

- iii. 5 percent or less, by volume, and the as-applied fountain solution contains no alcohol.
- iv. The air pressure in the dryer is maintained lower than the air pressure of the press room, such that air flow through all openings in the dryer, other than the exhaust, is into the dryer at all times when the printing line is operating;
 - v. An afterburner is installed and operated so that VOM emissions from the press dryer exhaust(s) are reduced by 90 percent, by weight;
 - vi. The afterburner is equipped with Illinois EPA and USEPA approved continuous monitor that measures the temperature rise across each catalytic afterburner bed. It shall be installed, calibrated, maintained, and operated in accordance with the manufacturer's specifications and shall have an accuracy of 3°C or 5°F. Monitoring shall be performed at all times when the afterburner is operating;
 - v. Monitoring device is equipped with a continuous recorder of the temperature, such as a strip chart recorder or computer, with at least the same accuracy as the temperature monitor. It shall be installed, calibrated, operated and maintained, in accordance with manufacturer's specifications;
 - vi. The afterburner is operated at all times when the printing line is in operation.
- b. Non-heatset web presses:
 - i. The VOM content of the as-applied fountain solution is 5 percent or less, by volume, and the as-applied fountain solution contains no alcohol.
- c. Any lithographic printing presses:
 - i. The VOM content of the as-used cleaning solution is less than or equal to 30 percent, by weight; or
 - ii. The VOM composite partial vapor pressure of the as-used cleaning solution is less than 10 mmHg at 20°C (68°F).
- d. The VOM containing cleaning materials, including used cleaning towels, associated with any lithographic printing line are kept, stored or disposed of in any manner other than in closed containers.

3. The VOM emissions from printing operations shall not exceed 2.2 tons/month and 22.0 tons/year. The VOM emissions shall be calculated using the following equations:

a. From the heatset printing presses:

$$E = ? [I_i \times V_{Ii} \times 0.8 \times (1-0.9)] + ? [FS_j \times V_{FSj} \times (1-0.7 \times 0.9)] + ? [CS_k \times V_{CSk} \times (1-0.4 \times 0.9)] + ? (CS_1 \times V_{CS1} \times 0.5);$$

b. From the non-heatset printing presses:

$$E = ? (I_m \times V_{Im} \times 0.05) + ? (FS_m \times V_{FSm}) + ? (CS_n \times V_{CSn} \times 0.5),$$

where

E - VOM emissions (ton);

I_i - heatset ink usage (ton);

V_{Ii} - VOM content of heatset ink (wt. fraction);

FS_j - heatset fountain solution usage (ton);

V_{FSj} - VOM content of heatset fountain solution (wt. fraction);

CS_k - heatset automatic cleaning solution usage (ton);

V_{CSk} - VOM content of heatset automatic cleaning solution (wt. fraction);

CS_1 - heatset manual cleaning solution usage (ton);

V_{CS1} - VOM content of heatset manual cleaning solution (wt. fraction);

I_m - non-heatset ink usage (ton);

V_{Im} - VOM content of non-heatset ink (wt. fraction);

FS_j - heatset fountain solution usage (ton);

V_{FSj} - VOM content of heatset fountain solution (wt. fraction);

CS_n - non-heatset manual cleaning solution usage (ton);

V_{CSn} - VOM content of non-heatset manual cleaning solution (wt. fraction).

This limits are based on the maximum production rate, 100% capture efficiency of the afterburner for VOM emissions from inks, 70% from fountain solutions and 40% from automatic cleaning solvents on heatset printing press, 50% retention of manual cleaning solution in

the towels, 20% ink's VOM retention for heatset printing press and 95% for non-heatset printing presses and 90% afterburner destruction efficiency. Compliance with annual limits shall be determined from a running total of 12 months of data.

4. The emissions of 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 by rule which would require the Permittee to obtain a Clean Air Act Permit Program permit from the Illinois EPA. 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 Clean Air Act Permit Program permit from the Illinois EPA.
5. The Permittee shall fulfill monitoring requirements of 35 Ill. Adm. Code 218.410 for each batch of fountain and cleaning solution used at the plant.
6. The Permittee shall maintain daily records of the following items pursuant to 35 Ill. Adm. Code 218.411:
 - a. A log of operating time for the afterburner, monitoring equipment, and the associated printing line;
 - b. A maintenance log for the afterburner and monitoring equipment detailing all routine and non-routine maintenance performed, including dates and duration of any outages;
 - c. A log detailing checks on the air flow direction or air pressure of the dryer and press room to insure compliance with the requirements of Section 218.407(a)(1)(B) at least once per 24-hour period while the line is operating;
 - d. The name and identification of each batch of fountain solution prepared for use on one or more lithographic printing lines, the lithographic printing line(s) or centralized reservoir using such batch of fountain solution, and the applicable VOM content limitation for the batch;
 - e. Date and time of preparation and each subsequent modification of the batch of fountain solution;
 - f. Volume and VOM content of each component used in, or subsequently added to, the fountain solution batch;
 - g. Calculated VOM content of the as-applied fountain solution;
 - h. The name and identification of each cleaning solution;
 - i. Date and time of preparation, and each subsequent modification, of the batch of cleaning solution;

- j. The VOM content of each cleaning solvent in the cleaning solution;
 - k. The total amount of each cleaning solvent and water (or other non-VOM) used to prepare the as-used cleaning solution; and
 - l. The VOM content of the as-used cleaning solution, with supporting calculations.
7. The Permittee shall maintain monthly records of the following items:
- a. Names and amounts of lithographic inks, fountain solutions and automatic and manual clean-up solvents used (ton/mo, ton/year), separately for heatset and non-heatset presses;
 - b. VOM and HAP content of materials in item (a)(wt%);
 - c. VOM and HAP emission calculations (ton/mo, ton/yr).
8. 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 the Illinois EPA and USEPA upon 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 be able to respond to the Illinois EPA or USEPA request for records during the course of a source inspection.
9. 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, and a description of the exceedance or violation and efforts to reduce emissions and future occurrences.
10. Two (2) copies of required reports and notifications concerning equipment operation or repairs, performance testing or a continuous monitoring system shall be sent to:

Illinois Environmental Protection Illinois EPA
Division of Air Pollution Control
Compliance Section (#40)
P.O. Box 19276
Springfield, Illinois 62794-9276

and one (1) copy shall be sent to the Illinois EPA's regional office at the following address unless otherwise indicated:

Illinois Environmental Protection Illinois EPA
Division of Air Pollution Control
9511 West Harrison
Des Plaines, Illinois 60016

11. The Permittee shall submit the following additional information with the Annual Emissions Report, due May 1st of each year: usage of all VOM-containing materials and their VOM and HAP content from the prior calendar year.

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

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

DES:VJB:psj

cc: IEPA, FOS Region 1
IEPA, Compliance and Enforcement Section
Lotus Notes

Attachment A - Emission Summary

This attachment provides a summary of the maximum emissions from painting operation plant operating in compliance with the requirements of this federally enforceable permit. In preparing this summary, the Agency used the annual operating scenario which results in maximum emissions from such a plant. The resulting maximum emissions are well below the levels, e.g., 25 tons per year of VOM, 10 tons per year of individual HAP and 25 tons per year for total HAPs at which this source would be considered a major source for purposes of the Clean Air Act Permit Program. Actual emissions from this source will be less than predicted in this summary to the extent that less material is handled and control measures are more effective than required in this permit.

1. The VOM emissions from printing operations shall not exceed 2.2 tons/month and 22.0 tons/year. The VOM emissions shall be calculated using the following equations:

a. From the heatset printing presses:

$$E = ? [I_i \times V_{Ii} \times 0.8 \times (1-0.9)] + ? [FS_j \times V_{FSj} \times (1-0.7 \times 0.9)] \\ + ? [CS_k \times V_{CSk} \times (1-0.4 \times 0.9)] + ? (CS_1 \times V_{CS1} \times 0.5);$$

b. From the non-heatset printing presses:

$$E = ? (I_m \times V_{Im} \times 0.05) + ? (FS_m \times V_{FSm}) + ? (CS_n \times V_{CSn} \times 0.5),$$

where

E - VOM emissions (ton);

I_i - heatset ink usage (ton);

V_{Ii} - VOM content of heatset ink (wt. fraction);

FS_j - heatset fountain solution usage (ton);

V_{FSj} - VOM content of heatset fountain solution (wt. fraction);

CS_k - heatset automatic cleaning solution usage (ton);

V_{CSk} - VOM content of heatset automatic cleaning solution (wt. fraction);

CS₁ - heatset manual cleaning solution usage (ton);

V_{CS1} - VOM content of heatset manual cleaning solution (wt. fraction);

I_m - non-heatset ink usage (ton);

V_{Im} - VOM content of non-heatset ink (wt. fraction);

FS_j - heatset fountain solution usage (ton);

V_{FSj} - VOM content of heatset fountain solution (wt. fraction);

CS_n - non-heatset manual cleaning solution usage (ton);

V_{CSn} - VOM content of non-heatset manual cleaning solution (wt. fraction).

2. The emissions of 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 by rule which would require the Permittee to obtain a Clean Air Act Permit Program permit from the Illinois EPA. 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 Clean Air Act Permit Program permit from the Illinois EPA.

VJB:psj