

217/782-2113

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT -- RENEWAL

PERMITTEE

R. R. Donnelley Mendota, Inc.
Attn: Charles Utley, Vice President of Manufacturing
1501 West Washington Road
Mendota, Illinois 61342-0954

<u>Application No.:</u> 93110089	<u>I.D. No.:</u> 099055AAH
<u>Applicant's Designation:</u>	<u>Date Received:</u> May 18, 2006
<u>Subject:</u> Printing Presses and Paper Trimming Collection System	
<u>Date Issued:</u>	<u>Expiration Date:</u>
<u>Location:</u> 1501 West Washington Road, Mendota	

This permit is hereby granted to the above-designated Permittee to OPERATE emission unit(s) and/or air pollution control equipment consisting of four heatset web offset presses (Press 207 is new and Press 201 has a UV coating Unit) with dryers controlled by a thermal oxidizer and a paper trimming collection system which includes a combined cyclone and filtering system pursuant to the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

- 1a. This federally enforceable state operating permit is issued to limit the emissions of air pollutants from the source to less than major source thresholds (i.e., 100 tons/year for volatile organic material (VOM) and 10 tons/year for a single HAP and 25 tons/year of any combination of such HAPs). As a result, the source is excluded from the requirements to obtain a Clean Air Act Permit Program permit. The maximum emissions of this source, as limited by the conditions of the permit, are described in Attachment A.
- b. Prior to issuance, a draft of this permit has undergone a public notice and comment period.
- c. This permit supersedes all operating permits for this location.
- 2a. No person shall cause or allow the emission of smoke or other particulate matter, with an opacity greater than 30 percent, into the atmosphere from any emission unit other than those emission units subject to the requirements of 35 Ill. Adm. Code 212.122, pursuant to 35 Ill. Adm. Code 212.123(a), except as allowed by 35 Ill. Adm. Code 212.123(b) and 212.124.
- b. Pursuant to 35 Ill. Adm. Code 212.321(a), no person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit which, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 Ill. Adm. Code 212.321.

- 3a. Pursuant to 35 Ill. Adm. Code 215.204(c), the limitations of 35 Ill. Adm. Code 215.204(c) shall not apply to equipment used for both printing and paper coating.
 - b. Pursuant to 35 Ill. Adm. Code 215.301, no person shall cause or allow the discharge of more than 3.6 kg/hour (8 lbs/hour) of organic material into the atmosphere from any emission source, except as provided in 35 Ill. Adm. Code 215.302, 215.303, 215.304 and the following exception: If no odor nuisance exists the limitation of 35 Ill. Adm. Code 215 Subpart K shall apply only to photochemically reactive material.
 - c. Pursuant to 35 Ill. Adm. Code 215.403, upon achieving compliance with 35 Ill. Adm. Code 215 Subpart P (Printing and Publishing), the emission source is not required to meet 35 Ill. Adm. Code 215 Subpart K (Use of Organic Material). Emission sources exempted from 35 Ill. Adm. Code 215 Subpart P are subject to 35 Ill. Adm. Code 215 Subpart K. Roto-gravure or flexographic equipment used for both roll printing and paper coating are subject to 35 Ill. Adm. Code 215 Subpart.
 - d. Pursuant to 35 Ill. Adm. Code 215.408(b), no owner or operator of a heatset web offset lithographic printing facility, located in a county other than Cook, DuPage, Kane, Lake, Macoupin, Madison, McHenry, Monroe, St. Clair or Will County, emitting over 100 tons/year of organic material, in the absence of pollution control equipment, may cause or allow the operation of a heatset web offset press unless the fountain solution contains no more than eight (8) percent, by weight, of volatile organic material.
4. This permit is issued based on the National Emission Standards for Hazardous Air Pollutants (NESHAP) for the Printing and Publishing Industry, 40 CFR 63 Subpart KK not being applicable because flexographic and rotogravure printing presses are not used at this source.
- 5a. 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 5(b).
 - b. The facility shall maintain compliance with 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 6(a).
 - c. The thermal oxidizer combustion chamber shall be preheated to at least the manufacturer's recommended temperature but no less than the temperature at which compliance was demonstrated in the most recent compliance test, or 1400°F in the absence of a compliance test, before the printing process is begun, and this temperature shall be maintained during operation of the affected printing lines.

- d. The Permittee shall follow good operating practices for the thermal oxidizer, including periodic inspection, routine maintenance, and prompt repair of defects. The affected printing lines shall only be operated with natural gas as the fuel in each press dryer and the thermal oxidizer.
- 6a. Total emissions of volatile organic material (VOM) from all emission units at this facility shall not exceed 15.0 tons per month and 85.0 tons per year. This limit shall include emissions of VOM from all inks, fountain solutions, manual and automatic cleaning solvents, and UV coatings used at the facility.
- b. The thermal oxidizer shall be operated to have a minimum VOM destruction efficiency of 90% and the minimum combustion temperature of the thermal oxidizer shall be 1400 degrees F or a temperature demonstrated to achieve at least 90% destruction for VOM from an acceptable emission test. This temperature shall be achieved before the printing operation is begun and shall be maintained during the printing operation.
- c. The emission of Hazardous Air Pollutants (HAPs) as listed in Section 112(b) of the Clean Air Act shall not exceed 0.9 tons/month and 9.0 tons/year of any single HAP and 2.25 tons/month and 22.5 tons/year of any combination of such HAPs. 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.
- d. VOM and HAP emissions shall be calculated as follows:

Ink VOM and HAP Emissions (Ei):

$$E_i = C_i * (1 - R_i/100) * (1 - [(K/100) * (J_i/100)])$$

Fountain Solution VOM or HAP Emissions (Ef):

$$E_f = C_f * (1 - [(K/100) * (J_f/100)])$$

Manual Cleaning Solvent VOM or HAP Emissions (Em):

$$E_m = C_m * (1 - R_m/100)$$

Automatic Cleaning Solvent VOM or HAP Emissions (Ea):

$$E_a = C_a * (1 - [(K/100) * (J_a/100)])$$

UV Coating VOM or HAP Emissions (Eu):

$$E_u = C_u * (1 - R_u/100) * (1 - [(K/100) * (J_u/100)])$$

Total VOM or HAP Emissions (Et):

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

Where:

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

- e. 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 6(a) as determined by using the emissions calculations in Condition 6(d).
- f. Emissions of particulate matter from the paper trimming collection system shall not exceed emission rates of 2.4 pounds/hour and 10.5 tons/year. These limits are based on the maximum operating rate and control efficiency.
- g. Compliance with the annual limits of this permit shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running total of 12 month total).
- 7a. Pursuant to 35 Ill. Adm. Code 212.107, 212.109 and 212.110, testing for particulate matter emissions shall be performed upon written request by the Illinois EPA as follows:
 - i. For both fugitive and nonfugitive particulate matter emissions, a determination as to the presence or absence of visible emissions from emission units shall be conducted in accordance with Method 22, 40 CFR Part 60, Appendix A, incorporated by reference in 35 Ill. Adm. Code 212.113, except that the length of the observing period shall be at the discretion of the observer, but not less

than one minute. This Condition shall not apply to 35 Ill. Adm. Code 212.301, pursuant to 35 Ill. Adm. Code 212.107.

- ii. Except as otherwise provided in 35 Ill. Adm. Code Part 212, and except for the methods of data reduction when applied to 35 Ill. Adm. Code 212.122 and 212.123, measurements of opacity shall be conducted in accordance with Method 9, 40 CFR Part 60, Appendix A, and the procedures in 40 CFR 60.675(c) and (d), if applicable, incorporated by reference in 35 Ill. Adm. Code 212.113, except that for roadways and parking areas the number of readings required for each vehicle pass will be three taken at 5-second intervals. The first reading shall be at the point of maximum opacity and second and third readings shall be made at the same point, the observer standing at right angles to the plume at least 15 feet away from the plume and observing 4 feet above the surface of the roadway or parking area. After four vehicles have passed, the 12 readings will be averaged, pursuant to 35 Ill. Adm. Code 212.109.
 - iii. Measurement of particulate matter emissions from stationary emission units subject to 35 Ill. Adm. Code Part 212 shall be conducted in accordance with 40 CFR Part 60, Appendix A, Methods 5, 5A, 5D, or 5E, pursuant to 35 Ill. Adm. Code 212.110(a).
 - iv. The volumetric flow rate and gas velocity shall be determined in accordance with 40 CFR Part 60, Appendix A, Methods 1, 1A, 2, 2A, 2C, 2D, 3, and 4, pursuant to 35 Ill. Adm. Code 212.110(b).
 - v. Upon a written notification by the Illinois EPA, the owner or operator of a particulate matter emission unit subject to 35 Ill. Adm. Code Part 212 shall conduct the applicable testing for particulate matter emissions, opacity, or visible emissions at such person's own expense, to demonstrate compliance. Such test results shall be submitted to the Illinois EPA within thirty (30) days after conducting the test unless an alternative time for submittal is agreed to by the Illinois EPA, pursuant to 35 Ill. Adm. Code 212.110(c).
- b. Visible emissions testing required by Condition 7(a) shall be performed by a qualified Method 9 or 22 observer. Particulate matter emissions testing required by Condition 7(a) shall be performed by a qualified independent testing service.
- 8a. Pursuant to 35 Ill. Adm. Code 215.409, the volatile organic material content of fountain solution and all coatings shall be determined by Method 24, 40 CFR 60, Appendix A. The volatile organic material content of printing inks shall be determined by Method 24A, 40 CFR Part 60, Appendix A. Any alternate test method must be approved by the Illinois EPA, which shall consider data comparing the performance of the proposed alternative to the performance of the approved test method(s). If the Illinois EPA determines that such data demonstrates that the proposed alternative will achieve results equivalent to the

approved test method(s), the Illinois EPA shall approve the proposed alternative.

- b. Pursuant to 35 Ill. Adm. Code 215.410(a), any test of volatile organic material emissions, including test conducted to determine control equipment efficiency or control device destruction efficiency, shall be conducted in accordance with the methods and procedures specified in 35 Ill. Adm. Code 215.102.
 - c. Pursuant to 35 Ill. Adm. Code 215.410(b), upon a reasonable request by the Illinois EPA, the owner or operator of a volatile organic material emission source required to comply with the limits of 35 Ill. Adm. Code 215 Subpart P shall conduct emissions testing, at his own expense, to demonstrate compliance.
9. 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.
- 10a. Pursuant to 40 CFR 63.10(b)(3), if an owner or operator determines that his or her stationary source that emits (or has the potential to emit, without considering controls) one or more hazardous air pollutants regulated by any standard established pursuant to Section 112(d) or (f) of the Clean Air Act, and that stationary source is in the source category regulated by the relevant standard, but that source is not subject to the relevant standard (or other requirement established under 40 CFR Part 63) because of limitations on the source's potential to emit or an exclusion, the owner or operator must keep a record of the applicability determination on site at the source for a period of 5 operations to become an affected source, whichever comes first. The record of the applicability determination must be signed by the person making the determination and include an analysis (or other information) that demonstrates why the owner or operator believes the source is unaffected (e.g., because the source is an area source). The analysis (or other information) must be sufficiently detailed to allow the USEPA and/or Illinois EPA to make a finding about the source's applicability status with regard to the relevant standard or other requirement. If relevant, the analysis should be performed in accordance with USEPA guidance materials published to assist sources in making applicability determinations under Section 112 of the Clean Air Act, if any. The requirements to determine applicability of a standard under 40 CFR 63.1(b)(3) and to record the results of that determination under 40 CFR 63.10(b)(3) shall not by themselves create an obligation for the owner or operator to obtain a Title V permit.
- b. Pursuant to 35 Ill. Adm. Code 212.110(e), the owner or operator of an emission unit subject to 35 Ill. Adm. Code Part 212 shall retain records of all tests which are performed. These records shall be

retained for at least three (3) years after the date a test is performed.

- c. The Permittee shall maintain records of the following items so as to demonstrate compliance with the conditions of this permit:
 - 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. Monthly and annual VOM and HAP emissions when the thermal oxidizer is not operating, with supporting calculations (tons/incident);
 - xii. Monthly and annual VOM and HAP emissions, with supporting calculations (tons/month and tons/year); and
 - xiii. Afterburner monitoring data.
 - d. All records and logs required by this permit shall be retained at a readily accessible location at the source for at least five (5) years from the date of entry and shall be made available for inspection and copying by the Illinois EPA or 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 or USEPA request for records during the course of a source inspection.
11. If there is an exceedance of or deviation from 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/deviation. 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 deviation and efforts to reduce emissions and future occurrences.

12. Pursuant to 35 Ill. Adm. Code 212.110(d), a person planning to conduct testing for particulate matter emissions to demonstrate compliance shall give written notice to the Illinois EPA of that intent. Such notification shall be given at least thirty (30) days prior to the initiation of the test unless a shorter period is agreed to by the Illinois EPA. Such notification shall state the specific test methods from 35 Ill. Adm. Code 212.110 that will be used.
13. Pursuant to 35 Ill. Adm. Code 215.410(c), a person planning to conduct a volatile organic material emissions test to demonstrate compliance with this Subpart shall notify the Illinois EPA of that intent not less than 30 days before the planned initiation of the tests so the Illinois EPA may observe the test.
14. Two (2) copies of required reports and notifications 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
Peoria, Illinois 61614

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

Edwin C. Bakowski, P.E.
Acting Manager, Permit Section
Division of Air Pollution Control

ECB:DWH:jws

cc: Illinois EPA, FOS Region 2
Lotus Notes

Attachment A - Emission Summary

This attachment provides a summary of the maximum emissions from the source 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, (e.g., 100 tons per year of VOM, 10 tons per year for a single HAP, and 25 tons per year for totaled HAP) 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.

<u>Emission Unit</u>	E M I S S I O N S (Tons/Year)						
	<u>VOM</u>	<u>NO_x</u>	<u>CO</u>	<u>PM</u>	<u>SO₂</u>	<u>Single HAP</u>	<u>Total HAPs</u>
Paper Trimming Collection System	----	----	----	10.5	----	----	----
4 Heatset Web Offset Presses	<u>85.0</u>	<u>-----</u>	<u>-----</u>	<u>-----</u>	<u>-----</u>	<u>-----</u>	<u>-----</u>
Totals	85.0	-----	-----	10.5	-----	9.0	22.5

DWH:psj