

Mr. Bill Baird  
R.R. Donnelley Seymour, Inc.  
709 A Avenue East  
Seymour, Indiana 47274

Re: 071-10541  
First Significant Revision  
FESOP 071-6121-00024

Dear Mr. Baird:

R.R. Donnelley Seymour, Inc. was issued a permit on December 9, 1996 for a heatset web offset printing press. A letter requesting changes to this permit was received on January 12, 1999. Pursuant to the provisions of 326 IAC 2-8-11.1 a significant permit revision to this permit is hereby approved as described in the attached Technical Support Document.

The modification consists of adding an additional heatset web offset printing press consisting of the following equipment:

- (a) One (1) heatset web offset printing press, identified as AIG-008, with a maximum line speed of 1,400 feet per minute and a maximum print width of 38 inches, with associated natural gas dryers; and
- (b) One (1) thermal oxidizer, identified as TAB-2, with a maximum heat input rate of 1.98 million British thermal units per hour (MMBtu/hr), used in parallel with existing thermal oxidizer, TAB-1 for volatile organic compound (VOC) control for units AIG-002, AIG-004, AIG-005, AIG-006, AIG-007, and AIG-008, exhausting through stack S/V ID 8002.

The following construction conditions are applicable to the proposed project:

General Construction Conditions

1. The data and information supplied with the application shall be considered part of this permit. Prior to any proposed change in construction which may affect the potential to emit (PTE) of the proposed project, the change must be approved by the Office of Air Management (OAM).
2. This approval to construct does not relieve the permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

Effective Date of the Permit

3. That pursuant to IC 13-15-5-3, this permit becomes effective upon its issuance.
4. That pursuant to 326 IAC 2-1-9 (Revocation), the Commissioner may revoke this permit if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.
5. All requirements and conditions of this construction approval shall remain in effect unless modified in a manner consistent with procedures established pursuant to 326 IAC 2.

Pursuant to 326 IAC 2-8-11.1, this permit shall be revised by incorporating the significant permit revision into the permit. All other conditions of the permit shall remain unchanged and in effect. Please attach a copy of this revision and the following revised permit pages to the front of the original permit.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter, please contact Yvette de los Angeles, c/o OAM, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana 46206-6015, or call at (973) 575-2555, extension 3216 or at (800) 451-6027, press 0 and ask for extension 3-6878.

Sincerely,

Paul Dubenetzky, Chief  
Permit Branch  
Office of Air Management

Attachments  
YD/EVP

cc: File - Jackson County  
U.S. EPA, Region V  
Air Compliance Section Inspector - Joe Foyst  
Compliance Data Section - Jerri Curless  
Administrative and Development - Janet Mobley  
Technical Support and Modeling - Nancy Landau

## FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP) OFFICE OF AIR MANAGEMENT

**R.R. Donnelley Seymour, Inc.  
709 A Avenue East  
Seymour, Indiana 47274**

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the facilities listed in Section A (Source Summary) of this permit.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 and contains the conditions and provisions specified in 326 IAC 2-8 and 40 CFR Part 70.6 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments) and IC 13-15 and IC 13-17 (prior to July 1, 1996, IC 13-1-1-4 and IC 13-7-10).

Operation Permit No.: F071-6121-00024	
Original issued by Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date: December 9, 1996
First Minor Modification: MMF071-8326-00024	Issuance Date: June 3, 1997
First Significant Modification: SMF071-9418	Issuance Date: May 7, 1998
First Significant Permit Revision: 071-10541	Pages Affected: 4, 5, 21, 22
Issued by: Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date:

## SECTION A SOURCE SUMMARY

### A.1 General Information

The Permittee owns and operates a heatset web offset printing operation.

Responsible Official: Bill Baird  
Source Address: 709 A Avenue East, Seymour, Indiana 47274  
Mailing Address: P.O. Box 385, Seymour, Indiana 47274  
SIC Code: 2752  
County Location: Jackson  
County Status: Attainment for all criteria pollutants  
Source Status: Synthetic Minor Source, FESOP Program

### A.2 Emission Units and Pollution Control Summary

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

- (1) six (6) heatset web offset printing presses, controlled by two (2) natural gas fired thermal oxidizers (ID Nos. TAB-1 and TAB-2), with a maximum heat input rate of 0.7 and 1.98 million British thermal units (MMBtu) per hour, respectively, exhausting through stack ID No. TAB-1 and TAB-2, respectively, including:
  - (a) one (1) heatset web offset printing press (ID No. AIG-002) with a maximum line speed of 1,080 feet per minute and a maximum print width of 25 inches, with associated in-line equipment;
  - (b) one (1) heatset web offset printing press (ID No. AIG-004) with two (2) lines, each with a maximum line speed of 1,400 feet per minute and each with a maximum print width of 36 inches, with associated in-line equipment;
  - (c) one (1) heatset web offset printing press (ID No. AIG-005) with two (2) lines, each with a maximum line speed of 1,200 feet per minute and each with a maximum print width of 50 inches, with associated in-line equipment;
  - (d) one (1) heatset web offset printing press (ID No. AIG-006), with a maximum line speed of 1,400 feet per minute and a maximum print width of 38 inches, with associated in-line equipment;
  - (e) one (1) heatset web offset printing press (ID No. AIG-007), with a maximum line speed of 1,400 feet per minute and a maximum print width of 38 inches, with associated in-line equipment; and
  - (f) one (1) heatset web offset printing press (ID No. AIG-008), with a maximum line speed of 1,400 feet per minute and a maximum print width of 38 inches, with associated in-line equipment.

### A.3 Insignificant Activities

This stationary source also includes the following insignificant activities, as defined in 326 IAC 2-7-1(20):

- (1) natural gas fired combustion sources with heat input equal to or less than 10 million British thermal units per hour;
- (2) combustion sources flame safety purging on startup;
- (3) storage tanks with capacity less than or equal to 1,000 gallons and annual throughputs less than 12,000 gallons;
- (4) vessels storing lubricating oils, hydraulic oils, machining oils, and machining fluids;
- (5) cleaners and solvents characterized as follows:
  - (a) having a vapor pressure equal to or less than 2 kPa, measured at 38°C, or
  - (b) having a vapor pressure equal to or less than 0.7 kPa, measured at 20°C;
- (6) the following equipment related to manufacturing activities not resulting on the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment;
- (7) closed loop heating and cooling systems;
- (8) infrared cure equipment;
- (9) replacement or repair of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment;
- (10) trimmers that do not produce fugitive emissions and that are equipped with a dust collector or trim material recovery;
- (11) paved and unpaved roads and parking lots with public access;
- (12) blowdown for any of the following: sight glass; boiler; compressors; pumps; and cooling towers;
- (13) filter or coalesce media changeout; and
- (14) the following miscellaneous activities: film wash, ink jets, glass cleaners, plate compressors, proof marker system, film processors, ink blending, and a scrap handling system.

A.4 FESOP Applicability [326 IAC 2-8-2]

This stationary source, otherwise required to have a Part 70 permit as described in 326 IAC 2-7-2(a), has applied to Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM) for a Federally Enforceable State Operating Permit (FESOP).

## SECTION D.1 FACILITY OPERATION CONDITIONS

- (1) six (6) heatset web offset printing presses, controlled by two (2) natural gas fired thermal oxidizers (ID Nos. TAB-1 and TAB-2), with a maximum heat input rate of 0.7 and 1.98 million British thermal units (MMBtu) per hour, respectively, exhausting through stack ID No. TAB-1 and TAB-2, respectively, including:
- (a) one (1) heatset web offset printing press (ID No. AIG-002) with a maximum line speed of 1,080 feet per minute and a maximum print width of 25 inches, with associated in-line equipment;
  - (b) one (1) heatset web offset printing press (ID No. AIG-004) with two (2) lines, each with a maximum line speed of 1,400 feet per minute and each with a maximum print width of 36 inches, with associated in-line equipment;
  - (c) one (1) heatset web offset printing press (ID No. AIG-005) with two (2) lines, each with a maximum line speed of 1,200 feet per minute and each with a maximum print width of 50 inches, with associated in-line equipment;
  - (d) one (1) heatset web offset printing press (ID No. AIG-006), with a maximum line speed of 1,400 feet per minute and a maximum print width of 38 inches, with associated in-line equipment;
  - (e) one (1) heatset web offset printing press (ID No. AIG-007), with a maximum line speed of 1,400 feet per minute and a maximum print width of 38 inches, with associated in-line equipment; and
  - (f) one (1) heatset web offset printing press (ID No. AIG-008), with a maximum line speed of 1,400 feet per minute and a maximum print width of 38 inches, with associated in-line equipment.

### Emissions Limitations [326 IAC 2-8-4(1)]

#### D.1.1 Volatile Organic Compounds

The total volatile organic compounds (VOC) delivered to the applicators of presses (ID No. AIG-002, AIG-004, AIG-005, AIG-006, AIG-007, and AIG-008) shall be limited such that its controlled VOC emissions will not exceed 67.63 tons per year per 365 day period, based on 95% overall VOC control efficiency and 20 percent (by weight) ink VOC retention in the substrate, for heatset offset printing. Therefore, the requirements of 326 IAC 2-7 do not apply.

### Testing Requirements [326 IAC 2-8-4(3)]

#### D.1.2 Thermal Oxidizers

During the period between 30 and 36 months after issuance of this permit, the Permittee shall perform testing for overall control efficiency of volatile organic compound for the natural gas fired thermal oxidizer (TAB-2) utilizing Methods 25 or 25A (40 CFR 60, Appendix A) for VOC, or other methods as approved by the Commissioner. Compliance stack tests for overall control efficiency of volatile organic compounds shall be performed once every five years at the two (2) natural gas fired thermal oxidizers, with a maximum heat input rate of 0.7 and 1.98 million British thermal units per hour.

These tests shall be performed according to 40 CFR 60, Appendix A, Methods 25 or 25A.

**Compliance Monitoring Requirements [326 IAC 2-8-4] [326 IAC 2-8-5(a)(1)]**

**D.1.3 Thermal Oxidizers**

Pursuant to 326 IAC 8-1-6 (New Facilities; General Reduction requirements), the six (6) heatset web offset printing presses (AIG-002, AIG-004, AIG-005, AIG-006, AIG-007, and AIG-008) shall be controlled by two (2) natural gas fired thermal oxidizers, with a maximum heat input rate of 0.7 and 1.98 million British thermal units per hour, respectively, at a minimum temperature of 1,400°F or a minimum temperature determined in the compliance tests to maintain an overall control efficiency of 95 percent (weight) of volatile organic compounds (VOC). The thermal oxidizers shall be in operation at all times during which any of the six (6) printing presses (AIG-002, AIG-004, AIG-005, AIG-006, AIG-007, and AIG-008) are in operation.

**Record Keeping and Reporting Requirement [326 IAC 2-8-4(3)] [326 IAC 2-8-16]**

**D.1.4 Volatile Organic Compound (VOC) Usage**

The Permittee shall maintain records at the source of the materials used by the significant sources covered under the permit and that contain any VOCs. The records shall be complete and sufficient to establish compliance with the VOC usage limits and/or VOC emission limits established in this permit. These records shall contain a minimum of the following:

- (a) The quantity of VOC containing material used, including purchase orders, invoices, or other supplier documentation necessary to verify the type and amount used;
- (b) The VOC content of each material used;
- (c) The weight of VOCs emitted for each compliance period, considering capture and control efficiencies; and
- (d) The following operation parameters of the thermal oxidizer:
  - (1) VOC capture efficiency;
  - (2) VOC destruction efficiency of the control device;
  - (3) A description of the data used to establish the capture and destruction efficiencies; and
  - (4) Continuous or intermittent (minimum once per shift - not to exceed an 8 hour period) temperature readings.

**D.1.5 Quarterly Reporting**

A quarterly summary to document compliance with operation conditions number D.1.1 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the enclosed form or its equivalent, within thirty (30) days after the end of the quarter being reported.

**D.1.6 Preventive Maintenance [326 IAC 2-8-4(9)]**

A Preventive Maintenance Plan, in accordance with Condition B.13 of this permit, is required for this facility.

## Indiana Department of Environmental Management Office of Air Management

### Technical Support Document (TSD) for a Permit Revision to a Federally Enforceable State Operating Permit

#### Source Background and Description

<b>Source Name:</b>	<b>R.R. Donnelley Seymour, Inc.</b>
<b>Source Location:</b>	<b>709 A Avenue East, Seymour, Indiana 47274</b>
<b>County:</b>	<b>Jackson</b>
<b>SIC Code:</b>	<b>2752</b>
<b>Operation Permit No.:</b>	<b>F 071-6121-00024</b>
<b>Operation Permit Issuance Date:</b>	<b>December 9, 1996</b>
<b>Permit Revision No.:</b>	<b>F 071-10541-00024</b>
<b>Permit Reviewer:</b>	<b>Yvette de los Angeles/EVP</b>

The Office of Air Management (OAM) has reviewed a revision application from R.R. Donnelley Seymour, Inc. relating to the operation of heatset web offset printing press.

#### History

On January 12, 1999, R.R. Donnelley Seymour, Inc. submitted an application to the OAM requesting to add an additional heatset web offset printing press and thermal oxidizer to their existing plant. R.R. Donnelley Seymour, Inc. was issued a FESOP on December 9, 1996. The following changes were agreed to as the First Significant Permit Revision to the FESOP for this heatset web offset printing press operation. The changes proposed to the FESOP is located at the end of this document.

#### New Emission Units and Pollution Control Equipment

The application includes information relating to the construction and operation of the following equipment:

- (a) One (1) heatset web offset printing press (ID No. AIG-008), with a maximum line speed of 1,400 feet per minute and a maximum print width of 38 inches, with associated in-line equipment; and
- (b) One (1) thermal oxidizer, identified as TAB-2, with a maximum heat input rate of 1.98 million British thermal units per hour (MMBtu/hr), used in parallel with existing thermal oxidizer, TAB-1 for volatile organic compound (VOC) control for units AIG-002, AIG-004, AIG-005, AIG-006, AIG-007, and AIG-008, exhausting through stack S/V ID 8002.

#### Existing Approvals

The source was issued a FESOP (F071-6121-00024) on December 9, 1996. The source has since received the following:

- (a) First Minor Modification No.: 071-8326, issued on June 3, 1997; and
- (b) First Significant Modification No.: 071-9418, issued on May 7, 1998.

**Enforcement Issue**

There are no enforcement actions pending.

**Stack Summary**

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (°F)
TAB-1	thermal oxidizer	50	2	16,000	375-700
TAB-2	thermal oxidizer	50	3	20,000	375-700

**Recommendation**

The staff recommends to the Commissioner that the Significant Permit Revision 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.

An application for the purposes of this review was received on January 12, 1999.

**Emission Calculations**

See Appendix A of this document for detailed emissions calculations (four (4) pages).

**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 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.”

Pollutant	Potential To Emit (tons/year)
PM	0.60
PM-10	0.60
SO <sub>2</sub>	0.00
VOC	129.77
CO	6.60
NO <sub>x</sub>	7.90

HAP's	Potential Emissions (tons/year)
Xylene	less than 10
Vinyl Acetate	less than 10
Naphthalene	less than 10
Glycol Ethers	greater than 10
Cumene	less than 10
Hexane	less than 10
TOTAL	less than 25

- (a) The potential to emit (as defined in 326 IAC 2-1.1-1(16)) of VOC are less than twenty-five (25) tons per year and equal to or greater than five (5) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-8-11.1(f) (Significant Permit Revision).
- (b) The potential to emit (as defined in 326 IAC 2-1.1-1(16)) of any single HAP is equal to or greater than ten (10) tons per year or the potential to emit (as defined in 326 IAC 2-1.1-1(16)) of a combination HAPs is greater than or equal to twenty-five (25) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-8-11.1(f) (Significant Permit Revision).
- (c) This source, otherwise required to obtain a Title V permit, has agreed to accept a permit with federally enforceable limits that restrict its PTE to below the Title V emission levels. Therefore, this source will be issued a Federally Enforceable State Operating Permit (FESOP), pursuant to 326 IAC 2-8.

**Actual Emissions**

The following table shows the actual emissions from the source. This information reflects the 1996 OAM emission data.

Pollutant	Actual Emissions (tons/year)
PM	0.22
PM-10	0.22
SO <sub>2</sub>	0.01
VOC	18.83
CO	0.30
NO <sub>x</sub>	1.50
HAP	NA

**Limited Potential to Emit**

- (a) The source has accepted a federally enforceable limit on potential to emit VOC of less than 99 tons per year, consisting of:
  - (i) 64.83 tons per year for the significant activities; and
  - (ii) 2.80 tons per year for the insignificant activities.
- (b) The table below summarizes the total limited potential to emit of the significant and insignificant emission units.

Process/facility	Limited Potential to Emit (tons/year)						
	PM	PM-10	SO <sub>2</sub>	VOC	CO	NO <sub>x</sub>	HAPs
* Press AIG-002				1.20			
Presses AIG-004, AIG-005, AIG-006, and AIG-007				36.30			
Press AIG-008				27.33			
Insignificant Activities				2.80			
<b>Total Emissions</b>				<b>67.63</b>			

\* Press AIG-002 will be controlled by the thermal oxidizers, TAB-1 and TAB-2.  
The two (2) thermal oxidizers will have a control efficiency of 95%.

### County Attainment Status

The source is located in Jackson County.

Pollutant	Status
PM-10	attainment
SO <sub>2</sub>	attainment
NO <sub>2</sub>	attainment
Ozone	attainment
CO	attainment
Lead	attainment

- (a) Volatile organic compounds (VOC) and oxides of nitrogen (NO<sub>x</sub>) are precursors for the formation of ozone. Therefore, VOC and NO<sub>x</sub> emissions are considered when evaluating the rule applicability relating to the ozone standards. Jackson County has been designated as attainment or unclassifiable for ozone.

### Federal Rule Applicability

- (a) The heatset web offset printing press is not subject to the requirements of the New Source Performance Standard, 326 IAC 12, (40 CFR 60.430, Subpart QQ). The printing press is not a rotogravure printer.
- (b) The heatset web offset printing press is not subject to the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs), (40 CFR 63.820, Subpart KK). The source is not a major source for HAPs and the printing process is not rotogravure or flexographic.

### State Rule Applicability - Entire Source

There are no additional rules that apply.

### State Rule Applicability - Individual Facilities

#### 326 IAC 2-7 (Part 70 Permit Program)

The total volatile organic compounds (VOC) delivered to the applicators of presses (ID Nos. AIG-002, AIG-004, AID-005, AIG-006, AIG-007, and AIG-008) shall be limited such that its VOC emissions will not exceed 99 tons per year. Therefore, the requirements of 326 IAC 2-7 do not apply.

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

The Best Available Control Technology (BACT) for press AIG-008 shall be that VOC emissions shall be controlled by the two (2) thermal oxidizers, TAB-1 and TAB-2, with a control efficiency of 95%.

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

The heatset web offset printing press is not subject to 326 IAC 8-5-5 (Graphic Arts Operation). This rule applies to packaging rotogravure, publication rotogravure and flexographic printing sources.

## Compliance Requirements

Permits issued under 326 IAC 2-8 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAM, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-8-4. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

The compliance monitoring requirements applicable to this source are as follows:

1. The heatset web offset printing press has applicable compliance monitoring conditions as specified below:
  - (a) The Permittee shall record the combustion chamber temperature of the thermal oxidizer use in conjunction with the heatset web offset printing press, at least once daily when the heatset web offset printing press is in operation when venting to the atmosphere. Unless operated under conditions for which the Preventative Maintenance Plan specifies otherwise, the combustion chamber of the thermal oxidizer shall be maintained at a minimum temperature of 1,400° F or a temperature established during the latest stack test. The Preventative Maintenance Plan for this unit shall contain troubleshooting contingency and response steps for when the temperature reading is lower than then above mentioned.

These monitoring conditions are necessary because the heatset web offset printing press must operate properly to ensure compliance with 326 IAC 2-8 (FESOP) and 326 IAC 8-1-6 (New Facilities; General Reduction Requirements).

## Air Toxic Emissions

Indiana presently requests applicants to provide information on emissions of the 188 hazardous air pollutants (HAPs) set out in the Clean Air Act Amendments of 1990. These pollutants are either carcinogenic or otherwise considered toxic and are commonly used by industries. They are listed as air toxics on the Office of Air Management (OAM) FESOP Application Form GSD-08.

- (a) This source will emit levels of air toxics less than those which constitute a major source according to Section 112 of the 1990 Clean Air Act Amendments.
- (b) See attached calculations for detailed air toxic calculations. (Appendix A, pages 3 and 4 of 4)

## Changes Proposed

The following changes have been made to the FESOP:

- (a) Condition A.2, Page 4 of 28  
Add to the listing of emission units the following:
- A.2 Emission Units and Pollution Control Summary [326 IAC 2-8-3(c)]  
The stationary source consists of the following emission units and pollution control devices:
- ~~(1) one (1) heatset web offset printing press (ID AIG-002) with a maximum line speed of 1,080 feet per minute and a maximum print width of 25 inches, with associated in-line equipment, exhausting to one (1) stack (ID No. 8004);~~
- ~~(2)~~(1) **four (4) six (6) heatset web offset printing presses, controlled by one (1) 0.7 million British thermal units per hour natural gas fired thermal oxidizer two (2) natural gas fired thermal oxidizers (ID Nos. TAB-1 and TAB-2), with a maximum heat input rate of 0.7 and 1.98 million British thermal units (MMBtu) per hour, respectively, exhausting one (1) stack (ID No. TAB-1) through stack ID No. TAB-1 and TAB-2, respectively, including**
- (a) one (1) heatset web offset printing press (ID No. AIG-002) with a maximum line speed of 1,080 feet per minute and a maximum print width of 25 inches, with associated in-line equipment;
- (b) one (1) heatset web offset printing press (ID No. AIG-004) with two (2) lines, each with a maximum line speed of 1,400 feet per minute and each with a maximum print width of 36 inches, with associated in-line equipment;
- (c) one (1) heatset web offset printing press (ID No. AIG-005) with two (2) lines, each with a maximum line speed of 1,200 feet per minute and each with a maximum print width of 50 inches, with associated in-line equipment;
- (d) one (1) heatset web offset printing press (ID No. AIG-006), with a maximum line speed of 1,400 feet per minute and a maximum print width of 38 inches, with associated in-line equipment;
- (e) one (1) heatset web offset printing press (ID No. AIG-007), with a maximum line speed of 1,400 feet per minute and a maximum print width of 38 inches, with associated in-line equipment; and
- (f) one (1) heatset web offset printing press (ID No. AIG-008), with a maximum line speed of 1,400 feet per minute and a maximum print width of 38 inches, with associated in-line equipment.**
- (2) Section D.1, Page 21 of 26  
The equipment list in Section D.1 shall be revised as follows:

~~(1) one (1) heatset web offset printing press (ID AIG-002) with a maximum line speed of 1,080 feet per minute and a maximum print width of 25 inches, with associated in-line equipment, exhausting to one (1) stack (ID No. 8004);~~

~~(2)(1) four (4) six (6) heatset web offset printing presses, controlled by one (1) 0.7 million British thermal units per hour natural gas fired thermal oxidizer~~ **two (2) natural gas fired thermal oxidizers (ID Nos. TAB-1 and TAB-2), with a maximum heat input rate of 0.7 and 1.98 million British thermal units (MMBtu) per hour, respectively, exhausting one (1) stack (ID No. TAB-1) through stack ID No. TAB-1 and TAB-2, respectively, including:**

- (a) one (1) heatset web offset printing press (ID No. AIG-002) with a maximum line speed of 1,080 feet per minute and a maximum print width of 25 inches, with associated in-line equipment;
- (b) one (1) heatset web offset printing press (ID No. AIG-004) with two (2) lines, each with a maximum line speed of 1,400 feet per minute and each with a maximum print width of 36 inches, with associated in-line equipment;
- (c) one (1) heatset web offset printing press (ID No. AIG-005) with two (2) lines, each with a maximum line speed of 1,200 feet per minute and each with a maximum print width of 50 inches, with associated in-line equipment;
- (d) one (1) heatset web offset printing press (ID No. AIG-006), with a maximum line speed of 1,400 feet per minute and a maximum print width of 38 inches, with associated in-line equipment;
- (e) one (1) heatset web offset printing press (ID No. AIG-007), with a maximum line speed of 1,400 feet per minute and a maximum print width of 38 inches, with associated in-line equipment; and
- (f) one (1) heatset web offset printing press (ID No. AIG-008), with a maximum line speed of 1,400 feet per minute and a maximum print width of 38 inches, with associated in-line equipment.**

(3) The following conditions have been added or modified to Section D.1:

- (a) Section D.1.1 Volatile Organic Compounds has been removed and combined with Section D.1.2 Volatile Organic Compounds.

~~D.1.1 Volatile Organic Compounds~~

~~The total volatile organic compounds (VOC) delivered to the applicators of press (ID No. AIG-002) shall be limited such that its VOC emissions will not exceed 24.0 tons per 365 day period, based on 20 percent (by weight) ink VOC retention in the substrate, for heatset offset printing. Therefore, the requirements of 326 IAC 8-1-6 do not apply.~~

- (b) Section D.1.2 Volatile Organic Compounds, now Section D.1.1 Volatile Organic Compounds, has been revised as follows:

~~D.1.2~~ **D.1.1** Volatile Organic Compounds

The total volatile organic compounds (VOC) delivered to the applicators of presses (ID No. **AIG-002**, AIG-004, AIG-005, AIG-006, AIG-007, **and AIG-008**) shall be limited such that its **controlled** VOC emissions will not exceed **67.63** tons per year per 365 day period, based on **95% overall VOC control efficiency and 20 percent** (by weight) ink VOC retention in the substrate, for heatset offset printing. Therefore, the requirements of 326 IAC 2-7 do not apply.

- (c) Section D.1.3 Thermal Oxidizers, now Section D.1.2 Thermal Oxidizers, has been revised as follows:

~~D.1.3~~ **D.1.2** Thermal Oxidizers

Compliance stack tests for volatile organic compounds shall be performed once every five years at the ~~0.7 million British thermal units per hour natural gas fired thermal oxidizer~~ **two (2) natural gas fired thermal oxidizers, with a maximum heat input rate of 0.7 and 1.98 million British thermal units per hour**. These tests shall be performed according to 40 CFR 60, Appendix A, Methods 25 or 25A.

- (d) Section D.1.4 Thermal Oxidizers, now Section D.1.3 Thermal Oxidizers, has been revised as follows:

~~D.1.4~~ **D.1.3** Thermal Oxidizers

Pursuant to 326 IAC 8-1-6 (New Facilities; General Reduction requirements), the ~~four (4)~~ **six (6)** heatset web offset printing presses (**AIG-002**, AIG-004, AIG-005, AIG-006, AIG-007, **and AIG-008**) shall be controlled by ~~0.7 million British thermal units per hour natural gas fired thermal oxidizer~~ **two (2) natural gas fired thermal oxidizers, with a maximum heat input rate of 0.7 and 1.98 million British thermal units per hour, respectively**, at a minimum temperature of 1,400°F or a minimum temperature determined in the compliance tests to maintain an overall control efficiency of ~~90~~ **95** percent (weight) of volatile organic compounds (VOC). The thermal oxidizers shall be in operation at all times during which any of the ~~four (4)~~ **six (6)** printing presses (**AIG-002**, AIG-004, AIG-005, AIG-006, AIG-007, **and AIG-008**) are in operation.

- (e) Section D.1.5 Volatile Organic Compound (VOC) Usage has been renumbered to Section D.1.4.

~~D.1.5~~ **D.1.4** Volatile Organic Compound (VOC) Usage

The Permittee shall maintain records at the source of the materials used by the significant sources covered under the permit and that contain any VOCs. The records shall be complete and sufficient to establish compliance with the VOC usage limits and/or VOC emission limits established in this permit. These records shall contain a minimum of the following:

- (a) The quantity of VOC containing material used, including purchase orders, invoices, or other supplier documentation necessary to verify the type and amount used;

- (b) The VOC content of each material used;
- (c) The weight of VOCs emitted for each compliance period, considering capture and control efficiencies; and
- (d) The following operation parameters of the thermal oxidizer:
  - (1) VOC capture efficiency;
  - (2) VOC destruction efficiency of the control device;
  - (3) A description of the data used to establish the capture and destruction efficiencies; and
  - (4) Continuous or intermittent (minimum once per shift - not to exceed an 8 hour period) temperature readings.
- (f) Section D.1.6 Quarterly Reporting, now Section D.1.5 Quarterly Reporting as been revised as follows:

~~D.1.6~~ **D.1.5** Quarterly Reporting

A quarterly summary to document compliance with operation conditions numbers D.1.1 and ~~D.1.2~~ shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the enclosed form or its equivalent, within thirty (30) days after the end of the quarter being reported.

- (g) Section D.1.7 Preventative Maintenance [326 IAC 2-8-4(9)] has been renumber to Section D.1.6.

~~D.1.7~~ **D.1.6** Preventive Maintenance [326 IAC 2-8-4(9)]

A Preventive Maintenance Plan, in accordance with Condition B.13 of this permit, is required for this facility.

## Conclusion

The operation of this heatset web offset printing press shall be subject to the conditions of the attached proposed **Significant Permit Revision to FESOP Permit No. F 071-10541-00024**.

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

### Technical Support Document (TSD) for a Permit Revision to a Federally Enforceable State Operating Permit

#### **Source Background and Description**

<b>Source Name:</b>	<b>R.R. Donnelley Seymour, Inc.</b>
<b>Source Location:</b>	<b>709 A Avenue East, Seymour, Indiana 47274</b>
<b>County:</b>	<b>Jackson</b>
<b>SIC Code:</b>	<b>2752</b>
<b>Operation Permit No.:</b>	<b>F 071-6121-00024</b>
<b>Operation Permit Issuance Date:</b>	<b>December 9, 1996</b>
<b>Permit Revision No.:</b>	<b>F 071-10541-00024</b>
<b>Permit Reviewer:</b>	<b>Yvette de los Angeles/EVP</b>

The Office of Air Management (OAM) has reviewed a revision application from R.R. Donnelley Seymour, Inc. relating to the operation of heatset web offset printing press.

#### **History**

On January 12, 1999, R.R. Donnelley Seymour, Inc. submitted an application to the OAM requesting to add an additional heatset web offset printing press and thermal oxidizer to their existing plant. R.R. Donnelley Seymour, Inc. was issued a FESOP on December 9, 1996. The following changes were agreed to as the First Significant Permit Revision to the FESOP for this heatset web offset printing press operation. The changes proposed to the FESOP is located at the end of this document.

#### **New Emission Units and Pollution Control Equipment**

The application includes information relating to the construction and operation of the following equipment:

- (a) One (1) heatset web offset printing press (ID No. AIG-008), with a maximum line speed of 1,400 feet per minute and a maximum print width of 38 inches, with associated in-line equipment; and
- (b) One (1) thermal oxidizer, identified as TAB-2, with a maximum heat input rate of 1.98 million British thermal units per hour (MMBtu/hr), used in parallel with existing thermal oxidizer, TAB-1 for volatile organic compound (VOC) control for units AIG-002, AIG-004, AIG-005, AIG-006, AIG-007, and AIG-008, exhausting through stack S/V ID 8002.

#### **Existing Approvals**

The source was issued a FESOP (F071-6121-00024) on December 9, 1996. The source has since received the following:

- (a) First Minor Modification No.: 071-8326, issued on June 3, 1997; and
- (b) First Significant Modification No.: 071-9418, issued on May 7, 1998.

**Enforcement Issue**

There are no enforcement actions pending.

**Stack Summary**

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (°F)
TAB-1	thermal oxidizer	50	2	16,000	375-700
TAB-2	thermal oxidizer	50	3	20,000	375-700

**Recommendation**

The staff recommends to the Commissioner that the Significant Permit Revision 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.

An application for the purposes of this review was received on January 12, 1999.

**Emission Calculations**

See Appendix A of this document for detailed emissions calculations (four (4) pages).

**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 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.”

Pollutant	Potential To Emit (tons/year)
PM	0.60
PM-10	0.60
SO <sub>2</sub>	0.00
VOC	129.77
CO	6.60
NO <sub>x</sub>	7.90

HAP's	Potential Emissions (tons/year)
Xylene	less than 10
Vinyl Acetate	less than 10
Naphthalene	less than 10
Glycol Ethers	greater than 10
Cumene	less than 10
Hexane	less than 10
TOTAL	less than 25

- (a) The potential to emit (as defined in 326 IAC 2-1.1-1(16)) of VOC are less than twenty-five (25) tons per year and equal to or greater than five (5) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-8-11.1(f) (Significant Permit Revision).
- (b) The potential to emit (as defined in 326 IAC 2-1.1-1(16)) of any single HAP is equal to or greater than ten (10) tons per year or the potential to emit (as defined in 326 IAC 2-1.1-1(16)) of a combination HAPs is greater than or equal to twenty-five (25) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-8-11.1(f) (Significant Permit Revision).
- (c) This source, otherwise required to obtain a Title V permit, has agreed to accept a permit with federally enforceable limits that restrict its PTE to below the Title V emission levels. Therefore, this source will be issued a Federally Enforceable State Operating Permit (FESOP), pursuant to 326 IAC 2-8.

**Actual Emissions**

The following table shows the actual emissions from the source. This information reflects the 1996 OAM emission data.

Pollutant	Actual Emissions (tons/year)
PM	0.22
PM-10	0.22
SO <sub>2</sub>	0.01
VOC	18.83
CO	0.30
NO <sub>x</sub>	1.50
HAP	NA

**Limited Potential to Emit**

- (a) The source has accepted a federally enforceable limit on potential to emit VOC of less than 99 tons per year, consisting of:
  - (i) 64.83 tons per year for the significant activities; and
  - (ii) 2.80 tons per year for the insignificant activities.
- (b) The table below summarizes the total limited potential to emit of the significant and insignificant emission units.

Process/facility	Limited Potential to Emit (tons/year)						
	PM	PM-10	SO <sub>2</sub>	VOC	CO	NO <sub>x</sub>	HAPs
* Press AIG-002				1.20			
Presses AIG-004, AIG-005, AIG-006, and AIG-007				36.30			
Press AIG-008				27.33			
Insignificant Activities				2.80			
<b>Total Emissions</b>				<b>67.63</b>			

\* Press AIG-002 will be controlled by the thermal oxidizers, TAB-1 and TAB-2.  
The two (2) thermal oxidizers will have a control efficiency of 95%.

### County Attainment Status

The source is located in Jackson County.

Pollutant	Status
PM-10	attainment
SO <sub>2</sub>	attainment
NO <sub>2</sub>	attainment
Ozone	attainment
CO	attainment
Lead	attainment

- (a) Volatile organic compounds (VOC) and oxides of nitrogen (NO<sub>x</sub>) are precursors for the formation of ozone. Therefore, VOC and NO<sub>x</sub> emissions are considered when evaluating the rule applicability relating to the ozone standards. Jackson County has been designated as attainment or unclassifiable for ozone.

### Federal Rule Applicability

- (a) The heatset web offset printing press is not subject to the requirements of the New Source Performance Standard, 326 IAC 12, (40 CFR 60.430, Subpart QQ). The printing press is not a rotogravure printer.
- (b) The heatset web offset printing press is not subject to the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs), (40 CFR 63.820, Subpart KK). The source is not a major source for HAPs and the printing process is not rotogravure or flexographic.

### State Rule Applicability - Entire Source

There are no additional rules that apply.

### State Rule Applicability - Individual Facilities

#### 326 IAC 2-7 (Part 70 Permit Program)

The total volatile organic compounds (VOC) delivered to the applicators of presses (ID Nos. AIG-002, AIG-004, AID-005, AIG-006, AIG-007, and AIG-008) shall be limited such that its VOC emissions will not exceed 99 tons per year. Therefore, the requirements of 326 IAC 2-7 do not apply.

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

The Best Available Control Technology (BACT) for press AIG-008 shall be that VOC emissions shall be controlled by the two (2) thermal oxidizers, TAB-1 and TAB-2, with a control efficiency of 95%.

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

The heatset web offset printing press is not subject to 326 IAC 8-5-5 (Graphic Arts Operation). This rule applies to packaging rotogravure, publication rotogravure and flexographic printing sources.

## Compliance Requirements

Permits issued under 326 IAC 2-8 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAM, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-8-4. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

The compliance monitoring requirements applicable to this source are as follows:

1. The heatset web offset printing press has applicable compliance monitoring conditions as specified below:
  - (a) The Permittee shall record the combustion chamber temperature of the thermal oxidizer use in conjunction with the heatset web offset printing press, at least once daily when the heatset web offset printing press is in operation when venting to the atmosphere. Unless operated under conditions for which the Preventative Maintenance Plan specifies otherwise, the combustion chamber of the thermal oxidizer shall be maintained at a minimum temperature of 1,400° F or a temperature established during the latest stack test. The Preventative Maintenance Plan for this unit shall contain troubleshooting contingency and response steps for when the temperature reading is lower than then above mentioned.

These monitoring conditions are necessary because the heatset web offset printing press must operate properly to ensure compliance with 326 IAC 2-8 (FESOP) and 326 IAC 8-1-6 (New Facilities; General Reduction Requirements).

## Air Toxic Emissions

Indiana presently requests applicants to provide information on emissions of the 188 hazardous air pollutants (HAPs) set out in the Clean Air Act Amendments of 1990. These pollutants are either carcinogenic or otherwise considered toxic and are commonly used by industries. They are listed as air toxics on the Office of Air Management (OAM) FESOP Application Form GSD-08.

- (a) This source will emit levels of air toxics less than those which constitute a major source according to Section 112 of the 1990 Clean Air Act Amendments.
- (b) See attached calculations for detailed air toxic calculations. (Appendix A, pages 3 and 4 of 4)

## Changes Proposed

The following changes have been made to the FESOP:

- (a) Condition A.2, Page 4 of 28  
Add to the listing of emission units the following:
- A.2 Emission Units and Pollution Control Summary [326 IAC 2-8-3(c)]  
The stationary source consists of the following emission units and pollution control devices:
- ~~(1) one (1) heatset web offset printing press (ID AIG-002) with a maximum line speed of 1,080 feet per minute and a maximum print width of 25 inches, with associated in-line equipment, exhausting to one (1) stack (ID No. 8004);~~
- ~~(2)~~(1) **four (4) six (6) heatset web offset printing presses, controlled by one (1) 0.7 million British thermal units per hour natural gas fired thermal oxidizer two (2) natural gas fired thermal oxidizers (ID Nos. TAB-1 and TAB-2), with a maximum heat input rate of 0.7 and 1.98 million British thermal units (MMBtu) per hour, respectively, exhausting one (1) stack (ID No. TAB-1) through stack ID No. TAB-1 and TAB-2, respectively, including**
- (a) one (1) heatset web offset printing press (ID No. AIG-002) with a maximum line speed of 1,080 feet per minute and a maximum print width of 25 inches, with associated in-line equipment;
- (b) one (1) heatset web offset printing press (ID No. AIG-004) with two (2) lines, each with a maximum line speed of 1,400 feet per minute and each with a maximum print width of 36 inches, with associated in-line equipment;
- (c) one (1) heatset web offset printing press (ID No. AIG-005) with two (2) lines, each with a maximum line speed of 1,200 feet per minute and each with a maximum print width of 50 inches, with associated in-line equipment;
- (d) one (1) heatset web offset printing press (ID No. AIG-006), with a maximum line speed of 1,400 feet per minute and a maximum print width of 38 inches, with associated in-line equipment;
- (e) one (1) heatset web offset printing press (ID No. AIG-007), with a maximum line speed of 1,400 feet per minute and a maximum print width of 38 inches, with associated in-line equipment; and
- (f) one (1) heatset web offset printing press (ID No. AIG-008), with a maximum line speed of 1,400 feet per minute and a maximum print width of 38 inches, with associated in-line equipment.**
- (2) Section D.1, Page 21 of 26  
The equipment list in Section D.1 shall be revised as follows:

~~(1) one (1) heatset web offset printing press (ID AIG-002) with a maximum line speed of 1,080 feet per minute and a maximum print width of 25 inches, with associated in-line equipment, exhausting to one (1) stack (ID No. 8004);~~

~~(2)(1) four (4) six (6) heatset web offset printing presses, controlled by one (1) 0.7 million British thermal units per hour natural gas fired thermal oxidizer~~ **two (2) natural gas fired thermal oxidizers (ID Nos. TAB-1 and TAB-2), with a maximum heat input rate of 0.7 and 1.98 million British thermal units (MMBtu) per hour, respectively, exhausting one (1) stack (ID No. TAB-1) through stack ID No. TAB-1 and TAB-2, respectively, including:**

- (a) one (1) heatset web offset printing press (ID No. AIG-002) with a maximum line speed of 1,080 feet per minute and a maximum print width of 25 inches, with associated in-line equipment;
- (b) one (1) heatset web offset printing press (ID No. AIG-004) with two (2) lines, each with a maximum line speed of 1,400 feet per minute and each with a maximum print width of 36 inches, with associated in-line equipment;
- (c) one (1) heatset web offset printing press (ID No. AIG-005) with two (2) lines, each with a maximum line speed of 1,200 feet per minute and each with a maximum print width of 50 inches, with associated in-line equipment;
- (d) one (1) heatset web offset printing press (ID No. AIG-006), with a maximum line speed of 1,400 feet per minute and a maximum print width of 38 inches, with associated in-line equipment;
- (e) one (1) heatset web offset printing press (ID No. AIG-007), with a maximum line speed of 1,400 feet per minute and a maximum print width of 38 inches, with associated in-line equipment; and
- (f) one (1) heatset web offset printing press (ID No. AIG-008), with a maximum line speed of 1,400 feet per minute and a maximum print width of 38 inches, with associated in-line equipment.**

(3) The following conditions have been added or modified to Section D.1:

- (a) Section D.1.1 Volatile Organic Compounds has been removed and combined with Section D.1.2 Volatile Organic Compounds.

~~D.1.1 Volatile Organic Compounds~~

~~The total volatile organic compounds (VOC) delivered to the applicators of press (ID No. AIG-002) shall be limited such that its VOC emissions will not exceed 24.0 tons per 365 day period, based on 20 percent (by weight) ink VOC retention in the substrate, for heatset offset printing. Therefore, the requirements of 326 IAC 8-1-6 do not apply.~~

- (b) Section D.1.2 Volatile Organic Compounds, now Section D.1.1 Volatile Organic Compounds, has been revised as follows:

~~D.1.2~~ **D.1.1** Volatile Organic Compounds

The total volatile organic compounds (VOC) delivered to the applicators of presses (ID No. **AIG-002**, AIG-004, AIG-005, AIG-006, AIG-007, **and AIG-008**) shall be limited such that its **controlled** VOC emissions will not exceed **67.63** tons per year per 365 day period, based on **95% overall VOC control efficiency and 20 percent** (by weight) ink VOC retention in the substrate, for heatset offset printing. Therefore, the requirements of 326 IAC 2-7 do not apply.

- (c) Section D.1.3 Thermal Oxidizers, now Section D.1.2 Thermal Oxidizers, has been revised as follows:

~~D.1.3~~ **D.1.2** Thermal Oxidizers

Compliance stack tests for volatile organic compounds shall be performed once every five years at the ~~0.7 million British thermal units per hour natural gas fired thermal oxidizer~~ **two (2) natural gas fired thermal oxidizers, with a maximum heat input rate of 0.7 and 1.98 million British thermal units per hour**. These tests shall be performed according to 40 CFR 60, Appendix A, Methods 25 or 25A.

- (d) Section D.1.4 Thermal Oxidizers, now Section D.1.3 Thermal Oxidizers, has been revised as follows:

~~D.1.4~~ **D.1.3** Thermal Oxidizers

Pursuant to 326 IAC 8-1-6 (New Facilities; General Reduction requirements), the ~~four (4) six (6)~~ heatset web offset printing presses (**AIG-002**, AIG-004, AIG-005, AIG-006, AIG-007, **and AIG-008**) shall be controlled by ~~0.7 million British thermal units per hour natural gas fired thermal oxidizer~~ **two (2) natural gas fired thermal oxidizers, with a maximum heat input rate of 0.7 and 1.98 million British thermal units per hour, respectively**, at a minimum temperature of 1,400°F or a minimum temperature determined in the compliance tests to maintain an overall control efficiency of ~~90~~ **95** percent (weight) of volatile organic compounds (VOC). The thermal oxidizers shall be in operation at all times during which any of the ~~four (4) six (6)~~ **six (6)** printing presses (**AIG-002**, AIG-004, AIG-005, AIG-006, AIG-007, **and AIG-008**) are in operation.

- (e) Section D.1.5 Volatile Organic Compound (VOC) Usage has been renumbered to Section D.1.4.

~~D.1.5~~ **D.1.4** Volatile Organic Compound (VOC) Usage

The Permittee shall maintain records at the source of the materials used by the significant sources covered under the permit and that contain any VOCs. The records shall be complete and sufficient to establish compliance with the VOC usage limits and/or VOC emission limits established in this permit. These records shall contain a minimum of the following:

- (a) The quantity of VOC containing material used, including purchase orders, invoices, or other supplier documentation necessary to verify the type and amount used;

- (b) The VOC content of each material used;
- (c) The weight of VOCs emitted for each compliance period, considering capture and control efficiencies; and
- (d) The following operation parameters of the thermal oxidizer:
  - (1) VOC capture efficiency;
  - (2) VOC destruction efficiency of the control device;
  - (3) A description of the data used to establish the capture and destruction efficiencies; and
  - (4) Continuous or intermittent (minimum once per shift - not to exceed an 8 hour period) temperature readings.
- (f) Section D.1.6 Quarterly Reporting, now Section D.1.5 Quarterly Reporting as been revised as follows:

~~D.1.6~~ **D.1.5** Quarterly Reporting

A quarterly summary to document compliance with operation conditions numbers D.1.1 and ~~D.1.2~~ shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the enclosed form or its equivalent, within thirty (30) days after the end of the quarter being reported.

- (g) Section D.1.7 Preventative Maintenance [326 IAC 2-8-4(9)] has been renumber to Section D.1.6.

~~D.1.7~~ **D.1.6** Preventive Maintenance [326 IAC 2-8-4(9)]

A Preventive Maintenance Plan, in accordance with Condition B.13 of this permit, is required for this facility.

## Conclusion

The operation of this heatset web offset printing press shall be subject to the conditions of the attached proposed **Significant Permit Revision to FESOP Permit No. F 071-10541-00024**.

## Indiana Department of Environmental Management Office of Air Management

### Addendum to the Technical Support Document for First Significant Permit Revision of the Federally Enforceable State Operating Permit (FESOP)

#### Source Background and Description

Source Name:	R.R. Donnelley Seymour, Inc.	
Source Location:	709 A Avenue East, Seymour, Indiana 47274	
County:	Jackson	
FESOP No.:	F071-6121-00024	Issued: December 9, 1996
Significant Permit Revision No.:	071-10541	
SIC Code:	2752	
Permit Reviewer:	Yvette de los Angeles/EVP	

On March 24, 1999, the Office of Air Management (OAM) had a notice published in The Tribune, Seymour, Indiana, stating that R.R. Donnelley Seymour, Inc. had applied for a Significant Permit Revision to the Federally Enforceable State Operating Permit (FESOP) to operate a stationary heatset web offset printing press and thermal oxidizer. The notice also stated that OAM proposed to issue a Significant Permit Revision for this operation and provided information on how the public could review the proposed Significant Permit Revision and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this Significant Permit Revision should be issued as proposed.

On April 7, 1999, R.R. Donnelley Seymour, Inc. submitted comments on the proposed Significant Permit Revision. The summary of the comments and corresponding responses are as follows (changes in bold or strikethrough for emphasis):

#### Comment 1

On Page 5 of 9 of the Technical Support Document, under Compliance Requirements, the third paragraph should be changed to read:

The compliance monitoring requirements applicable to this source are as follows:

1. The heatset web offset printing press has applicable compliance monitoring conditions as specified below:
  - (a) The Permittee shall record the ~~combustion chamber~~ temperature of the thermal oxidizer use in conjunction with the heatset web offset printing press, at least once daily when the heatset web offset printing press is in operation ~~when venting to the atmosphere~~. Unless operated under conditions for which the Preventative Maintenance Plan specifies otherwise, ~~the combustion chamber of~~ the thermal oxidizer shall be maintained at a minimum temperature of 1,400° F or a temperature established during the latest stack test. The Preventative Maintenance Plan for this unit shall contain troubleshooting contingency and response steps for when the temperature reading is lower than then above mentioned.

These monitoring conditions are necessary because the heatset web offset printing press must operate properly to ensure compliance with 326 IAC 2-8 (FESOP) and 326 IAC 8-1-6 (New Facilities; General Reduction Requirements).

This change is needed to properly reflect the monitoring of the control device. The single bed recuperative thermal oxidizers does not have a combustion chamber, as is common in recuperative oxidizers. Also, for clarification, the temperature that we will monitor will be the temperature at the center of the bed.

### Response 1

The above change has been revised and this addendum serves as the correction to the error.

Upon further review, the OAM has decided to make the following changes to the Significant Permit Revision (changes indicated by bold or strikeout for emphasis):

### Comment 1

Section D.1.2 should read, "Compliance stack test for **overall control efficiency of** the volatile organic compounds..." This needs to be spelled out to clarify that the testing is for the overall control efficiency.

### Response 1

Section D.1.2 has been revised as follows:

#### D.1.2 Thermal Oxidizers

Compliance stack tests for **overall control efficiency of** volatile organic compounds shall be performed once every five years at the two (2) natural gas fired thermal oxidizers, with a maximum heat input rate of 0.7 and 1.98 million British thermal units per hour. These tests shall be performed according to 40 CFR 60, Appendix A, Methods 25 or 25A.

### Comment 2

When is the new incinerator to be tested?

### Response 2

Section D.1.2 has been revised to clarify when the new thermal oxidizer will be tested:

#### D.1.2 Thermal Oxidizers

**During the period between 30 and 36 months after issuance of this permit, the Permittee shall perform testing for overall control efficiency of volatile organic compound for the natural gas fired thermal oxidizer (TAB-2) utilizing Methods 25 or 25A (40 CFR 60, Appendix A) for VOC, or other methods as approved by the Commissioner.**

Compliance stack tests for overall control efficiency of volatile organic compounds shall be performed once every five years at the two (2) natural gas fired thermal oxidizers, with a maximum heat input rate of 0.7 and 1.98 million British thermal units per hour. These tests shall be performed according to 40 CFR 60, Appendix A, Methods 25 or 25A.

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

**Company Name:** R. R. Donnelley Seymour, Inc.  
**Address City IN Zip:** 709 A Avenue East, Seymour, IN 47274  
**CP:** 071-10541  
**Pit ID:** 071-00024  
**Reviewer:** Yvette de los Angeles/EVP

INK VOCS								
Ink Name	Maximum Usage Rate (lbs/hr)	% VOC	Percent Retained in Substrate	Percent Retained in Rag	Capture System Capture Efficiency	Thermal Oxidizer Destruction Efficiency	Uncontrolled Emissions (TONS/YEAR)	Controlled Emissions (TONS/YEAR)
Press Ready Inks	76.61	36.00%	20.00%	0.00%	100.00%	95.00%	96.64	4.83
Press Ready Fountain Solutions	38.3	5.00%	0.00%	0.00%	70.00%	95.00%	8.39	2.81
Press Ready Silicone Solutions	15.32	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00
Misc. Non-Maintenance Products	229.82	1.00%	0.00%	0.00%	0.00%	95.00%	10.07	10.07

CLEAN-UP SOLVENT VOCS								
Cleanup Solvent Name	Maximum Usage Rate (lbs/hr)	%VOC	Percent Retained in Substrate	Percent Retained in Rag	Capture System Capture Efficiency	Thermal Oxidizer Destruction Efficiency	Uncontrolled Emissions (TONS/YEAR)	Controlled Emissions (TONS/YEAR)
Automatic Cleaning Solution	2.8	100.00%	0.00%	0.00%	40.00%	95.00%	12.26	7.60
Manual Cleaning Solution	0.92	100.00%	0.00%	50.00%	0.00%	0.00%	2.01	2.01

<b>Total Uncontrolled VOC Emissions =</b>	<b>129.37 Ton/yr</b>
<b>Total Controlled VOC Emissions =</b>	<b>27.33 Ton/yr</b>

**METHODOLOGY**

Calculations are based on SMF-071-9418-00024, issued May 7, 1998.

Uncontrolled Emissions (Tons/Year) = Maximum Usage Rate (lbs/hr) \* (% VOC) \* (1 - %substrate) \* (1 - % retained in rags)

Controlled Emissions (Tons/Year) = [Maximum Usage Rate (lbs/hr) \* (% VOC) \* (1 - %substrate) \* (1 - % retained in rags)] \* [1 - (% capture efficiency \* % control efficiency)]

**Appendix A: Emission Calculations  
HAP Emission Calculations**

**Company Name:** R. R. Donnelley Seymour, Inc.  
**Address City IN Zip:** 709 A Avenue East, Seymour, IN 47274  
**CP#:** 071-10541  
**Plt ID:** 071-00024  
**Permit Reviewer:** Yvette de los Angeles/EVP  
**Date:** 05/01/99

**UNCONTROLLED POTENTIAL EMISSIONS**

Material	Maximum Usage Rate (lbs/hr)	Percent Retained in Substrate	Percent Retained in Rags	Capture System Capture Efficiency (%)	Thermal Oxidizer Destruction Efficiency (%)	Weight % Xylene	Weight % Vinyl Acetate	Weight % Naphthalene	Weight % Glycol Ethers	Weight % Cumene	Xylene Emissions (ton/yr)	Vinyl Acetate Emissions (ton/yr)	Naphthalene Emissions (ton/yr)	Glycol Ethers Emissions (ton/yr)	Cumene Emissions (ton/yr)
Press Ready Inks	76.61	20.00%	0.00%	100.00%	95.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00
Press Ready Fountain Solutions	38.30	0.00%	0.00%	70.00%	95.00%	0.00%	0.00%	0.00%	10.00%	0.00%	0.00	0.00	0.00	16.78	0.00
Press Ready Silicone Solutions	15.32	0.00%	0.00%	0.00%	95.00%	0.00%	0.50%	0.00%	0.00%	0.00%	0.00	0.34	0.00	0.00	0.00
Misc. Non-Maintenance Products	229.82	0.00%	0.00%	0.00%	95.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00
Automatic Cleaning Solutions	2.80	0.00%	0.00%	40.00%	95.00%	2.00%	0.01%	2.00%	0.00%	2.00%	0.25	0.00	0.25	0.00	0.25
Manual Cleaning Solutions	0.92	0.00%	50.00%	0.00%	95.00%	2.00%	0.00%	2.00%	0.00%	2.00%	0.04	0.00	0.04	0.00	0.04

**Total State Uncontrolled Potential Emissions**

**0.29      0.34      0.29      16.78      0.29**

<b>TOTAL UNCONTROLLED HAPS</b>	<b>17.97 Ton/yr</b>
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**CONTROLLED POTENTIAL EMISSIONS**

Material	Maximum Usage Rate (lbs/hr)	Percent Retained in Substrate	Percent Retained in Rags	Capture System Capture Efficiency (%)	Thermal Oxidizer Destruction Efficiency (%)	Weight % Xylene	Weight % Vinyl Acetate	Weight % Naphthalene	Weight % Glycol Ethers	Weight % Cumene	Xylene Emissions (ton/yr)	Vinyl Acetate Emissions (ton/yr)	Naphthalene Emissions (ton/yr)	Glycol Ethers Emissions (ton/yr)	Cumene Emissions (ton/yr)
Press Ready Inks	76.61	20.00%	0.00%	100.00%	95.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00
Press Ready Fountain Solutions	38.30	0.00%	0.00%	70.00%	95.00%	0.00%	0.00%	0.00%	10.00%	0.00%	0.00	0.00	0.00	5.62	0.00
Press Ready Silicone Solutions	15.32	0.00%	0.00%	0.00%	95.00%	0.00%	0.50%	0.00%	0.00%	0.00%	0.00	0.34	0.00	0.00	0.00
Misc. Non-Maintenance Products	229.82	0.00%	0.00%	0.00%	95.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00
Automatic Cleaning Solutions	2.80	0.00%	0.00%	40.00%	95.00%	2.00%	0.01%	2.00%	0.00%	2.00%	0.15	0.00	0.15	0.00	0.15
Manual Cleaning Solutions	0.92	0.00%	50.00%	0.00%	95.00%	2.00%	0.00%	2.00%	0.00%	2.00%	0.04	0.00	0.04	0.00	0.04

**Total State Controlled Potential Emissions**

**0.19      0.34      0.19      5.62      0.19**

<b>TOTAL CONTROLLED HAPS</b>	<b>6.53 Ton/yr</b>
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**METHODOLOGY**

Calculations are based on SMF-071-9418-00024, issued May 7, 1998.

Uncontrolled Emissions (Tons/Year) = Maximum Usage Rate (lbs/hr) \* (% HAP) \* (1 - %substrate) \* (1 - % retained in rags)

Controlled Emissions (Tons/Year) = [Maximum Usage Rate (lbs/hr) \* (% HAP) \* (1 - %substrate) \* (1 - % retained in rags)] \* [1 - (% capture efficiency \* % control efficiency)]

**Natural Gas Combustion Only  
MM BTU/HR <100**

**Company Name:** R. R. Donnelley Seymour, Inc.  
**Address City IN Zip:** 709 A Avenue East, Seymour, IN 47274  
**CP:** 071-10541  
**Plt ID:** 071-00024  
**Reviewer:** Yvette de los Angeles/EVP  
**Date:** 05/01/99

Heat Input Capacity  
MMBtu/hr

Potential Throughput  
MMCF/yr

18.0

157.5

Heat Input Capacity includes:

Two (2) TEC Dryers each with a heat input capacity of 8.0 MMBtu/hr and one (1) thermal oxidizer with heat input capacity of 1.98 MMBtu/hr.

Emission Factor in lb/MMCF	Pollutant					
	PM	PM10	SO2	NOx	VOC	CO
	7.6	7.6	0.6	100.0	5.5	84.0
				*see below		
Potential Emission in tons/yr	0.6	0.6	0.0	7.9	0.4	6.6

**Methodology**

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

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

PM emission factors are condensable and filterable.

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 1-03-006-03 (SUPPLEMENT D 3/98)

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

See page 2 for HAPs emissions calculations.

**Appendix A: Emissions Calculations  
Natural Gas Combustion Only  
MM BTU/HR <100**

**HAPs Emissions**

**Company Name:** R. R. Donnelley Seymour, Inc.  
**Address City IN Zip:** 709 A Avenue East, Seymour, IN 47274  
**CP:** 071-10541  
**Plt ID:** 071-00024  
**Reviewer:** Yvette de los Angeles/EVP  
**Date:** 05/01/99

HAPs - Organics

Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	0.0	0.0	0.0	0.1	0.0

HAPs - Metals

Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	0.0	0.0	0.0	0.0	0.0

Methodology is the same as page 1.

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