217/782-2113

JOINT CONSTRUCTION AND OPERATING PERMIT

PERMITTEE

Three Z Printing Company
Attn: Ron Repking
Route 40 West
Teutopolis, Illinois 62467

Application No.: 99080027
Applicant's Designation: WEBPRESSES
Subject: Lithographic Printing
Date Issued:

I.D. No.: 049811AAA
Date Received: August 11, 1999

Operating Permit Expiration Date:

Location: Route 40 West, Teutopolis

Permit is hereby granted to the above-designated Permittee to CONSTRUCT and OPERATE emission source(s) and/or air pollution control equipment consisting of two new Heidelberg heatset web offset lithographic printing lines and a modification to 18 existing lithographic printing lines as described in the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

1. Operation of the emission source(s) included in this permit shall not begin until all associated air pollution control equipment has been constructed and is operational.

2.0 Unit Specific Conditions

2.1 Unit: Lithographic Printing Lines
Control:

2.1.1 Description

Seventeen heatset web offset lithographic printing lines and three non-heatset lithographic printing lines.

2.1.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
Presses 8A, 8B, 8C, 9A, 9C, 9D, 6C-1, 9E, 5A, 7C, 8F, 4A2, 7D, 7E, 8D, 8E, 9B	Heatset Presses with Dryer	None
Presses 3A, 3B, 5B	Non-heatset Presses with Dryer	None

2.1.3 Applicability Provisions and Applicable Regulations

a. An “affected printing line” for the purpose of these unit-specific conditions, is a lithographic printing line as described in Conditions 2.1.1 and 2.1.2.

b. The affected printing lines are subject to 35 IAC 212.321(a), which provides that 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, 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 IAC 212.321 [35 IAC 212.321(a)].

c. No person shall cause or allow the emission of sulfur dioxide into the atmosphere from any process emission unit to exceed 2000 ppm [35 IAC 214.301].

d. 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 [35 IAC 215.408(b)].

2.1.4 Non-Applicability of Regulations of Concern

a. The affected printing lines are not subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for the Printing and Publishing Industry, 40 CFR 9 and 63, Subparts A and KK, because the affected printing lines are not publication rotogravure, product and packaging rotogravure, or wide-web flexographic printing presses.

b. The press dryers associated with the affected printing line are not subject to 35 IAC 216.121, Emissions of Carbon Monoxide from Fuel Combustion Emission Units, because the actual heat input of each unit is less than 2.9 MW (10 mmBtu/hr) and the presss dryers are not by definition fuel combustion emission units.

c. The press dryers associated with the affected printing line are not subject to 35 IAC 217.121, emissions of nitrogen oxides from new fuel combustion emission sources, because the actual heat input of each unit is less than 73.2 MW (250 mmBtu/hr) and the press dryers are not by definition fuel combustion emission units.

d. The affected printing lines are not subject to 35 IAC 212.324, Process Emission Units In Certain Areas, because the source is not located in a non-attainment area for PM_{10}, as identified in 35 IAC 212.324(a)(1).

e. The affected printing lines are not subject to 35 IAC 215.204(c), Coating Operations/Paper Coating, as the paper coating limitation does not apply to equipment used for both printing and paper coating [35 IAC 215.204(c)].

2.1.5 Control Requirements

None

2.1.6 Emission Limitations

The affected printing lines are subject to the following:

a. Emissions of volatile organic material from the affected printing line shall not exceed 25.0 tons per month and 248.9 tons per year. These limits are based on the maximum material usage and emission factors and formulas in Condition 2.1.12(b).

b. Emissions from the press dryers shall not exceed the following limits:

Pollutant	Emissions (Tons/Mo)	(Tons/Yr)
PM	0.2	1.4
SO_2	0.1	0.1
VOM	0.1	1.0
CO	1.3	14.8
NO_x	1.5	17.6

These limits are based on maximum fuel usage and emission factors and formulas in Condition 2.1.12(c).

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).

d. The source has addressed the applicability and compliance of 40 CFR 52.21, Prevention of Significant Deterioration (PSD). These limits continue to ensure that the construction and/or modification addressed in this construction permit does not constitute a new major source or major modification pursuant to these rules.

2.1.7 Testing Requirements

a. The volatile organic material content of fountain solution, inks and all coatings shall be determined by Method 24, 40 CFR 60, Appendix A, incorporated by reference in Section 215.105. 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 [35 IAC 215.409].

b. 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 Section 215.102 [35 IAC 215.410(a)].

c. 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 Subpart shall conduct emissions testing, at his own expense, to demonstrate compliance [35 IAC 215.410(b)].

d. 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 [35 IAC 215.410(c)].

2.1.8 Monitoring Requirements

None

2.1.9 Recordkeeping Requirements

The Permittee shall maintain records of the following items for each affected printing line to demonstrate compliance with Conditions 2.1.3 and 2.1.6:

a. Records of weight of ink used (amount purchased minus amount discarded or recycled) (pounds);

b. Weight percent VOM in ink (wt. %);

c. Volume of fountain solution additive used (amount purchased minus amount discarded or recycled) (gallons);

d. Pounds VOM per gallon of fountain solution additive (pounds/gallon);

e. Volume of manual cleaning solvent used (amount purchased minus amount discarded or recycled) (gallons);

f. Pounds VOM per gallon of manual cleaning solvent (pounds/gallon);

g. Volume of automatic cleaning solvent used (amount purchased minus amount discarded or recycled) (gallons);

h. Pounds VOM per gallon of automatic cleaning solvent (pounds/gallon);

i. The aggregate monthly and annual VOM emissions from the affected printing lines (tons/month and tons/year); and

j. Records of the monthly and annual aggregate CO, NO_x, PM, SO_2, and VOM emissions from the press dryers and the afterburners associated with the affected printing lines shall be maintained, based on fuel consumption and the applicable emission factors, with supporting calculations.

2.1.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance of an 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:

None

2.1.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

2.1.12 Compliance Procedures

Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 2.1.9 and the emission factors and formulas listed below:

a. Compliance with Condition 2.1.3(c) is assumed to be achieved by the work-practices inherent in operation of a natural gas-fired press dryers.

b. To determine compliance with Condition 2.1.6(a), emissions from the affected printing line shall be calculated based on the following:

Ink VOM Emissions (E_I):

$$E_I = (M_I W_I/100)(1-R_I/100)$$

Fountain Solution VOM Emissions (E_F):

$$E_F = (V_F P_F)$$

Automatic Cleaning Solvent VOM Emissions (E_A):

$$E_A = (V_A P_A)$$

Manual Cleaning Solvent VOM Emissions (E_M):

$$E_M = (V_M P_M)(1-R_M/100)$$

Total VOM Emissions (E_T):

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

Where:

M_I = Weight of ink used (amount purchased minus amount discarded or recycled) (pounds);

W_I = Weight percent VOM in ink (wt. %);

V_F = Volume of fountain solution additive used (amount purchased minus amount discarded or recycled) (gallons);

P_F = Pounds VOM per gallon of fountain solution additive (pounds/gallon);

V_M = Volume of manual cleaning solvent used (amount purchased minus amount discarded or recycled) (gallons);

P_M = Pounds VOM per gallon of manual cleaning solvent (pounds/gallon);

V_M = Volume of automatic cleaning solvent used (amount purchased minus amount discarded or recycled) (gallons);

P_M = Pounds VOM per gallon of automatic cleaning solvent (pounds/gallon);

R_I = Percent of Ink VOM Retained In Printed Product (20%)

R_M = Percent of Manual Cleaning Solvent VOM retained in wipers (50%)

c. To determine compliance with Condition 2.1.6(b), emissions from the press dryer on the affected printing line shall be calculated based on the following emission factors:

Pollutant	Emission Factor (lb/Mft^3)
CO	84
NO_x	100
PM	7.6
SO_2	0.6
VOM	5.5

These are the emission factors for uncontrolled natural gas combustion in small boilers (< 100 mmBtu/hr), Tables 1.4-1 and 1.4-2, AP-42, Volume I, Fifth Edition, March, 1998.

Press Dryer Emissions (lb) = (Natural Gas Consumed, Mft^3) x (The Appropriate Emission Factor, lb/Mft^3)

Please note that the Permittee should update their CAAPP application to include this equipment by submitting form 505-CAAPP - "Supplement to CAAPP Application" along with all other appropriate information.

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

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

DES:JMS:psj

cc: Region 3