

217/782-2113

CONSTRUCTION PERMIT

PERMITTEE

The Segerdahl Corporation  
Attn: John Tumbarelli  
1351 South Wheeling Road  
Wheeling, Illinois 60090

Application No.: 02040028

I.D. No.: 031324ABR

Subject: Sheetfed Printing Presses

Date Received: April 8, 2002

Date Issued: September 16, 2002

Location: 1351 South Wheeling Road, Wheeling

Permit is hereby granted to the above-designated Permittee to CONSTRUCT emission source(s) and/or air pollution control equipment consisting of four sheetfed printing presses as described in the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

1.0 UNIT SPECIFIC CONDITIONS

1.1 Unit New Sheet-fed Coldset Offset Presses

1.1.1 Description

The four presses consist of two 6-color, one 4-color, and one 2-color 28" x 40" Sheet-fed Coldset Offset Heidelberg presses.

1.1.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
Press 28-31	4 Sheet-fed Coldset Lithographic Printing Presses	None

1.1.3 Applicability Provisions and Applicable Regulations

- a. The "affected printing presses" for the purpose of these unit-specific conditions, are the printing presses as described in Conditions 1.1.1 and 1.1.2.
- b. The affected printing presses are subject to 35 IAC 218.407(a) (3) for as-applied fountain solution, which provides that:

Fountain solution shall not be applied with a VOM content exceeding the following limits:

- i. 5 percent, by volume; or

- ii. 8.5 percent, by volume, and the temperature of the fountain solution is maintained below 15.6°C (60°F), measured at the reservoir or the fountain tray.
- c. The affected printing presses are subject 35 IAC 218.407(a) (4) for as-used cleaning solution, which provides that:

As-used cleaning solution shall not be applied with a VOM content or VOM composite partial vapor pressure equal to or exceeding the following limits:

- i. 30 percent of VOM content by weight; or
- ii. 10 mmHg at 20°C (68°F).
- d. The affected printing presses are subject to 35 IAC 218.407(a) (5) for cleaning materials, which provides that:

The VOM containing cleaning materials, including used cleaning towels associated with any lithographic printing press shall be kept, stored and disposed of in closed containers.

- e. i. The affected printing presses are subject to 35 IAC 218.401 for coatings which provides that no printing press at any time shall apply any coating or ink unless the VOM content does not exceed
  - A. 40% VOM by volume of the coating and ink or
  - B. 25% VOM by volume of the volatile content in the coating and ink.
- ii. The emission standard applies to the aqueous coatings and any other material applied on the press.

#### 1.1.4 Non-Applicability of Regulations of Concern

- a. This permit is issued based on application of coating on the affected printing presses not being subject to 35 IAC 218.204(c), because the affected printing presses are not required to comply with the paper coating limitations in 35 IAC 218.204(c) if they complies with the emission limitations in 35 IAC 218.401.

- b. This permit is issued based on the affected printing presses are not a modification subject to 35 IAC Part 203, Major Stationary Sources Construction and Modification (MSSCAM) because the emissions of VOM from the affected presses and other contemporaneous projects are less than 25 tons per year as explained in Attachment 1.
- c. This permit is based on emissions of Hazardous Air Pollutants (HAP) as listed in Section 112(b) of the Clean Air Act, from the affected presses to be less than 10 tons/year of any single HAP and 25 tons/year of any combination of such HAP's.

1.1.5 Operational and Production Limits and Work Practices

- a. The Permittee shall follow good operating practices for the affected printing presses, including periodic inspection routine maintenance and prompt repair of defects.
- b. Operation of the affected printing presses shall not exceed the following limits:

Throughput of Printing Inks	
(Ton/Hr)	(Ton/Yr)
0.22	80.3

1.1.6 Emission Limitations

- a. VOM Emissions from affected printing presses shall not exceed the following limits:

<u>(Ton/Month)</u>	<u>(Ton/Year)</u>
1.05	10.5

These limits are based on the maximum operation of the presses as described in the application.

- b. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).

1.1.7 Testing Requirements

- a. Testing to demonstrate compliance with the requirements of 218.407 shall be conducted by the Permittee within 90 days after a request by the Illinois EPA. Such testing shall be conducted at the expense of the Permittee and the Permittee shall notify the Illinois EPA in writing 30 days in advance of conducting such testing to allow the Illinois EPA to be present during such testing.

- b. Testing to demonstrate compliance with the VOM content limitations in 35 IAC 218.407(a)(3) and (a)(4)(A) shall be conducted by the Permittee upon request of the Illinois EPA, as follows:
  - i. The applicable test methods and procedures specified in 35 IAC 218.105(a) shall be used; provided, however, Method 24, incorporated by reference at 35 IAC 218.112, shall be used to demonstrate compliance; or
  - ii. The manufacturer's specifications for VOM content for fountain solution additives, cleaning solvents, and inks may be used if such manufacturer's specifications are based on results of tests of the VOM content conducted in accordance with methods specified in 35 IAC 218.105(a); provided, however, Method 24 shall be used to determine compliance.
- c. Testing to determine the VOM composite partial vapor pressure of cleaning solvents, cleaning solvent concentrates, and as-used cleaning solutions shall be conducted by the Permittee in accordance with the applicable methods and procedures specified in 35 IAC 218.110.

1.1.8 Monitoring Requirements

- a. Fountain Solution Temperature.
  - i. The Permittee shall install, maintain, and continuously operate a temperature monitor of the fountain solution in the reservoir or fountain tray, as applicable [35 IAC 218.410(a)(1)].
  - ii. The temperature monitor must be capable of reading with an accuracy of 0.3°C or 0.5°F, and must be attached to an automatic, continuous recording device such as a strip chart, recorder, or computer, with at least the same accuracy, that is installed, calibrated and maintained in accordance with the manufacturer's specifications. If the automatic, continuous recording device malfunctions, the Permittee shall record the temperature of the fountain solution at least once every two operating hours. The automatic, continuous recording device shall be repaired or replaced as soon as practicable [35 IAC 218.410(a)(2)].

b. Fountain Solution VOM Content.

i. For a fountain solution to which VOM is not added automatically, the Permittee shall:

A. Maintain records of the VOM content of the fountain solution; or

B. Take a sample of the as-applied fountain solution from the fountain tray or reservoir, as applicable, each time a fresh batch of fountain solution is prepared or each time VOM is added to an existing batch of fountain solution in the fountain tray or reservoir, and shall determine compliance with the VOM content limitation of the as-applied fountain solution by using one of the following options:

I. With a refractometer or hydrometer with a visual, analog, or digital readout and with an accuracy of 0.5 percent. The refractometer or hydrometer must be calibrated with a standard solution for the type of VOM used in the fountain solution, in accordance with manufacturer's specifications, against measurements performed to determine compliance. The refractometer or hydrometer must be corrected for temperature at least once per 8-hour shift or once per batch of fountain solution prepared or modified, whichever is longer; or

II. With a conductivity meter if the Permittee demonstrated that a refractometer and hydrometer cannot distinguish between compliant and noncompliant fountain solution for the type and amount of VOM in the fountain solution i.e., both hydrometers and refractometers fail to provide significantly different measurements for standard solutions containing 95 percent, 100 percent and 105 percent of the applicable VOM content limit. The conductivity meter reading for the fountain solution must be referenced to the conductivity of the incoming water.

A standard solution shall be used to calibrate the conductivity meter for the type of VOM used in the fountain solution, in accordance with manufacturer's specifications;

- ii. For fountain solutions to which VOM is added at the source with automatic feed equipment, determine the VOM content of the as-applied fountain solution based on the setting of the automatic feed equipment which makes additions of VOM up to a pre-set level. The equipment used to make automatic additions must be installed, calibrated, operated and maintained in accordance with manufacturer's specifications.

c. Cleaning Solution

- i. The Permittee must following procedures:
  - A. For cleaning solutions that are prepared at the source with equipment that automatically mixes cleaning solvent and water (or other non-VOM materials):
    - I. Install, operate, maintain, and calibrate the automatic feed equipment in accordance with manufacturers specifications to regulate the volume of each of the cleaning solvent and water (or other non-VOM materials), as mixed; and
    - II. Pre-set the automatic feed equipment so that the consumption rates of the cleaning solvent and water (or other non-VOM materials), as applied, comply with Condition 1.1.3.
  - B. For cleaning solutions that are not prepared at the source with automatic feed equipment, keep records of the usage of cleaning solvent and water (or other non-VOM materials).
- ii. The owner or operator of any lithographic printing press relying on the vapor pressure of the cleaning solution to comply with 35 IAC 218.407(a) (4) (B) must keep records for such cleaning solutions used on any such line(s) as set forth in 35 IAC 218.411(d) (2) (C).

1.1.9 Recordkeeping Requirements

The Permittee shall maintain records of the following items for the affected printing presses to demonstrate compliance with conditions of this permit:

a. Fountain Solution

- i. The name and identification of each batch of fountain solution prepared for use on the lithographic printing press, the lithographic printing press or centralized reservoir using such batch of fountain solution, and the applicable VOM content limitation for the batch;
- ii. If the Permittee uses a hydrometer, refractometer, or conductivity meter, pursuant to 35 IAC 218.410(b)(1)(B), to demonstrate compliance with the applicable VOM content limit in 35 IAC 218.407(a)(1)(A), (a)(2), or (a)(3):
  - A. The date and time of preparation, and each subsequent modification, of the batch;
  - B. The results of each measurement taken in accordance with 35 IAC 218.410(b);
  - C. Documentation of the periodic calibration of the meter in accordance with the manufacturer's specifications, including date and time of calibration, personnel conducting, identity of standard solution, and resultant reading; and
  - D. Documentation of the periodic temperature adjustment of the meter, including date and time of adjustment, personnel conducting and results;
- iii. If the VOM content of the fountain solution is determined pursuant to 35 IAC 218.410(b)(1)(A), for each batch of as-applied fountain solution:
  - A. Date and time of preparation and each subsequent modification of the batch;

- B. Volume and VOM content of each component used in, or subsequently added to, the fountain solution batch;
  - C. Calculated VOM content of the as-applied fountain solution; and
- iv. If the Permittee relies on the temperature of the fountain solution to comply with the requirements in 35 IAC 218.407(a)(1)(A)(ii) or (a)(3)(B):
- A. The temperature of the fountain solution at the printing press, as monitored in accordance with 35 IAC 218.410(a); and
  - B. A maintenance log for the temperature monitoring devices and automatic, continuous temperature recorders detailing all routine and non-routine maintenance performed, including dates and duration of any outages;
- b. Cleaning Solution
- i. For each cleaning solution for which the Permittee relies on the VOM content to demonstrate compliance with 35 IAC 218.407(a)(4)(A) and which is prepared at the source with automatic equipment:
    - A. The name and identification of each cleaning solution;
    - B. The VOM content of each cleaning solvent in the cleaning solution, as determined in accordance with Section 218.409(c) of this Subpart;
    - C. Each change to the setting of the automatic equipment, with date, time, description of changes in the cleaning solution constituents (e.g., cleaning solvents), and a description of changes to the proportion of cleaning solvent and water (or other non-VOM);
    - D. The proportion of each cleaning solvent and water (or other non-VOM) used to prepare the as-used cleaning solution;

- E. The VOM content of the as-used cleaning solution, with supporting calculations; and
    - F. A calibration log for the automatic equipment, detailing periodic checks;
  - ii. For each batch of cleaning solution for which the Permittee relies on the VOM content to demonstrate compliance with 35 IAC 218.407(a)(4)(A), and which is not prepared at the source with automatic equipment:
    - A. The name and identification of each cleaning solution;
    - B. Date and time of preparation, and each subsequent modification, of the batch;
    - C. The VOM content of each cleaning solvent in the cleaning solution, as determined in accordance with 35 IAC 218.409(c);
    - D. The total amount of each cleaning solvent and water (or other non-VOM) used to prepare the as-used cleaning solution; and
    - E. The VOM content of the as-used cleaning solution, with supporting calculations;
  - iii. For each batch of cleaning solution for which the Permittee relies on the vapor pressure of the cleaning solution to demonstrate compliance with 35 IAC 218.407(a)(4)(B):
    - A. The name and identification of each cleaning solution;
    - B. Date and time of preparation, and each subsequent modification, of the batch;
    - C. The molecular weight, density, and VOM composite partial vapor pressure of each cleaning solvent, as determined in accordance with 35 IAC 218.409(e);
    - D. The total amount of each cleaning solvent used to prepare the as-used cleaning solution; and

- E. The VOM composite partial vapor pressure of each as-used cleaning solution, as determined in accordance with 35 IAC 218.409(e);
- iv. The date, time and duration of scheduled inspections performed to confirm the proper use of closed containers to control VOM emissions, and any instances of improper use of closed containers, with descriptions of actual practice and corrective action taken, if any;
- c. The Permittee shall collect and record the following information for the affected printing presses:
  - i. Monthly and annual VOM usage separately for the affected printing presses, in terms of pounds;
  - ii. The VOM content of each ink, coating, fountain solution, and cleaning solution used, accompanied by a copy of the supporting information, e.g., supplier data sheet or laboratory analysis reports; and
  - iii. Total emissions of VOM from all affected printing presses calculated in accordance with procedures given in Condition 1.1.12.
  - iv. Records of the amount of waste ink recovered in lbs/month and tons/year.

#### 1.1.10 Reporting Requirements

##### a. Report of Deviations

If there is an exceedance of the requirements of this permit as determined by the records required by this permit, the Permittee shall submit a report to the Illinois EPA within 30 days after the exceedance. The report shall include the emissions released in accordance with the recordkeeping requirements, a copy of the relevant records, and a description of the exceedance or violation and efforts to reduce emissions and future occurrences.

##### b. Report for Changing Method of Compliance

- i. If changing its method of demonstrating compliance with the applicable VOM content limitations in 35 IAC 218.407, or changing the

method of demonstrating compliance with the VOM content limitations for fountain solutions pursuant to 35 IAC 218.409, the Permittee shall certify compliance for such new method(s) in accordance with 35 IAC 218.411(c)(1) within 30 days after making such change, and perform all tests and calculations necessary to demonstrate that such printing press will be in compliance with the applicable requirements of 35 IAC 218.407 [35 IAC 218.411(c)(4)].

- ii. If changing its method of demonstrating compliance with the requirements of 35 IAC 218.407(a)(4), or changing between automatic and manual methods of preparing cleaning solutions, the Permittee shall certify compliance for such new method in accordance with 35 IAC 218.411(d)(1), within 30 days after making such change, and perform all tests and calculations necessary to demonstrate that such printing press will be in compliance with the applicable requirements of 35 IAC 218.407(a)(4) [35 IAC 218.411(d)(4)].

#### 1.1.11 Operational Flexibility/Anticipated Operating Scenarios

The Permittee is authorized to make the following physical or operational changes with respect to an affected printing presses without prior to notification the Illinois EPA or revision of this permit. This condition does not affect the Permittee's obligation to properly obtain a construction permit in a timely manner for any activity constituting construction or modification of the source, as defined in 35 IAC 201.102:

- a. Usage of coatings, ink, fountain solution, cleaning solvents, or other raw materials at this source with various VOM contents.
- b. Activities involving routine repair, replacement of parts, general maintenance, replacement of equipment and physical relocation of equipment on-site provided the emission limitations in Condition 1.1.6 are not exceeded and the affected printing presses remains in compliance with 1.1.3.

#### 1.1.12 Compliance Procedures

- a. Compliance with VOM emission limits in Condition 1.1.6 shall be determined by using the emission factors and formulas listed below:

- i. VOM Emissions from Ink = [VOM in Total Ink Usage - VOM Ink Waste] 0.05 Note: 95% retention of coldset ink VOM in substrate, as stated in 35 IAC 218.411(a) (1) (B) (iii) may be presumed.
  - ii. VOM Emissions from Fountain Solution = VOM Fountain Solution Usage - VOM Fountain Solution Waste
  - iii. VOM Emissions from the Manual Cleaning Solution (Manual Blanket Wash) = Manual Cleaning Solution VOM Usage x 0.5 Note: 50% retention of the manual blanket wash VOM in the cleaning towels may be presumed.
  - iv. VOM Emissions from the Automatic Blanket Wash = VOM Automatic Blanket Wash Usage - VOM Automatic Blanket Wash Recovery Waste.
  - v. VOM Emission from Coating = Coating Usage x VOM content.
  - vi. Total VOM Emissions = Ink VOM Emissions + Fountain Solution VOM Emissions + Cleaning Solution VOM Emissions (Manual Blanket Wash VOM Emissions + Automatic Blanket Wash VOM Emissions) + Coating VOM Emissions.
2. The affected printing presses may be operated under this construction permit until the CAAPP permit is reissued.

If you have any questions on this, please call Kaushal Desai at 217/782-2113.

Donald E. Sutton, P.E.  
Manager, Permit Section  
Division of Air Pollution Control

DES:KKD:psj

cc: Region 1

Attachment 1

NSR Applicability

**Table I - Emissions Increases Associated With The Proposed Modification**

<u>Item of Equipment</u>	<u>Installation Date</u>	<u>Permitted VOM Emissions (Tons/Year)</u>
Presses 28-31	2002	10.50

**Table II - Source-Wide Creditable Contemporaneous Emission Decreases**

None

**Table III - Source-Wide Creditable Contemporaneous Emission Increases**

<u>Item of Equipment</u>	<u>Operational Date</u>	<u>Permitted VOM Emissions (Tons/Year)</u>
Press #25	August 1998	8.95
Press #27	January 2000	<u>5.33</u>
		14.28

**Table IV - Net Emissions Change**

	<u>(Tons/Year)</u>
Increases Associated With The Proposed Modification	10.50
Creditable Contemporaneous Emission Increases	<u>14.28</u>
	24.78

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