

217/782-2113

CONSTRUCTION PERMIT

PERMITTEE

Quebecor World, Chicago Division
Attn: George Forst
2000 Arthur Avenue
Elk Grove Village, Illinois 60007

Application No.: 00090023

I.D. No.: 031440AAB

Applicant's Designation: PRESS 35

Date Received: November 20, 2000

Subject: Press 35

Date Issued: March 14, 2001

Location: 2000 Arthur Avenue, Elk Grove Village

Permit is hereby granted to the above-designated Permittee to CONSTRUCT emission source(s) and/or air pollution control equipment consisting of one heatset web offset lithographic printing line (Press 35) controlled by an existing oxidizer system as described in the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

Findings

1. Quebecor World plans to expand its lithographic printing plant in Elk Grove Village. The expansion involves construction of one heatset web offset lithographic printing press controlled by an existing oxidizer system that controls other presses already at the plant. The existing oxidizer system has three afterburners, with one, two or three of the units being used depending upon the number of presses that are operating and the volume of exhaust. The system has adequate capacity to also handle the exhaust from the proposed press.
2. The area in which the project is to be located is designated as nonattainment for ozone.
3. The proposed project has potential emissions that are more than 25 tons/year for volatile organic material (VOM). The project is therefore subject to 35 IAC 203: Major Stationary Sources Construction and Modification (MSSCAM).
4. After reviewing all materials submitted by Quebecor World, the Illinois EPA has determined that the project will use work practices and control equipment that will comply with all applicable Board emissions standards and meet the Lowest Achievable Emission Rate (LAER) as required by MSSCAM.
5. A copy of the application and the Illinois EPA's review of the application and a draft of this permit was forwarded to a location in the vicinity of the plant, and the public was given notice and opportunity to examine this material, to submit comments, and to request and participate in a public hearing on this matter.

Conditions

1.0 Unit Specific Conditions

1.1 Unit: One Heatset Web Offset Lithographic Printing Line
 Control: Oxidizer System

1.1.1 Description

The source is adding one new heatset web offset lithographic printing press equipped with a natural gas-fired dryer. Emissions of VOM from the inlet used in the press will be controlled by venting the press dryer to the existing oxidizer system. Emissions of VOM from cleaning solution, which is not captured, and fountain solution will be minimized by use of low-emitting material.

1.1.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
Press 35	Baker Perkins/Rockwell Heatset Web Offset Lithographic Printing Press With Dryer	Oxidizer System (Existing)

1.1.3 Applicability Provisions and Applicable Regulations

- a. The "affected printing line" for the purpose of these unit-specific conditions, is the lithographic printing line as described in Conditions 1.1.1 and 1.1.2.
- b. The affected printing line is subject to 35 IAC 218, Subpart H: Printing and Publishing. Specifically, the affected printing line is subject to Emission Limitations and Control Requirements, Testing, Monitoring, and Recordkeeping for Lithographic Printing (See also 35 IAC 218.407 - 218.411).
- c. The affected printing line is considered a major modification for purposes of the Emission Reduction Market System (ERMS), pursuant to 35 IAC Part 205. As a major modification, the Permittee must hold allotment trading units (ATUs) for the affected printing line in an amount not less than 1.3 times its seasonal VOM emissions, in accordance with 35 IAC 205.150(c)(2).

1.1.4 Non-Applicability of Regulations of Concern

- a. The affected printing line is not subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for the Printing and Publishing Industry, 40 CFR 63, Subparts A and KK, because the affected printing line is not a publication rotogravure, product and packaging rotogravure, or wide-web flexographic printing press.
- b. This permit is issued based on the affected printing line not being a major source of hazardous air pollutants, so that it is not subject to a case-by-case determination of Maximum Achievable Control Technology (MACT), pursuant to Section 112(g) of the Clean Air Act.

Note: The Clean Air Act Permit Program (CAAPP) permit issued to the source as a whole is based on the source not being a major source of hazardous air pollutants.

- c. The affected printing line is not subject to 35 IAC 218.204(c), Coating Operations/Paper Coating, because the affected printing line complies with the emission limitations in 35 IAC 218, Subpart H: Printing and Publishing [35 IAC 218.204(c)].

1.1.5 Control Requirements and Work Practices

- a. The emissions of VOM from the dryers of the affected printing line shall be controlled by an oxidizer system that shall be operated at all times when the affected printing line is in operation
 - i. A. The oxidizer system shall be operated to achieve at least 97 percent destruction efficiency for VOM;
 - B. The Eisenmann afterburner (RTO 3) installed in 2000 and new afterburners installed in the oxidizer system shall each be operated to achieve at least 99 percent destruction efficiency for VOM or shall be operated with a combustion chamber temperature of at least 1500 degrees F and achieve at least 98 percent destruction efficiency. Note: This requirement shall also apply to the affected printing line if it is individually controlled with a dedicated afterburner.

- ii. A. The air pressure in the dryers of the affected printing line shall be maintained lower than the air pressure of the press room, such that air flow through all openings in the dryer, other than the exhaust to the oxidizer system, is into the dryer at all times when the affected printing line is operating;
- B. Oxidizer combustion chambers shall be preheated to at least the manufacturer's recommended temperature(s) but no less than the preheat temperature at which compliance with Condition 1.1.5(a)(i)(A) was demonstrated in the most recent compliance test, before the printing process is begun. The temperature of the oxidizer combustion chamber shall be maintained during operation of the affected printing line at least the temperature that was demonstrated in the performance test. Compliance with these requirements shall be demonstrated by continuous monitoring in accordance with Condition 1.1.8(b).
- b. Fountain solution for the affected printing lines shall contain no alcohol and shall have a VOM content, by volume, as applied, less than or equal to 0.5%.
- c. i. Cleaning solution for the affected printing line as used shall either:
 - A. Have a VOM composite partial vapor pressure at 20°C of no more than 5 mmHg (0.09 psia at 68°F), or
 - B. Contain no more than 30% VOM by weight and have a VOM composite partial vapor pressure of no more than 10 mmHg at 20°C (0.19 psia at 68°F).
- ii. All VOM containing cleaning materials (including rags associated with the affected printing line) must be kept, stored, and disposed of in closed containers.
- d. Natural gas shall be the only fuel used with the affected printing line and associated oxidizer system.

Note: Condition 1.1.5 represents the Lowest Achievable Emissions Rate (LAER) for emissions of VOM as applied to this project, pursuant to 35 IAC 203.301. In practice, these requirements will also apply to other existing presses because the oxidizer system also controls these presses and similar supplies of fountain solution and cleaning solution are used on other presses.

1.1.6 Emission Limitations

The affected printing line is subject to the following:

- a. Emissions of volatile organic compounds from the affected printing line associated with use of inks, fountain solution and cleanup solution shall not exceed 32.6 tons per year. Compliance with this limit shall be determined using the emission factors and formulas in Condition 1.1.12. Compliance with emissions 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).
- b. Emissions from the dryer of affected printing line attributable to combustion of fuel shall not exceed the following limits. These limits reflect application of standard USEPA emission factors from AP-42 for firing of natural gas at the maximum firing rate of the dryer (11.8 mmBtu/hr).

<u>Pollutant</u>	<u>Emissions</u>	
	<u>(Lb/Hour)</u>	<u>(Tons/Year)</u>
NO _x	1.2	5.2
CO	1.0	4.4
VOM	0.1	0.3

- c. 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).

1.1.7 Testing Requirements

- a. Emission Testing
 - i. A. The Permittee shall have testing procedures to demonstrate compliance with the control efficiency requirements of Condition 1.1.3(b) and 1.1.5 no later than January 1, 2004, unless a new

afterburner has commenced construction by such date, in which case separate testing requirements will be required for the new afterburner. Such testing shall be conducted by an independent testing service at the expense of the Permittee.

- B. Emission testing shall also be conducted upon a reasonable request by the Illinois EPA.
- ii. Pursuant to 35 IAC 218.409(b), the methods and procedures of 35 IAC 218.105(d) and (f) shall be used for testing to demonstrate compliance with the requirements of this permit, as follows:
 - A. I. To select the sampling sites, Method 1 or 1A, as appropriate, 40 CFR 60, Appendix A. The sampling sites for determining efficiency in reducing VOM from the dryer exhaust shall be located between the dryer exhaust and the control device inlet, and between the outlet of the control device and the exhaust to the atmosphere [35 IAC 218.409(b)(1)];
 - II. The ductwork for new afterburners installed to maintain or expand the oxidizer system shall include locations for sampling that meet the standard criteria for suitable sampling sites.
 - B. To determine the volumetric flow rate of the exhaust stream, Method 2, 2A, 2C, or 2D, as appropriate, 40 CFR 60, Appendix A [35 IAC 218.409(b)(2)];
 - C. To determine, pursuant to 35 IAC 218.409(b)(3), the VOM concentration of the exhaust stream entering and exiting the control device, Method 25 or 25A, as appropriate, 40 CFR 60, Appendix A. For thermal afterburners, Method 25 must be used except under the following circumstances, in which case Method 25A must be used:

- I. The VOM concentration at the inlet of the control device and the required level of control result in exhaust concentrations of VOM of 50 ppmv, or less, as carbon [35 IAC 218.409(b)(3)(B)]; and
- II. Due to the high efficiency of the control device, the anticipated VOM concentration at the control device exhaust is 50 ppmv or less, as carbon, regardless of inlet concentration. If the source elects to use Method 25A under this option, the exhaust VOM concentration must be 50 ppmv or less, as carbon, and the required destruction efficiency must be met for the source to have demonstrated compliance. If the Method 25A test results show that the required destruction efficiency apparently has been met, but the exhaust concentration is above 50 ppmv, as carbon, a retest is required. The retest shall be conducted using either Method 25 or Method 25A. If the retest is conducted using Method 25A and the test results again show that the required destruction efficiency apparently has been met, but the exhaust concentration is above 50 ppmv, as carbon, the source must retest using Method 25 [35 IAC 218.409(b)(3)(C)];
- D. Notwithstanding the criteria or requirements in Method 25 which specifies a minimum probe temperature of 129°C (265°F), the probe must be heated to at least the gas stream temperature of the dryer exhaust, typically close to 176.7°C (350°F) [35 IAC 218.409(b)(4)];
- E. During testing, the printing line(s) shall be operated at representative operating conditions and flow rates [35 IAC 218.409(b)(5)]; and
- F. During testing, an air flow direction indicating device, such as a smoke stick,

shall be used to demonstrate 100 percent emissions capture efficiency for the dryer [35 IAC 218.409(b)(6)].

- iii. At least 60 days prior to the actual date of testing, a written test plan shall be submitted to the Compliance Section of the Division of Air Pollution Control for review. This plan shall describe the specific procedures for testing, including as a minimum:
 - A. The person(s) who will be performing the sampling and analysis and their experience with similar tests.
 - B. The specific conditions under which testing will be performed, including a discussing of why these conditions will be representative of maximum emissions and the means by which the operating parameters for the emission unit and any control equipment will be determined.
 - C. The specific determinations of emissions and operation that are intended to be made, including sampling and monitoring locations.
 - D. The test method(s) that will be used, with the specific analysis method, if the method can be used with different analysis methods.
 - E. Any minor changes in standard methodology proposed to accommodate the specific circumstances of testing, with justification.
 - F. Any proposed use of an alternative test method, with detailed justification.
 - G. The format and content of the Source Test Report.
 - iv. The Permittee 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 for VOM content and vapor pressure of material:

- i. Testing to demonstrate compliance with the VOM content limitations in this permit, and to determine the VOM content of fountain solutions, fountain solution additives, cleaning solvents, cleaning solutions, and inks, shall be conducted, as follows:
 - A. The applicable test methods and procedures specified in 35 IAC 218.105(a) shall be used; provided, however, Method 24 shall be used to demonstrate compliance [35 IAC 218.409(c)(1)]; or
 - B. The manufacturer's specifications for VOM content for fountain solution additives, cleaning solvents, and inks may be used if such manufacturer's specifications are based on results of tests of the VOM content conducted in accordance with methods specified in 35 IAC 218.105(a); provided, however, Method 24 shall be used to determine compliance [35 IAC 218.409(c)(2)].
- ii. 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 in 35 IAC 218.110 [35 IAC 218.409(e)].
- iii. Testing for VOM content of inks and other printing materials shall be performed as follows [35 IAC 218.105(a)]:
 - A. On at least an annual basis:
 - I. The VOM content of representative inks and coatings "as applied" on the affected printing line shall be determined according to USEPA Reference Method 24 of 40 CFR 60 Appendix A and the procedures of 35 IAC 218.105(a).
 - II. This testing may be performed by the supplier of a material provided that the supplier provides appropriate documentation for such testing to the Permittee and the Permittee's records directly

reflect the application of such material and separately account for any additions of solvent.

III. Upon written request from the Permittee, the Illinois EPA may waive this requirement on a year-by-year basis, if prior testing shows a margin of compliance and no significant changes in coating supplies have occurred.

IV. As an alternative to Condition 1.1.7(b)(iii)(A), the manufacturer's specifications for VOM content for fountain solution additives, cleaning solvents, blanket washes, and inks may be used if such manufacturer's specifications are based on results of test of the VOM content conducted in accordance with methods specified in 35 IAC 218.105(a); provided, however, Method 24, 40 CFR Part 60, Appendix A, shall be used to determine compliance.

B. Upon reasonable request by the Illinois EPA, the VOM content of specific inks and cleaning solvents used on the affected printing line shall be determined according to USEPA Reference Method 24 of 40 CFR 60 Appendix A and the procedures of 35 IAC 218.105(a) [35 IAC 218.105(a)].

1.1.8 Monitoring Requirements

a. The Permittee shall perform the following monitoring related to the VOM content of fountain solution used on the affected printing line:

i. For a fountain solution to which VOM is not added automatically, perform one of the following:

A. Maintain records of the VOM content of the fountain solution in accordance with Condition 1.1.9(b), or

B. 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, and shall determine compliance with the VOM content limitation of the as-applied fountain solution by using one of the following options:

- I. With a refractometer or hydrometer with a visual, analog, or digital readout and with an accuracy of 0.5 percent. The refractometer or hydrometer must be calibrated with a standard solution for the type of VOM used in the fountain solution, in accordance with manufacturer's specifications, against measurements performed to determine compliance. The refractometer or hydrometer must be corrected for temperature at least once per 8-hour shift or once per batch of fountain solution prepared or modified, whichever is longer; or

- II. With a conductivity meter if it is demonstrated that a refractometer and hydrometer cannot distinguish between compliant and noncompliant fountain solution for the type and amount of VOM in the fountain solution. A source may use a conductivity meter if it demonstrates that both hydrometers and refractometers fail to provide significantly different measurements for standard solutions containing 95 percent, 100 percent and 105 percent of the applicable VOM content limit. 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;

- ii. For 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 that 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.
 - iii. This monitoring activity may be conducted for a group of presses using common supply of fountain solution, which group includes the affected printing line.
- b. Oxidizer System. Pursuant to 35 IAC 218.410(c), the Permittee shall:
- i. A. Install, calibrate, maintain, and operate temperature monitoring device(s) with an accuracy of 3°C or 5°F on each afterburner in the oxidizer system in accordance with 35 IAC 218.105(d)(2) and in accordance with the manufacturer's specifications. Monitoring shall be performed at all times when the afterburner is operating [35 IAC 218.410(c)(1)]; and
 - B. Install, calibrate, operate and maintain, in accordance with 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 [35 IAC 218.410(c)(2)].
- c. The Permittee shall perform the following monitoring related to the vapor pressure and VOM content of cleaning solutions used with the affected printing line:
- i. Keep records of the vapor pressure of the cleaning solutions used on the affected printing line as set forth in 35 IAC 218.411(d)(2)(C) [35 IAC 218.410(e)(2)].
 - ii. If relying on the VOM content of the cleaning solution used on the affected printing line to

comply with Condition 1.1.5(c)(i)(B) must [35 IAC 218.410(e)(1)]:

- A. For cleaning solutions that are prepared at the source with equipment that automatically mixes cleaning solvent and water (or other non-VOM):
 - I. Install, operate, maintain, and calibrate the automatic feed equipment in accordance with manufacturer's specifications to regulate the volume of each of the cleaning solvent and water (or other non-VOM), as mixed; and
 - II. Pre-set the automatic feed equipment so that the consumption rates of the cleaning solvent and water (or other non-VOM), as applied, comply with Condition 1.1.5(c)(i)(B);
- B. For cleaning solutions that are not prepared at the source with automatic feed equipment, keep records of the usage of cleaning solvent and water (or other non-VOM) as set forth in 35 IAC 218.411(d)(2).

- iii. These activities may be performed for a group of presses at the source that use the same cleaning solutions as the affected printing line.

1.1.9 Recordkeeping Requirements

The Permittee shall maintain records of the following items for the affected printing line to demonstrate compliance with Conditions 1.1.3, 1.1.5, and 1.1.6:

- a. Oxidizer System: Pursuant to 35 IAC 218.411(b)(3), the Permittee shall collect and record daily the following information:
 - i. The Permittee shall keep a record of the minimum pre-heat and operating temperature for each afterburner, as measured during compliance testing pursuant to Condition 1.1.7.

- A. Oxidizer system monitoring data in accordance with Condition 1.1.8(b) (see also 35 IAC 218.410(c)) [35 IAC 218.411(b)(3)(A)];
 - B. A log of operating time for the oxidizer system, monitoring equipment, and the associated printing line [35 IAC 218.411(b)(3)(B)];
 - C. A maintenance log for the oxidizer system and monitoring equipment detailing all routine and non-routine maintenance performed, including dates and duration of any outages [35 IAC 218.411(b)(3)(C)]; and
 - D. 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 Condition 1.1.5(a)(ii) (see also 35 IAC 218.407(a)(1)(B)) at least once per 24-hour period while the line is operating. If the printing presses are interlocked to the oxidizers such that a press cannot be operated unless the oxidizer(s) are operating and the dryers operate under negative air pressure (i.e. airflow is pulled from the dyers by the oxidizer fans), then logs addressing the inspection and maintenance of this interlock system along with charts indicating when the oxidizers are in operation, will satisfy the log requirements of this condition [35 IAC 218.411(b)(3)(D)].
- ii. The Permittee shall keep a record of each period when the affected printing line does not comply with Condition 1.1.5(a).
- b. Fountain Solution: Pursuant to 35 IAC 218.411(c)(2), the Permittee shall collect and record the following information for each fountain solution:
 - i. 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 (Note: batch is equivalent to a drum or tote);

- ii. If the Permittee uses a hydrometer, refractometer, or conductivity meter, pursuant to 35 IAC 218.410(b)(1)(B), to demonstrate compliance with the applicable VOM content limit in Conditions 1.1.3(b) and 1.1.5(b):
 - A. The date and time of preparation, and each subsequent modification, of the batch;
 - B. The results of each measurement taken in accordance with 35 IAC 218.410(b);
 - C. 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; and
 - D. Documentation of the periodic temperature adjustment of the meter, including date and time of adjustment, personnel conducting and results;
- iii. If the VOM content of the fountain solution is determined pursuant to 35 IAC 218.410(b)(1)(A), for each batch of as-applied fountain solution:
 - A. Date and time of preparation and each subsequent modification of the batch;
 - B. Volume and VOM content of each component used in, or subsequently added to, the fountain solution batch;
 - C. Calculated VOM content of the as-applied fountain solution; and
- c. Cleaning Operations: Pursuant to 35 IAC 218.411(d)(2), the Permittee shall collect and record the following information for each cleaning solution used on the affected printing line:
 - i. For each batch of cleaning solution:
 - A. The name and identification of each cleaning solution;

- B. Date and time of preparation, and each subsequent modification, of the batch;
 - C. The molecular weight, density, and VOM composite partial vapor pressure of each cleaning solvent, as determined in accordance with 35 IAC 218.409(e);
 - D. The total amount of each cleaning solvent used to prepare the as-used cleaning solution; and
 - E. The VOM composite partial vapor pressure of each as-used cleaning solution, as determined in accordance with 35 IAC 218.409(e);
- ii. For each cleaning solution for which the Permittee relies on the VOM content to demonstrate compliance with Condition 1.1.5(c)(i)(B) and which is prepared at the source with automatic equipment:
- A. The name and identification of each cleaning solution;
 - B. The VOM content of each cleaning solvent in the cleaning solution, as determined in accordance with 35 IAC 218.409(c);
 - C. Each change to the setting of the automatic equipment, with date, time, description of changes in the cleaning solution constituents (e.g., cleaning solvents), and a description of changes to the proportion of cleaning solvent and water (or other non-VOM);
 - D. The proportion of each cleaning solvent and water (or other non-VOM) used to prepare the as-used cleaning solution;
 - E. The VOM content of the as-used cleaning solution, with supporting calculations; and
 - F. A calibration log for the automatic equipment, detailing periodic checks;
- iii. For each batch of cleaning solution for which the Permittee relies on the VOM content to demonstrate compliance with Condition

1.1.5(c)(i)(B), and which is not prepared at the source with automatic equipment:

- A. The name and identification of each cleaning solution;
 - B. Date and time of preparation, and each subsequent modification, of the batch;
 - C. The VOM content of each cleaning solvent in the cleaning solution, as determined in accordance with 35 IAC 218.409(c);
 - D. The total amount of each cleaning solvent and water (or other non-VOM) used to prepare the as-used cleaning solution; and
 - E. The VOM content of the as-used cleaning solution, with supporting calculations;
- iv. 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;
- d. Ink: Ink usage (tons/month and tons/year) and ink VOM content (weight percent); and
- e. The aggregate monthly and annual VOM emissions from the affected printing line based on the ink and solvent usage, with supporting calculations.

1.1.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance of the affected printing line with the permit requirements as follows. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

- a. Pursuant to 35 IAC 218.411(b), the Permittee shall comply with the following:
 - i. Pursuant to 35 IAC 218.411(b)(2), if testing of the oxidizer system is conducted pursuant to Condition 1.1.7 (see also 35 IAC 218.409(b)), the Permittee shall, within 90

days after conducting such testing, submit a copy of all test results to the Illinois EPA and shall submit a certification to the Illinois EPA that includes the following:

- A. A declaration that all tests and calculations necessary to demonstrate whether the affected printing line is in compliance with Condition 1.1.5(a)(i)(A) have been properly performed [35 IAC 218.411(b)(2)(A)];
 - B. A statement whether the affected printing line is or is not in compliance with Condition 1.1.5(a)(i)(A) and a statement whether the affected printing line is or is not in compliance with Condition 1.1.5(a)(i)(A) [35 IAC 218.411(b)(2)(B)]; and
 - C. The operating parameters of the oxidizer system during testing, as monitored in accordance with Condition 1.1.8(b) (see also 35 IAC 218.410(c)) as applicable [35 IAC 218.411(b)(2)(C)].
- ii. Notify the Illinois EPA in writing of any violation of Condition 1.1.3 within 30 days after the occurrence of such violation. Such notification shall include a copy of all records of such violation [35 IAC 218.411(b)(4)].
- b. The Permittee shall notify the Illinois EPA in writing of any violation of Condition 1.1.5 (see also 35 IAC 218.407) within 30 days after the occurrence of such violation. Such notification shall include a copy of all records of such violation [35 IAC 218.411(c)(3)].
 - c. Emissions of NO_x, CO, or VOM in excess of the limits in Conditions 1.1.6(a) and (b) based on the current month's records plus the preceding 11 months within 30 days of such an occurrence.

1.1.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

1.1.12 Compliance Procedures

Compliance with the emission limits in Condition 1.1.6 shall be based on the recordkeeping requirements in

Condition 1.1.9 and the emission factors and formulas listed below:

- a. To determine compliance with Condition 1.1.6(a), emissions from the affected printing line shall be calculated based on the following:

Ink VOM Emissions (E_I):

$$E_I = (M_I W_I / 100) (1 - R_I / 100) [1 - (K / 100) (J_I / 100)]$$

Fountain Solution VOM Emissions (E_F):

$$E_F = (M_F W_F / 100) [1 - (K / 100) (J_F / 100)] + (M_F W_F / 100) [1 - (J_F / 100)]$$

Manual Cleaning Solvent VOM Emissions (E_M):

$$E_M = (M_M W_M / 100) (1 - R_M / 100)$$

Automatic Cleaning Solvent VOM Emissions (E_A):

$$E_A = (M_A W_A / 100) [1 - (K / 100) (J_A / 100)] + (M_A W_A / 100) [1 - (J_A / 100)]$$

Total VOM Emissions (E_T):

$$E_T = E_I + E_F + E_M + E_A$$

Where:

- M_I = Weight of ink used (pounds);
- W_I = Weight percent VOM in ink (wt. %);
- R_I = Percent of ink VOM retained in printed product (20%);
- K = Control efficiency of thermal oxidizer* (97%);
- J_I = Capture efficiency of dryer and control system for ink VOM (100%);
- M_F = Weight of fountain solution used, as applied (pounds);
- W_F = Weigh percent VOM in fountain solution, as applied (weight percent);
- J_F = Capture efficiency of dryer and control system for fountain solution VOM (70%);
- M_M = Weight of manual cleaning solvent used (pounds);

- W_M = Weight percent VOM in manual cleaning solvent (weight percent);
- R_M = Percent of manual cleaning solvent VOM retained in wipers (50%);
- M_A = Weight of automatic cleaning solvent used (pounds);
- W_A = Weight percent VOM in automatic cleaning solvent (weight percent);
- J_A = Capture efficiency of dryer and control system for automatic cleaning solution VOM (40%);

*As specified by testing pursuant to Condition 1.1.7.

- 2a. The affected printing line may be operated for a period of 270 days under this Construction Permit, to allow for equipment shakedown and emission testing.
- b. Upon successful completion of emission testing demonstrating compliance with applicable limitations, the Permittee may continue to operate the affected printing line as allowed by Section 39.5(5) of the Environmental Protection Act.
- 3. The affected printing line shall not begin operation until construction, including construction of any air pollution control equipment, is complete, and reasonable measures short of actual operation have been taken to verify proper operation.
- 4a. The Permittee shall maintain 42.77 tons of VOM emission reduction credit generated internally and/or by other sources in the Chicago nonattainment area such that the total is 1.3 times the VOM emissions allowed from this project.
- b. These VOM emission reduction credits are provided by permanent emission reductions that occurred at the following sources, as listed below. These emission reductions have been relied upon by the Illinois EPA to issue this permit and cannot be used as emission reduction credits for other purposes. The reductions at Bradley Printing have been made enforceable by the withdrawal of the air pollution control permits for the source. If Rock-Tenn does not withdraw its permit(s), it must obtain a construction permit if it intends to resume active operation, in which permit the Illinois EPA will establish restrictions to assure that its actual VOM emissions are permanently reduced by at least 7.0 tons/year.

"Bradley Printing", Des Plaines, 031063ABH Shutdown of source owned by World Color Press, former owner of Quebecor World, Elk Grove Village facility	36.03 tons/year
Rock-Tenn Company, Chicago, 031600CMQ Voluntary Reductions	7.00 tons/year

Condition 4 represents the actions identified in conjunction with this project to ensure that the project is accompanied by emission offsets and does not interfere with reasonable further progress for VOM.

Note: Emission offsets are being required in conjunction with the issuance of the permit because USEPA has not approved provisions of the ERMS that would allow compliance with the ERMS to satisfy the offset requirements for a major modification in 35 IAC Part 203.

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

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

DES:JMS:psj

cc: Region 3