

217/782-2113

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT

PERMITTEE

Dixon Direct LLC
Attn: Richard Boysen
1226 West 7th Street
Dixon, IL 61021

<u>Application No.:</u> 06110022	<u>I.D. No.:</u> 103020AAC
<u>Applicant's Designation:</u>	<u>Date Received:</u> November 6, 2006
<u>Subject:</u> Heatset Web Offset Lithographic Printing	
<u>Date Issued:</u>	<u>Expiration Date:</u>
<u>Location:</u> 1226 West 7 th Street, Dixon, Lee County	

This permit is hereby granted to the above-designated Permittee to OPERATE emission unit(s) and/or air pollution control equipment consisting of six (6) heatset web offset lithographic printing presses (Presses 6, 10, 12, 13, 16, and 17) controlled by six (6) catalytic oxidizers, two heatset web offset lithographic printing presses (Presses 14 and 15) controlled by two (2) thermal oxidizers, six (6) inkjet printers and combustion units (space heaters and hot water heaters) natural gas-fired as described in 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 any single Hazardous Air Pollutant (HAP) and 25 tons/year for any combination of such HAPs). As a result the source is excluded from the requirement to obtain a Clean Air Act Permit Program (CAAPP) permit. The maximum emissions of this source, as limited by the conditions of this 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 issued for this location.
- 2a. Pursuant to 35 Ill. Adm. Code 212.123(a), 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 35 Ill. Adm. Code 212.122.
- b. Pursuant to 35 Ill. Adm. Code 212.123(b), the emission of smoke or other particulate matter from any such emission unit may have an opacity greater than 30 percent but not greater than 60 percent for a period or periods aggregating 8 minutes in any 60 minute period provided that such opaque emissions permitted during any 60 minute

period shall occur from only one such emission unit located within a 305 meter (1000 foot) radius from the center point of any other such emission unit owned or operated by such person, and provided further that such opaque emissions permitted from each such emission unit shall be limited to 3 times in any 24 hour period.

- c. 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 35 Ill. Adm. Code 212.321(c).
- 3. Pursuant to 35 Ill. Adm. Code 214.301, no person shall cause or allow the emission of sulfur dioxide into the atmosphere from any process emission source to excess 2000 ppm.
- 4a. 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.
- b. 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 P.
- c. 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, as applied of volatile organic material.
- 5a. This permit is issued based on the source not being subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for the Printing and Publishing Industry, 40 CFR 63 Subpart KK because wide-web flexographic and rotogravure printing presses are not used at this source.
- b. This permit is issued based on the source not being subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Paper and Other Web Coating, 40 CFR 63 Subpart JJJJ. Pursuant to 40 CFR 63.3300(c), web coating lines in lithography, screenprinting,

letterpress, and narrow-web flexographic printing processes are not part of the affected source of 40 CFR 63 Subpart JJJJ.

6. 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.
- 7a. Pursuant to 35 Ill. Adm. Code 215.106, the operation of any oil fired or natural gas fired after-burner and capture system used to comply with 35 Ill. Adm. Code Part 215 of any section thereof is not required during the period of November 1 of any year to April 1 of the following year provided that:
 - i. The operation of such devices is not required for purposes of occupational safety or health, or for the control of toxic substances, odor nuisances or other regulated pollutants; and
 - ii. Such devices are operated for the duration of any period for which an ozone advisory, alert or emergency has been declared pursuant to 35 Ill. Adm. Code 244.
- b. The afterburners (both catalytic and thermal oxidizers), shall be in operation at all times when the associated presses are in operation and emitting air contaminants, except as provided by 35 Ill. Adm. Code 215.106.
- c. The source shall maintain compliance with all emission limits during periods when an afterburner is not operating as provided by 35 Ill. Adm. Code 215.106. These noncontrolled emissions shall not exceed the limits in Condition 9(a).
- d. Each catalytic oxidizer/afterburner combustion temperature 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 650°F in the absence of a compliance test. This temperature shall be maintained during the printing operation.
- e. Each thermal oxidizer/afterburner's 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 1290°F in the absence of a compliance test. This temperature shall be maintained during the operation.
- f. The Permittee shall follow good operating practices for the catalytic oxidizers/afterburners and the thermal oxidizers/afterburner, 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 catalytic afterburner.
- g. The press dryers and afterburners shall only be operated with natural gas. The use of any other fuel in any press dryer or afterburner requires that the Permittee first obtain a construction permit from the

Illinois EPA and then perform stack testing to verify compliance with all applicable requirements.

- 8. The Permittee shall not cause or allow VOM containing cleaning materials, including used cleaning towels, associated with the new heatset-web-offset lithographic presses (Press #14, 15, 16, and 17) to be kept, stored or disposed of in any manner other than in closed containers.

- 9a. Emissions of volatile organic material (VOM) and operation of heatset-web-offset lithographic presses 6, 10, 12 and 13 controlled by catalytic afterburners shall not exceed the following limits:

VOM Usage		VOM Emissions	
<u>(Tons/Month)</u>	<u>(Tons/Year)</u>	<u>(Tons/Month)</u>	<u>(Tons/Year)</u>
30.0	300	4.16	40.00

- b. Emissions of volatile organic material (VOM) and operation of all inkjet printers combined shall not exceed the following limits:

VOM Usage		VOM Emissions	
<u>(Tons/Month)</u>	<u>(Tons/Year)</u>	<u>(Tons/Month)</u>	<u>(Tons/Year)</u>
1.0	8.0	1.0	8.0

These limits are based on maximum material usage and material balance

- c. Emissions and operation of heatset-web-offset lithographic presses Presses #14, 15, 16, and 17 shall not exceed the following limits:

- i. Total Material Usage and VOM Emissions:

VOM Usage		VOM Emissions	
<u>(Tons/Month)</u>	<u>(Tons/Year)</u>	<u>(Tons/Month)</u>	<u>(Tons/Year)</u>
30.0	300.0	4.16	40.00

These limits are based on maximum material usage, the maximum VOM and HAP content of the material, 20 percent ink retention in the web, 100 percent capture efficiency for heatset inks, 70 percent capture efficiency for fountain solution, and 90 percent destruction efficiency for the afterburners.

- ii. VOM emissions are to be calculated using the following formulas:

Ink VOM Emissions = Ink VOM Material Usage *(100% - 20% Web Retention) * (% Capture Efficiency) * (100% - % Control Efficiency)

Fountain Solution VOM Emissions = [Fountain Solution VOM Material Usage * (% Capture Efficiency) * (100% - % Control Efficiency)] + [Fountain Solution VOM Material Usage * (100% - % Capture Efficiency)]

Manual Clean-Up Solvent VOM Emissions = Clean-Up Solvent VOM Material Usage (except those clean-up solvents with a composite vapor pressure less than 10 mmHg @ 20 C(68 F) in which case manual clean-up solvent VOM emissions = 50% manual clean-up solvent VOM material usage).

Blanket Wash VOM Emissions = Blanket Wash VOM Material Usage (except those blanket washes with a composite vapor pressure less than 10 mm Hg @ 20 C (68 F) in which case blanket wash VOM emissions = 50% blanket wash VOM material usage).

HAP emissions are to be calculated using the above formulas as well, substituting VOM Material Usage with HAP Material Usages.

- d. Operation and emission of the natural gas fired combustion equipment shall not exceed the following limits:
 - i. Natural Gas Usage: 30 mmscf/month, 300 mmscf/year.
 - ii. Emissions from the combustion of natural gas:

<u>Pollutant</u>	<u>Emission Factor</u> (lbs/mmscf)	<u>Emissions</u>	
		(Lbs/Mo)	(Tons/Yr)
Carbon Monoxide (CO)	84.0	1.26	12.6
Nitrogen Oxides (NO _x)	100.0	1.5	15.0
Particulate Matter (PM)	7.6	0.12	1.14
Sulfur Dioxide (SO ₂)	0.6	0.01	0.09
Volatile Organic Material (VOM)	5.5	0.09	0.83

These limits are based on the maximum fuel usage and standard emission factors (Tables 1.4-1 and 1.4-2, AP-42, Fifth Edition, Volume I, Supplement D, July 1998).

- e. The emissions of Hazardous Air Pollutants (HAPs) as listed in Section 112(b) of the Clean Air Act shall not exceed 0.79 tons/month and 7.9 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 project not triggering the requirements of Section 112(g) of the Clean Air Act.
- f. 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).

- 10a. Pursuant to 35 Ill. Adm. Code 201.282, every emission source or air pollution control equipment shall be subject to the following testing requirements for the purpose of determining the nature and quantities of specified air contaminant emissions and for the purpose of determining ground level and ambient air concentrations of such air contaminants:
- i. Testing by Owner or Operator. The Illinois EPA may require the owner or operator of the emission source or air pollution control equipment to conduct such tests in accordance with procedures adopted by the Illinois EPA, at such reasonable times as may be specified by the Illinois EPA and at the expense of the owner or operator of the emission source or air pollution control equipment. The Illinois EPA may adopt procedures detailing methods of testing and formats for reporting results of testing. Such procedures and revisions thereto, shall not become effective until filed with the Secretary of State, as required by the APA Act. All such tests shall be made by or under the direction of a person qualified by training and/or experience in the field of air pollution testing. The Illinois EPA shall have the right to observe all aspects of such tests.
 - ii. Testing by the Illinois EPA. The Illinois EPA shall have the right to conduct such tests at any time at its own expense. Upon request of the Illinois EPA, the owner or operator of the emission source or air pollution control equipment shall provide, without charge to the Illinois EPA, necessary holes in stacks or ducts and other safe and proper testing facilities, including scaffolding, but excluding instruments and sensing devices, as may be necessary.
- b. Testing required by Conditions 11 and 12 shall be performed upon a written request from the Illinois EPA by a qualified independent testing service.
11. Pursuant to 35 Ill. Adm. Code 212.110(c), 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.
- 12a. 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 tests of volatile organic material emissions, including tests 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 this 35 Ill. Adm. Code 215 Subpart P shall conduct emissions testing, at his own expense, to demonstrate compliance.
- 13a. Testing to demonstrate compliance with the requirements of Condition 7(h) of this permit shall be conducted by the owner or operator within 90 days after a request by the Illinois EPA. Such testing shall be conducted at the expense of the owner or operator and the owner or operator 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 determine the VOM composite partial vapor pressure of cleaning solvents, cleaning solvent concentrates, and as-used cleaning solutions shall be conducted in accordance with the applicable methods and procedures specified below:
 - i. If the organic material or solvent consists of only a single compound, the vapor pressure shall be determined by ASTM Method D2879-86 or the vapor pressure may be obtained from a publication such as: Boublik, T., V. Fried and E. Hala, "The Vapor Pressure of Pure Substances," Elsevier Scientific Publishing Co., New York (1973); Perry's Chemical Engineer's Handbook, McGraw-Hill Book Company (1984); CRC Handbook of Chemistry and Physics, Chemical Rubber Publishing Company (1986-87); and Lange's Handbook of Chemistry, John A. Dean, editor, McGraw-Hill Book Company (1985).
 - ii. If the organic material or solvent is in a mixture made up of both organic material compounds and compounds which are not organic material, the vapor pressure shall be determined by the following equation:

$$P_{om} = \frac{\sum_{i=1}^n P_i X_i}{\sum_{i=1}^n X_i}$$

where:

P_{om} = Total vapor pressure of the portion of the mixture which is composed of organic material;

N = Number of organic material components in the mixture;

i = Subscript denoting an individual component;

P_i = Vapor pressure of an organic material component determined in accordance with Condition 12(b)(i) of this permit;

X_i = Mole fraction of the organic material component of the total organic mixture.

- iii. If the organic material or solvent is in a mixture made up of only organic material compounds, the vapor pressure shall be determined by ASTM Method D2879-86 or by the above equation.
- 14a. The thermal oxidizers/afterburners shall be equipped with a continuous temperature indicator and strip chart recorder or disk storage for the afterburner combustion temperature. During periods when the strip chart recorder or disk storage device is inoperable, the Permittee shall manually record the thermal oxidizer/afterburner combustion temperature at least one time per operating day.
- b. Each catalytic oxidizer/afterburner shall be equipped with a continuous monitoring device which is installed, calibrated, operated and maintained according to vendor specifications at all times the oxidizer is in use. This monitoring equipment must continuously monitor and record the temperature rise across the catalytic oxidizer/afterburner beds.
15. 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 years after the determination, or until the source changes its 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 must be performed in accordance with requirements established in relevant subparts of 40 CFR Part 63 for this purpose for particular categories of stationary sources. 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.

16. 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.
- 17a. The Permittee shall maintain records of the following items so as to demonstrate compliance with the conditions of this permit:
 - i. A daily log of operating time for the afterburners, monitoring equipment, and the associated printing lines;
 - ii. Records addressing use of good operating practices for the afterburners (both catalytic and thermal oxidizers):
 - A. Records for periodic inspection of the catalytic afterburners with date, individual performing the inspection, and nature of inspection;
 - B. Records for prompt repair of defects, with identification and description of defect, effect on emissions, date identified, date repaired, and nature of repair; and
 - C. A maintenance log for the catalytic and thermal afterburners and monitoring equipment detailing all routine and non-routine maintenance performed, including dates and duration of any outages.
 - iii. The name and identification of each ink and cleaning solution, and any other materials with solvent used on the printing lines:
 - iv. Amounts of each ink used (tons/month, tons/year);
 - v. Amount of fountain solution used (tons/month and tons/year);
 - vi. Amount of cleaning solution used (tons/month and tons/year);
 - vii. 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;
 - viii. Amount of blanket wash used (tons/month and tons/year);
 - ix. Certified amount of waste shipped off site (tons/month and tons/year);

- x. Certified VOM and HAP content of the waste (weight percent);
 - xi. VOM and HAP content of each ink, fountain solution, cleaning solution, blanket wash, and any other material with solvent (weight percent);
 - xii. Natural gas consumption (mmscf/month and mmscf/year); and
 - xiii. Monthly and annual CO, NO_x, PM, SO₂, VOM and HAP emissions from the source with supporting calculations (tons/month, tons/year).
- b. 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 storage device) 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.
18. 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.
19. 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 35 Ill. Adm. Code 215 Subpart P 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.
- 20a. If there is an exceedance of or a 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 or 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.
- b. Two (2) copies of required reports and notifications 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

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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
5415 North University
Peoria, Illinois 61614

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

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

Date Signed: _____

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 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 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 any combination of such HAP, 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>Single HAP</u>	<u>Total HAPs</u>
	<u>CO</u>	<u>NO_x</u>	<u>PM</u>	<u>SO₂</u>	<u>VOM</u>		
Heatset Web Offset Presses 6, 10, 12 & 13					40.0		
Inkjet Printers					8.0		
Heatset Web Offset Presses 14, 15, 16 & 17					40.0		
Natural Gas Fired Combustion Equipment	<u>12.6</u>	<u>15.0</u>	<u>1.14</u>	<u>0.09</u>	<u>0.83</u>		
Plant-Wide Totals	12.6	15.0	1.14	0.09	88.83	<u>7.9</u>	<u>22.5</u>

DWH:jws