

Manual Cleaning Solvent VOM Emissions (Em):

$$Em = Cm * (1 - Rm/100)$$

Automatic Cleaning Solvent VOM Emissions (Ea):

$$Ea = Ca * (1 - [(K/100) * (Ja/100)])$$

UV Coating VOM Emissions (Eu):

$$Eu = Cu * (1 - Ru/100) * (1 - [(K/100) * (Ju/100)])$$

Total VOM Emissions (Et):

$$Et = Ei + Ef + Em + Ea + Eu$$

Where:

- Ci = Ink VOM consumption (where consumption is the usage * the VOM content)
- Cf = Fountain solution VOM consumption
- Cm = Manual cleaning solvent VOM consumption
- Ca = Automatic cleaning solvent VOM consumption
- Cu = UV coating solvent VOM consumption
- Ri = Percent of ink VOM retained in printed product = 20
- Rm = Percent of manual cleaning solvent VOM retained in cleaning wipes = 50 (used wipes shall be stored in closed containers)
- Ru = Percent of UV coating VOM retained in printed product = 20
- K = Control efficiency of afterburner = 90
- Ji = Capture efficiency of dryer and control system for ink VOM = 100
- Jf = Capture efficiency of dryer and control system for fountain solution VOM = 70
- Ja = Capture efficiency of dryer and control system for automatic cleaning solvent VOM = 40
- Ju = Capture efficiency of dryer and control system for UV coating VOM = 100

- c. The presses shall be operated such that usage of inks, fountain solutions, manual and automatic cleaning solvents, and UV coatings will result in emissions that do not exceed the limits in Condition 2a as determined by using the emissions calculations in Condition 2b.
 - d. Compliance with annual limits shall be determined from a running total of 12 months of data.
- 3a. All presses shall be controlled by a thermal oxidizer, and the thermal oxidizer shall be operating whenever any press is operating except as described in Condition 3b.

- b. The facility shall maintain all emission limits during periods when the thermal oxidizer is not operating. These emissions together with the controlled emissions shall not exceed the limits in Condition 2a.
 - c. The afterburner shall be operated to have a minimum destruction efficiency of 90% and the minimum combustion temperature of the afterburner shall be 1400 degrees F or a temperature demonstrated to achieve at least 90% destruction from an acceptable emission test. This temperature shall be achieved before the printing operation is begun and shall be maintained during the printing operation.
 - d. The afterburner shall be equipped with a continuous temperature indicator and strip chart recorder or disk storage for the afterburner bed chamber temperature. During periods when the strip chart recorder or disk storage device are inoperable, the Permittee shall manually record the afterburner bed temperature at least one time per operating day.
4. The VOM content of the as-applied fountain solution shall not exceed 8% by weight for all presses pursuant to 35 Ill. Adm. Code 215.408(b).
5. 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 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 CAAPP permit from the Illinois EPA.
- 6a. The Permittee shall maintain records of the following items:
- i. Ink usage (tons/month and tons/year).
 - ii. Fountain solution usage (tons/month and tons/year).
 - iii. Manual cleaning solvent usage (tons/month and tons/year).
 - iv. Automatic cleaning solvent usage (tons/month and tons/year).
 - v. UV coating usage (tons/month and tons/year).
 - vi. VOM and HAP content of ink (percent by weight).
 - vii. VOM and HAP content of fountain solution as-applied (percent by weight).
 - viii. VOM and HAP content of manual cleaning solvent (percent by weight).
 - ix. VOM and HAP content of automatic cleaning (percent by weight).

- x. VOM and HAP content of UV coating (percent by weight).
 - xi. VOM and HAP emissions when the thermal oxidizer is not operating including supporting calculations (tons/incident).
 - xii. Total VOM and HAP emissions including supporting calculations (tons/month and tons/year).
 - xiii. Afterburner temperature.
- b. 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 an Illinois EPA request for records during the course of a source inspection.
7. 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 Unit 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 exceedances or violation and efforts to reduce emissions and future occurrences.
8. 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 Agency
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 Agency
Division of Air Pollution Control
5415 North University Avenue
Peoria, Illinois 61614
9. If there have been no exceedances during the prior calendar year, the Annual Emission Report shall include a statement to that effect.

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

Donald E. Sutton, P.E.
Manager, Permit Section
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cc: Region 2
Illinois EPA, Compliance Section
USEPA - Lotus Notes

Attachment A - Emission Summary

This attachment provides a summary of the maximum emissions from the printing plant 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 well below the levels, (i.e., 100 tons per year of VOM) 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.

- 1a. Volatile organic material emissions from the printing presses as determined by the emission calculations specified in the permit:

<u>Operation</u>	VOM Emissions	
	<u>(Ton/Month)</u>	<u>(Ton/Year)</u>
4 Presses	15.0	85.0

- b. Particulate matter emissions from the paper trimming collection system:

<u>Operation</u>	PM Emissions	
	<u>(Lb/Hour)</u>	<u>(Ton/Year)</u>
Paper Trimming Collection System	2.4	10.5

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