



March 3, 2017

EHS17-L-043  
Overnight

William F. Durham, Director  
WV Department of Environmental Protection  
Division of Air Quality  
601 57<sup>th</sup> Street SE  
Charleston, WV 25304

RE: Title V Permit Renewal Application - Ball Metal Food Container Corp.

Dear Mr. Durham:

Enclosed please find two CDs each containing a copy of the Title V renewal application for Ball Metal Food Container Corp. located in Weirton, WV. Also enclosed are hard copies of an area map, a plot plan, process flow diagrams, and signed certification forms.

If you have any questions, please contact me at (303) 460-5601 or [jmunsch@ball.com](mailto:jmunsch@ball.com).

Sincerely,

A handwritten signature in black ink, appearing to read "John Munsch", written over a light blue horizontal line.

John Munsch  
EHS Department  
Ball Corporation

Attachments

cc: EHS File 33.1.2

**TITLE V PERMIT RENEWAL APPLICATION**  
**Ball Metal Food Container Corp.**  
**Weirton, WV**

Table of Contents

On Diskette:

Copy of Cover Letter

Table of Contents

Completeness Checklist

Title V Renewal Application - General Forms

Attachments A1 & A2 - Area Map & Arial Photo of Plant Location

Attachment B1 & B2 - Plot Plans/Facility Layouts, Buildings 33 & 720

Attachment C1 & C2 - Process Diagrams of Sheet Coating and End Making

Attachment D - Equipment Table

Attachment E - Emission Unit Forms

Attachment G - Air Pollution Control Device Forms

Supporting Documents - Potential to Emit Calculations

- Sheet Coating Lines

- Lithography Lines

- Solvent-Based End Lines

- Gas Burning Equipment

- Insignificant Activities: Water-Based End Lines

- Facility-wide Emission Summary

Paper Attachments:

Responsible Official Certification (2 Copies with Original Signatures)

Area Map

Plot Plan

Process Flow Diagrams

**TITLE V PERMIT APPLICATION CHECKLIST  
FOR ADMINISTRATIVE COMPLETENESS**

<p>A complete application is demonstrated when all of the information required below is properly prepared, completed and attached. The items listed below are required information which must be submitted with a Title V permit application. Any submittal will be considered incomplete if the required information is not included.*</p>	
<input checked="" type="checkbox"/>	Two signed copies of the application (at least one <u>must</u> contain the original “ <i>Certification</i> ” page signed and dated in blue ink)
<input checked="" type="checkbox"/>	Correct number of copies of the application on separate CDs or diskettes, (i.e. at least one disc per copy)
<input checked="" type="checkbox"/>	*Table of Contents (needs to be included but not for administrative completeness)
<input checked="" type="checkbox"/>	Facility information
<input checked="" type="checkbox"/>	Description of process and products, including NAICS and SIC codes, and including alternative operating scenarios
<input checked="" type="checkbox"/>	Area map showing plant location
<input checked="" type="checkbox"/>	Plot plan showing buildings and process areas
<input checked="" type="checkbox"/>	Process flow diagram(s), showing all emission units, control equipment, emission points, and their relationships
<input checked="" type="checkbox"/>	Identification of all applicable requirements with a description of the compliance status, the methods used for demonstrating compliance, and a Schedule of Compliance Form (ATTACHMENT F) for all requirements for which the source is not in compliance
<input checked="" type="checkbox"/>	Listing of all active permits and consent orders (if applicable)
<input checked="" type="checkbox"/>	Facility-wide emissions summary
<input checked="" type="checkbox"/>	Identification of Insignificant Activities
<input checked="" type="checkbox"/>	ATTACHMENT D - Title V Equipment Table completed for all emission units at the facility except those designated as insignificant activities
<input checked="" type="checkbox"/>	ATTACHMENT E - Emission Unit Form completed for each emission unit listed in the Title V Equipment Table (ATTACHMENT D) and a Schedule of Compliance Form (ATTACHMENT F) for all requirements for which the emission unit is not in compliance
<input checked="" type="checkbox"/>	ATTACHMENT G - Air Pollution Control Device Form completed for each control device listed in the Title V Equipment Table (ATTACHMENT D)
<input type="checkbox"/>	ATTACHMENT H – Compliance Assurance Monitoring (CAM) Plan Form completed for each control device for which the “Is the device subject to CAM?” question is answered “Yes” on the Air Pollution Control Device Form (ATTACHMENT G)
<input checked="" type="checkbox"/>	General Application Forms signed by a Responsible Official
<input type="checkbox"/>	Confidential Information submitted in accordance with 45CSR31



WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION

DIVISION OF AIR QUALITY

601 57th Street SE
Charleston, WV 25304
Phone: (304) 926-0475
www.dep.wv.gov/daq

INITIAL/RENEWAL TITLE V PERMIT APPLICATION - GENERAL FORMS

Section 1: General Information

Form with 10 sections: 1. Name of Applicant (Ball Metal Food Container Corp), 2. Facility Name or Location (3010 Birch Drive, Weirton, WV 26062), 3. DAQ Plant ID No. (009-00027), 4. Federal Employer ID No. (FEIN) (222414869), 5. Permit Application Type (Permit Renewal), 6. Type of Business Entity (Corporation), 7. Is the Applicant the: (Both), 8. Number of onsite employees (80), 9. Governmental Code (Privately owned and operated; 0), 10. Business Confidentiality Claims (No).

<b>13. Contact Information</b>		
<b>Responsible Official:</b> Steve Marcontell		<b>Title:</b> V.P. Operations
<b>Street or P.O. Box:</b> P.O. Box 589		
<b>City:</b> Broomfield	<b>State:</b> CO	<b>Zip:</b> 80038
<b>Telephone Number:</b> (303) 460-4233	<b>Fax Number:</b> (303) 265-9174	
<b>E-mail address:</b> smarcont@ball.com		
<b>Environmental Contact:</b> John Munsch		<b>Title:</b> Prin. Env. Eng.
<b>Street or P.O. Box:</b> P.O. Box 589		
<b>City:</b> Broomfield	<b>State:</b> CO	<b>Zip:</b> 80038
<b>Telephone Number:</b> (303) 460-5601	<b>Fax Number:</b> (303) 265-9174	
<b>E-mail address:</b> jmunsch@ball.com		
<b>Application Preparer:</b> John Munsch		<b>Title:</b> Prin. Env. Eng.
<b>Company:</b> Ball Corporation		
<b>Street or P.O. Box:</b> P.O. Box 589		
<b>City:</b> Broomfield	<b>State:</b> CO	<b>Zip:</b> 80038
<b>Telephone Number:</b> (303) 460-5601	<b>Fax Number:</b> (303) 265-9174	
<b>E-mail address:</b> jmunsch@ball.com		

**Section 2: Applicable Requirements**

<b>18. Applicable Requirements Summary</b>	
Instructions: Mark all applicable requirements.	
<input checked="" type="checkbox"/> SIP	<input type="checkbox"/> FIP
<input checked="" type="checkbox"/> Minor source NSR (45CSR13)	<input type="checkbox"/> PSD (45CSR14)
<input checked="" type="checkbox"/> NESHAP (45CSR34)	<input type="checkbox"/> Nonattainment NSR (45CSR19)
<input type="checkbox"/> Section 111 NSPS	<input checked="" type="checkbox"/> Section 112(d) MACT standards
<input type="checkbox"/> Section 112(g) Case-by-case MACT	<input type="checkbox"/> 112(r) RMP
<input type="checkbox"/> Section 112(i) Early reduction of HAP	<input type="checkbox"/> Consumer/commercial prod. reqts., section 183(e)
<input type="checkbox"/> Section 129 Standards/Reqts.	<input checked="" type="checkbox"/> Stratospheric ozone (Title VI)
<input type="checkbox"/> Tank vessel reqt., section 183(f)	<input type="checkbox"/> Emissions cap 45CSR§30-2.6.1
<input type="checkbox"/> NAAQS, increments or visibility (temp. sources)	<input type="checkbox"/> 45CSR27 State enforceable only rule
<input checked="" type="checkbox"/> 45CSR4 State enforceable only rule	<input type="checkbox"/> Acid Rain (Title IV, 45CSR33)
<input type="checkbox"/> Emissions Trading and Banking (45CSR28)	<input type="checkbox"/> Compliance Assurance Monitoring (40CFR64)
<input type="checkbox"/> CAIR NO <sub>x</sub> Annual Trading Program (45CSR39)	<input type="checkbox"/> CAIR NO <sub>x</sub> Ozone Season Trading Program (45CSR40)
<input type="checkbox"/> CAIR SO <sub>2</sub> Trading Program (45CSR41)	

<b>19. Non Applicability Determinations</b>
<p>List all requirements which the source has determined not applicable and for which a permit shield is requested. The listing shall also include the rule citation and the reason why the shield applies.</p> <p>The regulations that have already been determined to be non-applicable appear in the Fact Sheet accompanying the current Title V permit. Therefore, the permit shield should apply.</p>
<input checked="" type="checkbox"/> Permit Shield

**Section 3: Facility-Wide Emissions**

<b>23. Facility-Wide Emissions Summary [Tons per Year]</b>	
Criteria Pollutants	Potential Emissions
Carbon Monoxide (CO)	58.0
Nitrogen Oxides (NO <sub>x</sub> )	69.0
Lead (Pb)	0.0
Particulate Matter (PM <sub>2.5</sub> ) <sup>1</sup>	5.2
Particulate Matter (PM <sub>10</sub> ) <sup>1</sup>	5.2
Total Particulate Matter (TSP)	5.2
Sulfur Dioxide (SO <sub>2</sub> )	0.4
Volatile Organic Compounds (VOC)	3.8
Hazardous Air Pollutants <sup>2</sup>	Potential Emissions
Glycol Ethers	>10
Xylene	>10
Methyl Isobutyl Ketone	<10
Ethyl Benzene	<10
Isophorone	<10
Cumene	<10
Naphthalene	<10
Benzene	<10
Toluene	<10
Formaldehyde	<10
Vinyl Acetate	<10
Cresols	<10
<p><b>Note:</b> The facility uses numerous coatings with a variety of chemical compositions. Therefore, it is virtually impossible to accurately calculate PTEs for individual HAPs. The combined total for all facility HAP emissions in 2016 was less than 5 tons</p>	
Regulated Pollutants other than Criteria and HAP	Potential Emissions
<p><sup>1</sup>PM<sub>2.5</sub> and PM<sub>10</sub> are components of TSP.  <sup>2</sup>For HAPs that are also considered PM or VOCs, emissions should be included in both the HAPs section and the Criteria Pollutants section.</p>	

**24. Insignificant Activities (Check all that apply)**

<input type="checkbox"/>	20. Emission units which do not have any applicable requirements and which emit hazardous air pollutants into the atmosphere at a rate of less than 0.1 pounds per hour and less than 1,000 pounds per year aggregate total for all HAPs from all emission sources. This limitation cannot be used for any source which emits dioxin/furans nor for toxic air pollutants as per 45CSR27.  Please specify all emission units for which this exemption applies along with the quantity of hazardous air pollutants emitted on an hourly and annual basis:  _____  _____
<input type="checkbox"/>	21. Environmental chambers not using hazardous air pollutant (HAP) gases.
<input checked="" type="checkbox"/>	22. Equipment on the premises of industrial and manufacturing operations used solely for the purpose of preparing food for human consumption.
<input type="checkbox"/>	23. Equipment used exclusively to slaughter animals, but not including other equipment at slaughterhouses, such as rendering cookers, boilers, heating plants, incinerators, and electrical power generating equipment.
<input checked="" type="checkbox"/>	24. Equipment used for quality control/assurance or inspection purposes, including sampling equipment used to withdraw materials for analysis.
<input checked="" type="checkbox"/>	25. Equipment used for surface coating, painting, dipping or spray operations, except those that will emit VOC or HAP.
<input checked="" type="checkbox"/>	26. Fire suppression systems.
<input checked="" type="checkbox"/>	27. Firefighting equipment and the equipment used to train firefighters.
<input type="checkbox"/>	28. Flares used solely to indicate danger to the public.
<input checked="" type="checkbox"/>	29. Fugitive emission related to movement of passenger vehicle provided the emissions are not counted for applicability purposes and any required fugitive dust control plan or its equivalent is submitted.
<input type="checkbox"/>	30. Hand-held applicator equipment for hot melt adhesives with no VOC in the adhesive formulation.
<input checked="" type="checkbox"/>	31. Hand-held equipment for buffing, polishing, cutting, drilling, sawing, grinding, turning or machining wood, metal or plastic.
<input type="checkbox"/>	32. Humidity chambers.
<input type="checkbox"/>	33. Hydraulic and hydrostatic testing equipment.
<input type="checkbox"/>	34. Indoor or outdoor kerosene heaters.
<input checked="" type="checkbox"/>	35. Internal combustion engines used for landscaping purposes.
<input type="checkbox"/>	36. Laser trimmers using dust collection to prevent fugitive emissions.
<input type="checkbox"/>	37. Laundry activities, except for dry-cleaning and steam boilers.
<input checked="" type="checkbox"/>	38. Natural gas pressure regulator vents, excluding venting at oil and gas production facilities.
<input type="checkbox"/>	39. Oxygen scavenging (de-aeration) of water.
<input type="checkbox"/>	40. Ozone generators.

**Section 5: Emission Units, Control Devices, and Emission Points**

**25. Equipment Table**

Fill out the **Title V Equipment Table** and provide it as **ATTACHMENT D**.

**26. Emission Units**

For each emission unit listed in the **Title V Equipment Table**, fill out and provide an **Emission Unit Form** as **ATTACHMENT E**.

For each emission unit not in compliance with an applicable requirement, fill out a **Schedule of Compliance Form** as **ATTACHMENT F**.

**27. Control Devices**

For each control device listed in the **Title V Equipment Table**, fill out and provide an **Air Pollution Control Device Form** as **ATTACHMENT G**.

For any control device that is required on an emission unit in order to meet a standard or limitation for which the potential pre-control device emissions of an applicable regulated air pollutant is greater than or equal to the Title V Major Source Threshold Level, refer to the **Compliance Assurance Monitoring (CAM) Form(s)** for CAM applicability. Fill out and provide these forms, if applicable, for each Pollutant Specific Emission Unit (PSEU) as **ATTACHMENT H**.

**Section 6: Certification of Information**

**28. Certification of Truth, Accuracy and Completeness and Certification of Compliance**

*Note: This Certification must be signed by a responsible official. The original, signed in blue ink, must be submitted with the application. Applications without an original signed certification will be considered as incomplete.*

**a. Certification of Truth, Accuracy and Completeness**

I certify that I am a responsible official (as defined at 45CSR§30-2.38) and am accordingly authorized to make this submission on behalf of the owners or operators of the source described in this document and its attachments. I certify under penalty of law that I have personally examined and am familiar with the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine and/or imprisonment.

**b. Compliance Certification**

Except for requirements identified in the Title V Application for which compliance is not achieved, I, the undersigned hereby certify that, based on information and belief formed after reasonable inquiry, all air contaminant sources identified in this application are in compliance with all applicable requirements.

**Responsible official (type or print)**

Name: Steve Marcontell

Title: Vice President, Operations

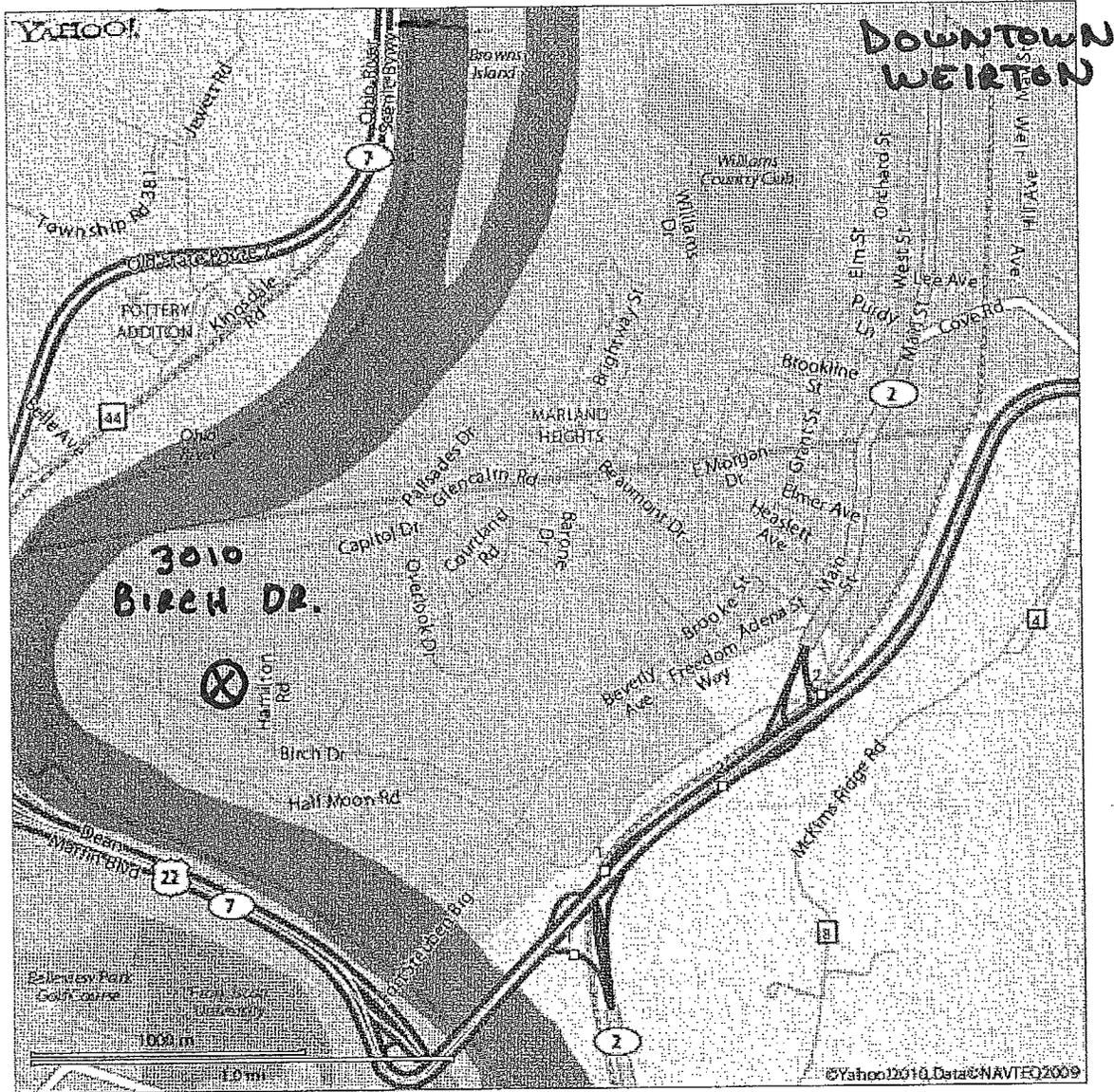
**Responsible official's signature:**

Signature:  Signature Date: 3/2/17  
 (Must be signed and dated in blue ink)

**Note: Please check all applicable attachments included with this permit application:**

- ATTACHMENT A: Area Map
- ATTACHMENT B: Plot Plan(s)
- ATTACHMENT C: Process Flow Diagram(s)
- ATTACHMENT D: Equipment Table
- ATTACHMENT E: Emission Unit Form(s)
- ATTACHMENT F: Schedule of Compliance Form(s)
- ATTACHMENT G: Air Pollution Control Device Form(s)
- ATTACHMENT H: Compliance Assurance Monitoring (CAM) Form(s)

**All of the required forms and additional information can be found and downloaded from, the DEP website at [www.dep.wv.gov/dag](http://www.dep.wv.gov/dag), requested by phone (304) 926-0475, and/or obtained through the mail.**



When using any driving directions or map, it's a good idea to do a reality check and make sure the road still exists, watch out for construction, and follow all traffic safety precautions. This is only to be used as an aid in planning.

# ATTACHMENT A-2

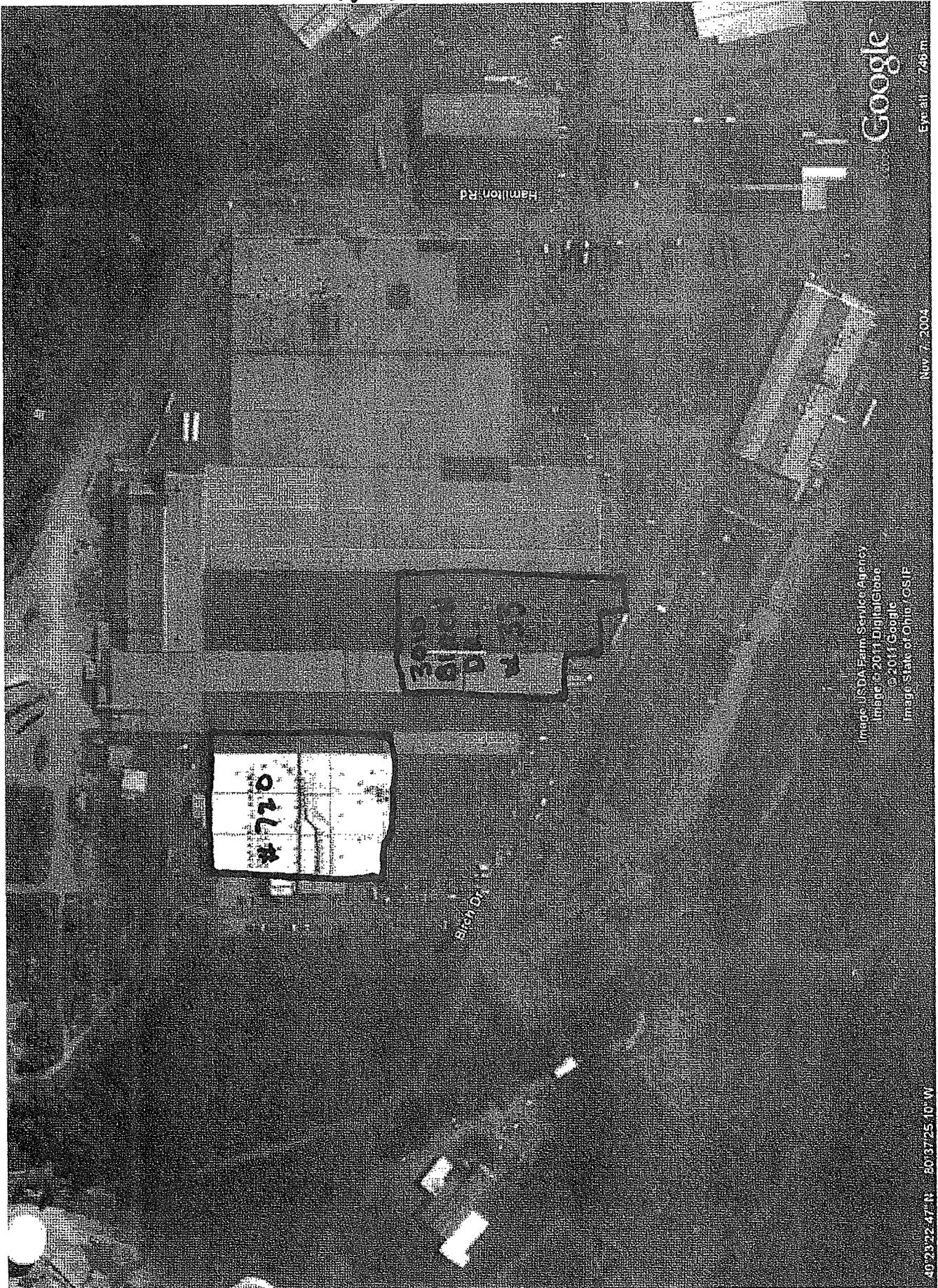


Image: USDA Farm Service Agency  
Image: © 2011 DigitalGlobe  
© 2011 Google  
Image: State of Ohio / GISIP

Google

Earth 7.40m

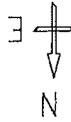
Nov 7, 2004

40°23'22.47"N 80°37'25.10"W

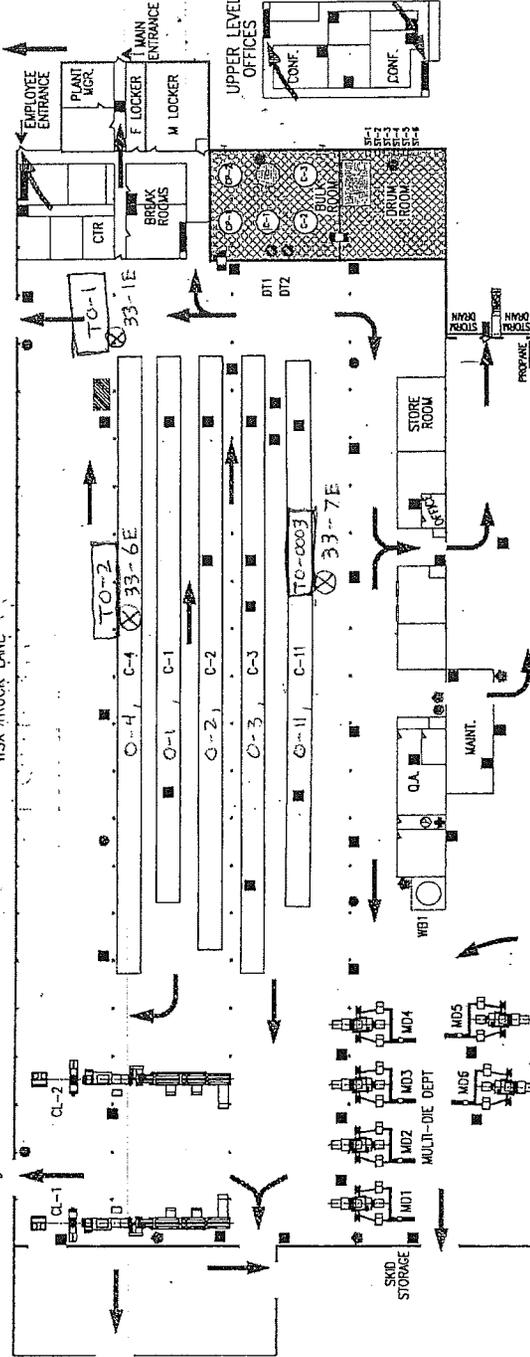
BALL METAL FOOD CONTAINER CORP  
**WEIRTON PLANT**  
 BUILDING 33

FLOOR PLAN, Rev B

Parking



WSX TRUCK LANE



TO GRAVEL PIT (APPROX 0.2 MILES)

LEGEND

	CHEMICAL STORAGE		HAZARDOUS WASTE STORAGE
	DOOR		SPILL EQUIPMENT/CART
	EVACUATION ROUTES		TELEPHONE W/PAGING
	EVACUATION ASSEMBLY AREA		OXIDIZER STACK
	EYEWASH STATION		SCALE: 1" = 25'
	FIRE EXTINGUISHER		ELEV: 730'
	FIRE HOSE		UTM: 521,956 E Zone 17
	FIRST AID		UTM: 431,640 N

EMERGENCY INFORMATION

Green Drive



## **SHEET COATERS**

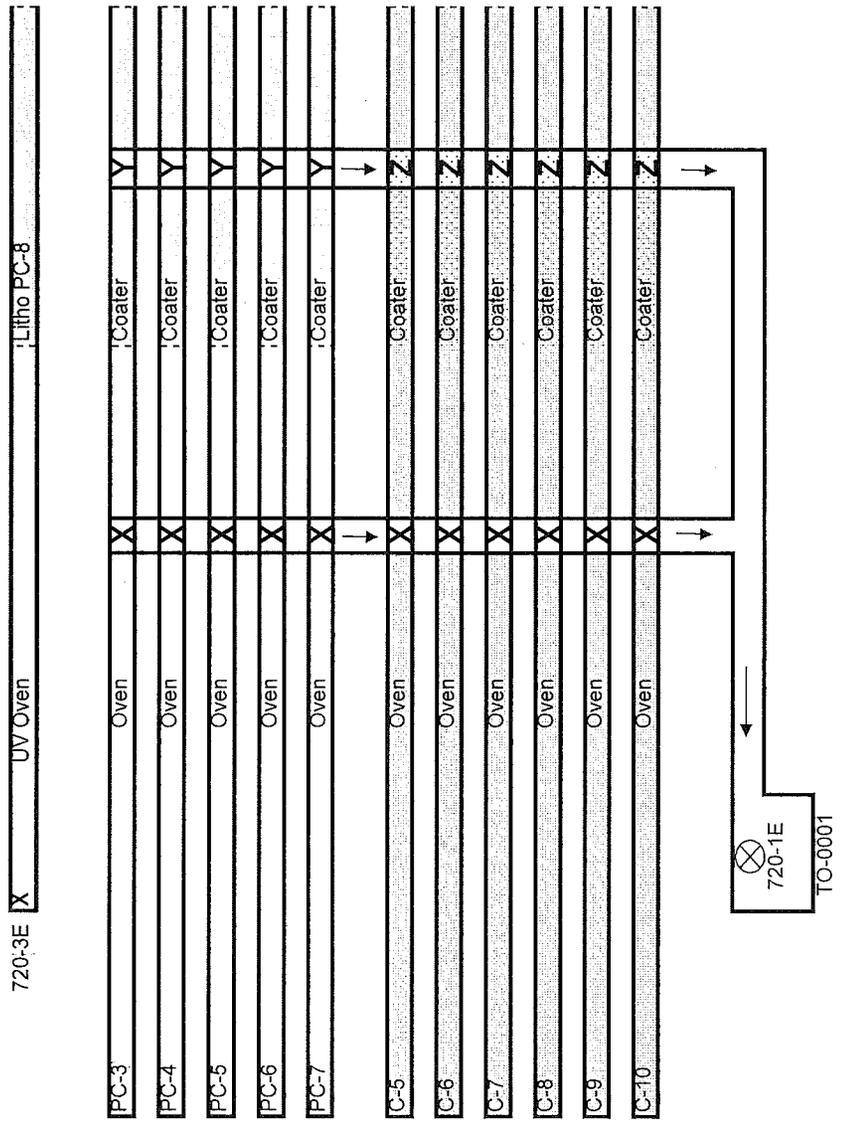
Sheets of tin-plated steel are coated with an enamel material prior to be cut and formed into food cans or stamped into can ends. The following is a brief description of the coating process:

The first piece of equipment on a coating line is the sheet feeder. The sheet feeder holds stacks of tin-plated steel sheets and feeds them, one at a time, to the roll coater. The coater receives the plain sheets from the sheet feeder and applies a predetermined amount of enamel coating to one side the sheets. The enamel application mechanism of the coater consists of two steel rolls, mounted one above the other. The bottom roll, revolving in a pan of enamel, picks up a film of coating and transfers it to the top roll. The spacing between the two steel rolls meters the amount of enamel applied to the top roll. The top steel roll transfers the film to a pliable application roll which in turn transfers the film onto the sheet.

The coated sheets are then carried to the oven entrance where they are placed between wickets and transported through the oven. The oven evaporates the solvents in the enamel and cures the coating to a hard finish. After curing, the sheets exit the rear of the oven and are stacked uniformly on a sheet stacker. The coated sheets are then either transferred to another location to be pressed into ends or shipped to another plant to be formed into cans.

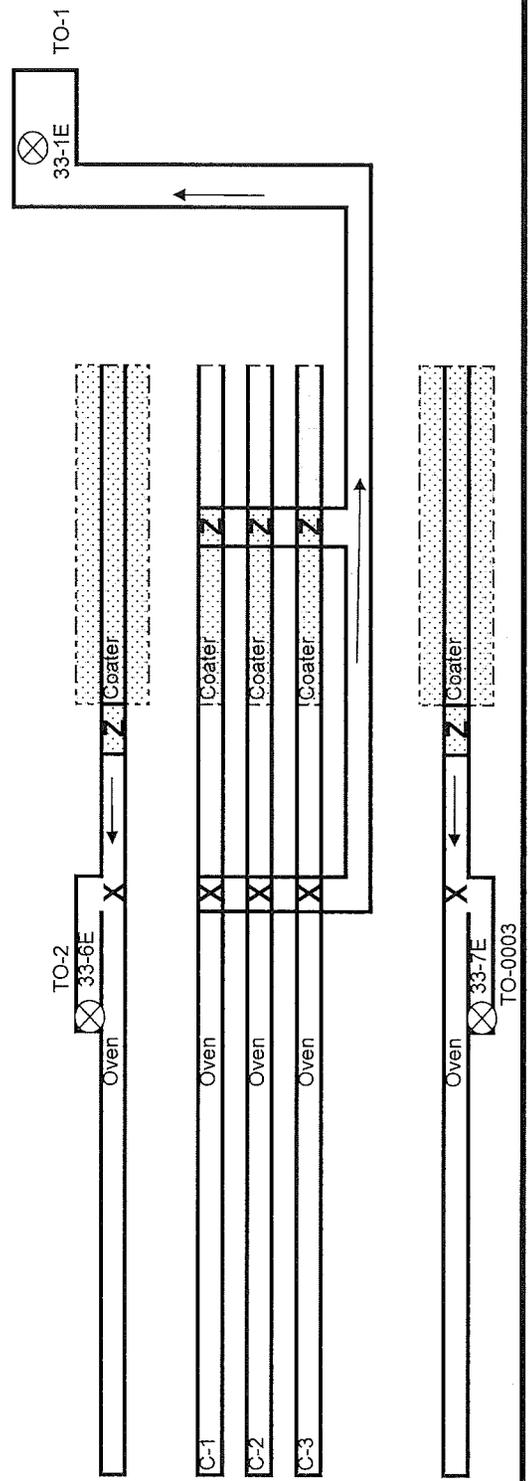
The entire process falls under SIC 3411 & NAICS 332431 (Canmaking).

Building 720



= PTE  
 X - Oven Exhaust  
 Y - Coater Hood Exhaust  
 Z - PTE Exhaust  
 VOC Flow  
 Oxidizer Stack

Building 33



## Attachment C-2

### Process Description - End Making

#### END FORMING

Stamping and forming of ends is performed on coated sheet of steel with the stroke of a press. A common multi-die press is equipped with 10 or 11 sets of punches and dies and has a rated speed of about 125-130 strokes per minute, for an output of between 75,000 and 85,800 ends per hour.

#### END CURLING

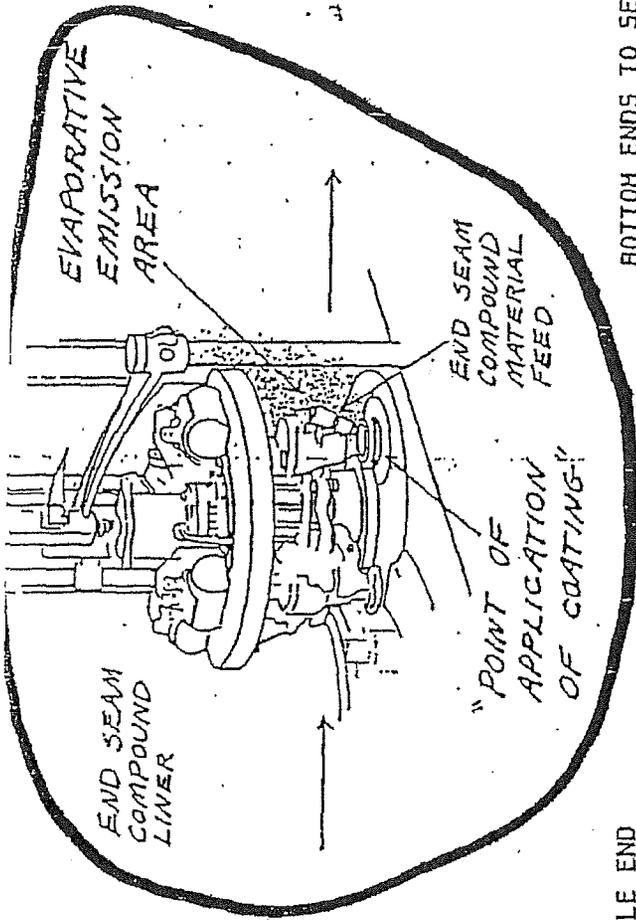
Press forming of ends leaves the cut edge in the form of a straight skirt. A curling machine is used to form a curl or radius on the cut edge that eventually folds into and interlocks with a flange on the can body to form a seam. The curl is formed by the rolling and squeezing action on the periphery of the can end as it passes through the curler.

#### COMPOUND LINING

Can ends are delivered to the compound liner by a belt conveyor system that drops the ends into the top of a feed hopper where they automatically stack. One-by-one the ends are transferred to a turret that rotates the ends in a counter-clockwise direction. As the ends rotate, a sealing compound is placed, via a vertical nozzle, into the compound channels to form a leak-proof seal when the end is attached to a can. Lastly, the ends are placed in paper sleeves, stacked on pallets, and stored in the warehouse for 24 hours to cure. They are then shipped to other Ball plants and Ball customers for assembly.

The entire process falls under SIC 3411, NAICS 332431 (Canmaking).

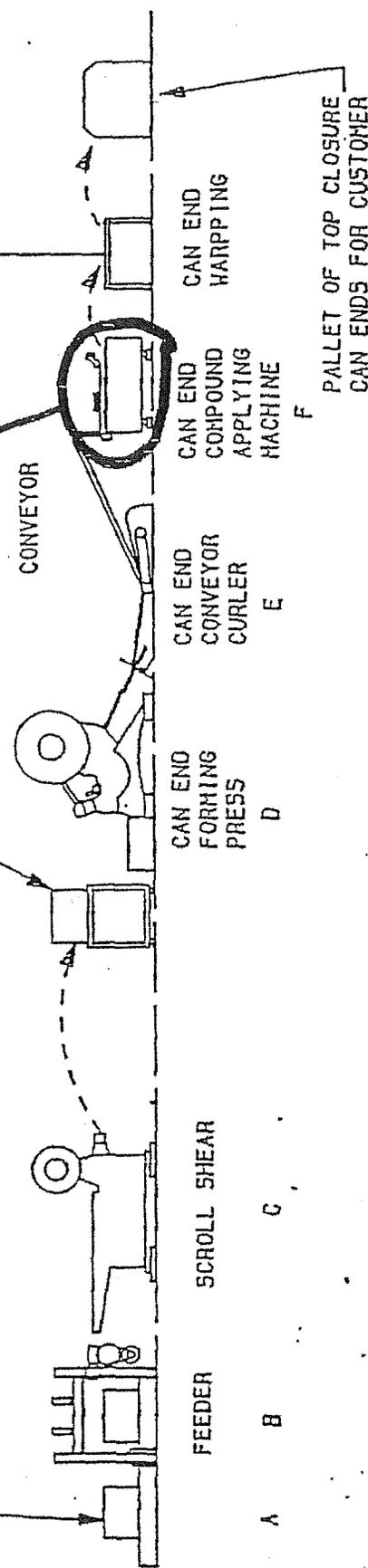
ATTACHMENT C-2



SHEET OF PLAIN,  
ENAMELED, AND/OR  
LITHOGRAPHED CAN  
END, TINPLATE OR  
BLACKPLATE

MULTIPLE END  
CUT STRIPS

BOTTOM ENDS TO SEAMER



FEEDER

A

B

SCROLL SHEAR

C

CAN END  
FORGING  
PRESS

D

CAN END  
CONVEYOR  
CURLER

E

CAN END  
COMPOUND  
APPLYING  
MACHINE

F

CAN END  
WARRPING

PALLET OF TOP CLOSURE  
CAN ENDS FOR CUSTOMER

TYPICAL CAN END PRESS LINE

(MD-1, H + 5)

**ATTACHMENT D - Title V Equipment Table**  
(includes all emission units at the facility except those designated as  
insignificant activities in Section 4, Item 24 of the General Forms)

Emission Point ID <sup>1</sup>	Control Device <sup>1</sup>	Emission Unit ID <sup>1</sup>	Emission Unit Description	Design Capacity	Year Installed/Modified
1S 33-1E	TO-1	C-1	#C-1 Wagner Sheet Coater and Wagner Oven	6,000 sheets/hr	1995
2S 33-1E	TO-1	C-2	#C-2 Wagner Sheet Coater and Wagner Oven	6,000 sheets/hr	1990
3S 33-1E	TO-1	C-3	#C-3 Wagner Sheet Coater w/ UV & Oven	6,000 sheets/hr	1990
4S 33-6E	TO-2	C-4	#C-4 Crabtree Sheet Coater Series 1200 & Oven	7,800 sheets/hr	1997
33-2E	-	MD-1	Grace 800 End Liner	85,800 ends/hr	1991
33-3E	-	MD-5	Grace 800 End Liner	75,000 ends/hr	1997
33-4E	-	MD-3	Grace 800 End Liner	85,800 ends/hr	2007
33-5E	-	MD-4	Grace 800 End Liner	85,800 ends/hr	1996
33-1E	-	TO-1	MEGTEC Cleanswitch, Regen. Therm. Oxidizer	17-4.0 MMBtu/hr	1989 2009
33-6E	-	TO-2	Catalytic Products SR-6000 Thermal Oxidizer	6.8 MMBtu/hr	1997
720-1E	0001	001-01	No. C-1-5 Wagner Sheet Coater	6,000 sheets/hour	1970
720-1E	0001	001-02	No. C-1-5 Oven	6,000 sheets/hour	1970
720-1E	0001	001-03	No. C-2-6 Wagner Sheet Coater	6,000 sheets/hour	1970
720-1E	0001	001-04	No. C-2-6 Oven	6,000 sheets/hour	1970
720-1E	0001	001-05	No. C-3-7 Wagner Sheet Coater	6,000 sheets/hour	1970
720-1E	0001	001-06	No. C-3-7 Oven	6,000 sheets/hour	1970
720-1E	0001	001-07	No. C-4-8 Wagner Sheet Coater	6,000 sheets/hour	1970
720-1E	0001	001-08	No. C-4-8 Oven	6,000 sheets/hour	1970
720-1E	0001	001-09	No. C-5-9 Wagner Sheet Coater	6,000 sheets/hour	1970
720-1E	0001	001-10	No. C-5-9 Oven	6,000 sheets/hour	1970
720-1E	0001	001-11	No. C-6-10 Wagner Sheet Coater	6,000 sheets/hour	1970
720-1E	0001	001-12	No. C-6-10 Oven	6,000 sheets/hour	1970
720-4E	NA	002-01	PC-3 HOE UV Press	5,100 sheets/hour	1997
720-4E	NA	002-02	PC-3 HOE UV Press	5,100 sheets/hour	1997
NA	NA	002-03	PC-3 Conventional Press	5,100 sheets/hour	1997
720-4E	NA	002-04	PC-4 HOE UV Press	5,100 sheets/hour	1997
NA	NA	002-05	PC-4 Conventional Press	5,100 sheets/hour	1997
720-4E	NA	002-06	PC-5 HOE UV Press	5,100 sheets/hour	1970

Formatted Table

Title V Equipment Table (equipment\_table.doc)

NA	NA	002-07	PC-5 Conventional Press	5,100 sheets/hour	1997
NA	NA	002-08	PC-6 Conventional Press	5,100 sheets/hour	1970
NA	NA	002-09	PC-6 Conventional Press	5,100 sheets/hour	1970
720-4E	NA	002-10	PC-7 HOE UV Press	5,100 sheets/hour	1997
720-4E	NA	002-11	PC-7 HOE UV Press	5,100 sheets/hour	1997
720-4E	NA	002-12	PC-7 HOE UV Press	5,100 sheets/hour	1997
NA	NA	002-13	PC-7 Conventional Press	5,100 sheets/hour	1997
720-1E	0001	003-01	No. PC-3 Wagner Sheet Coater	6,000 sheets/hour	1970
720-1E	0001	003-02	No. PC-3 Wagner Oven	6,000 sheets/hour	1970
720-1E	0001	003-03	No. PC-4 Wagner Sheet Coater	6,000 sheets/hour	1970
720-1E	0001	003-04	No. PC-4 Wagner Oven	6,000 sheets/hour	1970
720-1E	0001	003-05	No. PC-5 Wagner Sheet Coater	6,000 sheets/hour	1970
720-1E	0001	003-06	No. PC-5 Wagner Oven	6,000 sheets/hour	1970
720-1E	0001	003-07	No. PC-6 Wagner Sheet Coater	6,000 sheets/hour	1970
720-1E	0001	003-08	No. PC-6 Wagner Oven	6,000 sheets/hour	1970
720-1E	0001	003-09	No. PC-7 Wagner Sheet Coater	6,000 sheets/hour	1970
720-1E	0001	003-10	No. PC-7 Wagner Oven	6,000 sheets/hour	1970
720-3E	NA	006-01	No. PC-8 6-color Planeta Press	7,200 sheets/hour	1999
720-3E	NA	006-02	No. PC-8 Planeta Press UV Sheet Coater	7,200 sheets/hour	1999
33-7E 2E	0003	007-01	No. C-7-11 LTG1 Sheet Coater	7,800 sheets/hour	2008
33-7E 2E	0003	007-02	No. C-7-11 LTG1 Oven	7,800 sheets/hour	2008
720-1E	NA	0001	Two (2) Smith Regenerative Thermal Oxidizers	6.6 MMBtu/hr, x 2	2000
720-2E	NA	0003	LTG Thermal Oxidizer	6.8 MMBtu/hr	2008

<sup>1</sup>For 45CSR13 permitted sources, the numbering system used for the emission points, control devices, and emission units should be consistent with the numbering system used in the 45CSR13 permit. For grandfathered sources, the numbering system should be consistent with registrations or emissions inventory previously submitted to DAQ. For emission points, control devices, and emissions units which have not been previously labeled, use the following 45CSR13 numbering system: 1S, 2S, 3S,... or other appropriate description for emission units; 1C, 2C, 3C,... or other appropriate designation for control devices; 1E, 2E, 3E, ... or other appropriate designation for emission points.

## ATTACHMENT E - Emission Unit Form

**Emission Unit Description**

<b>Emission unit ID number:</b> C-1	<b>Emission unit name:</b> Wagner Sheet Coater #1	<b>List any control devices associated with this emission unit.</b> Thermal Oxidizer TO-1
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**Provide a description of the emission unit (type, method of operation, design parameters, etc.):**  
 The sheet coater coats pre-cut sheets with a protective varnish. The sheets are cured in an oven and either transferred to the end department to be pressed into ends or shipped off site to be made into food can bodies. Emissions are directed into a thermal oxidizer through the oven and from a permanent total enclosure (PTE) over the coater. Solvents are used to clean coater rolls and general clean-up.

<b>Manufacturer:</b> Wagner	<b>Model number:</b> None	<b>Serial number:</b> 2607A
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<b>Construction date:</b> Unknown	<b>Installation date:</b> 1995	<b>Modification date(s):</b> April, 2010
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**Design Capacity (examples: furnaces - tons/hr, tanks - gallons):** The  
 At maximum operating rate, coater could use 33.42 gallons of coating/hr. and 5,000 gallons solvent/yr.

<b>Maximum Hourly Throughput:</b> 6,000 sheets/hr	<b>Maximum Annual Throughput:</b> 52,560,000 sheets/yr	<b>Maximum Operating Schedule:</b> 8,760 hr/yr
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**Fuel Usage Data (fill out all applicable fields)**

<b>Does this emission unit combust fuel?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<b>If yes, is it?</b>  <input type="checkbox"/> Indirect Fired <input type="checkbox"/> Direct Fired
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<b>Maximum design heat input and/or maximum horsepower rating:</b>	<b>Type and Btu/hr rating of burners:</b>
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**List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.**

**Describe each fuel expected to be used during the term of the permit.**

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value

<b>Emissions Data</b>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO <sub>x</sub> )		
Lead (Pb)		
Particulate Matter (PM <sub>2.5</sub> )		
Particulate Matter (PM <sub>10</sub> )		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO <sub>2</sub> )		
Volatile Organic Compounds (VOC)	4.0	17.5
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Total HAPs	1.3	5.8
Individual HAPS	See Page 7 of General Forms	
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

**List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).**

Potential VOC emissions are based on mass balance calculations using manufacturer's VOC data sheets and solvent composition sheets. The permitted control efficiency of 98% overall is applied.

Potential HAP emissions are based on the restrictions imposed by Can Making MACT Subpart KKKK. These restrictions include a limit of either 95% destruction efficiency or 0.26 pounds of HAPs/gallon coating solids after control.

Permanent Total Enclosure Verification for the coater and destruction efficiency testing for the associated oxidizer were conducted March, 2010.

See attached worksheets for PTE calculations.

***Applicable Requirements***

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or **construction permit** with the condition number. (*Note: Title V permit condition numbers alone are not underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

Permit R13-1458D:

Conditions 4.1.7, 4.2-4.5 (Note: emission limits are for C-1, C-2 and C-3 combined)

MACT Subpart KKKK - 0.26 lbs HAPs/gallon coating solids or 95% overall control efficiency.

Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (*Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.*)

All appropriate Monitoring/Recordkeeping/Reporting requirements appear in Title V Permit R30-00900027-2007, Part 1 of 2, Sections 4.2-4.5

Are you in compliance with all applicable requirements for this emission unit?  Yes  No

If no, complete the Schedule of Compliance Form as ATTACHMENT F.

## ATTACHMENT E - Emission Unit Form

**Emission Unit Description**

<b>Emission unit ID number:</b> C-2	<b>Emission unit name:</b> Wagner Sheet Coater #2	<b>List any control devices associated with this emission unit.</b> Thermal Oxidizer TO-1
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**Provide a description of the emission unit (type, method of operation, design parameters, etc.):**  
 The sheet coater coats pre-cut sheets with a protective varnish. The sheets are cured in an oven and either transferred to the end department to be pressed into ends or shipped off site to be made into food can bodies. Emissions are directed into a thermal oxidizer through the oven and from a PTE over the coater. Solvents are used to clean coater rolls and general clean-up.

<b>Manufacturer:</b> Wagner	<b>Model number:</b> None	<b>Serial number:</b> 23240
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<b>Construction date:</b> 1953	<b>Installation date:</b> 1990	<b>Modification date(s):</b> April, 2010
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**Design Capacity (examples: furnaces - tons/hr, tanks - gallons):** The  
 At maximum operating rate, coater could use 33.42 gallons of coating/hr. and 5,000 gallons solvent/yr.

<b>Maximum Hourly Throughput:</b> 6,000 sheets/hr	<b>Maximum Annual Throughput:</b> 52,560,000 sheets/yr	<b>Maximum Operating Schedule:</b> 8,760 hr/yr
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**Fuel Usage Data (fill out all applicable fields)**

Does this emission unit combust fuel? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<b>If yes, is it?</b>  <input type="checkbox"/> Indirect Fired <input type="checkbox"/> Direct Fired
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<b>Maximum design heat input and/or maximum horsepower rating:</b>	<b>Type and Btu/hr rating of burners:</b>
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**List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.**

**Describe each fuel expected to be used during the term of the permit.**

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO <sub>x</sub> )		
Lead (Pb)		
Particulate Matter (PM <sub>2.5</sub> )		
Particulate Matter (PM <sub>10</sub> )		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO <sub>2</sub> )		
Volatile Organic Compounds (VOC)	4.0	17.5
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Total HAPs	1.3	5.8
Individual HAPS	See page 7 of General Forms	
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

**List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).**

Potential VOC emissions are based on mass balance calculations using manufacturer's VOC data sheets and solvent composition sheets. The permitted control efficiency of 98% overall is applied.

Potential HAP emissions are based on the restrictions imposed by Can Making MACT Subpart KKKK. These restrictions include a limit of either 95% destruction efficiency or 0.26 pounds of HAPs/gallon coating solids after control.

Permanent Total Enclosure Verification for the coater and destruction efficiency testing for the associated oxidizer were conducted March, 2010.

See attached worksheets for PTE calculations.

***Applicable Requirements***

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (Note: Title V permit condition numbers alone are not underlying applicable requirements). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

Permit R13-1458D:

Conditions 4.1.7, 4.2-4.5 (Note: emission limits are for C-1, C-2 and C-3 combined)

MACT Subpart KKKK - 0.26 lbs HAPs/gallon coating solids or 95% overall control efficiency.

Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

All appropriate Monitoring/Recordkeeping/Reporting requirements appear in Title V Permit R30-00900027-2007, Part 1 of 2, Sections 4.2-4.5

Are you in compliance with all applicable requirements for this emission unit?  Yes  No

If no, complete the Schedule of Compliance Form as ATTACHMENT F.

## ATTACHMENT E - Emission Unit Form

### *Emission Unit Description*

**Emission unit ID number:**  
C-3

**Emission unit name:**  
Sheet Coater #3 W/ UV

**List any control devices associated with this emission unit.**  
Thermal Oxidizer TO-1

**Provide a description of the emission unit (type, method of operation, design parameters, etc.):**

The sheet coater coats pre-cut sheets with a protective varnish. The sheets are cured in an oven and either transferred to the end department to be pressed into ends or shipped off site to be made into food can bodies. Emissions are directed into a thermal oxidizer through the oven and from a PTE over the coater. This line also has UV coating capabilities. The UV coating process releases a de minimis amount of VOC emissions (and no HAPs) which are accounted for as C-3 emissions. Solvents are used to clean coater rolls and general clean-up.

**Manufacturer:**  
Wagner

**Model number:**  
None

**Serial number:**  
27567A

**Construction date:**  
1955.

**Installation date:**  
1990

**Modification date(s):**  
April, 2010

**Design Capacity (examples: furnaces - tons/hr, tanks - gallons):** The  
At maximum operating rate, coater could use 33.42 gallons of conventional coating/hr. and 5,000 gallons solvent/yr.

**Maximum Hourly Throughput:**  
6,000 sheets/hr

**Maximum Annual Throughput:**  
52,560,000 sheets/yr

**Maximum Operating Schedule:**  
8,760 hr/yr

### *Fuel Usage Data (fill out all applicable fields)*

**Does this emission unit combust fuel?** \_\_\_ Yes \_\_\_  No

**If yes, is it?**

\_\_\_ Indirect Fired \_\_\_ Direct Fired

**Maximum design heat input and/or maximum horsepower rating:**

**Type and Btu/hr rating of burners:**

**List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.**

**Describe each fuel expected to be used during the term of the permit.**

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value

<b>Emissions Data</b>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO <sub>x</sub> )		
Lead (Pb)		
Particulate Matter (PM <sub>2.5</sub> )		
Particulate Matter (PM <sub>10</sub> )		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO <sub>2</sub> )		
Volatile Organic Compounds (VOC)	4.0	17.7
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Total HAPs	1.3	5.8
Individual HAPS	See page 7 of General Forms	
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

**List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).**

Potential VOC emissions are based on mass balance calculations using manufacturer's VOC data sheets and solvent composition sheets. The permitted control efficiency of 98% overall is applied.

Potential HAP emissions are based on the restrictions imposed by Can Making MACT Subpart KKKK. These restrictions include a limit of either 95% destruction efficiency or 0.26 pounds of HAPs/gallon coating solids after control.

Permanent Total Enclosure Verification for the coater and destruction efficiency testing for the associated oxidizer were conducted March, 2010.

See attached worksheets for PTE calculations.

**Applicable Requirements**

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (Note: Title V permit condition numbers alone are not underlying applicable requirements). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

Permit R13-1458D:

Conditions 4.1.7, 4.2-4.5 (Note: emission limits are for C-1, C-2 and C-3 combined)

MACT Subpart KKKK - 0.26 lbs HAPs/gallon coating solids or 95% overall control efficiency.

Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

All appropriate Monitoring/Recordkeeping/Reporting requirements appear in Title V Permit R30-00900027-2007, Part 1 of 2, Sections 4.2-4.5

Are you in compliance with all applicable requirements for this emission unit?  Yes  No

If no, complete the Schedule of Compliance Form as ATTACHMENT F.

**ATTACHMENT E - Emission Unit Form**

**Emission Unit Description**

**Emission unit ID number:**  
C-4

**Emission unit name:**  
Sheet Coater #4

**List any control devices associated with this emission unit.**  
Thermal Oxidizer TO-2

**Provide a description of the emission unit (type, method of operation, design parameters, etc.):**  
The sheet coater coats pre-cut sheets with a protective varnish. The sheets are cured in an oven and either transferred to the end department to be pressed into ends or shipped off site to be made into food can bodies. Emissions are captured within a permanent total enclosure and directed through the oven into a thermal oxidizer which generates heat for the oven. Solvents are used to clean coater rolls and general clean-up.

**Manufacturer:**  
Crabtree

**Model number:**  
Series 1200

**Serial number:**  
FSFR5954

**Construction date:**  
1997

**Installation date:**  
1998

**Modification date(s):**

**Design Capacity (examples: furnaces - tons/hr, tanks - gallons):**  
At maximum operating rate, coater could use 43.45 gallons of coating/hr. and 4,000 gallons solvent/yr.

**Maximum Hourly Throughput:**  
7,800 sheets/hr

**Maximum Annual Throughput:**  
68,328,000 sheets/yr

**Maximum Operating Schedule:**  
8,760 hr/yr

**Fuel Usage Data (fill out all applicable fields)**

**Does this emission unit combust fuel?**  Yes  No

**If yes, is it?**  
 Indirect Fired  Direct Fired

**Maximum design heat input and/or maximum horsepower rating:**

**Type and Btu/hr rating of burners:**

**List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.**

**Describe each fuel expected to be used during the term of the permit.**

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value

<b>Emissions Data</b>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO <sub>x</sub> )		
Lead (Pb)		
Particulate Matter (PM <sub>2.5</sub> )		
Particulate Matter (PM <sub>10</sub> )		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO <sub>2</sub> )		
Volatile Organic Compounds (VOC)	2.8	12.1
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Total HAPs	0.9	4.0
Individual HAPS	See page 7 of General Forms	
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

**List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).**

Potential VOC emissions are based on mass balance calculations using manufacturer's VOC data sheets and solvent composition sheets. The permitted control efficiency of 99% overall is applied.

Potential HAP emissions are based on the restrictions imposed by Can Making MACT Subpart KKKK. These restrictions include a limit of either 95% destruction efficiency or 0.26 pounds of HAPs/gallon coating solids after control.

Permanent Total Enclosure Verification for the coater and destruction efficiency testing for the associated oxidizer were conducted October, 2006.

See attached worksheets for PTE calculations.

***Applicable Requirements***

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (Note: Title V permit condition numbers alone are not underlying applicable requirements). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

Permit R13-2111A:  
Conditions A. 1.-9.

MACT Subpart KKKK - 0.26 lbs HAPs/gallon coating solids or 95% overall control efficiency.

Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

All appropriate Monitoring/Recordkeeping/Reporting requirements appear in Title V Permit R30-00900027-2007, Part 1 of 2, Sections 4.2-4.5

Are you in compliance with all applicable requirements for this emission unit?  Yes  No

If no, complete the Schedule of Compliance Form as ATTACHMENT F.

## ATTACHMENT E - Emission Unit Form

**Emission Unit Description**

<b>Emission unit ID number:</b> MD-1	<b>Emission unit name:</b> End Liner #1	<b>List any control devices associated with this emission unit.</b>
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**Provide a description of the emission unit (type, method of operation, design parameters, etc.):**  
 Coated sheets are transferred to the end department and made into ends with one stroke of a multi-die press. The ends are then conveyed to a pair of liners which applies a ring of solvent-based end compound around the edge of the end to form a gasket-like seal when attached to the can body. Heptane mist solution is used to clean the compound application nozzles.

<b>Manufacturer:</b> Grace	<b>Model number:</b> 800	<b>Serial number:</b> A3186 A3187
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<b>Construction date:</b> 1990	<b>Installation date:</b> 1991	<b>Modification date(s):</b>
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**Design Capacity (examples: furnaces - tons/hr, tanks - gallons):**  
 At maximum operating speed, line could use 21.1 pounds of end compound/hr. and 0.19 gallons of heptane solvent/hr.

<b>Maximum Hourly Throughput:</b> 85,800 ends/hr	<b>Maximum Annual Throughput:</b> 752MM ends/yr	<b>Maximum Operating Schedule:</b> 8760 hr/yr
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**Fuel Usage Data (fill out all applicable fields)**

<b>Does this emission unit combust fuel?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<b>If yes, is it?</b> <input type="checkbox"/> Indirect Fired <input type="checkbox"/> Direct Fired
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<b>Maximum design heat input and/or maximum horsepower rating:</b>	<b>Type and Btu/hr rating of burners:</b>
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**List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.**

**Describe each fuel expected to be used during the term of the permit.**

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value

<b>Emissions Data</b>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO <sub>x</sub> )		
Lead (Pb)		
Particulate Matter (PM <sub>2.5</sub> )		
Particulate Matter (PM <sub>10</sub> )		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO <sub>2</sub> )		
Volatile Organic Compounds (VOC)	10.07	44.11
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Total HAPs	*	*
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

**List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).**

Emissions are based on mass balance calculations using manufacturer's VOC data sheets and solvent composition sheets.

\* The USEPA has indicated that end compound containing less than 0.5% HAPs by weight complies with MACT Subpart KKKK (HAP-free end compound).

**Applicable Requirements**

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (Note: Title V permit condition numbers alone are not underlying applicable requirements). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

Permit R13-1458D:

Conditions 4.1.1, 4.1.5, 4.2.2, 4.4.4

MACT Subpart KKKK – 0 lbs HAP/gallon coating solids in end compound.

Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

All appropriate Monitoring/Recordkeeping/Reporting requirements appear in Title V Permit R30-00900027-2007, Part 1 of 2, Sections 5.4-5.5

Are you in compliance with all applicable requirements for this emission unit?  Yes  No

If no, complete the Schedule of Compliance Form as ATTACHMENT F.

## ATTACHMENT E - Emission Unit Form

**Emission Unit Description**

<b>Emission unit ID number:</b> MD-5	<b>Emission unit name:</b> End Liner #5	<b>List any control devices associated with this emission unit.</b>
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**Provide a description of the emission unit (type, method of operation, design parameters, etc.):**  
 Coated sheets are transferred to the end department and made into ends with one stroke of a multi-die press. The ends are then conveyed to a pair of liners which applies a ring of solvent-based end compound around the edge of the end to form a gasket-like seal when attached to the can body. Heptane mist solution is used to clean the compound application nozzles.

<b>Manufacturer:</b> Grace	<b>Model number:</b> 800	<b>Serial number:</b> None
<b>Construction date:</b> Unknown	<b>Installation date:</b> 1992	<b>Modification date(s):</b>

**Design Capacity (examples: furnaces - tons/hr, tanks - gallons):**  
 At maximum operating speed, line could use 20.10 pounds of end compound/hr. and 0.17 gallons of heptane solvent/hr.

<b>Maximum Hourly Throughput:</b> 75,000 ends/hr	<b>Maximum Annual Throughput:</b> 657MM ends/yr	<b>Maximum Operating Schedule:</b> 8760 hr/yr
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**Fuel Usage Data (fill out all applicable fields)**

<b>Does this emission unit combust fuel?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<b>If yes, is it?</b> <input type="checkbox"/> Indirect Fired <input type="checkbox"/> Direct Fired
<b>Maximum design heat input and/or maximum horsepower rating:</b>	<b>Type and Btu/hr rating of burners:</b>

**List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.**

**Describe each fuel expected to be used during the term of the permit.**

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value

<b>Emissions Data</b>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO <sub>x</sub> )		
Lead (Pb)		
Particulate Matter (PM <sub>2.5</sub> )		
Particulate Matter (PM <sub>10</sub> )		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO <sub>2</sub> )		
Volatile Organic Compounds (VOC)	9.51	41.65
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Total HAPs*	*	*
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

**List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).**

Emissions are based on mass balance calculations using manufacturer's VOC data sheets and solvent composition sheets.

\* The USEPA has indicated that end compound containing less than 0.5% HAPs by weight complies with MACT Subpart KKKK (HAP-free end compound).

**Applicable Requirements**

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (Note: Title V permit condition numbers alone are not underlying applicable requirements). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

Permit R13-1458D:

Conditions 4.1.2, 4.1.5, 4.2.2, 4.4.4

MACT Subpart KKKK – 0 lbs HAP/gallon coating solids in end compound.

Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

All appropriate Monitoring/Recordkeeping/Reporting requirements appear in Title V Permit R30-00900027-2007, Part 1 of 2, Sections 5.4-5.5

Are you in compliance with all applicable requirements for this emission unit?  Yes  No

If no, complete the Schedule of Compliance Form as ATTACHMENT F.

## ATTACHMENT E - Emission Unit Form

**Emission Unit Description**

**Emission unit ID number:**  
MD-3

**Emission unit name:**  
End Liner #3

**List any control devices associated with this emission unit.**

**Provide a description of the emission unit (type, method of operation, design parameters, etc.):**  
Coated sheets are transferred to the end department and made into ends with one stroke of a multi-die press. The ends are then conveyed to a pair of liners which applies a ring of solvent-based end compound around the edge of the end to form a gasket-like seal when attached to the can body. Heptane mist solution is used to clean the compound application nozzles.

**Manufacturer:**  
Grace

**Model number:**  
800

**Serial number:**  
A3188 A3189

**Construction date:**  
Unknown

**Installation date:**  
1991

**Modification date(s):**

**Design Capacity (examples: furnaces - tons/hr, tanks - gallons):**  
At maximum operating speed, line could use 21.11 pounds of end compound/hr. and 0.19 gallons of heptane solvent/hr.

**Maximum Hourly Throughput:**  
85,800 ends/hr

**Maximum Annual Throughput:**  
752MM ends/yr

**Maximum Operating Schedule:**  
8760 hr/yr

**Fuel Usage Data (fill out all applicable fields)**

**Does this emission unit combust fuel?** \_\_\_ Yes  X  No

**If yes, is it?**

\_\_\_ Indirect Fired \_\_\_ Direct Fired

**Maximum design heat input and/or maximum horsepower rating:**

**Type and Btu/hr rating of burners:**

**List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.**

**Describe each fuel expected to be used during the term of the permit.**

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value

<b>Emissions Data</b>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO <sub>x</sub> )		
Lead (Pb)		
Particulate Matter (PM <sub>2.5</sub> )		
Particulate Matter (PM <sub>10</sub> )		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO <sub>2</sub> )		
Volatile Organic Compounds (VOC)	10.07	44.11
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Total HAPs*	*	*
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

**List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).**

Emissions are based on mass balance calculations using manufacturer's VOC data sheets and solvent composition sheets.

\* The USEPA has indicated that end compound containing less than 0.5% HAPs by weight complies with MACT Subpart KKKK (HAP-free end compound).

***Applicable Requirements***

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

Permit R13-1458D:

Conditions 4.1.3, 4.1.5, 4.2.2, 4.4.4

MACT Subpart KKKK – 0 lbs HAP/gallon coating solids in end compound.

Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (*Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.*)

All appropriate Monitoring/Recordkeeping/Reporting requirements appear in Title V Permit R30-00900027-2007, Part 1 of 2, Sections 5.4-5.5

Are you in compliance with all applicable requirements for this emission unit?  Yes  No

If no, complete the **Schedule of Compliance Form** as ATTACHMENT F.

## ATTACHMENT E - Emission Unit Form

**Emission Unit Description**

<b>Emission unit ID number:</b> MD-4	<b>Emission unit name:</b> End Liner #4	<b>List any control devices associated with this emission unit.</b>
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**Provide a description of the emission unit (type, method of operation, design parameters, etc.):**  
 Coated sheets are transferred to the end department and made into ends with one stroke of a multi-die press. The ends are then conveyed to a pair of liners which applies a ring of solvent-based end compound around the edge of the end to form a gasket-like seal when attached to the can body. Heptane mist solution is used to clean the compound application nozzles.

<b>Manufacturer:</b> Grace	<b>Model number:</b> 800	<b>Serial number:</b> A3188 A3189
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<b>Construction date:</b> Unknown	<b>Installation date:</b> 1991	<b>Modification date(s):</b>
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**Design Capacity (examples: furnaces - tons/hr, tanks - gallons):**  
 At maximum operating speed, line could use 21.11 pounds of end compound/hr. and 0.19 gallons of heptane solvent/hr.

<b>Maximum Hourly Throughput:</b> 85,800 ends/hr	<b>Maximum Annual Throughput:</b> 752MM ends/yr	<b>Maximum Operating Schedule:</b> 8760 hr/yr
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**Fuel Usage Data (fill out all applicable fields)**

<b>Does this emission unit combust fuel?</b> ___ Yes <input checked="" type="checkbox"/> No	<b>If yes, is it?</b> ___ Indirect Fired ___ Direct Fired
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<b>Maximum design heat input and/or maximum horsepower rating:</b>	<b>Type and Btu/hr rating of burners:</b>
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**List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.**

**Describe each fuel expected to be used during the term of the permit.**

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value

<b>Emissions Data</b>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO <sub>x</sub> )		
Lead (Pb)		
Particulate Matter (PM <sub>2.5</sub> )		
Particulate Matter (PM <sub>10</sub> )		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO <sub>2</sub> )		
Volatile Organic Compounds (VOC)	10.07	44.11
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Total HAPs	*	*
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

**List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).**

Emissions are based on mass balance calculations using manufacturer's VOC data sheets and solvent composition sheets.

\* The USEPA has indicated that end compound containing less than 0.5% HAPs by weight complies with MACT Subpart KKKK (HAP-free end compound).

**Applicable Requirements**

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (Note: Title V permit condition numbers alone are not underlying applicable requirements). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

Permit R13-1458D:

Conditions 4.1.4, 4.1.5, 4.2.2, 4.4.4

MACT Subpart KKKK – 0 lbs HAP/gallon coating solids in end compound.

Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

All appropriate Monitoring/Recordkeeping/Reporting requirements appear in Title V Permit R30-00900027-2007, Part 1 of 2, Sections 5.4-5.5

Are you in compliance with all applicable requirements for this emission unit?  Yes  No

If no, complete the Schedule of Compliance Form as ATTACHMENT F.

## ATTACHMENT E - Emission Unit Form

### *Emission Unit Description*

<b>Emission unit ID number:</b> 001-01, 03, 05, 07, 09 & 11	<b>Emission unit name:</b> Coating lines C-5 through C-10 (6 similar coaters in PTEs routed to a regenerative thermal oxidizer)	<b>List any control devices associated with this emission unit.</b> Thermal Oxidizer 0001 (Point 1E)
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**Provide a description of the emission unit (type, method of operation, design parameters, etc.):**  
 The sheet coater coats pre-cut sheets with a protective varnish. The sheets are cured in an oven and sent off site to be pressed into ends of made into can bodies. Emissions are directed into a thermal oxidizer through the oven and from each permanent total enclosure (PTE) surrounding Coaters 1-6. Solvents are used to clean coater rolls and general clean-up. NOTE: Coater C-7 (ID 001-07) is currently inactive and does not yet have a PTE. It will be equipped with one prior to operating.

<b>Manufacturer:</b> Wagner	<b>Model number:</b> None	<b>Serial number:</b> 61484-A, 57104-A, 62794-A 33920-A, 73754-A, 77644-A
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<b>Construction date:</b> Unknown	<b>Installation date:</b> 1970	<b>Modification date(s):</b> PTEs constructed July, 2010
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**Design Capacity (examples: furnaces - tons/hr, tanks - gallons):**  
 At maximum operating rate, each coater could use 33.42 gallons of coating/hr. and 5,000 gallons solvent/yr.

<b>Maximum Hourly Throughput:</b> 6,000 sheets/hr each	<b>Maximum Annual Throughput:</b> 52,560,000 sheets/yr each	<b>Maximum Operating Schedule:</b> 8,760 hr/yr
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### *Fuel Usage Data (fill out all applicable fields)*

<b>Does this emission unit combust fuel?</b> ___ Yes <u> X </u> No	<b>If yes, is it?</b> ___ Indirect Fired    ___ Direct Fired
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<b>Maximum design heat input and/or maximum horsepower rating:</b>	<b>Type and Btu/hr rating of burners:</b>
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**List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.**

### **Describe each fuel expected to be used during the term of the permit.**

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value

**Emissions Data PER COATING LINE**

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO <sub>x</sub> )		
Lead (Pb)		
Particulate Matter (PM <sub>10</sub> )		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO <sub>2</sub> )		
Volatile Organic Compounds (VOC)	10.47	45.84
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Total HAPs	3.5	15.3
Individual HAPS	See Page 7 of General Forms	
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

**List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).**

Potential VOC emissions are based on mass balance calculations using manufacturer's VOC data sheets and solvent composition sheets. The permitted control efficiency of 95% overall is applied.

Potential HAP emissions are based on the restrictions imposed by Can Making MACT Subpart KKKK. These restrictions include a limit of either 95% destruction efficiency or 0.26 pounds of HAPs/gallon coating solids after control.

Permanent Total Enclosure Verifications for five of the coaters was performed July, 2010. Destruction efficiency testing for the associated oxidizer was conducted November, 2006.

See attached worksheets for PTE calculations.

**Applicable Requirements**

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (Note: Title V permit condition numbers alone are not the underlying applicable requirements). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

Permit R13-2295D:

Conditions: 4.1.4.2, 4.1.5, 4.1.12, 4.1.13, 4.4.1, 4.4.2, 4.4.3

C.S.R. 45-6-4.1 – 1.4 lbs/hr PM emissions per RTO.

MACT Subpart KKKK - 0.26 lbs HAPs/gallon coating solids or 95% overall control efficiency.

Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

All appropriate Monitoring/Recordkeeping/Reporting requirements appear in Title V Permit R30-00900027-2007, Part 2 of 2, Sections 4.2-4.5

Are you in compliance with all applicable requirements for this emission unit?  Yes  No

If no, complete the Schedule of Compliance Form as ATTACHMENT F.

## ATTACHMENT E - Emission Unit Form

### *Emission Unit Description*

<b>Emission unit ID number:</b> 007-01	<b>Emission unit name:</b> LTG coater C-11	<b>List any control devices associated with this emission unit.</b> Thermal Oxidizer 0003
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**Provide a description of the emission unit (type, method of operation, design parameters, etc.):**  
 The sheet coater coats pre-cut sheets with a protective varnish. The sheets are cured in an oven and either transferred to the end department to be pressed into ends or shipped off site to be made into food can bodies. Emissions are directed into a thermal oxidizer through the oven and from the permanent total enclosure (PTE) surrounding the coater. Solvents are used to clean coater rolls and general clean-up.

<b>Manufacturer:</b> LTG	<b>Model number:</b> None	<b>Serial number:</b> Unknown
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<b>Construction date:</b> Unknown	<b>Installation date:</b> 2008	<b>Modification date(s):</b>
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**Design Capacity (examples: furnaces - tons/hr, tanks - gallons):** The  
 At maximum operating rate, coater could use 43.4 gallons of coating/hr. and 4,000 gallons solvent/yr.

<b>Maximum Hourly Throughput:</b> 7,800 sheets/hr	<b>Maximum Annual Throughput:</b> 68,328,000 sheets/yr	<b>Maximum Operating Schedule:</b> 8,760 hr/yr
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### *Fuel Usage Data (fill out all applicable fields)*

<b>Does this emission unit combust fuel?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<b>If yes, is it?</b>  <input type="checkbox"/> Indirect Fired <input type="checkbox"/> Direct Fired
--	--

<b>Maximum design heat input and/or maximum horsepower rating:</b>	<b>Type and Btu/hr rating of burners:</b>
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**List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.**

**Describe each fuel expected to be used during the term of the permit.**

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO <sub>x</sub> )		
Lead (Pb)		
Particulate Matter (PM <sub>10</sub> )		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO <sub>2</sub> )		
Volatile Organic Compounds (VOC)	7.36	32.26
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Total HAPs	2.5	10.8
Individual HAPS	See page 7 of General Forms	
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

**List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).**

Potential VOC emissions are based on mass balance calculations using manufacturer's VOC data sheets and solvent composition sheets. The permitted control efficiency of 97% overall is applied.

Potential HAP emissions are based on the restrictions imposed by Can Making MACT Subpart KKKK. These restrictions include a limit of either 95% destruction efficiency or 0.26 pounds of HAPs/gallon coating solids after control.

Permanent Total Enclosure Verification for the coater was performed March, 2009. Destruction efficiency testing for the associated oxidizer was conducted January, 2009.

See attached worksheets for PTE calculations.

***Applicable Requirements***

List all applicable requirements for this emission unit. For each applicable requirement, include the rule citation and/or permit with the condition number. If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

Permit R13-2295D, Conditions: 4.1.3, 4.1.4.1, 4.1.5, 4.1.6, 4.1.7, 4.1.8, 4.1.9, 4.1.10, 4.1.12

MACT Subpart KKKK - 0.26 lbs HAPs/gallon coating solids or 95% overall control efficiency.

Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

All appropriate Monitoring/Recordkeeping/Reporting requirements appear in Permit R30-00900027-2008 (Part 2 of 2), Section 5.0.

Are you in compliance with all applicable requirements for this emission unit?  Yes  No

If no, complete the Schedule of Compliance Form as ATTACHMENT F.

## ATTACHMENT E - Emission Unit Form

### *Emission Unit Description*

<b>Emission unit ID number:</b> 002-01 to 002-13 003-01 , 03, 05, 07, 09	<b>Emission unit name:</b> Lithography lines PC-3 to PC-7 5 similar coating lines routed to a regenerative thermal oxidizer)	<b>List any control devices associated with this emission unit.</b> Thermal Oxidizer 0001 (Point 1E)
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**Provide a description of the emission unit (type, method of operation, design parameters, etc.):**  
 Printers apply a small amount of high-solids ink to sheets prior to coating with a protective varnish. The sheets are cured in an oven and either transferred to the end department to be pressed into ends or shipped off site to be made into food can bodies. Emissions are directed into a thermal oxidizer through the coater oven and from a hood over the coater. Solvents are used to clean coater rolls and general clean-up.

<b>Manufacturer:</b> HOE Printers, Wagner Coaters	<b>Model number:</b> None	<b>Serial number:</b> Unknown
<b>Construction date:</b> Unknown	<b>Installation date:</b> 1970	<b>Modification date(s):</b> 1997

**Design Capacity (examples: furnaces - tons/hr, tanks - gallons):** The  
 At maximum operating rate, a line could use 33.42 gallons of conventional coating/hr. and 3000 gallons solvent/yr.

<b>Maximum Hourly Throughput:</b> 6,000 sheets/hr	<b>Maximum Annual Throughput:</b> 52,560,000 sheets/yr	<b>Maximum Operating Schedule:</b> 8,760 hr/yr
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### *Fuel Usage Data (fill out all applicable fields)*

<b>Does this emission unit combust fuel?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<b>If yes, is it?</b>  <input type="checkbox"/> Indirect Fired <input type="checkbox"/> Direct Fired
--	--

<b>Maximum design heat input and/or maximum horsepower rating:</b>	<b>Type and Btu/hr rating of burners:</b>
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**List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.**

### **Describe each fuel expected to be used during the term of the permit.**

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value

<b>Emissions Data PER LINE</b>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO <sub>x</sub> )		
Lead (Pb)		
Particulate Matter (PM <sub>10</sub> )		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO <sub>2</sub> )		
Volatile Organic Compounds (VOC)	28.3	124.1
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Total HAPs	4.19	18.3
Individual HAPS	See page 7 of General Forms	
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

**List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).**

Potential VOC emissions are based on mass balance calculations using manufacturer's VOC data sheets and solvent composition sheets. A overall control efficiency of 85.5% is applied, based on the RTO's required minimum destruction efficiency of 95% and a conservative capture efficiency of 90%.

Potential HAP emissions are based on the restrictions imposed by Can Making MACT Subpart KKKK. These restrictions include a limit of either 95% destruction efficiency or 0.26 pounds of HAPs/gallon coating solids after control.

Capture efficiency testing for the five lines and destruction efficiency testing for the associated oxidizer were conducted November, 2006.

See attached worksheets for PTE calculations.

***Applicable Requirements***

List all applicable requirements for this emission unit. For each applicable requirement, include the rule citation and/or permit with the condition number. If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

Permit R13-2295D, Condition: 4.1.12

MACT Subpart KKKK - 0.26 lbs HAPs/gallon coating solids or 95% overall control efficiency.

Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

All appropriate Monitoring/Recordkeeping/Reporting requirements appear in Permit R30-00900027-2008 (Part 2 of 2), Section 5.0.

Are you in compliance with all applicable requirements for this emission unit?  Yes  No

If no, complete the Schedule of Compliance Form as ATTACHMENT F. Attached

## ATTACHMENT E - Emission Unit Form

**Emission Unit Description**

<b>Emission unit ID number:</b> 006-01 & 006-02	<b>Emission unit name:</b> Planeta Lithography line PC-8	<b>List any control devices associated with this emission unit.</b> None
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**Provide a description of the emission unit (type, method of operation, design parameters, etc.):**  
 This line applies UV ink and UV varnish to pre-cut sheets. The sheets then pass through a UV curing station and are either transferred to the end department to be pressed into ends or shipped off site to be made into food can bodies. Actual emissions from the process, which are uncontrolled, amounted to less than 1.5 tons in 2006.

<b>Manufacturer:</b> Planeta	<b>Model number:</b> Unknown	<b>Serial number:</b> Unknown
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<b>Construction date:</b> 1999	<b>Installation date:</b> 1999	<b>Modification date(s):</b>
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**Design Capacity (examples: furnaces - tons/hr, tanks - gallons):** The  
 At maximum operating rate, the line could use 4.46 gallons of coating/hr. and 350 gallons solvent (primarily acetone)/yr.

<b>Maximum Hourly Throughput:</b> 7,200 sheets/hr	<b>Maximum Annual Throughput:</b> 63,072,000 sheets/yr	<b>Maximum Operating Schedule:</b> 8,760 hr/yr
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**Fuel Usage Data (fill out all applicable fields)**

<b>Does this emission unit combust fuel?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<b>If yes, is it?</b> <input type="checkbox"/> Indirect Fired <input type="checkbox"/> Direct Fired
--	--

<b>Maximum design heat input and/or maximum horsepower rating:</b>	<b>Type and Btu/hr rating of burners:</b>
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**List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.**

**Describe each fuel expected to be used during the term of the permit.**

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value

<b>Emissions Data</b>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO <sub>x</sub> )		
Lead (Pb)		
Particulate Matter (PM <sub>10</sub> )		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO <sub>2</sub> )		
Volatile Organic Compounds (VOC)	0.32	1.35
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Total HAPs	0.32	1.35
Individual HAPS	Xylene, Ethyl Benzene	
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
<p><b>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</b></p> <p>Potential VOC emissions are based on permit conditions.</p>		

**Applicable Requirements**

List all applicable requirements for this emission unit. For each applicable requirement, include the rule citation and/or permit with the condition number. If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

Permit R-13-2295D, Condition 4.1.10

Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring/Recordkeeping/Reporting requirements appear in Permit R132295D, Sections 4.2, 4.3 & 4.4.

Are you in compliance with all applicable requirements for this emission unit?  Yes  No

If no, complete the Schedule of Compliance Form as ATTACHMENT F.

## ATTACHMENT E - Emission Unit Form

**Emission Unit Description**

<b>Emission unit ID number:</b> 001-02, 04, 06, 08, 10 & 12 003-02, 04, 06, 08 & 10 007-02 C-1, 2, 3 & 4 TO-1, TO-2, 0001 (2 RTOs) & 0003	<b>Emission unit name:</b> All gas burning equipment (16 ovens and 5 oxidizers)	<b>List any control devices associated with this emission unit.</b> None
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**Provide a description of the emission unit (type, method of operation, design parameters, etc.):**

Ball is requesting one facility-wide limit for criteria pollutants emitted as the products of natural gas combustion.

<b>Manufacturer:</b> Various (see attached gas calcs.)	<b>Model number:</b> Unknown	<b>Serial number:</b> Various (see attached gas calcs.)
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<b>Construction date:</b> Unknown	<b>Installation date:</b> Various (see attached gas calcs.)	<b>Modification date(s):</b>
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**Design Capacity (examples: furnaces - tons/hr, tanks - gallons):**  
 Various (see attached gas calcs.)

<b>Maximum Hourly Throughput:</b> NA	<b>Maximum Annual Throughput:</b> NA	<b>Maximum Operating Schedule:</b> NA
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**Fuel Usage Data (fill out all applicable fields)**

<b>Does this emission unit combust fuel?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>If yes, is it?</b>  <input checked="" type="checkbox"/> Indirect Fired <input checked="" type="checkbox"/> Direct Fired
--	--

<b>Maximum design heat input and/or maximum horsepower rating:</b>	<b>Type and Btu/hr rating of burners:</b>  Various (see attached gas calcs.)
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**List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.**

Natural gas (see attached gas calcs.)

**Describe each fuel expected to be used during the term of the permit.**

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Natural Gas	NA	NA	1000 BTU/cu ft

**Emissions Data**

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	3.84	16.80
Nitrogen Oxides (NO <sub>x</sub> )	4.57	20.00
Lead (Pb)	0.00	0.00
Particulate Matter (PM <sub>10</sub> )	0.35	1.52
Total Particulate Matter (TSP)	0.35	1.52
Sulfur Dioxide (SO <sub>2</sub> )	0.03	0.12
Volatile Organic Compounds (VOC)	0.25	1.10
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Total HAPs		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

**List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).**

Emissions are based on a requested natural gas limit of 520 mmscf/year and AP-42 calculations (see attached calculations).

**Applicable Requirements**

List all applicable requirements for this emission unit. For each applicable requirement, include the rule citation and/or permit with the condition number. If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

The facility's current natural gas limits are inconsistent and incomplete. Below is a list of R-13 permit conditions containing limits on various sources:

R13-2111A: A.2., A.4.

R13-1458D: 4.1.7

R13-2295D: 4.1.11

The Condition in R13-2295D is a facility-wide condition. Ball would like to retain this contain and eliminate the R13-2111A and R13-1458D conditions as they are unnecessary.

Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Because the facility does not have gas meters on each individual piece of equipment, it is impossible to provide source-specific emissions with accuracy. Ball is requesting only the facility-wide emissions limits which will be calculated using total facility natural gas usage (for regulated and non-regulated equipment) on a monthly basis.

Are you in compliance with all applicable requirements for this emission unit?  Yes  No

If no, complete the Schedule of Compliance Form as ATTACHMENT F.

## ATTACHMENT G - Air Pollution Control Device Form

**Control device ID number:**  
TO-1

**List all emission units associated with this control device.**  
C-1, C-2, C-3 (Coaters 1, 2 & 3)

**Manufacturer:**  
MEGTEC Cleanswitch RTO

**Model number:**  
CSII-200-HT

**Installation date:**  
2009

**Type of Air Pollution Control Device:**

- |   |  |   |
|---|--|---|
| <input type="checkbox"/> Baghouse/Fabric Filter               | <input type="checkbox"/> Venturi Scrubber      | <input type="checkbox"/> Multiclone                           |
| <input type="checkbox"/> Carbon Bed Adsorber                  | <input type="checkbox"/> Packed Tower Scrubber | <input type="checkbox"/> Single Cyclone                       |
| <input type="checkbox"/> Carbon Drum(s)                       | <input type="checkbox"/> Other Wet Scrubber    | <input type="checkbox"/> Cyclone Bank                         |
| <input type="checkbox"/> Catalytic Incinerator                | <input type="checkbox"/> Condenser             | <input type="checkbox"/> Settling Chamber                     |
| <input checked="" type="checkbox"/> Thermal Incinerator       | <input type="checkbox"/> Flare                 | <input type="checkbox"/> Other (describe) _____               |
| <input type="checkbox"/> Wet Plate Electrostatic Precipitator |  | <input type="checkbox"/> Dry Plate Electrostatic Precipitator |

**List the pollutants for which this device is intended to control and the capture and control efficiencies.**

Pollutant	Capture Efficiency	(Overall) Control Efficiency
VOCs & HAPs	100% (PTI)	98% (permitted), 99.6% (tested)

**Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).**

Regenerative thermal oxidizer  
Residence time - 0.54 s average  
Outlet velocity - 19,000 scfm  
Burner - 4.0 MMBtu/hr max.

**Is this device subject to the CAM requirements of 40 C.F.R. 64?**  Yes  No (MACT supersedes CAM)

If Yes, Complete ATTACHMENT H

**Describe the parameters monitored and/or methods used to indicate performance of this control device.**

- 1) Incinerator temperature
- 2) PTI pressures
- 3) Bypass damper positions

## ATTACHMENT G - Air Pollution Control Device Form

<b>Control device ID number:</b> TO-2	<b>List all emission units associated with this control device.</b> C-4 (Coater 4)
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<b>Manufacturer:</b> Catalytic Products	<b>Model number:</b> SR-6000	<b>Installation date:</b> 1997
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**Type of Air Pollution Control Device:**

<input type="checkbox"/> Baghouse/Fabric Filter	<input type="checkbox"/> Venturi Scrubber	<input type="checkbox"/> Multiclone
<input type="checkbox"/> Carbon Bed Adsorber	<input type="checkbox"/> Packed Tower Scrubber	<input type="checkbox"/> Single Cyclone
<input type="checkbox"/> Carbon Drum(s)	<input type="checkbox"/> Other Wet Scrubber	<input type="checkbox"/> Cyclone Bank
<input type="checkbox"/> Catalytic Incinerator	<input type="checkbox"/> Condenser	<input type="checkbox"/> Settling Chamber
<input checked="" type="checkbox"/> Thermal Incinerator	<input type="checkbox"/> Flare	<input type="checkbox"/> Other (describe) _____
<input type="checkbox"/> Wet Plate Electrostatic Precipitator	<input type="checkbox"/> Dry Plate Electrostatic Precipitator	

**List the pollutants for which this device is intended to control and the capture and control efficiencies.**

Pollutant	Capture Efficiency	Control Efficiency
VOCs, HAPs	100%	99% (permitted) ,99.5% (tested)

**Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).**

Recuperative oxidizer (heat used for curing oven)  
 Residence time - 0.5 seconds  
 Outlet velocity – 5282 dscfm  
 Burner – 6.8 MMBtu/hr max.

**Is this device subject to the CAM requirements of 40 C.F.R. 64?**  Yes  No (MACT supersedes CAM)

**If Yes, Complete ATTACHMENT H**

**Describe the parameters monitored and/or methods used to indicate performance of this control device.**

- 1) Incinerator temperature
- 2) PTE Pressure
- 3) Bypass damper position

## ATTACHMENT G - Air Pollution Control Device Form

<b>Control device ID number:</b> 0001	<b>List all emission units associated with this control device.</b> A) 001-01 to 001-12 (Coating lines C-5 through C-10 - All) B) 002-01 to 002-13, 003-01 to 003-10 (litho lines PC-3 to PC 7 - All)	
<b>Manufacturer:</b> Smith	<b>Model number:</b> 14104A & B	<b>Installation date:</b> 2000

**Type of Air Pollution Control Device:**

<input type="checkbox"/> Baghouse/Fabric Filter	<input type="checkbox"/> Venturi Scrubber	<input type="checkbox"/> Multiclone
<input type="checkbox"/> Carbon Bed Adsorber	<input type="checkbox"/> Packed Tower Scrubber	<input type="checkbox"/> Single Cyclone
<input type="checkbox"/> Carbon Drum(s)	<input type="checkbox"/> Other Wet Scrubber	<input type="checkbox"/> Cyclone Bank
<input type="checkbox"/> Catalytic Incinerator	<input type="checkbox"/> Condenser	<input type="checkbox"/> Settling Chamber
<input checked="" type="checkbox"/> Thermal Incinerator	<input type="checkbox"/> Flare	<input type="checkbox"/> Other (describe) _____
<input type="checkbox"/> Wet Plate Electrostatic Precipitator	<input type="checkbox"/> Dry Plate Electrostatic Precipitator	

**List the pollutants for which this device is intended to control and the capture and control efficiencies.**

Pollutant	Capture Efficiency	(Overall) Control Efficiency
VOCs & HAPs	A) 100% - PTE on lines C-5 to 10	95% (permitted), 98.2% (tested)
”	B) 94.24% - 96.52%	92.54% - 94.78% (tested)

**Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).**

1E is a 2-canister regenerative thermal oxidizer with a common stack  
 Outlet velocity – 40,000 scfm X 2  
 Burners – (2) 6.6 MMBtu/hr rated

**Is this device subject to the CAM requirements of 40 C.F.R. 64?**  Yes  No (MACT supersedes CAM)

If Yes, Complete ATTACHMENT H

**Describe the parameters monitored and/or methods used to indicate performance of this control device.**

- 4) Incinerator temperature
- 5) Incinerator inlet duct pressure
- 6) PTE pressures

## ATTACHMENT G - Air Pollution Control Device Form

**Control device ID number:**  
0003

**List all emission units associated with this control device.**  
007-01 to 007-02 (Coating line C-11)

**Manufacturer:**  
LTG

**Model number:**  
4040

**Installation date:**  
2008

**Type of Air Pollution Control Device:**

- |   |  |   |
|---|--|---|
| <input type="checkbox"/> Baghouse/Fabric Filter               | <input type="checkbox"/> Venturi Scrubber      | <input type="checkbox"/> Multiclone                           |
| <input type="checkbox"/> Carbon Bed Adsorber                  | <input type="checkbox"/> Packed Tower Scrubber | <input type="checkbox"/> Single Cyclone                       |
| <input type="checkbox"/> Carbon Drum(s)                       | <input type="checkbox"/> Other Wet Scrubber    | <input type="checkbox"/> Cyclone Bank                         |
| <input type="checkbox"/> Catalytic Incinerator                | <input type="checkbox"/> Condenser             | <input type="checkbox"/> Settling Chamber                     |
| <input checked="" type="checkbox"/> Thermal Incinerator       | <input type="checkbox"/> Flare                 | <input type="checkbox"/> Other (describe) _____               |
| <input type="checkbox"/> Wet Plate Electrostatic Precipitator |  | <input type="checkbox"/> Dry Plate Electrostatic Precipitator |

**List the pollutants for which this device is intended to control and the capture and control efficiencies.**

Pollutant	Capture Efficiency	Control Efficiency
VOCs, HAPs	C) 100% - PTE on line C-11	97% (permitted), 99.4% (tested)

**Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).**

Chamber Volume – 120 cu ft                      Chamber Temp. – 1400 F  
 Outlet velocity – 3200 scfm  
 Burner – 6.8 MMBtu/hr max.

**Is this device subject to the CAM requirements of 40 C.F.R. 64?**  Yes  No (MACT supersedes CAM)

**If Yes, Complete ATTACHMENT H**

**Describe the parameters monitored and/or methods used to indicate performance of this control device.**

- 1) Incinerator temperature
- 2) PTE pressure

# VOC Emission Calculations - Weirton Coaters

## Potential to Emit:

### Coater C-1

Coating Application Rate (gal/sheet)	Output (sheets/min)	X	VOC Content* (lb/gal)	=	Uncontrolled VOC Emissions (lb/min)	X	Control (98.0% efficiency)	=	Controlled VOC Emissions (lb/min)	+	Solvent Emissions (lb/min)	=	Total Emissions (lb/min)
0.005570	100		5.30	=	2.95		2.00%	=	0.06		0.46	=	4.00
				=	177.13			=	3.54		2.00	=	4.00 (lb/hour)
				=	775.81			=	15.52			=	17.52 (ton/year)

### Coater C-2

Coating Application Rate (gal/sheet)	Output (sheets/min)	X	VOC Content* (lb/gal)	=	Uncontrolled VOC Emissions (lb/min)	X	Control (98.0% efficiency)	=	Controlled VOC Emissions (lb/min)	+	Solvent Emissions (lb/min)	=	Total Emissions (lb/min)
0.005570	100		5.30	=	2.95		2.00%	=	0.06		0.46	=	4.00
				=	177.13			=	3.54		2.00	=	4.00 (lb/hour)
				=	775.81			=	15.52			=	17.52 (ton/year)

### Coater C-3

Coating Application Rate (gal/sheet)	Output (sheets/min)	X	VOC Content* (lb/gal)	=	Uncontrolled VOC Emissions (lb/min)	X	Control (98.0% efficiency)	=	Controlled VOC Emissions (lb/min)	+	Solvent Emissions (lb/min)	=	Total Emissions (lb/min)
0.005570	100		5.30	=	2.95		2.00%	=	0.06		0.46	=	4.00
				=	177.13			=	3.54		2.00	=	4.00 (lb/hour)
				=	775.81			=	15.52			=	17.52 (ton/year)

### C-3 UV

Coating Application Rate (gal/sheet)	Output (sheets/min)	X	VOC Content* (lb/gal)	=	Uncontrolled VOC Emissions (lb/min)	X	Control (98.0% efficiency)	=	Controlled VOC Emissions (lb/min)	+	Solvent Emissions (lb/min)	=	Total Emissions (lb/min)
0.001280	100		0.24	=	0.03		2.00%	=	0.00		0.04	=	0.04
				=	1.84			=	0.04		0.16	=	0.16 (lb/hour)
				=	8.07			=	0.16			=	0.16 (ton/year)

### Coater C-4

Coating Application Rate (gal/sheet)	Output (sheets/min)	X	VOC Content* (lb/gal)	=	Uncontrolled VOC Emissions (lb/min)	X	Control (99% efficiency)	=	Controlled VOC Emissions (lb/min)	+	Solvent Emissions (lb/min)	=	Total Emissions (lb/min)
0.005570	130		5.30	=	3.84		1.00%	=	0.04		0.46	=	2.76
				=	230.26			=	2.30		2.00	=	2.76 (lb/hour)
				=	1008.56			=	10.09			=	12.09 (ton/year)

### Coater C-5

Coating Application Rate (gal/sheet)	Output (sheets/min)	X	VOC Content** (lb/gal)	=	Uncontrolled VOC Emissions (lb/min)	X	Control (95.0% efficiency)	=	Controlled VOC Emissions (lb/min)	+	Solvent Emissions (lb/min)	=	Total Emissions (lb/min)
0.005570	100		5.99	=	3.34		5.00%	=	0.17		0.46	=	10.47
				=	200.19			=	10.01		2.00	=	10.47 (lb/hour)
				=	876.81			=	43.84			=	45.84 (ton/year)

### Coater C-6

Coating Application Rate (gal/sheet)	X	Output (sheets/min)	X	VOC Content** (lb/gal)	=	Uncontrolled VOC Emissions	X	Control (95.0% efficiency)	=	Controlled VOC Emissions	+	Solvent Emissions	=	Total Emissions
0.005570		100		5.99	=	3.34 (lb/min)		5.00%	=	0.17 (lb/min)		0.46 (lb/hour)	=	10.47 (lb/hour)
					=	200.19 (lb/hour)			=	10.01 (lb/hour)		2.00 (ton/year)	=	10.47 (lb/hour)
					=	876.81 (ton/year)			=	43.84 (ton/year)			=	45.84 (ton/year)

### Coater C-7

Coating Application Rate (gal/sheet)	X	Output (sheets/min)	X	VOC Content** (lb/gal)	=	Uncontrolled VOC Emissions	X	Control (95.0% efficiency)	=	Controlled VOC Emissions	+	Solvent Emissions	=	Total Emissions
0.005570		100		5.99	=	3.34 (lb/min)		5.00%	=	0.17 (lb/min)		0.46 (lb/hour)	=	10.47 (lb/hour)
					=	200.19 (lb/hour)			=	10.01 (lb/hour)		2.00 (ton/year)	=	10.47 (lb/hour)
					=	876.81 (ton/year)			=	43.84 (ton/year)			=	45.84 (ton/year)

### Coater C-8

Coating Application Rate (gal/sheet)	X	Output (sheets/min)	X	VOC Content** (lb/gal)	=	Uncontrolled VOC Emissions	X	Control (95.0% efficiency)	=	Controlled VOC Emissions	+	Solvent Emissions	=	Total Emissions
0.005570		100		5.99	=	3.34 (lb/min)		5.00%	=	0.17 (lb/min)		0.46 (lb/hour)	=	10.47 (lb/hour)
					=	200.19 (lb/hour)			=	10.01 (lb/hour)		2.00 (ton/year)	=	10.47 (lb/hour)
					=	876.81 (ton/year)			=	43.84 (ton/year)			=	45.84 (ton/year)

### Coater C-9

Coating Application Rate (gal/sheet)	X	Output (sheets/min)	X	VOC Content** (lb/gal)	=	Uncontrolled VOC Emissions	X	Control (95.0% efficiency)	=	Controlled VOC Emissions	+	Solvent Emissions	=	Total Emissions
0.005570		100		5.99	=	3.34 (lb/min)		5.00%	=	0.17 (lb/min)		0.46 (lb/hour)	=	10.47 (lb/hour)
					=	200.19 (lb/hour)			=	10.01 (lb/hour)		2.00 (ton/year)	=	10.47 (lb/hour)
					=	876.81 (ton/year)			=	43.84 (ton/year)			=	45.84 (ton/year)

### Coater C-10

Coating Application Rate (gal/sheet)	X	Output (sheets/min)	X	VOC Content** (lb/gal)	=	Uncontrolled VOC Emissions	X	Control (95.0% efficiency)	=	Controlled VOC Emissions	+	Solvent Emissions	=	Total Emissions
0.005570		100		5.99	=	3.34 (lb/min)		5.00%	=	0.17 (lb/min)		0.46 (lb/hour)	=	10.47 (lb/hour)
					=	200.19 (lb/hour)			=	10.01 (lb/hour)		2.00 (ton/year)	=	10.47 (lb/hour)
					=	876.81 (ton/year)			=	43.84 (ton/year)			=	45.84 (ton/year)

### Coater C-11

Coating Application Rate (gal/sheet)	X	Output (sheets/min)	X	VOC Content** (lb/gal)	=	Uncontrolled VOC Emissions	X	Control (97% efficiency)	=	Controlled VOC Emissions	+	Solvent Emissions	=	Total Emissions
0.005570		130		5.30	=	3.84 (lb/min)		3.00%	=	0.12 (lb/min)		0.46 (lb/hour)	=	7.36 (lb/hour)
					=	230.26 (lb/hour)			=	6.91 (lb/hour)		2.00 (ton/year)	=	7.36 (lb/hour)
					=	1008.56 (ton/year)			=	30.26 (ton/year)			=	32.26 (ton/year)

Coaters VOC PTE 85.0 lb/hr  
372.1 ton/year

# VOC Emission Calculations - Weirton Lithography Lines

**Potential to Emit:**

**PC-3**

Coating Application Rate (gal/sheet)	Output (sheets/min)	VOC Content* (lb/gal)	Uncontrolled VOC Emissions	Control (85.5% efficiency)	Controlled VOC Emissions	Ink & Solvent Emissions	Total Emissions
0.005570	100	5.8	3.23 (lb/min) = 193.84 (lb/hour) = 849.00 (ton/year)	14.50%	0.47 (lb/min) = 28.11 (lb/hour) = 123.11 (ton/year)	0.23 (lb/hour) 1.00 (ton/year)	28.33 (lb/hour) 124.11 (ton/year)

**PC-4**

Coating Application Rate (gal/sheet)	Output (sheets/min)	VOC Content* (lb/gal)	Uncontrolled VOC Emissions	Control (85.5% efficiency)	Controlled VOC Emissions	Ink & Solvent Emissions	Total Emissions
0.005570	100	5.8	3.23 (lb/min) = 193.84 (lb/hour) = 849.00 (ton/year)	14.50%	0.47 (lb/min) = 28.11 (lb/hour) = 123.11 (ton/year)	0.23 (lb/hour) 1.00 (ton/year)	28.33 (lb/hour) 124.11 (ton/year)

**PC-5**

Coating Application Rate (gal/sheet)	Output (sheets/min)	VOC Content* (lb/gal)	Uncontrolled VOC Emissions	Control (85.5% efficiency)	Controlled VOC Emissions	Ink & Solvent Emissions	Total Emissions
0.005570	100	5.8	3.23 (lb/min) = 193.84 (lb/hour) = 849.00 (ton/year)	14.50%	0.47 (lb/min) = 28.11 (lb/hour) = 123.11 (ton/year)	0.23 (lb/hour) 1.00 (ton/year)	28.33 (lb/hour) 124.11 (ton/year)

**PC-6**

Coating Application Rate (gal/sheet)	Output (sheets/min)	VOC Content*** (lb/gal)	Uncontrolled VOC Emissions	Control (85.5% efficiency)	Controlled VOC Emissions	Ink & Solvent Emissions	Total Emissions
0.005570	100	5.8	3.23 (lb/min) = 193.84 (lb/hour) = 849.00 (ton/year)	14.50%	0.47 (lb/min) = 28.11 (lb/hour) = 123.11 (ton/year)	0.23 (lb/hour) 1.00 (ton/year)	28.33 (lb/hour) 124.11 (ton/year)

**PC-7**

Coating Application Rate (gal/sheet)	Output (sheets/min)	VOC Content* (lb/gal)	Uncontrolled VOC Emissions	Control (85.5% efficiency)	Controlled VOC Emissions	Ink & Solvent Emissions	Total Emissions
0.005570	100	5.8	3.23 (lb/min) = 193.84 (lb/hour) = 849.00 (ton/year)	14.50%	0.47 (lb/min) = 28.11 (lb/hour) = 123.11 (ton/year)	0.23 (lb/hour) 1.00 (ton/year)	28.33 (lb/hour) 124.11 (ton/year)

Coaters VOC PTE      141.7 lb/hr  
620.5 ton/year

## Multi-Die End Lines

Weirton, WV

### Potential to Emit - MD-1

**Compound emissions:**

0.000246 lbs compound/end X	85800 ends/hr	=	21.11 lbs compound/hr X	42.7% VOC by wt. =	9.01 lb VOC/hr
			= 184,896 lbs compound/yr	=	39.48 tons VOC/yr

**Mist solution emissions:**

0.000282 oz solution/end X	85800 ends/hr	=	24.20 oz solution/hr		
			= 0.1890 gal solution /hr X	5.6 lb VOC/gal =	1.06 lb VOC/hr
					4.64 tons/yr

<b>MD-1 Totals:</b>	<b>10.07 lb VOC/hr</b>
	<b>44.11 tons VOC/yr</b>

### Potential to Emit - MD-3

**Compound emissions:**

0.000246 lbs compound/end X	85800 ends/hr	=	21.11 lbs compound/hr X	42.7% VOC by wt. =	9.01 lb VOC/hr
			= 184,896 lbs compound/yr	=	39.48 tons VOC/yr

**Mist solution emissions:**

0.000282 oz solution/end X	85800 ends/hr	=	24.20 oz solution/hr		
			= 0.1890 gal solution /hr X	5.6 lb VOC/gal =	1.06 lb VOC/hr
					4.64 tons/yr

<b>MD-3 Totals:</b>	<b>10.07 lb VOC/hr</b>
	<b>44.11 tons VOC/yr</b>

### Potential to Emit - MD-4

**Compound emissions:**

0.000246 lbs compound/end X	85800 ends/hr	=	21.11 lbs compound/hr X	42.7% VOC by wt. =	9.01 lb VOC/hr
			= 184,896 lbs compound/yr	=	39.48 tons VOC/yr

**Mist solution emissions:**

0.000282 oz solution/end X	85800 ends/hr	=	24.20 oz solution/hr		
			= 0.1890 gal solution /hr X	5.6 lb VOC/gal =	1.06 lb VOC/hr
					4.64 tons/yr

<b>MD-4 Totals:</b>	<b>10.07 lb VOC/hr</b>
	<b>44.11 tons VOC/yr</b>

### Potential to Emit - MD-5

**Compound emissions:**

0.000268 lbs compound/end X	75000 ends/hr	=	20.10 lbs compound/hr X	42.7% VOC by wt. =	8.58 lb VOC/hr
			= 176,076 lbs compound/yr	=	37.59 tons VOC/yr

**Mist solution emissions:**

0.000282 oz solution/end X	75000 ends/hr	=	21.15 oz solution/hr		
			= 0.1652 gal solution /hr X	5.6 lb VOC/gal =	0.93 lb VOC/hr
					4.05 tons/yr

<b>MD-5 Totals:</b>	<b>9.51 lb VOC/hr</b>
	<b>41.65 tons VOC/yr</b>

Based on W.R. Grace Darex 9385EG-1 end compound

<b>Dept. Total:</b>	<b>39.7 lb VOC/hr</b>
	<b>174.0 tons VOC/yr</b>

### Potential to emit HAPs - All lines

NOTE: The facility's Can Making MACT Subpart KKKK, does not allow for HAPs in end compound.

EPA has indicated that compound containing less than 0.5% HAPs by weight complies with MACT Subpart KKKK.

## Theoretical Maximum Emission Calculations for Natural Gas Consumption

Emission factors based on AP-42 Table 1.4-1

3/98 revised edition

Source Name	MMBTUs/hr
Coater Line 1 Oven	9
Coater Line 2 Oven	11
Coater Line 3 Oven	10.4
MEGTEC Oxidizer	4
Coater Line 4 Oven & Oxidizer	6.8
Coater Line 5 Oven	14.4
Coater Line 6 Oven	11
Coater Line 7 Oven	11
Coater Line 8 Oven	11
Coater Line 9 Oven	11
Coater Line 10 Oven	11
Coater Line 11 Oven & Oxidizer	6.8
Litho Line 1 Oven	9
Litho Line 2 Oven	9
Litho Line 3 Oven	9
Litho Line 4 Oven	9
Litho Line 5 Oven	9
Smith Oxidizers	13.2
<b>Total</b>	<b>175.6</b>

1) Unit Description: Weirton - 33 & 720

2) Burner Capacity: 175.6 MMBtu/hr

4) Control: None

Calculations:

<b>CO:</b>	175.6 MMBtu/hr /	1000 MMscf/MMbtu X	84.0 lb/MMscf X	7860 hr/yr /	2000 lbs/ton =	<b>58.0 tons/yr</b>
<b>NOx:</b>	175.6 MMBtu/hr /	1000 MMscf/MMbtu X	100.0 lb/MMscf X	7860 hr/yr /	2000 lbs/ton =	<b>69.0 tons/yr</b>
<b>PM:</b>	175.6 MMBtu/hr /	1000 MMscf/MMbtu X	7.60 lb/MMscf X	7860 hr/yr /	2000 lbs/ton =	<b>5.2 tons/yr</b>
<b>SO<sub>2</sub>:</b>	175.6 MMBtu/hr /	1000 MMscf/MMbtu X	0.60 lb/MMscf X	7860 hr/yr /	2000 lbs/ton =	<b>0.4 tons/yr</b>
<b>VOC:</b>	175.6 MMBtu/hr /	1000 MMscf/MMbtu X	5.50 lb/MMscf X	7860 hr/yr /	2000 lbs/ton =	<b>3.8 tons/yr</b>
<b>Lead</b>	175.6 MMBtu/hr /	1000 MMscf/MMbtu X	0.0005 lb/MMscf X	7860 hr/yr /	2000 lbs/ton =	<b>0.0 tons/yr</b>

## Currently Permitted Emission Calculations for Natural Gas Consumption

Emission factors based on AP-42 Table 1.4-1

3/98 revised edition

1) Unit Description: Oxidizer

2) Burner Size: 10 MMBtu/hr

3) Gas Usage: 520 MMscf

4) Control: None

Calculations:

<b>CO:</b>	520 MMscf X	84.0 lb/MMscf /	2000 lb/ton =	<b>21.84 tons/yr</b>
<b>NOx:</b>	520 MMscf X	100.0 lb/MMscf /	2000 lb/ton =	<b>26.00 tons/yr</b>
<b>PM:</b>	520 MMscf X	7.60 lb/MMscf /	2000 lb/ton =	<b>1.98 tons/yr</b>
<b>SO<sub>2</sub>:</b>	520 MMscf X	0.60 lb/MMscf /	2000 lb/ton =	<b>0.16 tons/yr</b>
<b>VOC:</b>	520 MMscf X	5.50 lb/MMscf /	2000 lb/ton =	<b>1.43 tons/yr</b>

## Water-Based Multi-Die End Line

Weirton, WV

### Potential to Emit - End Line

257 lbs compound/MM ends	X	752 MM ends/yr	X	0.00% VOC	/	2000 lb/ton	=	0.00 tons VOC/yr
							=	0.00 lbs VOC/hr
257 lbs compound/MM ends	X	752 MM ends/yr	X	0.50% ammonia	/	2000 lb/ton	=	0.48 tons ammonia/yr
							=	0.11 lbs ammonia/hr

Based on WR Grace WBC 4801-62 end compound, with a VOC content of 0.0% and an ammonia content of less than 0.5%.

**ANNUAL 2016**

**Annual VOC Summary**

C-1 Total	1,230	Plant Gas	1,503	MD-1	4,813
C-2 Total	1,141			MD-2	0
C-3 Total	718	33 Solvent	19,208	MD-3	29,724
C-4 Total	1,178			MD-4	19,587
C-5 to C-10 Total	16,583	720 Solvent	9,715	MD-5	17,157
C-11 Total	1,061				
L-1 to L-5 Total	6,365				
L-6 & 7 Total	893				
<b>Coater Total</b>	<b>29,170</b>	<b>Solvent &amp; Gas Total</b>	<b>30,426</b>	<b>End Total</b>	<b>71,281</b>

**12- Month Rolling VOC Summary**

MONTH	33 minus 4&11 VOCs	C-4 VOCs	C-5 to C-10 VOCs	C-11 VOCs	L-1 to L-5 VOCs	L-6&7 VOCs	720 Solv. VOCs	Plant Total VOCs
Jan-16	9,508	22	1,526	154	721	85	784	12,799
Feb-16	12,357	92	1,482	140	578	112	872	15,633
Mar-16	12,156	135	1,671	41	708	113	784	15,609
Apr-16	12,526	131	1,595	142	507	123	725	15,749
May-16	10,553	117	1,723	84	643	99	952	14,172
Jun-16	11,457	125	1,751	93	488	72	910	14,896
Jul-16	6,209	83	1,191	61	284	64	514	8,404
Aug-16	6,873	139	1,392	71	408	76	1,011	9,971
Sep-16	6,757	95	1,204	99	585	64	801	9,605
Oct-16	2,313	80	1,182	64	546	52	622	4,859
Nov-16	3,321	72	1,171	50	421	27	617	5,679
Dec-16	1,041	87	688	63	475	21	1,144	3,520
Rolling 12-Month:	95,071	1,178		1,061		907		130,895
Permit Limits	<b>446,000</b>	<b>20,832</b>		<b>60,520</b>		<b>2,700</b>		
In Compliance?	<b>YES</b>	<b>YES</b>		<b>YES</b>		<b>YES</b>		

**12- Month Rolling HAP Summary**

MONTH	HAPS (lbs)	Solids (gals)	MACT Limit (lb HAP/gal solids)
Jan-16	1,530	23,915	0.064
Feb-16	467	19,189	0.024
Mar-16	530	20,777	0.026
Apr-16	533	20,598	0.026
May-16	523	20,688	0.025
Jun-16	550	20,693	0.027
Jul-16	307	13,836	0.022
Aug-16	371	17,612	0.021
Sep-16	635	15,381	0.041
Oct-16	358	15,119	0.024
Nov-16	315	14,596	0.022
Dec-16	309	10,674	0.029
Rolling 12-Month:			0.030