

217/782-2113

JOINT CONSTRUCTION AND OPERATING PERMIT

PERMITTEE

United States Can Company  
Attn: Alan Gans  
1125 Gasket Drive  
Elgin, Illinois 60120

Application No.: 99070022

I.D. No.: 031438AAN

Applicant's Designation: NEW LINES

Date Received: July 12, 1999

Subject: Planeta, Line 11, RTO

Date Issued:

Operating Permit Expiration  
Date:

Location: 1125 Gasket Drive, Elgin

Permit is hereby granted to the above-designated Permittee to CONSTRUCT and OPERATE emission source(s) and/or air pollution control equipment consisting of new UV lithographic printing line (Planeta) with UV varnish, new aerosol assembly line (Line 11) with sideseam stripe application, and new regenerative thermal oxidizer (RTO) to control existing lines 1, 2, 3, and 4 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 Sheet-fed Lithographic Printing/Overvarnish Lines  
Control Regenerative Thermal Oxidizer (RTO)

2.1.1 Description

Once the protective and decorative coatings have been applied, the sheets are moved to a sheet-fed lithographic printing line. Once the printed sheet has received all appropriate images, the sheets then move through a varnish unit that may apply a protective coating over the newly printed sheets. The sheets then move to a drying oven where the determined temperature and residence time cures the decorative ink and varnish to the metal sheet. Lines 3 and 4 will now be controlled using a permanent total enclosure ducting to the new regenerative thermal oxidizer (RTO).

2.1.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
Group 2	Sheetfed Offset Lithographic Printing Line. Conventional Press Lines #3 & #4 with Varnish Coaters; Planeta with Varnish Coater.  Date of Construction: #3 & #4 - 1973 Planeta - 2000	Regenerative Thermal Oxidizer (Lines #3 and #4 only)

2.1.3 Applicability Provisions and Applicable Regulations

- a. An "affected printing line" for the purpose of these unit specific conditions is a printing operation that includes sheetfed offset lithographic printing presses with color stations and varnish coaters which are used to apply inks and varnish to tin sheets.
- b. Each affected printing line at the source is subject to limitations of 35 IAC 218.407(a)(3)(A) for as-applied fountain solution, which provides that:
 

No owner or operator of any sheet-fed offset lithographic printing line shall apply fountain solution with the VOM content exceeding 5.0 percent, by volume.
- c. Each affected printing line at the source is subject to limitations of 35 IAC 218.407(a)(4)(A) or (B) for as-used cleaning solution, which provides that:
  - i. No owner or operator of any lithographic printing line shall apply the as-used cleaning solution with VOM content exceeding 30 percent, by weight, or
  - ii. No owner or operator of any lithographic printing line shall apply the as-used cleaning solution with a composite vapor pressure exceeding 10 mm Hg at 20EC (68EF).
- d. Each affected printing line at the source is subject to requirements of 35 IAC 218.407(a)(5) for keeping cleaning materials, which provides that:

The VOM containing cleaning materials, including used cleaning towels associated with any lithographic printing line shall be kept, stored and disposed of in closed containers.

- e. The varnish coater at the Planeta printing line is subject to limitations of 35 IAC 218.204(b)(1)(B) for can coating overvarnish operations, which provides that:
  - i. No owner or operator of an affected overvarnish coater shall apply at any time any coating in which the VOM content exceeds the following emission limitations. The following emission limitation is expressed in units of VOM per volume of coating (minus water and any compounds which are specifically exempted from the definition of VOM) as applied at each coating applicator:

<u>kg/l</u>	<u>lb/gal</u>
0.34	2.8
  - ii. Compounds which are specifically exempted from the definition of VOM should be treated as water for the purpose of calculating the "less water" part of the coating composites.
- f. The varnish coaters for Lines 3 and 4 are subject to limitations of 35 IAC 218.207(h)(2) for can coating, which provides that the coating line shall be equipped with a capture system and control device that provide 75 percent reduction in the overall emissions of VOM from the coating line and the control device has a 90 percent efficiency.
- g. i. Clean-up operations performed on each varnish coater are subject to the following limitations of 35 IAC 218.301:
  - A. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lbs/hr) of organic material into the atmosphere from any emission unit, except the following exception: If no odor nuisance exists this limitation shall apply only to photochemically reactive materials.

B. Emissions of organic material in excess of those permitted by 35 IAC 218.301 are allowable if such emissions are controlled by a flame, thermal or catalytic incineration so as either to reduce such emissions 10 ppm equivalent methane (molecular weight 16) or less, or to convert 85 percent of the hydrocarbons to carbon dioxide and water.

ii. These limits do not apply to solvents used as overvarnish coating diluents and double scraper solvents that are treated as an integral part of coating application and regulated by 35 IAC 218.204(b)(1)(B) (see Condition 2.1.3(e)).

h. Each affected printing line is subject to 35 IAC 212.321(b)(1), 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)].

#### 2.1.4 Non-Applicability of Regulations of Concern

a. The affected printing/overvarnish lines are not subject to 40 CFR 60, Part WW "Standards of Performance for the Beverage Can Surface Coating Industry" because no beverage can coating is performed at this location.

b. Clean-up operations performed for the purpose of overvarnish coating operations are not subject to 35 IAC 218, Subpart TT "Other Emission Units" because the facility-wide Maximum Theoretical Emissions (MTE) from clean-up solvents used for coating operations are less than 100 tons/year.

#### 2.1.5 Operational and Production Limits and Work Practices

a. The Permittee shall: Implement a standard operating procedure for varnish coaters wash-up that limits the

quantity of cleaning solvent dispensed for wash-up to less than one gallon of VOM per varnish applicator per hour, or

- b. Wash up coating applicators only when the permanent total enclosure and regenerative thermal oxidizer are operating and VOM emissions are reduced by at least 85%, pursuant to 35 IAC 218.302(a).

2.1.6 Emission Limitations

- a. Emissions from the Planeta Line shall not exceed the following limits:

VOM Emissions	
<u>(Ton/Mo)</u>	<u>(Ton/Yr)</u>
4.9	24.3

These limits are based on the maximum material usage and the maximum VOM content. Compliance with the annual limits shall be determined from a running total of 12 months of data.

- b. Emissions from Lines 3 and 4 shall not exceed the following limits:

VOM Emissions	
<u>(Ton/Mo)</u>	<u>(Ton/Yr)</u>
2.9	14.1

These limits are based on the maximum material usage, the maximum VOM content, and the minimum overall control efficiency of the RTO. Compliance with the annual limits shall be determined from a running total of 12 months of data.

2.1.7 Testing Requirements

- a. Upon request of the Illinois EPA or USEPA, testing to demonstrate compliance with the VOM content limitations for fountain/cleaning solution and overvarnish coating, and to determine the VOM content of fountain solutions, fountain solution additives, cleaning solvents, cleaning solutions, overvarnish coatings and inks, shall be conducted, as follows [35 IAC 218.105(a), 218.211(a), and Section 39.5(7)(b) of the Act]:

- i. 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; or
  - ii. The manufacturer's specifications for VOM content for fountain solution additives, cleaning solvents, varnish coatings 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.
- b. Upon request of the Illinois EPA or USEPA, testing to demonstrate compliance with 35 IAC 218.407(a)(4)(B) of the VOM composite partial vapor pressure of the as-used cleaning solution shall be conducted, as follows [35 IAC 218.110 and Section 39.5(7)(b) of the Act]:
- i. If the organic material or solvent consists of only a single compound, the vapor pressure shall be determined by ASTM Method D2879-86 (incorporated by reference in Section 218.112 of this Part) 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:

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

Where:

$P_{vom}$  = 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 2.1.7(a);

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

#### 2.1.8 Monitoring Requirements

##### a. Fountain Solution

Test the fountain solution VOM content by using a hydrometer with an accuracy of 0.5% in accordance with 35 IAC 218.410(b)(1)(B). Readings shall be made for each new batch of fountain solution prepared and on a daily basis for existing batches of fountain solution contained in each printing press reservoir.

##### b. Cleaning Solution

- i. When relying on the VOM content of the cleaning solution to comply with 35 IAC 218.407(a)(4)(A), the Permittee must keep records of the supplier VOC data sheets for each pre-blended cleaning solvent used on the lithographic printing presses.
- ii. When relying on the vapor pressure of the cleaning solution to comply with 35 IAC 218.407(a)(4)(B), the Permittee must keep

records of the type and vapor pressure of each cleaning solution constituent used on the lithographic printing presses.

#### 2.1.9 Recordkeeping Requirements

The Permittee shall maintain records of the following items for the affected printing lines to demonstrate compliance with conditions of this permit, pursuant to Section 39.5(7)(b) of the Act:

##### a. Fountain Solution

The Permittee shall collect and record the following information for all lithographic printing lines at the source [35 IAC 218.141(c)]:

- i. Total additions of alcohol to fountain solution (gal/mo).
- ii. Total usage of fountain solution concentrates (gal/mo).
- iii. Fountain solution concentrate VOM content (% by volume).

##### b. Cleaning Solution

The Permittee shall collect and record the following information for all lithographic printing lines at the source [35 IAC 218.411(d)]:

- i. The pre-blended cleaning solution VOM content, expressed as lb VOM/gal solution.
- ii. Volume (gal/mo) and vapor pressure (mm Hg) of each solvent component, water, or non-VOM constituent contained in cleaning solutions purchased for use on the affected printing lines.
- iii. The composite VOM vapor (mm Hg) pressure of pre-blended cleaning solutions determined.
- iv. The Permittee shall record 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.

- c. The Permittee shall collect and record the following information on inks and overvarnishes applied on the lithographic printing lines:
  - i. Identification and the combined monthly usage of each ink and overvarnish applied on all printing lines.
  - ii. Identification and the combined monthly usage of each ink and overvarnish applied on Lines #3, #4, and Planeta.
  - iii. The VOM content of each overvarnish, expressed both in lb VOM/gal solids and lb VOM/gal coating (minus water and any compounds which are specifically exempt from the definition of VOM), and the solids content expressed as gallons of coating, with supporting information such as supplier VOC data sheets and Method 24 analytical test reports.
  - iv. The VOM content of each ink, expressed as lb VOM per pound of ink, accompanied by a copy of supporting information such as supplier VOM data sheets.
  - v. The monthly total volume of clean-up solvent dispensed for wash-up of all overvarnish applicators on the lithographic printing lines, expressed as gal/month.
  - vi. The VOM content of clean-up solvent used on the overvarnish applicators, in lb VOM/gal solvent blend, determined by supplier VOM data sheets.
  
- d. VOM-Containing Waste
  - i. Total monthly quantity of spent fountain solution generated by lithographic printing lines, expressed as gal/mo.
  - ii. Total monthly volume of spent cleaning solutions generated by wash-up of all lithographic printing lines, expressed as gal/mo.

- iii. Total monthly volume of spent solvent generated by all overvarnish applicators, expressed as gal/mo.
- iv. The average VOM content of spent printing press cleaning solution, fountain solution, overvarnish clean-up solvent, expressed as lb VOM/gal, determined by disposal company waste profile analyses.
- e. Total VOM and HAP emissions in tons/month and tons/year from affected printing lines calculated based on the recordkeeping requirements and compliance procedures from Condition 2.1.12.

#### 2.1.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance with applicable requirements as follows pursuant to Section 39.5(7)(f)(ii) of the Act:

##### Report of Deviations

If there is an exceedance of the requirements of this permit as determined by the records required by this permit, the Permittee shall submit a report to the Illinois EPA's Compliance Section in Springfield, Illinois within 30 days after the exceedance. The report shall include the emissions released in accordance with the recordkeeping requirements, a copy of the relevant records, and a description of the exceedance or violation and efforts to reduce emissions and future occurrences.

#### 2.1.11 Operational Flexibility/Anticipated Operating Scenarios

The Permittee is authorized to make the following physical or operational change with respect to the affected printing line without prior notification to the Illinois EPA or revision of this permit. This condition does not affect the Permittee's obligation to properly obtain a construction permit in a timely manner for any activity constituting construction or modification of the source, as defined in 35 IAC 201.102:

Usage of coatings, fountain solution and clean-up solvents at this source with various VOM contents provided that the materials are tested in accordance with the conditions of

this section, the emission limitations in Condition 2.1.6 are not exceeded and the affected printing line remains in compliance.

2.1.12 Compliance Procedures

- a. Compliance of the affected printing lines with VOM emission limitations in Condition 2.1.3 shall be based on the recordkeeping requirements in Condition 2.1.9 and by use of equations listed below:

Cleaning Solution

- A. Compliance with the cleaning solution VOM content standard shall be confirmed by review of supplier material safety data sheets for purchased pre-blended solvents.
- B. Compliance with the VOM composite vapor pressure requirements shall be determined in accordance with testing requirements in Condition 2.1.7(b).
- b. Compliance of the affected overvarnish coaters with VOM emission limitations in Condition 2.1.3(e) shall be based on the recordkeeping requirements in Condition 2.1.9 and by use of equations listed below:

$$\text{VOM Coating Content} = V \times D / [1 - W \times D],$$

Where:

V = Percent VOM in the coating (%)

D = Overall coating density (lb/gal)

$$W = \sum (w_i / d_i),$$

Where:

$w_i$  = Percent exempt compound i in the coating,

$d_i$  = Overall density of exempt compound i, lb/gal

and the summation  $\sum$  is applied over water and all exempt compounds i in the coating.

- c. Compliance with Annual VOM emission limits in Condition 2.1.6 shall be determined as follows:

Total Group 2 Emissions

$$E_I = \sum_{i=1}^n I_1 \times V_{I(1)}$$

$$E_{FS} = [(F_A \times 6.6) + (F_C \times V_C)] - (W_{FS} \times V_{WFS})$$

$$E_{OV} = \sum_{i=1}^n OV_{(i)} \times S_{OV(i)} \times VOV(i)$$

$$E_{CS} = (CS \times V_{CS}) - (W_{CS} \times V_{WCS})$$

$$E_{WS} = (WS \times V_{WS}) - (W_{WS} \times V_{WWS})$$

$$E_{TOTAL} = E_I + E_{FS} + E_{OV} + E_{CS} + E_{WS}$$

Line #3 and Line #4 Combined Uncontrolled Emissions

$$E_{I_{(J)}} = \sum_{i=1}^n I_{(J)(i)} \times V_{I(i)}$$

$$E_{FS_{(J)}} = E_{FS} \times (I_{(J)} / I)$$

$$E_{OV_{(J)}} = \sum_{i=1}^n OV_{(J)(i)} \times S_{OV(i)} \times VOV_{(i)}$$

$$E_{OV_{(J)}} = E_{CS} \times (I_{(J)} / I)$$

$$E_{WS_{(J)}} = E_{WS} \times (OV_{(J)} / OV)$$

$$UE_{3\&4} = \left[ E_{I_{(J)}} + E_{FS_{(J)}} + E_{OV_{(J)}} + E_{CS_{(J)}} + E_{WS_{(J)}} \right]_{(Line\ 3)}$$

$$+ \left[ E_{I_{(J)}} + E_{FS_{(J)}} + E_{OV_{(J)}} + E_{CS_{(J)}} + E_{WS_{(J)}} \right]_{(Line\ 4)}$$

Line #3 and Line #4 Controlled Emissions

$$E_{(3\&4)} = UE_{(3\&4)} \times (1-F)$$

Where:

$E_{(3\&4)}$  = Total controlled VOM emissions for Lines 3 and 4 per calendar month in units of lb VOM/month

$UE_{(3\&4)}$  = Total uncontrolled emissions for Lines 3 and 4 per calendar month in units of lb VOM/month

F = Fraction, by weight, of VOM emissions from the surface coating reduced or prevented from being emitted to the ambient air.

This fraction is the overall efficiency of the capture system and control device, and is equal to the destruction efficiency of the individual catalytic oxidizer controlling the affected coating line, as measured in the most recent stack test.

Planeta Line Emissions

$$E_{I(J)} = \sum_{i=1}^n I_{(J)(i)} \times V_{I(i)}$$

$$E_{OV(J)} = \sum_{i=1}^n OV_{(J)(i)} \times S_{OV(i)} \times V_{OV(i)}$$

$$E_{FS(J)} = E_{FS} \times (I_{(J)}/I)$$

$$E_{CS(J)} = E_{CS} \times (I_{(J)}/I)$$

$$E_{WS(J)} = E_{WS} \times (OV_{(J)}/OV)$$

$$E_{TOTAL(J)} = E_{I(J)} + E_{FS(J)} + E_{OV(J)} + E_{CS(J)} + E_{WS(J)}$$

Where:

$E_I$  = Monthly Group 2 total emissions from ink VOM (lb VOM/mo)

$E_{FS}$  = Monthly Group 2 total VOM emissions from fountain solution (lb VOM/mo)

- $E_{OV}$  = Monthly Group 2 total overvarnish VOM emissions (lb VOM/mo)
- $E_{CS}$  = Monthly VOM emissions from all Group 2 printing press cleaning solvents (lb VOM/mo)
- $E_{WS}$  = Monthly VOM emissions from all Group 2 overvarnish wash solvents (lb VOM/mo)
- $E_{TOTAL}$  = Monthly total VOM emissions from Group 2 (lb VOM/mo)
- $E_{I(J)}$  = Monthly ink VOM emissions from any individual line (lb VOM/mo)
- $E_{OV(J)}$  = Monthly overvarnish VOM emissions from any individual line (lb VOM/mo)
- $E_{FS(J)}$  = Monthly fountain solution VOM emissions from any individual line (lb VOM/mo)
- $E_{CS(J)}$  = Monthly cleaning solvents VOM emissions from any individual line (lb VOM/mo)
- $E_{WS(J)}$  = Monthly overvarnish wash solvent VOM emissions from any individual line (lb VOM/mo)
- $E_{TOTAL(J)}$  = Monthly total VOM emissions from any individual line (lb VOM/mo)
- $I$  = Monthly printing ink consumption for all lithographic printing presses (lb/mo)
- $I_{(J)}$  = Monthly printing ink consumption for any individual line (lb/mo)
- $V_I$  = VOM content of printing ink (% by weight)
- $OV$  = Monthly consumption of overvarnish for all lithographic printing lines (gal/mo)
- $OV_{(J)}$  = Monthly consumption of overvarnish for any individual line (gal/mo)
- $S_{OV}$  = Solids content of overvarnishes (gal of solids/gal of varnish)

$V_{OV}$	=	VOM content of overvarnishes (lb VOM/gal of solids)
$FS$	=	Total monthly consumption of fountain solution (gal/mo)
$W_{FS}$	=	Total monthly generation of waste fountain solution (gal/mo)
$V_{FS}$	=	VOM content of fountain solution (% by volume)
$D_{FSVOM}$	=	Density of fountain solution VOM (assumed to be equal to isopropyl alcohol = 6.6 lb/gal)
$CS$	=	Total monthly cleaning solution usage from all printing lines (gal/mo)
$V_{CS}$	=	VOM content of cleaning solution (lb VOM/gal)
$W_{CS}$	=	Monthly combined volume of spent cleaning solution from all printing lines (gal/mo)
$VW_{CS}$	=	Average VOM content of spent cleaning solution (lb VOM/gal)
$WS$	=	Total monthly volume of wash solvent used on all overvarnish applicators (gal/mo)
$V_{WS}$	=	VOM content of overvarnish wash solvent (lb VOM/gal)
$W_{WS}$	=	Monthly combined generation of spent wash solvent from all overvarnish applicators (gal/mo)
$V_{WFS}$	=	VOM content of spent fountain solution, expressed as gal/mo
$V_{WWS}$	=	Average VOM content of spent overvarnish wash solvent (lb VOM/gal)
$F_c$	=	Total usage of fountain solution concentrate, expressed as gal/mo
$V_c$	=	Fountain solution concentrate VOM content, expressed as percent by volume

$F_A$  = Volume of alcohol added to fountain solution, expressed as gal/mo

2.2 Unit Side Seam Spray Coating Lines  
Control Filter

2.2.1 Description

The side seam process is performed on eleven lines in the aerosol department and two lines in the oblong department. Each of the thirteen side seam lines has the capability to coat both the inside and outside of the cans. The units weld the side seam of a can and the seam is then coated with a side seam stripe to prevent corrosion.

2.2.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Equipment	Description	Emission Control Equipment
Group 3	Side Seam Spray Coating Lines	Aerosol Department (Line 11) Constructed - 1999	Filters

2.2.3 Applicability Provisions and Applicable Regulations

- a. An "affected coating line" for the purpose of these unit specific conditions is a coating operation that includes a spray system and curing oven which is used to apply side seam stripe to exterior/interior parts of the can.
- b. Each affected coating line is subject to limitations of 35 IAC 218.204(b)(5) for side seam spray can coating, which provides that:
  - i. No owner or operator of an affected coating line shall apply at any time any coating in which the VOM content exceeds the following emission limitations for the coating as applied to Side Seam Spray Can Coating Products. The following emission limitation is expressed in units of VOM per volume of coating (minus water and any compounds which are specifically exempted from the definition of VOM) as applied at each coating line:

<u>kg/l</u>	<u>lb/gal</u>
0.66	5.5

- ii. Compounds which are specifically exempted from the definition of VOM should be treated as water for the purpose of calculating the "less water" part of the coating composites.
- c. i. Clean-up operations performed on each coating line are subject to the following limitation of 35 IAC Part 218, Subpart G: Use of Organic Material:

No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lbs/hr) of organic material into the atmosphere from any emission unit, except the following exception: If no odor nuisance exists this limitation shall apply only to photochemically reactive materials.

- ii. These limits do not apply to solvents used as coating diluents that are treated as an integral part of coating application and regulated by 35 IAC 218.204(b)(5) (see Condition 2.2.3(b)).
- d. Each affected coating line is subject to 35 IAC 212.321(b)(1), 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)].

#### 2.2.4 Non-Applicability of Regulations of Concern

- a. Coating operations performed on the affected coating line and subject to limitations of 35 IAC 218.204 are subject to 35 IAC Subpart G: Use of Organic Material, pursuant to 35 IAC 218.209, Exemption From General Rule on Use of Organic Material, which excludes coating operations of the affected coating line from this requirement.

- b. Clean-up operations performed for the purpose of coating operations are not subject to 35 IAC 218, Subpart TT "Other Emission Units" because the facility-wide Maximum Theoretical Emissions (MTE) from clean-up solvents used for coating operations are less than 100 tons/year.

2.2.5 Operational and Production Limits and Work Practices

- a. The Permittee shall operate, maintain, and replace the filters in a manner that assures compliance with the conditions of this section.
- b. The Permittee shall implement a standard operating procedure for coating line wash-up that limits the quantity of cleaning solvent dispensed for wash-up to less than one gallon of VOM per varnish applicator per hour.

2.2.6 Emission Limitations

Emissions from coating line #11 shall not exceed the following limits:

<u>Material</u>	<u>VOM Emissions</u>	
	<u>(Ton/Mo)</u>	<u>(Ton/Yr)</u>
Coating	2.2	10.64

These limits are based on the maximum material usage, and the maximum VOM content of the material used. Compliance with the annual limits shall be determined from a running total of 12 months of data.

2.2.7 Testing Requirements

Testing for VOM content of coatings and other materials shall be performed as follows [35 IAC 218.105(a), 218.211(a), and Section 39.5(7)(b) of the Act]:

Upon reasonable request by the Illinois EPA, the VOM content of specific coatings and cleaning solvents used on the affected coating 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) and 218.211(a).

- a. The VOM content of representative coatings "as applied" on the affected coating 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);

- b. 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 pursuant to Condition 2.2.9(b) directly reflect the application of such material and separately account for any additions of solvent.

2.2.8 Monitoring Requirements

None

2.2.9 Recordkeeping Requirements

The Permittee shall maintain records of the following items for the affected coating line to demonstrate compliance with conditions of this permit, pursuant to Section 39.5(7)(b) of the Act:

- a. The identification and monthly consumption of each side seam coating applied on line 11, in units of gal/mo.
- b. The identification and monthly consumption of each side seam coating applied on Line 11, in units of gal/mo.
- c. The monthly consumption of clean-up solvent used by line 11, in units of gal/mo.
- d. The monthly quantity of spent solvent generated by clean-up of Line 11, in units of gal/mo.
- e. The VOM content of each side seam coating, expressed as both lb VOM/gal coating solids and lb VOM/gal coating (minus water and any compounds which are specifically exempted from the definition of VOM), and the solids content expressed as gal solids/gel coating, with supporting information such as supplier VOC data sheets and Method 24 analytical test reports.
- f. Density of each applied coating and cleanup solvent, in units of lb/gal.
- g. VOM emissions in tons/month and tons/year from Line 11 calculated based on the recordkeeping and compliance procedures from Condition 2.2.12.

- h. Total VOM and HAP emissions in tons/month and tons/year from each affected coating line calculated based on the recordkeeping requirements and compliance procedures from Condition 2.2.12.

#### 2.2.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance with applicable requirements as follows pursuant to Section 39.5(7)(f)(ii) of the Act:

If there is an exceedance of the requirements of this permit as determined by the records required by this permit, the Permittee shall submit a report to the Illinois EPA's Compliance Section in Springfield, Illinois within 30 days after the exceedance. The report shall include the emissions released in accordance with the recordkeeping requirements, a copy of the relevant records, and a description of the exceedance or violation and efforts to reduce emissions and future occurrences.

#### 2.2.11 Operational Flexibility/Anticipated Operating Scenarios

The Permittee is authorized to make the following physical or operational change with respect to the affected coating line without prior notification to the Illinois EPA or revision of this permit. This condition does not affect the Permittee's obligation to properly obtain a construction permit in a timely manner for any activity constituting construction or modification of the source, as defined in 35 IAC 201.102:

Usage of coatings and clean-up solvents at this source with various VOM contents provided that the materials are tested in accordance with the conditions of this section and unit specific limitations in Condition 2.2.6 are not exceeded and the affected coating line remains in compliance.

#### 2.2.12 Compliance Procedures

- a. Compliance with the particulate matter limitations in this section is assured and achieved by the proper operation and maintenance of the filters as required by this section and the work-practices inherent in operation of an affected coating line.

- b. Compliance of the affected coating line with VOM emission limitations in Condition 2.2.3(b) shall be based on the recordkeeping requirements in Condition 2.2.9 and by the use of either testing as required in Condition 2.2.7 or by use of the formula listed below:

$$\text{VOM Coating Content} = V \times D / [1 - W \times D],$$

Where:

V = Percent VOM in the coating (%)

D = Overall coating density (lb/gal)

W =  $\sum (w_i/d_i)$ ,

Where:

$w_i$  = Percent exempt compound i in the coating,

$d_i$  = Overall density of exempt compound i, lb/gal

and the summation  $\sum$  is applied over water and all exempt compounds i in the coating.

- c. Compliance with annual VOM emission limits in Condition 2.2.6 shall be determined as follows:

i. Total Group 3 Emissions

$$E_{SS} = \sum_{i=1}^n SS_{(i)} \times S_{SS(i)} \times V_{SS(i)}$$

$$E_{WS} = (WS \times V_{WS}) - (W_{WS} \times V_{WWS})$$

$$E_{TOTAL} = E_{SS} + E_{WS}$$

Line 11 Emissions

$$E_{SS(11)} = \sum_{i=1}^n SS_{(11)(i)} \times S_{SS(i)} \times V_{SS(i)}$$

$$E_{WS(11)} = E_{WS} \times (SS_{(11)}/SS)$$

$$E_{TOTAL(11)} = E_{SS(11)} + E_{WS(11)}$$

Where:

- $E_{SS}$  = Monthly side seam coating VOM emissions (lb VOM/mo)
- $E_{WS}$  = Monthly VOM emissions from side seam wash solvent (lb VOM/mo)
- $E_{TOTAL}$  = Monthly total VOM emissions from Group 3 (lb VOM/mo)
- $E_{SS(11)}$  = Combined monthly side seam VOM emissions from Line 11 (lb VOM/mo)
- $E_{WS(11)}$  = Combined monthly VOM emissions from side seam wash solvent for line 11 (lb VOM/mo)
- $E_{TOTAL(11)}$  = Combined monthly total VOM emissions from Line 11 (lb VOM/mo)
- $SS$  = Monthly consumption of side seam coating for all lithographic printing lines (gal/mo)
- $SS_{(11)}$  = Combined monthly consumption of side seam coating for Line 11 (gal/mo)
- $S_{SS}$  = Solids content of side seam coatings (gal solids/gal coating)
- $V_{SS}$  = VOM content of side seam coatings (lb VOM/gal of solids)
- $WS$  = Combined monthly volume of wash solvent used on all side seam applicators (gal/mo)
- $V_{WS}$  = VOM content of side seam wash solvent (lb VOM/gal)
- $W_{WS}$  = Monthly combined generation of spent wash solvent from all side seam applicators (gal/mo)
- $V_{WWS}$  = Average VOM content of spent side seam wash solvent (lb VOM/gal)

2.3 Unit Can Coating Lines - Sheet Base Coat  
Control Regenerative Thermal Oxidizer

2.3.1 Description

The sheets are fed into the roll coater for an application either a protective interior or decorative exterior coating. The coating is applied through direct contact between the sheet and roll coater. The sheets move to an oven where the determined temperature and residence time cures the coating to the metal sheets. Once the protective and decorative coatings have been applied, the sheets are moved to one of five lithographic press lines where they receive the decorative inks and protective varnish coating.

2.3.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Equipment	Description	Emission Control Equipment
Group 1	Can Coating Lines	Two Coating Lines #1 and #2 Comprised of Two Base Roll Coaters and Two Natural Gas-Fired Ovens (See Section 7.4 for Ovens)  Date of Construction: Line #1 - 1967 Line #2 - 1973	Permanent Total Enclosure and Regenerative Thermal Oxidizer

2.3.3 Applicability Provisions and Applicable Regulations

- a. An "affected coating line" for the purpose of these unit specific conditions is a can sheet coating operation that includes roll coater operated in the permanent total enclosure and controlled by the catalytic oxidizer.
- b. An affected coating line at the source is subject to limitations of 35 IAC 218.207 (h)(2) for can coating, which provides that the coating line shall be equipped with a capture system and control device that provide 75 percent reduction in the overall emissions of VOM from the coating line and the control device has a 90 percent efficiency.

c. i. Clean-up operations performed on each coating line are subject to one of the following limitations of 35 IAC Part 218, Subpart G: Use of Organic Material:

A. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lbs/hr) of organic material into the atmosphere from any emission unit, except the following exception: If no odor nuisance exists this limitation shall apply only to photochemically reactive materials; or

B. Emissions of organic material in excess of those permitted by 35 IAC 218.301 are allowable if such emissions are controlled by a flame, thermal or catalytic incineration so as either to reduce such emissions 10 ppm equivalent methane (molecular weight 16) or less, or to convert 85 percent of the hydrocarbons to carbon dioxide and water.

ii. These limits do not apply to solvents used as coating diluents (thinners) or double scraper solvent that are treated as an integral part of coating application and regulated by 35 IAC 218.207(h)(2) (see Condition 2.3.3(b)).

d. The affected coating line #1 is subject to 35 IAC 212.322(b)(1), 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 prior to April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.322 (See also Attachment 1) [35 IAC 212.322(a)].

e. The affected coating line #2 is subject to 35 IAC 212.321(b)(1), 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 (See also Attachment 1) [35 IAC 212.321(a)].

#### 2.3.4 Non-Applicability of Regulations of Concern

- a. Coating operations performed on the affected coating line and subject to limitations of 35 IAC 218.204 are excluded from requirements of 35 IAC Part 218, Subpart G: Use of Organic Material, pursuant to 35 IAC 218.209, Exemption From General Rule on Use of Organic Material.
- b. The affected coating line is not subject to 40 CFR 60 Subpart WW "Standards of Performance for the Beverage Can Surface Coating Industry", because no beverage can coating performed at this location.
- c. Clean-up operations performed for the purpose of coating operations are not subject to 35 IAC 218, Subpart TT "Other Emission Units" because the facility-wide Maximum Theoretical Emissions (MTE) from clean-up solvents used for coating operations are less than 100 tons/year.

#### 2.3.5 Operational and Production Limits and Work Practices

- a. The regenerative thermal oxidizer shall be in operation at all times that the associated emission unit(s) is in operation and emitting VOM. The afterburner shall not be seasonally shut down as would be allowed in 35 IAC 218.107.
- b. The permanent total enclosure and afterburner control system shall be operated in a manner consistent to good air pollution control practices and operating requirements established in 35 IAC 218, Appendix B, Procedure T "Criteria for and Verification of a Permanent or Temporary Total Enclosure".
- c. The Permittee shall, in accordance with manufacturer(s) and/or vendor(s) recommendations, perform periodic maintenance of the regenerative thermal oxidizer such that oxidizer be kept in proper working condition and not cause violation of the

Environmental Protection Act or regulations promulgated therein.

- d. Wash up of coating applicators shall only be conducted when the permanent total enclosure and catalytic oxidizer are operating and VOM emissions are reduced by at least 85%, pursuant to 35 IAC 218.302(a).

2.3.6 Emission Limitations

None

2.3.7 Testing Requirements

Upon request from the Illinois EPA or USEPA the Permittee shall conduct tests in accordance with procedures of 35 IAC 218.105(d),(e) and (f) to measure the overall control and performance of the afterburner controlling the affected coating lines. 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.

2.3.8 Monitoring Requirements

Pursuant to 35 IAC 218.105(d)(2)(A)(ii), the regenerative thermal oxidizer shall be equipped with a USEPA approved continuous monitoring device which is installed, calibrated, maintained, and operated according to vendor specifications at all times the afterburner is in use. This monitoring equipment shall monitor the temperature in the oxidizer combustion chamber.

2.3.9 Recordkeeping Requirements

The Permittee shall maintain records of the following items for the affected coating line to demonstrate compliance with conditions of this permit, pursuant to Section 39.5(7)(b) of the Act:

- a. Pursuant to 35 IAC 218.211(e)(2), the Permittee shall collect and record all of the following information each day for each coating line and maintain the information at the source for a period of three years:
  - i. Control device monitoring data;
  - ii. A log of operating time for the capture system, thermal afterburner, monitoring equipment and the associated coating line; and

- iii. A maintenance log for the capture system, thermal afterburner and monitoring equipment detailing all routine and non-routine maintenance performed including dates and duration of any outages.
- b. Coating Solvents:
- i. The VOM content of each coating, as applied, in units of lb VOM/gal of coating solids;
  - ii. Volume of solids applied for each coating per calendar month, in the units of gal solids/month; and
  - iii. Actual coating VOM consumption per calendar month, in units of lb VOM/month.
- c. Clean-up Solvents:
- i. The total volume of clean-up solvent dispensed for use on affected coating lines 1 and 2 per calendar month, in the units of gal/month;
  - ii. The VOM content of clean-up solvent used on affected coating lines, in lb VOM/gal solvent blend, as determined by supplier;
  - iii. Total volume of waste solvent generated by affected coating lines per calendar month, in the units of gal/month; and
  - iv. The VOM content of waste solvent generated by affected coating lines in lb VOM/gal waste solvent, as determined by disposal company waste profile analyses.
- d. Total VOM and HAP emissions in tons/month and tons/year from all affected coating lines calculated based on the recordkeeping requirements and compliance procedures established in Condition 2.3.12.

#### 2.3.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance with applicable requirements as follows pursuant to Section 39.5(7)(f)(ii) of the Act:

Pursuant to 35 IAC 218.211(e)(3), the Permittee shall notify the Illinois EPA in the following instances:

- a. Any record showing violation of 35 IAC 218.207 and Condition 2.3.3(b) within 30 days of such an occurrence;
- b. At least 30 calendar days before changing the method of compliance from 35 IAC 218.207 to 35 IAC 218.204 or 205, the Permittee shall comply with all requirements of 35 IAC 218.211(c)(1) and (d)(1).

#### 2.3.11 Operational Flexibility/Anticipated Operating Scenarios

The Permittee is authorized to make the following physical or operational change with respect to the affected coating line without prior notification to the Illinois EPA or revision of this permit. This condition does not affect the Permittee's obligation to properly obtain a construction permit in a timely manner for any activity constituting construction or modification of the source, as defined in 35 IAC 201.102:

Usage of coating and clean-up solvents on the affected coating lines with various VOM contents provided that the source wide emission limitations in Condition 5.5.1 are not exceeded and the affected coating lines remain in compliance with Condition 2.3.3(b).

#### 2.3.12 Compliance Procedures

- a. Compliance of the affected coating line with VOM emission limitations in Condition 5.5.1 shall be based on the recordkeeping requirements in Condition 2.3.9 and by use of the formula listed below:

Combined monthly VOM emissions from affected coating lines shall be calculated based on the following equations:

- i. Total monthly VOM usage for coating lines shall be calculated by use of the following equation:

$$U = \left[ \sum_{i=1}^n (V_{C(i)} \times C_{(i)}) \right] + \left[ (V_S \times S) - (V_W \times W) \right]$$

Where:

U = Total VOM usage (coating and clean-up solvents) for the calendar month in units of lb/month

C = The VOM content of each coating, as applied, in units of lb VOM/gal solids

V<sub>c</sub>= Volume of solids applied for each coating per calendar month in units of gal coating solids/month

S = The VOM content of the clean-up solvent in units of lb VOM/gal of solvent blend

V<sub>s</sub>= Total volume of clean-up solvent dispensed for use on the affected coating lines for the calendar month in units of gal/mo

W = The VOM content of waste solvent generated by the affected coating lines in units of lb VOM/gal as measured in accordance with Condition 2.3.9(c)(iv)

V<sub>w</sub>= Total volume of waste solvent generated by the affected coating lines for the calendar month in units of gal/mo

ii. Total monthly VOM emissions for coating lines shall be calculated by use of the following equation:

$$E = U \times (1-F)$$

Where:

E = Total VOM emissions per calendar month in units of lb VOM/mo

U = Total VOM consumption per calendar month in units of lb VOM/mo

F = Fraction, by weight, of VOM emissions from the surface coating reduced or prevented from being emitted to the ambient air. This fraction is the overall efficiency of the capture system and control device, and is equal to the destruction efficiency of

the regenerative thermal oxidizer  
controlling the affected coating line, as  
measured in the most recent stack test.

- b. Compliance with the overall control efficiency requirement under Condition 2.3.3(b) and (c) shall be based on the latest measurement of destruction efficiency of the regenerative thermal oxidizer controlling coating lines, and the latest verification test of the permanent total enclosure.
- c. Compliance with the particulate matter limitations of Condition 2.3.3(d) and (e) is assured and achieved by the work practices inherent in operation of the affected coating lines.

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 Schnepf at 217/782-2113.

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

DES:JMS:psj

cc: Region 1

Attachment 1

NSR Applicability

Contemporaneous Time Period of 1995 Through 1999

**Table I - Emissions Increases Associated With The Proposed Modification**

<u>Item of Equipment</u>	<u>Installation Date</u>	Permitted VOM Emissions (Tons/Year)
Planeta	December 1999	24.30
Line 11	December 1999	10.64
Lab Coater	December 1999	<u>0.31</u>
	Total:	35.25

**Table II - Source-Wide Creditable Contemporaneous Emission Decreases**

<u>Item of Equipment</u>	<u>Reduction Date</u>	Permitted VOM Emissions (Tons/Year)
Line 3	December 1999	33.00
Line 4	December 1999	<u>30.80</u>
	Total:	63.80

**Table III - Source-Wide Creditable Contemporaneous Emission Increases**

<u>Item of Equipment</u>	<u>Operational Date</u>	Permitted VOM Emissions (Tons/Year)
Line 10	1995	<u>16.00</u>
	Total:	16.00

**Table IV - Net Emissions Change**

	(Tons/Year)
Increases Associated With The Proposed Modification	35.25
Creditable Contemporaneous Emission Decreases	-63.80
Creditable Contemporaneous Emission Increases	<u>16.00</u>
Total:	-12.55