

- b. The air pressure in the dryers shall be maintained lower than the air pressure of the press room, such that air flow through all openings in the dryers, other than the exhaust, is into the dryers at all times when the printing lines are operating.
- c. The afterburners shall be operated at all times when the printing lines are in operation.

- d. The VOM composite partial vapor pressure of the as-used cleaning solution shall not exceed or equal 10 mmHg at 20°C (68°F).
 - e. The VOM containing cleaning materials, including used cleaning towels, associated with any printing lines shall be kept, stored and disposed of in closed containers.
- 3a. This permit is issued based on the thermal oxidizer being operated such that VOM emissions (excluding methane and ethane) from the press dryer exhaust(s) are reduced by a minimum of 97 percent, by weight. It is assumed that the thermal oxidizer will operate 348 days of the year to account for maintenance downtime. During the remaining 17 days of the year 5 catalytic oxidizers shall be operated when the printing lines are in operation such that VOM emissions (excluding methane and ethane) from the press dryer exhaust(s) are reduced by a minimum of 90 percent, by weight. This will ensure that continuous compliance with 35 Ill. Adm. Code 218.407 is demonstrated.
- b. The thermal oxidizer combustion chamber shall be preheated to at least the temperature of the most recent stack testing for which the test results were used to determine emissions and at which compliance was demonstrated, or 1400°F in the absence of a compliance test. This temperature, at a minimum, shall be maintained during operation. The Permittee may request a revision to this temperature based upon more recent stack testing results.
4. Pursuant to 35 Ill. Adm. Code 218.182, the cold cleaning degreasers shall not operate unless the following operating and equipment requirements are met:
- a. Waste solvent is stored in covered containers only and not disposed of in such a manner that more than 20% of the waste solvent (by weight) is allowed to evaporate into the atmosphere.
 - b. The cover of the degreasers is closed when parts are not being handled.
 - c. Parts are drained until dripping ceases.
 - d. The degreasers are equipped with a cover which is closed whenever parts are not being handled in the cleaner. The cover shall be designed to be easily operated with one hand or with the mechanical assistance of springs, counter-weights or a powered system if:
 - i. The solvent vapor pressure is greater than 2 kPa (15

mmHg or 0.3 psi) measured at 38EC (100EF);

- ii. The solvent is agitated; or
- iii. The solvent is heated above ambient room temperature.

- e. The degreasers are equipped with a device for draining cleaned parts. The drainage device shall be constructed so that parts are enclosed under the cover while draining unless:
 - i. The solvent vapor pressure is less than 4.3 kPa (32 mmHg or 0.6 psi) measured at 38EC (100EF); or
 - ii. An internal drainage device cannot be fitted into the cleaning system, in which case the drainage device may be external.
 - f. The degreasers are equipped with one of the following control devices if the vapor pressure of the solvent is greater than 4.3 kPa (32 mmHg or 0.6 psi) measured at 38EC (100EF) or if the solvent is heated above 50EC (120EF) or its boiling point:
 - i. A freeboard height of 7/10 of the inside width of the tank or 91 cm (36 in), whichever is less; or
 - ii. Any other equipment or system of equivalent emission control as approved by the Agency and further processed consistent with Section 218.108 of this Part. Such a system may include a water covered, refrigerated chiller or carbon adsorber.
 - g. A permanent conspicuous label summarizing the operating procedure is affixed to the degreaser; and
 - h. If a solvent spray is used, the degreasers are equipped with a solid fluid stream spray, rather than a fine, atomized or shower spray.
- 5a. Total combined operations and emissions from the 7 heatset web offset printing presses shall not exceed the following limits:

<u>Material</u>	<u>VOM Usage</u>		<u>VOM Emissions</u>	
	<u>(Ton/Mo)</u>	<u>(Ton/Yr)</u>	<u>(Ton/Mo)</u>	<u>(Ton/Yr)</u>
Ink	50.0	500	1.33	13.30
Fountain Solution	0.5	5	0.02	0.17
Blanket Wash	3.0	30	0.05	0.50
			Total	13.97

These limits are based upon 20% retention of the ink VOM in the substrates, and 50% VOM retention of the blanket wash in the wiping rags as determined in the Alternative Control Techniques Document: Offset Lithographic Printing dated June, 1994; 100% capture efficiency of the ink, fountain solution, and blanket wash VOM into the thermal oxidizer since contained within a building permanent

total enclosure; and 97% control efficiency for all VOM used on the printing lines for the 348 days of the year that the thermal oxidizer is operated.

- b. Only lines B, C, D, E, and the portion of line A that exhausts to CA1 shall operate when the thermal oxidizer is not in operation. The emissions for the remaining 17 days of the year when the thermal oxidizer is off line from the 5 catalytic oxidizers are based on 100% capture efficiency of the ink, fountain solution, and blanket wash VOM into the 5 catalytic oxidizers since contained within a building permanent total enclosure and 90% control efficiency.
 - c. Compliance with annual limits shall be determined from a running total of 12 months of data.
6. Combined VOM usage and emission from the 3 cold cleaning degreasers shall not exceed the following limits:

<u>Material</u>	<u>VOM Usage</u>		<u>VOM Emissions</u>	
	<u>(Lb/Mo)</u>	<u>(Ton/Yr)</u>	<u>(Lb/Mo)</u>	<u>(Ton/Yr)</u>
Degreasing Solvent	1,400	7.00	250	1.30

These limits on the degreasing operation are based on a material balance of the amount of virgin solvent used and the amount of used solvent that is reclaimed, 100% capture efficiency, and 97% control efficiency for the thermal oxidizer for 248 days of the year. Compliance with annual limits shall be determined from a running total of 12 months of data.

7. The emissions of Hazardous Air Pollutants (HAPs) as listed in Section 112(b) of the Clean Air Act shall not equal or exceed 10 tons per year of any single HAP or 25 tons per year of any combination of such HAPs, or such lesser quantity as USEPA may establish in rule which would require the Permittee to obtain a CAAPP permit from the Agency. As a result of this condition, this permit is issued based on the emissions of any HAP from this source not triggering the requirement to obtain a CAAPP permit from the Agency.
8. Pursuant to 35 Ill. Adm. Code 218.105(d)(2) and 218,410, the Permittee shall comply with the following monitoring requirements for the printing lines:
- a. For a fountain solutions to which VOM is not added automatically, 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. Compliance with the VOM content limitation of the as-applied fountain solution shall be determined with a conductivity meter. 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.

- b. For a 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. The Permittee shall install, calibrate, maintain, and operate temperature monitoring device(s) with an accuracy of $\pm 3^{\circ}\text{C}$ or $\pm 5^{\circ}\text{F}$ on the thermal oxidizer in accordance with 35 Ill. Adm. Code 218.105(d)(2) and in accordance with the manufacturer's specifications. Monitoring shall be performed at all times when the thermal oxidizer is operating.
 - d. The Permittee shall install, calibrate, maintain, and operate, in accordance with the manufacturer's specifications, a continuous recorder on the temperature monitoring device(s), such as a strip chart, recorder or computer, with at least the same accuracy as the temperature monitor.
 - e. The Permittee shall, in accordance with the manufacturer's recommendations, perform periodic maintenance on the pollution control equipment covered under this permit such that the pollution control equipment be kept in proper working condition and not cause a violation of the Environmental Protection Act or regulations promulgated therein.
- 9a. The Permittee shall maintain records of the following items for the printing lines:
- i. Actual material (ink, fountain solution, and blanket wash) usage (lb/month and ton/yr).
 - ii. Actual VOM and HAP content (wt. %) of each material.
 - iii. Material VOM and HAP usage (lb/month and ton/yr) as calculated by the actual material usage and the actual VOM and HAP content.
 - iv. VOM and HAP emissions for each material (lb/month and ton/yr) as calculated by the VOM and HAP usage, and by the actual capture efficiency and control efficiency as measured in the most current stack test. The calculation can assume 20% retention of ink VOM in the substrate and 50% VOM retention of the blanket wash in the wiping rags. These assumptions can be used for HAP calculations provided the HAP is a VOM.
- b. The Permittee shall maintain records of the following items for the

cold cleaning degreasers:

- i. Virgin degreasing solvent added to the degreasers (lb/month and ton/yr) as calculated by the daily addition log sheets.

- ii. Degreasing solvent reclaimed (lb/month and ton/year) as calculated by the actual degreasing waste collected and the actual VOM content as tested by Method 24A analysis.
 - iii. VOM and HAP emissions for the degreasing solvent as calculated by the difference between the virgin degreasing solvent used and the degreasing solvent reclaimed (lb/month and ton/year).
- c. Pursuant to 35 Ill. Adm. Code 218.411(b)(3), the Permittee shall collect and record daily the following information for each printing line:
- i. Thermal oxidizer control device monitoring data.
 - ii. A log of operating time for the thermal oxidizer, monitoring equipment, and the associated printing line.
 - iii. A maintenance log for the thermal oxidizer and monitoring equipment detailing all routine and non-routine maintenance performed, including dates and duration of any outages.
 - iv. A log detailing checks on the air flow direction or air pressure of the dryer and press room at least once per 24-hour period while the line is operating.
- d. Pursuant to 35 Ill. Adm. Code 218.411(c)(2), the Permittee shall collect and record the following information for each fountain solution used on the printing presses:
- i. The name and identification of each batch of fountain solution prepared for use on one or more printing line, the printing line or centralized reservoir using such batch of fountain solution, and the applicable VOM content limitation for the batch.
 - ii. The date and time of preparation, and each subsequent modification, of the batch.
 - iii. The results of each measurement taken in accordance with Section 218.410(b).
 - iv. 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.
 - v. Documentation of the periodic temperature adjustment of the meter, including date and time of adjustment, personnel conducting and results.

- e. Pursuant to 35 Ill. Adm. Code 218.411(d)(2)(C), the Permittee shall collect and record the following for each batch of cleaning solution used on the printing presses for which the Permittee relies on the vapor pressure of the cleaning solution to demonstrate compliance with Section 218.407(a)(4)(B):

- i. The name and identification of each cleaning solution.
 - ii. Date and time of preparation, and each subsequent modification, of the batch.
 - iii. The molecular weight, density, and VOM composite partial vapor pressure of each cleaning solvent, as determined in accordance with Section 218.409(e).
 - iv. The total amount of each cleaning solvent used to prepare the as-used cleaning solution.
 - v. The VOM composite partial vapor pressure of each as-used cleaning solution, as determined in accordance with Section 218.409(e).
- f. Pursuant to 35 Ill. Adm. Code 218.411(d)(2)(D), the Permittee shall collect and record for each cleaning solution used on each printing line: 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.
- g. All records and logs required by this permit shall be retained at a readily accessible location at the source for at least three years from the date of entry and shall be made available for inspection and copying by an Illinois EPA or USEPA request. Any records retained in an electronic format (e.g., computer) shall be capable of being retrieved and printed on paper during normal source office hours so as to respond to an Illinois EPA or USEPA request for records during the course of a source inspection.
- 10a. The Permittee shall notify the Illinois EPA in writing of any violation of Section 218.407 within 30 days after the occurrence of such violation. Such notification shall include a copy of all records of such violation.
- b. 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's Compliance Section in Springfield, Illinois 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, a description of the exceedances or violation, and efforts to reduce emissions and future occurrences.

The following special conditions are not federally enforceable:

11a. Natural gas shall be the only fuel fired in the thermal oxidizer, 7 dryers, and 9 space heaters.

- b. Combined natural gas usage for the equipment indicated above shall not exceed the following limits:

Natural Gas Usage: 15 mmscf/month; 150 mmscf/year.

- c. Gas-fired fuel combustion emissions of nitrogen oxide (NO_x), carbon monoxide (CO), volatile organic material (VOM), sulfur dioxide (SO₂), and particulate matter (PM) from the fuel combustion equipment:

<u>Pollutant</u>	<u>Fuel Usage (mmscf/Yr)</u>	<u>Emission Factor (Lb/mmscf)</u>	<u>Emissions (Ton/Yr)</u>
NO _x	150	100	7.50
CO	150	21	1.58
VOM	150	3.8	0.29
SO ₂	150	0.6	0.05
PM	150	12	0.90

This table defines the potential emissions of the fuel combustion equipment and are based on the fuel fired and standard AP-42 emission factors at the maximum annual fuel usage. Compliance with annual limits shall be determined from a running total of 12 months of data.

- 12. This permit is issued based on negligible emissions of particulate matter from the scrap paper handling and baling system with cyclone and filter. For this purpose, emissions shall not exceed nominal emission rates of 0.1 lb/hour and 0.44 ton/year.
- 13a. The Permittee shall maintain records of the following items for the thermal oxidizer, 6 dryers, and 13 space heaters:
 - i. Natural Gas Usage (mmscf/month and mmscf/year).
- 14. Along with the Annual Emission Report required by May 1 of each year, the Permittee shall include the following information: VOM and HAP usage and emissions, from the prior calendar year.
- 15. Two (2) copies of required reports and notifications concerning equipment operation, performance testing, or monitoring shall be sent to the following address, unless otherwise indicated:

Illinois Environmental Protection Agency
Bureau of Air
Compliance Section (#40)
P.O. Box 19276
Springfield, Illinois 62794-9276

and one (1) copy shall be sent to the Agency's regional office at the

following address, unless otherwise indicated:

Illinois Environmental Protection Agency
Division of Air Pollution Control - Regional Office
Eisenhower Tower
1701 First Avenue
Maywood, Illinois 60153

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

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

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cc: Illinois EPA, FOS Region 1
Illinois EPA, Compliance Section
USEPA

Attachment A - Emission Summary

This attachment provides a summary of the maximum emissions from the lithographic printing facility operating in compliance with the requirements of this federally enforceable permit. In preparing this summary, the Illinois EPA used the annual operating scenario which results in maximum emissions from such a plant. The resulting maximum emissions are below the levels, e.g., 25 tons/yr for volatile organic material (VOM), and hazardous air pollutants (HAPs) to less than 10 tons/yr of any single HAP or 25 tons/yr of any combination of HAPs, at which this source would be considered a major source for purposes of the Clean Air Act Permit Program.

1. Total combined operations and emissions from the 7 heatset web offset printing presses shall not exceed the following limits:

<u>Material</u>	<u>VOM Usage</u>		<u>VOM Emissions</u>	
	<u>(Ton/Mo)</u>	<u>(Ton/Yr)</u>	<u>(Ton/Mo)</u>	<u>(Ton/Yr)</u>
Ink	50.0	500	1.33	13.30
Fountain Solution	0.5	5	0.02	0.17
Blanket Wash	3.0	30	0.05	0.50
			Total	13.97

2. Combined VOM usage and emission from the 3 cold cleaning degreasers shall not exceed the following limits:

<u>Material</u>	<u>VOM Usage</u>		<u>VOM Emissions</u>	
	<u>(Lb/Mo)</u>	<u>(Ton/Yr)</u>	<u>(Lb/Mo)</u>	<u>(Ton/Yr)</u>
Degreasing Solvent	1,400	7.00	250	1.30

3. As a consequence of the requirements of this permit, the emissions of hazardous air pollutants (HAP) as listed in Section 112(b) of the Clean Air Act from this source will be less than 10 tons/year of any single HAP and 25 tons/year of any combination of such HAPs so that HAP emissions do not trigger the requirements to obtain a Clean Air Act Permit Program permit from the Illinois EPA.

4. Gas-fired fuel combustion emissions of nitrogen oxide (NO_x), carbon monoxide (CO), volatile organic material (VOM), sulfur dioxide (SO₂), and particulate matter (PM) from the fuel combustion equipment:

<u>Pollutant</u>	<u>Fuel Usage</u>	<u>Emission Factor</u>	<u>Emissions</u>
	<u>(mmscf/Yr)</u>	<u>(Lb/mmscf)</u>	<u>(Ton/Yr)</u>
NO _x	150	100	7.50
CO	150	21	1.58
VOM	150	3.8	0.29
SO ₂	150	0.6	0.05
PM	150	12	0.90

This table defines the potential emissions of the fuel combustion equipment and are based on the fuel fired and standard AP-42 emission factors at the maximum annual fuel usage.

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5. This permit is issued based on negligible emissions of particulate matter from the scrap paper handling and baling system with cyclone and filter. For this purpose, emissions shall not exceed nominal emission rates of 0.1 lb/hour and 0.44 ton/year.

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