as B-1, rated at 1.89 MMBtu/hr, and exhausting to stack #1;
- (h) one (1) twenty six (26) gallon capacity parts washer, using a Safety Kleen cold cleaner unit.

The following conditions shall be applicable:

- (1) 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:
 - (a) Opacity shall not exceed an average of forty percent (40%) 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.
- (2) Pursuant to 326 IAC 6-2-3 (Particulate Matter Emission Limitations for Sources of Indirect Heating), indirect heating units which began operation on or before June 8, 1972, Boiler B-1 shall in no case exceed 0.8 lb/MMBtu heat input.
- (3) Pursuant to 326 IAC 8-3-5(a) (Cold Cleaner Degreaser Operation and Control), for cold cleaner degreaser operations without remote solvent reservoirs constructed after July 1, 1990, the Permittee shall ensure that the following control equipment requirements are met:
 - (a) Equip the degreaser with a cover. The cover must be designed so that it can be easily operated with one (1) hand if:
 - (A) The solvent volatility is greater than two (2) kiloPascals (fifteen (15) millimeters of mercury or three-tenths (0.3) pounds per square inch) measured at thirty-eight degrees Celsius (38OC) (one hundred degrees Fahrenheit (100OF));
 - (B) The solvent is agitated; or
 - (C) The solvent is heated.
 - (b) Equip the degreaser with a facility for draining cleaned articles. If the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38OC) (one hundred degrees Fahrenheit (100OF)), then the drainage facility must be internal such that articles are enclosed under the cover while draining. The drainage facility may be external for applications where an internal type cannot fit into the cleaning system.
 - (c) Provide a permanent, conspicuous label which lists the operating requirements outlined in subsection (b).
 - (d) The solvent spray, if used, must be a solid, fluid stream and shall be applied at a pressure which does not cause excessive splashing.
 - (e) Equip the degreaser with one (1) of the following control devices if the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38OC) (one hundred degrees Fahrenheit (100OF)), or if the solvent is heated to a temperature greater than forty-eight and nine-tenths degrees Celsius (48.9OC) (one hundred twenty degrees Fahrenheit (120OF)):
 - (A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.
 - (B) A water cover when solvent is used is insoluble in, and heavier than, water.

- (C) Other systems of demonstrated equivalent control such as a refrigerated chiller of carbon adsorption. Such systems shall be submitted to the U.S. EPA as a SIP revision.
- (4) Pursuant to 326 IAC 8-3-5(b) (Cold Cleaner Degreaser Operation and Control), the owner or operator of a cold cleaning facility construction of which commenced after July 1, 1990, shall ensure that the following operating requirements are met:
 - (a) Close the cover whenever articles are not being handled in the degreaser.
 - (b) Drain cleaned articles for at least fifteen (15) seconds or until dripping ceases.
 - (c) Store waste solvent only in covered containers and prohibit the disposal or transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste solvent by weight could evaporate.

This registration is not the first air approval issued to the source. The source has transitioned from a Federally Enforceable State Operating Permit (FESOP) to a registration. The source may operate according to 326 IAC 2-5.5.

An authorized individual shall provide an annual notice to the Office of Air Quality that the source is in operation and in compliance with this registration pursuant to 326 IAC 2-5.5-4(a)(3)). The annual notice shall be submitted to:

**Compliance Data Section
Office of Air Quality
100 North Senate Avenue
Indianapolis, IN 46204-2251**

no later than March 1 of each year, with the annual notice being submitted in the format attached.

An application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Quality (OAQ) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

Sincerely,

Original Signed By:
Nysa James, Chief
Permits Section 1
Office of Air Quality

LQ/EVP

cc: File - Tippecanoe County
Tippecanoe County Health Department
Air Compliance – Wanda Stanfield
Permit Tracking
Compliance Data Section

Registration Annual Notification

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

Company Name:	Lafayette Printing
Address:	511 Ferry Street
City:	Lafayette
Authorized individual:	Andrew Lorenz
Phone #:	(765) 423-2578
Registration #:	157-21202-00088

I hereby certify that **Lafayette Printing** is still in operation and is in compliance with the requirements of Registration **157-21202-00088**.

Name (typed):
Title:
Signature:
Date:

**Indiana Department of Environmental Management
Office of Air Quality**

Technical Support Document (TSD) for a Registration

Source Background and Description

Source Name:	Lafayette Printing
Source Location:	511 Ferry Street, Lafayette, IN 47920
County:	Tippecanoe
SIC Code:	2759
Registration No.:	R157-21202-00088
Permit Reviewer:	Linda Quigley/EVP

The Office of Air Quality (OAQ) has reviewed an application from Lafayette Printing relating to transitioning from a Federally Enforceable State Operating Permit (FESOP) to a Registration for the operation of a lithographic printing plant.

History

The FESOP program was appropriate initially due to the source wide potential emissions of a single HAP, specifically glycol ethers, being greater than ten (10) tons per year. On November 29, 2004, the U.S. EPA amended the list of HAPs by removing the compound called ethylene glycol monobutyl ether, CAS# 111-76-2, from the group of glycol ethers. On November 29, 2005, 326 IAC 1-2-33.5 (Hazardous Air Pollutant or HAP defined), was finalized into the Indiana State Implementation Plan (SIP). "HAP" means any air pollutant listed pursuant to Section 112(b) of the Clean Air Act and not delisted from that list or redefined under 40 CFR Part 63, Subpart C, as amended at 69 FR 69325, November 29, 2004. This change significantly reduces the potential to emit of HAPs from Lafayette Printing. In addition, potential emissions from the printing presses were recalculated using IDEM's *Compliance and Pollution Prevention Guidebook for Indiana Printers* as guidance. The original FESOP calculated the potential to emit VOC from fountain solution, blanket wash, and cleaning solvent based on maximum coverage in pounds per million square inch. This approach was not realistic as press cleaning does not relate to press throughput. In accordance with the above specified document, small printers may calculate the potential emissions by increasing actual emissions by accounting for press capacity and hours of operation.

Permitted Emission Units and Pollution Control Equipment

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

- (a) one (1) offset lithographic printing press, identified as P1, Model Heidelberg SM-74, constructed in July, 1999, with a maximum line speed of 427.08 feet per minute and width of 29.5 inches;
- (b) one (1) offset lithographic printing press, identified as P2, Model Komori L526, with a maximum line speed of 333.33 feet per minute and width of 26 inches;
- (c) one (1) offset lithographic printing press, identified as P3, Model Heidelberg SORD, with a maximum line speed of 191.67 feet per minute and width of 35 inches;
- (d) one (1) offset lithographic printing press, identified as P4, Model Ryobi 3200CD, with a maximum line speed of 246.53 per minute and width of 13.37 inches;

- (e) one (1) letter press, identified as LP1, Model Heidelberg Platen, used for die cutting;
- (f) one (1) letter press, identified as LP2, Model Heidelberg SBG, used for die cutting;
- (g) one (1) boiler, identified as B-1, rated at 1.89 MMBtu/hr, and exhausting to stack #1;
- (h) one (1) twenty six (26) gallon capacity parts washer, using a Safety Kleen cold cleaner unit.

Unpermitted Emission Units and Pollution Control Equipment

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

Existing Approvals

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

- (a) FESOP 157-12844-00088, issued on February 26, 2001; and
- (b) AA157-20091-00088 issued on January 26, 2005.

All conditions from previous approvals were incorporated into this permit except the following:

- (a) All FESOP conditions have been removed.

Reason not incorporated: this source is transitioning to a Registration.

Enforcement Issue

There are no enforcement actions pending.

Recommendation

The staff recommends to the Commissioner that the Registration 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 May 10, 2005.

Emission Calculations

See Appendix A of this document for detailed emission calculations, pages one (1) through eight (8).

Potential to Emit Before Controls

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 (tons/yr)
PM	1.02
PM-10	1.06
SO ₂	0.00
VOC	12.59
CO	0.70
NO _x	0.83

HAPs	Potential to Emit (tons/yr)
Glycol ether	0.02
hydroquinone	0.25
Total	0.49

For a complete listing of HAPs, see Appendix A, Emission Calculations.

The potential to emit (as defined in 326 IAC 2-7-1(29)) of pollutants are less than 25 tons per year and the potential to emit of VOC is greater than ten (10) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-5.5. A registration will be issued.

County Attainment Status

The source is located in Tippecanoe County.

Pollutant	Status
PM-10	Attainment
PM-2.5	Attainment
SO ₂	Attainment
NO ₂	Attainment
1-hour Ozone	Attainment
8-hour Ozone	Attainment
CO	Attainment
Lead	Attainment

- (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 emissions and NO_x are considered when evaluating the rule applicability relating to ozone. Tippecanoe County has been designated as attainment or unclassifiable for ozone. Therefore, VOC emissions and NO_x were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability for the source section.
- (b) Tippecanoe County has been classified as unclassifiable or attainment for PM_{2.5}. U.S. EPA has not yet established the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 for PM 2.5 emissions. Therefore, until the U.S.EPA adopts specific provisions for PSD review for PM_{2.5} emissions, it has directed states to regulate PM₁₀ emissions as surrogate for PM_{2.5} emissions. See the State Rule Applicability for the source section.
- (c) Tippecanoe County has been classified as attainment or unclassifiable in Indiana for for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability for the source section.

Source Status

Existing Source PSD 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	1.02
PM-10	1.06
SO ₂	0.00
VOC	12.59
CO	0.70
NO _x	0.83
Single HAP	Less than 10
Combination HAPs	Less than 25

- (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) These emissions were based on the uncontrolled potential to emit calculations, (see Appendix A, emission calculations).

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This existing source, including the emissions from this permit R157-21202-00088, 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 OAQ inspector assigned to the source.

Federal Rule Applicability

- (a) The four (4) printing presses, identified as P1, P2, P3, and P4 are not subject to the requirements of the New Source Performance Standard, 326 IAC 12, (40 CFR 60, Subpart QQ), because the four (4) printing presses are not publication rotogravure printing presses.
- (b) The one (1) natural gas fired boiler, identified as B-1, is not subject to the requirements of the New Source Performance Standard, 326 IAC 12, (40 CFR 60.40c, Subpart Dc), because it has a maximum heat input rate of less than 10 MMBtu/hr.

There are no other NSPSs included in this permit.

- (c) The four (4) printing presses, identified as P1, P2, P3, and P4, are not subject to the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs), Subpart KK because the four (4) printing presses are not publication rotogravure, packaging rotogravure or wide-web flexographic printing presses.

- (d) The National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Halogenated Solvent Cleaning (40 CFR Part 63, Subpart T) is not included in this permit because a non-chlorinated solvent cold cleaner is used.

No other NESHAPs are included in this permit.

State Rule Applicability – Entire Source

326 IAC 2-6 (Emission Reporting)

Pursuant to 326 IAC 2-6-1, this source is not subject to this rule because it is not required to have an operating permit under 326 IAC 2-7 (Part 70), it is not located in Lake or Porter counties, and it does not emit lead into the ambient air at levels equal to or greater than 5 tons per year. Therefore, 326 IAC 2-6 does not apply.

326 IAC 5-1 (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 forty percent (40%) 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.

State Rule Applicability – Individual Facilities

326 IAC 6-2-3 (Particulate Emission Limitations for Sources of Indirect Heating)

Pursuant to 326 IAC 6-2-3 (Particulate Matter Emission Limitations for Sources of Indirect Heating), particulate emissions from indirect heating units which began operation on or before June 8, 1972, shall be limited by the following equation:

$$Pt = (C \cdot a \cdot h) / (76.5 \cdot Q^{0.75} \cdot N^{0.25})$$

where: Pt = maximum allowable particulate matter (PM) emitted per MMBtu heat input
C = maximum ground level concentration (50 $\mu\text{g}/\text{m}^3$, for a period not to exceed 60 min.)

Q = total source max. indirect heater input = Boiler B1 = 1.89 MMBtu/hr

N = number of stacks in the fuel burning operation = 1

a = plume rise factor (0.67, for Q < 1,000)

h = stack height in feet = 52 feet

$$Pt = (50 \cdot 0.67 \cdot 52) / (76.5 \cdot 1.89^{0.75} \cdot 1^{0.25}) = 14.13 \text{ lbs PM/MMBtu}$$

However, pursuant to 326 IAC 6-2-3(d), the PM emissions from the one (1) natural gas-fired boiler (identified as B1 and constructed in 1921) rated at 1.89 MMBtu per hour heat input shall in no case exceed 0.8 pounds per MMBtu heat input. The boiler is in compliance with this limit.

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

The four (4) printing presses, identified as P1, P2, P3, and P4 are not subject to the requirements of 326 IAC 8-1-6 because the four (4) presses are considered separate facilities (each press produces a separate finished product), and each have the potential to emit VOC of less than 25 tons per twelve (12) consecutive month period. Any change or modification which may increase the potential to emit VOC emissions of any of the four (4) presses to greater than 25 tons per year must be approved by the IDEM, OAQ before such change may occur.

326 IAC 8-3-5 (Cold Cleaner Degreaser Operation and Control)

- (a) Pursuant to 326 IAC 8-3-5(a), the owner or operator of the petroleum distillate cold cleaner degreaser facility, constructed after July 1, 1990, and without a remote solvent reservoir, shall ensure that the following control equipment requirements are met:
- (1) Equip the degreaser with a cover. The cover must be designed so that it can be easily operated with one (1) hand if:
 - (A) the solvent volatility is greater than two (2) kiloPascals (fifteen (15) millimeters of mercury or three-tenths (0.3) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F));
 - (B) the solvent is agitated; or
 - (C) the solvent is heated.
 - (2) Equip the degreaser with a facility for draining cleaned articles. If the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury) or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F)), then the drainage facility must be internal such that articles are enclosed under the cover while draining. The drainage facility may be external for applications where an internal type cannot fit into the cleaning system.
 - (3) Provide a permanent, conspicuous label which lists the operating requirements outlined in subsection (b).
 - (4) The solvent spray, if used, must be a solid, fluid stream and shall be applied at a pressure which does not cause excessive splashing.
 - (5) Equip the degreaser with one (1) of the following control devices if the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury) or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F)), or if the solvent is heated to a temperature greater than forty-eight and nine-tenths degrees Celsius (48.9°C) (one hundred twenty degrees Fahrenheit (120°F)):
 - (A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.
 - (B) A water cover when solvent is used is insoluble in, and heavier than, water.
 - (C) Other systems of demonstrated equivalent control such as a refrigerated chiller or carbon adsorption. Such systems shall be submitted to the U.S. EPA as a SIP revision.

- (b) Pursuant to 326 IAC 8-3-5(b) (Cold Cleaner Degreaser Operation and Control), the owner or operator of a cold cleaning facility shall ensure that the following operating requirements are met:
- (1) Close the cover whenever articles are not being handled in the degreaser.
 - (2) Drain cleaned articles for at least fifteen (15) seconds or until dripping ceases.
 - (3) Store waste solvent only in covered containers and prohibit the disposal or transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste solvent by weight could evaporate.

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

The four (4) printing presses, identified as P1, P2, P3, and P4, are not subject to the requirements of 326 IAC 8-5-5, because the four (4) printing presses do not involve packaging rotogravure, publication rotogravure or flexographic printing.

Conclusion

The operation of this lithographic printing plant shall be subject to the conditions of the Registration, 157-21202-00088.

Appendix A: Emission Calculations

Company Name: Lafayette Printing
Address City IN Zip: 511 Ferry Street, Lafayette, IN 47901
Registration: R157-21202-00088
Plt ID: 157-00088
Reviewer: Linda Quigley/EVP
Date: July 5, 2005

Uncontrolled Potential Emissions (tons/year)					
Emissions Generating Activity					
Pollutant	Printing Press Operations	Natural Gas Combustion	Prepress Activities	Parts Washer	TOTAL
PM	1.00	0.02	0.00	0.00	1.02
PM10	1.00	0.06	0.00	0.00	1.06
SO2	0.00	0.00	0.00	0.00	0.00
NOx	0.00	0.83	0.00	0.00	0.83
VOC	12.13	0.05	0.27	0.14	12.18
CO	0.00	0.70	0.00	0.00	0.70
total HAPs	0.20	0.02	0.27	0.00	0.49
worst case single HAP	0.10	0.01	0.25	0.00	0.25
Total emissions based on rated capacity at 8,760 hours/year.					
Controlled Potential Emissions (tons/year)					
Emissions Generating Activity					
Pollutant	Printing Press Operations	Natural Gas Combustion	Prepress Activities	Parts Washer	TOTAL
PM	1.00	0.02	0.00	0.00	1.02
PM10	1.00	0.06	0.00	0.00	1.06
SO2	0.00	0.00	0.00	0.00	0.00
NOx	0.00	0.83	0.00	0.00	0.83
VOC	12.13	0.05	0.27	0.14	12.18
CO	0.00	0.70	0.00	0.00	0.70
total HAPs	0.20	0.02	0.27	0.00	0.49
worst case single HAP	0.10	0.01	0.25	0.00	0.25
Total emissions based on rated capacity at 8,760 hours/year, after control.					

Appendix A: Emissions Calculations

VOC From Printing Press Operations

Company Name: Lafayette Printing
Address City IN Zip: 511 Ferry Street, Lafayette, IN 47902-0206
Registration: R157-21202-00088
Plt ID: 157-00088
Reviewer: Linda Quigley/EVP
Date: July 5, 2005

Press I.D.	Maximum Print Area (sq. inch/sheet)	Maximum Press Speed (sheet/hr)	Maximum Press Throughput (MMin ² /YEAR)
Heidelberg SM-74 (P-1)	605	15,000	79497
Komori L526 (P-2)	520	12,000	54662
Heidelberg SORD (P-3)	805	6,000	42311
Ryobi 3200CD (P-4)	237	10,000	20761

197231

Ink and Varnish					
	Maximum Coverage (lbs/MMin ²)	Weight % Volatiles	Flash Off %	Throughput (MMin ² /Year)	PTE of VOC (ton/yr)
Ink	0.5	35%	5.00%	197231	0.86
Varnish	0.04	65%	100.00%	197231	2.56

Blanket Wash, Cleaning Solvent, and Fountain Solution					
	Actual VOC Emissions (tpy)	Hours of Production (hr/yr)	Operating Capacity		PTE of VOC (ton/yr)
Blanket Wash, Cleaning Solvents and Fountain Solution	1.35	3,770	36.00%		8.71

Total VOC Emissions = 12.13 Ton/yr

METHODOLOGY

Throughput = Maximum Print Area (inch²/sheet) * Maximum Press Speed (sheet/hr) * 8760 hours per year / 1,000,000 (in²/MMin²)

Hours of production include makeready, pressrun, and blanket washing time.

VOC PTE (tpy) for blanket wash, solvents and fountain solution = (Actual VOC Emissions (tpy) * 8760 / (Hours of Production * Operating Capacity)

Worst case ink for VOC is OS Pride Pantone Transparent White (W1576). Worst case varnish for VOC is O/S S/F Q/S Hrd Dry Gloss OP Varnish)

VOC retention factor for non-heatset inks is 95% according to the USEPA's CTG Guideline Series,

Control of Volatile Organic Compound Emissions from Offset Lithographic Printing, September 1993.

VOC PTE (tpy) for Ink and Varnish = Max. Coverage (lb/Mmin²) * Combined Maximum Throughput (Mmin²/yr) * VOC content (wt. %) * Flash Off / 2,000 (lb/ton)

**Appendix A: Emissions Calculations
HAPs From Printing Press Operations**

Company Name: Lafayette Printing
Address City IN Zip: 511 Ferry Street, Lafayette, IN 47902-0206
Registration: R157-21202-00088
Plt ID: 157-00088
Reviewer: Linda Quigley/EVP
Date: July 5, 2005

Actual HAP Emissions from Blanket Wash, Cleaning Solvent, and Fountain Solution

Product Manufacturer	Product Name	Category	Density (lb/gal)	Annual Usage (gal)	HAP	HAP Content (wt. %)	lb/gal	Flash Off %	Actual HAP Emissions (tpy)
Rycoline Products, Inc.	Rycolite	Cleaning Solvent	7.1	5	Toluene	25.00%	1.78	100%	0.004
Rycoline Products, Inc.	Rycolite	Cleaning Solvent	7.1	5	Methanol	15.00%	1.07	100%	0.003
Tower Products, Inc.	I.P. Wash	Blanket Wash	6.88	60	Cumene	0.60%	0.04	100%	0.001
Tower Products, Inc.	I.P. Wash	Blanket Wash	6.88	60	Xylene	0.90%	0.06	100%	0.002
Accel Graphic Systems	FC 1000 Fountain Concentrate	Fountain Solution	8.7	1	Glycol Ether	8.20%	0.71	100%	0.000
Tower Products, Inc.	Meter Clean	Cleaning Solvent	6.26	1	Toluene	15.00%	0.94	100%	0.000
Printers' Service	FC 1000 Fountain Concentrate 2351T (C190	Fountain Solution	8.92	45	Ethylene Glycol	7.50%	0.67	100%	0.015
Printers' Service	FC 1000 Fountain Concentrate 2351T (C190	Fountain Solution	8.92	45	Glycol Ether	3.80%	0.34	100%	0.008

0.034

Potential HAP Emissions from Blanket Wash, Cleaning Solvent, and Fountain Solution

Actual Highest Single HAP Emissions (tpy)	Actual Combined HAP Emissions (tpy)	Hours of Production (hr/yr)	Operating Capacity	Highest Single HAP PTE (tpy)	Combined HAP PTE (tpy)
0.015	0.034	3,770	36%	0.1	0.2

Methodology

Hours of production include makeready, pressrun, and blanket washing time.

HAP PTE (tpy) = (Actual HAP Emissions (tpy) * 8,760 (hr/yr)) / (Hours of Production (hr/yr) * Operating Capacity of all presses)

**Appendix A: Emissions Calculations
PM Emissions from Anti Set-Off Powder**

Company Name: Lafayette Printing
Address City IN Zip: 511 Ferry Street, Lafayette, IN 47902-0206
Registration: R157-21202-00088
Plt ID: 157-00088
Reviewer: Linda Quigley/EVP
Date: July 5, 2005

Press Number	Maximum Coverage (lb/Mmin²)	Maximum Press Throughput (Mmin²/yr)	PM PTE (tpy)
P1	0.01	79,464	0.4
P2	0.01	54,662	0.3
P3	0.01	42,311	0.2
P4	0.01	20,797	0.1
Total			1.0

Methodology

PM PTE (tpy) = (Maximum Coverage (lb/Mmin²) * Maximum Press Throughput (Mmin²/yr) / 2,000 (lb/ton)

Appendix A: Emissions Calculations

Prepress Activities

Company Name: Lafayette Printing
Address City IN Zip: 511 Ferry Street, Lafayette, IN 47902-0206
Registration: R157-21202-00088
Plt ID: 157-00088
Reviewer: Linda Quigley/EVP
Date: July 5, 2005

VOC Emissions from Prepress Chemicals

Product Name	Product Category	Product Density (lb/gal)	Annual Usage (l/yr)	VOC Content (lb/gal)	Flash Off (%)	Actual VOC Emissions (lb/yr)	Actual VOC Emissions (tpy)	Potential VOC Emissions (tpy)
ND-232 Negative Aqueous Developer	Developer	8.65	100	0.34	100%	8.98	0.00	0.02
RC-791 Finisher	Finisher	8.67	20	0.08	100%	0.42	0.00	0.00
L5000B Developer for Lithostar	Developer	9.51	1,120	0.29	100%	85.81	0.04	0.20
G101P Developer Working Strength	Developer	9.15	320	0.27	100%	22.83	0.01	0.05
Total								0.27

HAP Emissions from Prepress Chemicals

Product Name	Product Category	Product Density (lb/gal)	Annual Usage (l/yr)	HAP Content (lb/gal)	HAP Name	Flash Off (%)	Actual HAP Emissions (lb/yr)	Actual HAP Emissions (tpy)	Potential HAP Emissions (tpy)
ND-232 Negative Aqueous Developer	Developer	8.65	100	0.26	Glycol Ether	100%	6.87	0.00	0.02
L5000B Developer for Lithostar	Developer	9.51	1,120	0.29	Hydroquinone	100%	85.81	0.04	0.20
G101P Developer Working Strength	Developer	9.15	320	0.27	Hydroquinone	100%	22.83	0.01	0.05
Total									0.27

Methodology

Actual Emissions (tpy) = Annual Usage (l/yr)/3.785 (l/gal)*VOC/HAP Content (lb/gal)*Flash Off (%) / 2000 (lb/ton)

Potential Emissions (tpy) = (Actual Emissions (tpy)*8,760 (hr/yr) / (3,770 (hr/yr production)*50%)

Appendix A: Emissions Calculations

Prepress Activities

Company Name: Lafayette Printing
Address City IN Zip: 511 Ferry Street, Lafayette, IN 47902-0206
Registration: R157-21202-00088
Plt ID: 157-00088
Reviewer: Linda Quigley/EVP
Date: July 5, 2005

One (1) Solvent Parts Washer, 26 Gallon Capacity - Safety-Kleen Premium Solvent/Safety-Kleen Premium Gold Solvent

VOC Emissions

Annual Solvent Usage (gal/yr)	Reclaimed Solvent (gal/yr)	VOC Content of Solvent (lb/gal)	Actual VOC Emissions (lb/yr)	Actual VOC Emissions (tpy)	Potential VOC Emissions (tpy)
156	147	6.8	61	0.03	0.14

Assumed the maximum annual solvent usage and amount of solvent reclaimed are 50% greater than the typical amounts used and reclaimed.

Appendix A: Emissions Calculations

Natural Gas Combustion Only

Company Name: Lafayette Printing
Address City IN Zip: 511 Ferry Street, Lafayette, IN 47902-0206
Registration: 157-21202-00088
Plt ID: 157-00088
Reviewer: Linda Quigley/EVP
Date: July 5, 2005

Heat Input Capacity
MMBtu/hr

Potential Throughput
MMCF/yr

1.9

16.6

Emission Factor in lb/MMCF	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
	1.9	7.6	0.6	100.0	5.5	84.0
				**see below		
Potential Emission in tons/yr	0.02	0.06	0.00	0.83	0.05	0.70

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006 (SUPPLEMENT D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Appendix A: Emissions Calculations**Natural Gas Combustion Only****HAPs Emissions****Company Name: Lafayette Printing****Address City IN Zip: 511 Ferry Street, Lafayette, IN 47902-0206****Registration: 157-21202-00088****Plt ID: 157-00088****Reviewer: Linda Quigley/EVP****Date: July 5, 2005****HAPs - Organics**

	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	1.738E-05	9.934E-06	6.209E-04	1.490E-02	2.815E-05

HAPs - Metals

	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	4.139E-06	9.106E-06	1.159E-05	3.146E-06	1.738E-05

Methodology is the same as page 7.

The five highest organic and metal HAPs emission factors are provided above. Additional HAPs emission factors are available in AP-42, Chapter 1.4.