

OLYMPIC REGION CLEAN AIR AGENCY

2940 Limited Lane NW - Olympia, Washington 98502 - 360-539-7610 – Fax 360-491-6308

FORM 1- NOTICE OF CONSTRUCTION

TO CONSTRUCT - INSTALL - ESTABLISH OR MODIFY AN AIR CONTAMINANT SOURCE

Form 1 Instructions:

1. Please complete all the fields below. **This NOC application is considered incomplete until signed.**
2. If the application contains any confidential business information, please complete a Request of Confidentiality of Records (www.orcaa.org).
3. Duty to Correction Application: An applicant has the duty to supplement or correct an application. Any applicant who fails to submit any relevant facts or who has submitted incorrect information in a permit application must, upon becoming aware of such failure or incorrect submittal, promptly submit supplementary factors or corrected information.

Business Name: Crown Cork & Seal	For ORCAA use only File No: 152 County No: 67 Source No: 8 Application No: 24NOC1650
Mailing Address: 1202 Fones Rd SE Olympia, WA 98501	Date Received: Received MAY 15 2024 ORCAA
Physical Address of Project or New Source: 1202 Fones Rd SE Olympia, WA 98501	
Billing Address: 1202 Fones Rd SE Olympia, WA 98501	
Project or Equipment to be installed/established: Removing CMbE decorator and replacing with a Stolle Concord 24MRT-8 Color Decorator.	
Anticipated startup date: <u>9</u> / <u>01</u> / <u>2024</u> Is facility currently registered with ORCAA? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
This project must meet the requirements of the State Environmental Policy Act (SEPA) before ORCAA can issue final approval. Indicate the SEPA compliance option: <input checked="" type="checkbox"/> SEPA was satisfied by <u>City Of Olympia</u> (government agency) on <u>05/09/24</u> (date) - Include a copy of the SEPA determination <input type="checkbox"/> SEPA threshold determination by _____ (government agency) is pending - Include a copy of the environmental checklist <input type="checkbox"/> ORCAA is the only government agency requiring a permit - Include ORCAA Environmental Checklist <input type="checkbox"/> This project is exempt from SEPA per _____ (WAC citation).	
Name of Owner of Business: Teresa Compton	Agency Use Only
Title: Plant Manager	
Email: <u>teresa.compton@crowncork.com</u> Phone: <u>360-438-6561</u>	
Authorized Representative for Application (if different than owner):	
Title:	
Email: Phone:	
I hereby certify that the information contained in this application is, to the best of my knowledge, complete and correct.	
Signature of Owner or Authorized Representative: (sign in Blue Ink)	
	Date: <u>5/10/24</u>
IMPORTANT: Do not send via email or other electronic means. ORCAA must receive Original, hardcopy, signed application and payment prior to processing application.	

OLYMPIC REGION CLEAN AIR AGENCY

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FORM 1D- Contact Information

Business Name Crown Cork & Seal	FOR ORCAA USE
	FILE #
Physical Site Address (Street address, city, state, zip) 1202 Fones Rd SE Olympia, WA 98501	CTY #
	SRC #
Previous Business Name (if applicable)	Date Received Received MAY 15 2024 ORCAA

Contact Information

Inspection Contact	
Name Teresa Compton	Title Plant Manager
Phone 360-438-6561	Email teresa.compton@crowncork.com
Billing Contact	
Name Amanda Pine	Title Accounting Supervisor
Phone 360-438-6564	Email Amanda.Pine@crowncork.com
Emission Inventory Contact	
Name Zach Mudd	Title EHS Coordinator
Phone 253-921-0447	Email zachary.mudd@crowncork.com
Complaint Contact	
Name Teresa Compton	Title Plant Manager
Phone 360-438-6561	Email teresa.compton@crowncork.com
Permit Contact	
Name Zach Mudd	Title EHS Coordinator
Phone 253-921-0447	Email zachary.mudd@crowncork.com

The **inspection contact** is the on-site person responsible for the everyday operation of the site and is available for inspections.

The **billing contact** is the person invoices are sent.

The **emission inventory contact** is the person requests for emissions information and material use information are sent.

The **complaint contact** is the person who receives and responds to complaints received on-site and who is contacted regarding complaints ORCAA receives.

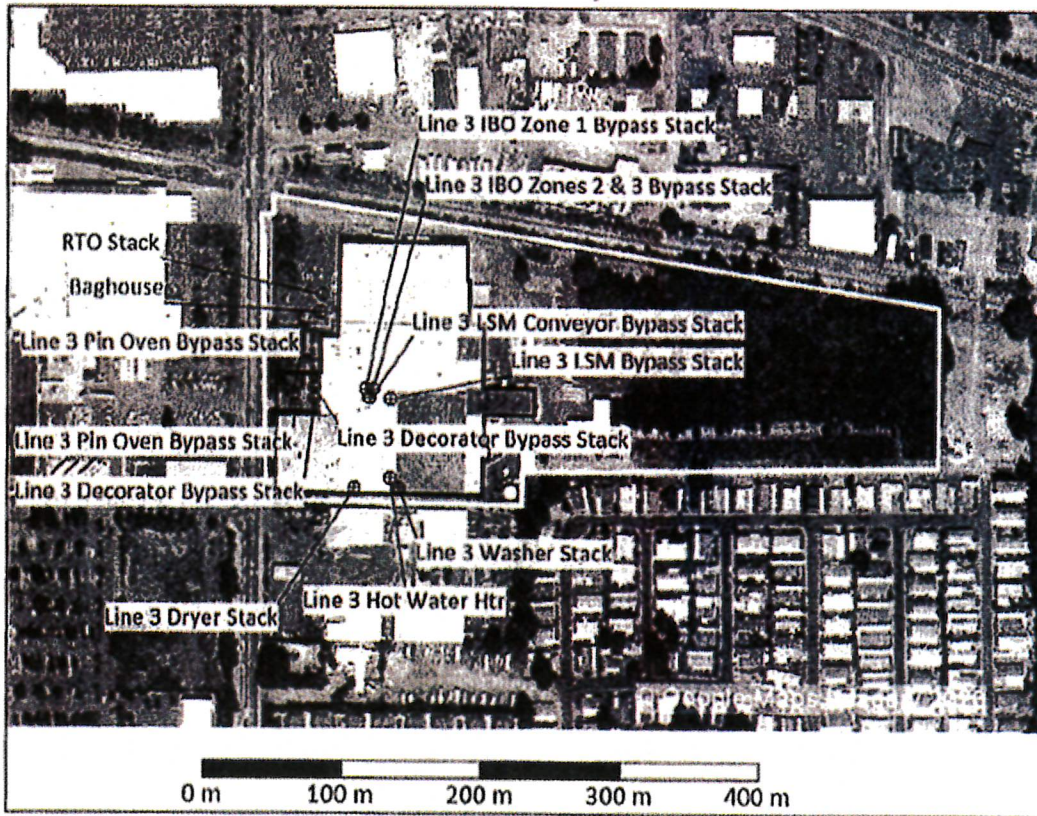
The **permit contact** is the person responsible for filling out permit applications and receiving approval from ORCAA.

Can Coating Line 3 – Exterior Coating Decorators

Currently, Crown has two exterior coating decorators serving Can Coating Line 3. The two units operate in parallel. The decorators are a Stolle Concord 24MRT-8 Color Decorator and CMbE Reformat Decorator that can process up to 2,000 cans-per-minute each.

Crown proposes to remove the CMbE Reformat Decorator from Line 3 and replace it with a Stolle Concord 24MRT-8 Color Decorator. No new emission sources are part of this proposal as the Concord 24MRT-8 Color Decorator has the same output potential as the CMbE Reformat Decorator.

**Figure 3: Crown Cork and Seal – Site Map
(From application addendum for 20NOC1451)**



Mudd, Zachary

From: Joyce Phillips <jphillip@ci.olympia.wa.us>
Sent: Thursday, May 9, 2024 9:02 AM
To: Mudd, Zachary
Subject: RE: Crown Cork and Seal: SEPA Determination Letter for Installing New Equipment

This Message Is From An Unknown/Infrequent Sender

This sender does not frequently correspond with Crown. Please ensure the message is legitimate and not from an imposter, before replying with sensitive information, clicking links or opening attachments.

Report Suspicious

Hi, Zach.

Thank you for the responses to my questions below. After review of your inquiry and responses to my follow up questions, our SEPA Responsible Official, Nicole Floyd, Principal Planner, has determined that replacement of the decorator is covered by the land use approval and SEPA Determination of Nonsignificance (DNS) issued under City of Olympia permit #20-2922.

Please feel free to reach out to me or Nicole if you have any questions. We'd be happy to help!

Joyce

Joyce Phillips, AICP, Principal Planner (she/her)
City of Olympia | Community Planning and Development
601 4th Avenue East | PO Box 1967, Olympia WA 98507-1967
360.570.3722 | olympiawa.gov [olympiawa.gov]

Note: *Emails are public records and are eligible for release.*

From: Mudd, Zachary <Zachary.Mudd@crowncork.com>
Sent: Wednesday, May 8, 2024 4:21 PM
To: Joyce Phillips <jphillip@ci.olympia.wa.us>
Subject: RE: Crown Cork and Seal: SEPA Determination Letter for Installing New Equipment

Hi Joyce,

I guess I forgot to mention that we are an aluminum can manufacturer, sorry about that.

Here are the answers to your questions.

What is a decorator/what does it do?

- A decorator is a large machine that applies ink by pressing a design (e.g. Coke, Pepsi, etc.) to the surface of an aluminum can.

Crown Cork & Seal Company, Inc.
Olympia, WA

Line 3 Deco #32 Process Line - VOC Emissions

Note: The below calculations are based on 1600 cans per minute, however, normal running speed of the machine is 1400. 1600 cans per minute would only be achievable in rare circumstances if the machine was running separately from Deco #31. The two decos (31 and 32) running in tandem are permitted for 2800 cans per minute.

Detail:

Operating Parameters

Normal Production (hrs/yr)	8,560
RTO Bypass (hrs/yr)	200
Line 3 Deco #32 Rated Capacity - Normal (cans/r)	1,600
Line 3 RTO Bypass Rate (cans/min)	1,000
Line 3 Deco #32 Production Efficiency	90%
Inside Spray Capture Efficiency	75%
Inside Spray Destruction Efficiency	98.0%
Varnish/Ink Capture Efficiency	75%
Varnish/Ink Destruction Efficiency	98.0%
UV Varnish Capture and Control	0%
IPA Capture Efficiency	50%
IPA Destruction Efficiency	98.0%
IPA Retention in Shop Towels (Waste)	0%

Stack info:	Normal	RTO Bypass
Inside Spray	RTO, Fug	IBO
Varnish	RTO, Fug	PIN
Ink	RTO, Fug	PIN
Rim Coat	Fug	Fug
Cleanup IPA	Fug	Fug

VOC Emissions

Material	Use	Application Rate (gal/1,000 cans)	Vol % Solids ¹	lb VOC/gal solids ¹	Normal Operation ³			RTO Bypass ⁴	
					Annual Usage (gal/yr)	VOC Controlled Emissions (tpy)	VOC Fugitive Emissions (tpy)	Annual Usage (gal/yr)	VOC Emissions (tpy)
Various	Inside Spray	0.20	18.5%	7.2	147,917	1.48	24.63	2,160	1.44
Various	Varnish	0.070	35.4%	2.9	51,771	0.40	6.64	756	0.39
Various	Ink	0.0089	83.9%	1.52	6,577	0.06	1.05	96	0.06
UV Varnish	Rim Coat	0.0019	96.4%	0.01	1,368	--	0.007	20	0.0001
IPA ²	Cleanup IPA	--	--	6.6	9,630	0.32	15.79	144	0.47

¹ The solids percentage and VOC content for each material is based on the worst case formulation out of the possible coatings/inks, based on information provided in manufacturer SDSs.

² IPA usage is calculated using a 1.125 gallon per hour rate for production of 1,600 cans per hour. IPA usage rate was provided by Crown Cork personnel. Annual usage of IPO does not include the 90% line efficiency factor.

³ Annual usage of each material during normal operation is based on the Line 3 Deco #32 rated capacity of 1,600 cpm, 90% line efficiency, 8,560 hr/year of normal operation, and the respective application rate. Annual emissions during normal operation assume that 100% of the VOC content will be emitted, and are based on the annual usage, and the respect capture efficiency and destruction efficiencies for each application (Inside spray 75% CE and 98% DRE, Varnish and Ink 75% CE and 98% DRE, IPA 50% CE and 98% DRE, and no control for Rim Coat).

⁴ Annual usage of each material during RTO bypass is based on the reduced Line 3 Deco #32 capacity of 1,000 cpm, 90% line efficiency, 200 hr/year of RTO bypass operation, and the respective application rate. Annual emissions during normal operation assume that 100% of the VOC content will be emitted, and are based on the annual usage, and no control.

Material	Use	Density (lb/gal)	Speciated VOC (% By Weight) ¹							
			n-Butanol	Ethylene Glycol Monobutyl Ether (EGBE)	Dimethyl ethanolamine (DMEA)	n-Amyl Alcohol (n-AmOH)	Isopropyl Alcohol (IPA)	Propylene Glycol Methyl Ether (PGME)	Tricdecyl alcohol (TDA)	Diethylene Glycol Butyl Ether (DGBE)
		CAS No. :	71-36-3	111-76-2	108-01-0	71-41-0	67-63-0	107-98-2	112-70-9	112-34-5
		TAP?		TAP			TAP	TAP		
		HAP?								HAP
Various	Inside spray	8.46	5.20%	6.80%	1.10%	4.40%	0.00%	0.20%	0.00%	0.50%
Various	Varnish	8.90	2.20%	7.40%	2.60%	0.00%	0.00%	0.00%	0.30%	2.40%
Various ²	Ink	9.78	0.00%	0.00%	5.00%	0.00%	0.00%	0.00%	0.00%	0.00%
IPA	Cleanup	6.56	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%

¹ Material content based on the worst case formulation of the possible coating/ink, based on manufacturer SDSs.

² More than 500 types of ink products are used, this calculation uses a reasonable worst-case density (9.78 lb/gal) and VOC content (5%)

Material	Use	Application (gal/hr)	Speciated VOC Emissions (lb/hr) ¹								
			n-Butanol	EGBE	DMEA	n-AmOH	IPA	PGME	TDA	DGBE	Formaldehyde ²
		CAS No. :	71-36-3	111-76-2	108-01-0	71-41-0	67-63-0	107-98-2	112-70-9	112-34-5	50-00-0
		TAP?		TAP			TAP	TAP			TAP
		HAP?								HAP	HAP
Various	Inside spray	19.2	8.45	11.05	1.79	7.15	0.00	0.32	0.00	0.81	--
Various	Varnish	6.7	1.32	4.43	1.56	0.00	0.00	0.00	0.18	1.44	--
Various	Ink	0.9	0.00	0.00	0.42	0.00	0.00	0.00	0.00	0.00	--
IPA	Cleanup	1.12	0.00	0.00	0.00	0.00	7.32	0.00	0.00	0.00	--
Total Uncontrolled Emission Factor			9.76	15.47	3.76	7.15	7.32	0.32	0.18	2.25	1.09
Total Fugitive Emissions			2.44	3.87	0.94	1.79	3.66	0.08	0.04	0.56	0.00
Total Controlled Speciated VOC Emissions			0.15	0.23	0.06	0.11	0.07	0.00	0.00	0.03	0.02

¹ Hourly emissions are based on the Line 3 Deco #32 rated capacity of 1,600 cpm, the material application rate, speciated VOC content, and respective capture efficiency and destruction efficiency for the application.

² Resin curing in the oven forms formaldehyde. It is captured 100% in the oven and routed to the RTO. The formation rate is from 2009 stack test at Crown's Olympia Washington plant.

Formaldehyde Emissions ²	
11.4	lbs formed/MM can
100%	Capture Efficiency
1.09	Uncontrolled Emissions, lb/hr

Speciated VOC Emissions

Pollutant	CAS	Normal Operation ¹			RTO Bypass ²			Maximum Emissions			
		lb/hr	lb/day	lb/yr	lb/hr	lb/day	lb/yr	lb/hr	lb/day	lb/yr	tpy
n-Butanol	71-36-3	2.6	62.1	19930	6.1	146.4	1098.3	6.1	146.4	21028	10.5
EGBE	111-76-2	4.1	98.4	31585	9.7	232.1	1740.5	9.7	232.1	33326	16.7
DMEA	108-01-0	1.0	23.9	7675	2.3	56.4	422.9	2.3	56.4	8098	4.0
n-AmOH	71-41-0	1.9	45.5	14591	4.5	107.2	804.0	4.5	107.2	15395	7.7
IPA	67-63-0	3.7	89.6	31950	4.6	109.8	914.8	4.6	109.8	32865	16.4
PGME	107-98-2	0.1	2.1	663	0.2	4.9	36.5	0.2	4.9	700	0.3
TDA	112-70-9	0.0	1.1	366	0.1	2.7	20.2	0.1	2.7	386	0.2
DGBE	112-34-5	0.6	14.3	4589	1.4	33.7	252.8	1.4	33.7	4841	2.4
Formaldehyde	50-00-0	0.02	0.5	169	0.7	16.4	123.1	0.7	16.4	292	0.1

¹ Hourly emissions during normal operation are based on Line 3 Deco #32 rated throughput of 1,600 cpm. Daily emissions based on the maximum hourly rate operated for 24 hours continuously. Annual emissions based on the maximum hourly rate, the 90% line efficiency, and continuous operation for 8,560 hours per year.

² Hourly emissions during RTO bypass operation are based on the reduce Line 3 throughput of 1,000 cpm. Daily emissions based on the maximum hourly rate operated for 24 hours continuously. Annual emissions based on the maximum hourly rate, the 90% line efficiency, and continuous operation for 200 hours per year.


Updated VOC emissions for Deco 32 NOC

Mudd, Zachary <Zachary.Mudd@crowncork.com>

Wed 5/22/2024 1:24 PM

To: Jennifer DeMay <jennifer.demay@orca.org>

Cc: Robertson, Matthew <Matthew.Robertson@crowncork.com>

 1 attachments (1 MB)

Deco #32 emissions.xlsx;

Hi Jennifer,

Attached is the updated VOC calculations spreadsheet to reflect the 2000CPM rate. I have also received confirmation that the permit fee is being processed today and you should receive shortly.

If you need anything else, please let us know.

Thanks,

Zach Mudd
EHS Coordinator
Crown Beverage Packaging
1202 Fones Rd.
Olympia, WA 98501
zachary.mudd@crowncork.com



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Crown Cork & Seal Company, Inc.
Olympia, WA

Line 3 Deco #32 Process Line - VOC Emissions

Note: The below calculations are identical to permitted numbers referenced in 20NOC1451 for Line 3 Decorator Unit #32. No increase in permitted speed or emissions will take place with the proposed equipment change.

Detail:

Operating Parameters

Normal Production (hrs/yr)	8,560
RTO Bypass (hrs/yr)	200
Line 3 Deco #32 Rated Capacity - Normal (cans/yr)	2,000
Line 3 RTO Bypass Rate (cans/min)	2,000
Line 3 Deco #32 Production Efficiency	90%
Inside Spray Capture Efficiency	75%
Inside Spray Destruction Efficiency	98.0%
Varnish/Ink Capture Efficiency	75%
Varnish/Ink Destruction Efficiency	98.0%
UV Varnish Capture and Control	0%
IPA Capture Efficiency	50%
IPA Destruction Efficiency	98.0%
IPA Retention in Shop Towels (Waste)	0%

Stack info:	Normal	RTO Bypass
Inside Spray	RTO, Fug	IBO
Varnish	RTO, Fug	PIN
Ink	RTO, Fug	PIN
Rim Coat	Fug	Fug
Cleanup IPA	Fug	Fug

VOC Emissions

Material	Use	Application Rate (gal/1,000 cans)	Vol % Solids ¹	lb VOC/gal solids ¹	Normal Operation ³			RTO Bypass ⁴	
					Annual Usage (gal/yr)	VOC Controlled Emissions (tpy)	VOC Fugitive Emissions (tpy)	Annual Usage (gal/yr)	VOC Emissions (tpy)
Various	Inside Spray	0.20	18.5%	7.2	184,896	1.85	30.79	4,320	2.88
Various	Varnish	0.070	35.4%	2.9	64,714	0.50	8.30	1,512	0.78
Various	Ink	0.0089	83.9%	1.52	8,222	0.08	1.31	192	0.12
UV Varnish	Rim Coat	0.0019	96.4%	0.01	1,710	--	0.008	40	0.0002
IPA ²	Cleanup IPA	--	--	6.6	9,630	0.32	15.79	230	0.75

¹ The solids percentage and VOC content for each material is based on the worst case formulation out of the possible coatings/inks, based on information provided in manufacturer SDSs.

² IPA usage is calculated using a 1.125 gallon per hour rate for production of 2,000 cans per hour. IPA usage rate was provided by Crown Cork personnel. Annual usage of IPO does not include the 90% line efficiency factor.

³ Annual usage of each material during normal operation is based on the Line 3 Deco #32 rated capacity of 2,000 cpm, 90% line efficiency, 8,560 hr/year of normal operation, and the respective application rate. Annual emissions during normal operation assume that 100% of the VOC content will be emitted, and are based on the annual usage, and the respect capture efficiency and destruction efficiencies for each application (Inside spray 75% CE and 98% DRE, Varnish and Ink 75% CE and 98% DRE, IPA 50% CE and 98% DRE, and no control for Rim Coat).

⁴ Annual usage of each material during RTO bypass is based on the reduced Line 3 Deco #32 capacity of 2,000 cpm, 90% line efficiency, 200 hr/year of RTO bypass operation, and the respective application rate. Annual emissions during normal operation assume that 100% of the VOC content will be emitted, and are based on the annual usage, and no control.

Crown Cork & Seal Company, Inc.
Olympia, WA

Material	Use	Density (lb/gal)	Speciated VOC (% By Weight) ¹							
			n-Butanol	Ethylene Glycol Monobutyl Ether (EGBE)	Dimethyl ethanalamine (DMEA)	n-Amyl Alcohol (n-AmOH)	Isopropyl Alcohol (IPA)	Propylene Glycol Methyl Ether (PGME)	Tridecyl alcohol (TDA)	Diethylene Glycol Butyl Ether (DGBE)
		CAS No. :	71-36-3	111-76-2	108-01-0	71-41-0	67-63-0	107-98-2	112-70-9	112-34-5
		TAP?		TAP			TAP	TAP		
		HAP?								HAP
Various	Inside spray	8.46	5.20%	6.80%	1.10%	4.40%	0.00%	0.20%	0.00%	0.50%
Various	Varnish	8.90	2.20%	7.40%	2.60%	0.00%	0.00%	0.00%	0.30%	2.40%
Various ²	Ink	9.78	0.00%	0.00%	5.00%	0.00%	0.00%	0.00%	0.00%	0.00%
IPA	Cleanup	6.56	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%

¹ Material content based on the worst case formulation of the possible coating/ink, based on manufacturer SDSs.

² More than 500 types of ink products are used, this calculation uses a reasonable worst-case density (9.78 lb/gal) and VOC content (5%)

Material	Use	Application (gal/hr)	Speciated VOC Emissions (lb/hr) ¹								
			n-Butanol	EGBE	DMEA	n-AmOH	IPA	PGME	TDA	DGBE	Formaldehyde ²
		CAS No. :	71-36-3	111-76-2	108-01-0	71-41-0	67-63-0	107-98-2	112-70-9	112-34-5	50-00-0
		TAP?		TAP			TAP	TAP			TAP
		HAP?								HAP	HAP
Various	Inside spray	24.0	10.56	13.81	2.23	8.93	0.00	0.41	0.00	1.02	--
Various	Varnish	8.4	1.64	5.53	1.94	0.00	0.00	0.00	0.22	1.79	--
Various	Ink	1.1	0.00	0.00	0.52	0.00	0.00	0.00	0.00	0.00	--
IPA	Cleanup	1.13	0.00	0.00	0.00	0.00	7.38	0.00	0.00	0.00	--
Total Uncontrolled Emission Factor			12.20	19.34	4.70	8.93	7.38	0.41	0.22	2.81	1.37
Total Fugitive Emissions			3.05	4.83	1.17	2.23	3.69	0.10	0.06	0.70	0.00
Total Controlled Speciated VOC Emissions			0.18	0.29	0.07	0.13	0.07	0.01	0.00	0.04	0.03

¹ Hourly emissions are based on the Line 3 Deco #32 rated capacity of 2,000 cpm, the material application rate, speciated VOC content, and respective capture efficiency and destruction efficiency for the application.

² Resin curing in the oven forms formaldehyde. It is captured 100% in the oven and routed to the RTO. The formation rate is from 2009 stack test at Crown's Olympia Washington plant.

Formaldehyde Emissions ²	
11.4	lbs formed/MM can
100%	Capture Efficiency
1.37	Uncontrolled Emissions, lb/hr

Speciated VOC Emissions

Pollutant	CAS	Normal Operation ¹			RTO Bypass ²			Maximum Emissions			
		lb/hr	lb/day	lb/yr	lb/hr	lb/day	lb/yr	lb/hr	lb/day	lb/yr	tpy
n-Butanol	71-36-3	3.2	77.6	24913	12.2	292.9	2196.5	12.2	292.9	27109	13.6
EGBE	111-76-2	5.1	123.0	39482	19.3	464.1	3481.0	19.3	464.1	42963	21.5
DMEA	108-01-0	1.2	29.9	9594	4.7	112.8	845.9	4.7	112.8	10440	5.2
n-AmOH	71-41-0	2.4	56.8	18239	8.9	214.4	1608.1	8.9	214.4	19847	9.9
IPA	67-63-0	3.8	90.4	32232	7.4	177.2	1476.6	7.4	177.2	33709	16.9
PGME	107-98-2	0.1	2.6	829	0.4	9.7	73.1	0.4	9.7	902	0.5
TDA	112-70-9	0.1	1.4	458	0.2	5.4	40.4	0.2	5.4	498	0.2
DGBE	112-34-5	0.7	17.9	5736	2.8	67.4	505.7	2.8	67.4	6241	3.1
Formaldehyde	50-00-0	0.03	0.7	211	1.4	32.8	246.2	1.4	32.8	457	0.2

¹ Hourly emissions during normal operation are based on Line 3 Deco #32 rated throughput of 2,000 cpm. Daily emissions based on the maximum hourly rate operated for 24 hours continuously. Annual emissions based on the maximum hourly rate, the 90% line efficiency, and continuous operation for 8,560 hours per year.

² Hourly emissions during RTO bypass operation are based on the reduce Line 3 throughput of 2,000 cpm. Daily emissions based on the maximum hourly rate operated for 24 hours continuously. Annual emissions based on the maximum hourly rate, the 90% line efficiency, and continuous operation for 200 hours per year.